

THE RELATIONSHIP BETWEEN ATTRIBUTIONAL
STYLES OF CULTURAL AWARENESS AND
CULTURAL COMPETENCE FOR
PRESERVICE TEACHERS

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CHAPTER I

INTRODUCTION

Attribution theory can be traced back to the 1940s when Heider (1944) first reflected on the attribution of behavior. Attribution is one of the main cognitive approaches to human motivation. Fourteen years later Heider termed this thinking as naïve psychology (1958), which indicated his main interest in how an average person naively decides the major cause of a behavior. Heider held that people generally attribute behaviors to either forces within the individual (i.e., dispositions), or outside the individual (i.e., situational factors). Following Heider's approach, Jones and Davis (1965) extended the theory to render the components of dispositional attributions more specific. They suggested that people making a causal attribution look for a correspondence between the observed behavior and other behaviors by that individual. If there is a high similarity of an observed behavior to the previous behaviors, then people tend to infer dispositional attributions. If the correspondence between the two is low, people tend to make situational attributions. One drawback of their theory as well as Heider's is that such theory does not indicate how people make attributions about their own behavior. In light of this, Kelly (1967, 1971, 1972, 1973) developed an attribution theory to account for attributions people make regarding themselves as well as others. He maintained that

people make causal attributions out of a complex interaction between a number of causal agents. There are usually multiple causes for a particular outcome, but according to him, only those that are consistently related to a particular outcome are causal. He held that covariation across time is a very important way for people to draw conclusions regarding causality.

Weiner and Kukla (1970) published a paper on attributional analysis of achievement motivation. They contended that cognitions about causality served as a mediating factor between level of achievement needs and performance. Their idea was later developed into a theoretical model of achievement motivation (Weiner, Heckhausen, & Meyer, 1972; Weiner, Russell, & Lerman, 1979; Weiner & Sierad, 1975). This model helped analyze how perceived causality mediates between past achievement and subsequent achievement related behavior. This model helped explain how three central dimensions of causality (stability, locus, and control) were linked with expectancy change, esteem-related emotions, and interpersonal judgment. Weiner and his colleagues (Weiner, 1980a, 1980b, 1985a, 1985b; Weiner, Graham, Stern, & Lawson, 1982; Weiner & Handel, 1985) proposed an attribution-emotion-action model contending that attributions arouse human emotions, which in turn influences the direction for one's behavior.

As attribution theory is reaching its maturation stage, a multitude of studies mushroomed applying such theory to academic achievement and other behavior outcomes. In the past two decades abundant scholarly research projects have utilized Weiner's attribution theory as a framework for conducting research in a variety of settings involving a wide range of populations including men and women, children,

adolescents, and adults, teachers and students, parents and kids, and companies and consumers. The majority of the studies, however, are on the relationship between academic achievement and attribution. In examining the attributional styles of passing and failing students in a College Algebra course, Cortes-Suarez (2004) found a significant difference in locus of causality, stability, and personal controllability between those who were passing and failing. Studies have shown positive correlation between Weiner's attribution theory and Bandura's self-efficacy theory (Bandura, 1977; Cantrell, 2001; Hsieh, 2004; Keys, 1998). In keeping pace with the growth of student diversity, studies have been extended to several other ethnicities and special groups of students including Native Americans (Bruce, 2006), Asian Americans (Ku, 1999), Latinos (Milligan, 2005), Japanese (Takahashi, 2003), Chinese (Stipek, Weiner, & Li, 1989), and students with learning disabilities (Lasley, 2006).

Increasing diversity among students is an issue that educators in America have to deal with on a daily basis. It is predicted that due to immigration and uneven ethnic population growth among ethnic groups, Whites will become a minority in the United States by 2050 and the country will become more diverse than ever (Agence France Press, 2008). In response to this issue, two solutions have been proposed. One proposal suggests recruiting more teachers from other ethnic groups (Zirkel, 2002; Zirkel, & Cantor 2004) to mend the disparity between the increasing heterogeneous student body and homogeneous teaching force (Banks & Banks, 1993; National Center for Education Statistics, 2007; National Education Association, 1992; Zimpher & Ashbum, 1992). The second possible solution is to educate preservice teachers to be more knowledgeable and responsive to diversity among their student population. The growing demographic

disparity between students and teachers has brought about a critical need for implementing multicultural teaching strategies among all teachers (Banks & Banks, 2007; Gay, 1997; Howard, 2006; Zeichner, 1992). The American Psychological Association (APA) published guidelines on multicultural education in 2003 to focus on helping psychologists and educators to understand themselves as racial and cultural beings. More specifically, the National Council for Accreditation of Teacher Education (NCATE) requires teacher training institutions to integrate multicultural education to help preservice teachers to acquire the attitudes, knowledge, skills, and professional dispositions to work effectively with a diverse student body (NCATE, 2008).

To assist preservice teachers with their cultural competence, Banks (1992, 1993a, 1993b, 2004) identified five domains regarding multicultural education upon which preservice teachers need to work. These domains include content integration, the knowledge construction process, prejudice reduction, equity pedagogy, and empowering school culture and social structure. Content integration addresses how well preservice teachers can integrate their cultural knowledge into their subject area of discipline. The knowledge construction process examines how well preservice teachers are aware of cultural influences on the construction of knowledge within their discipline. The prejudice reduction dimension requires preservice teachers to seek strategies to reduce prejudices and discriminations among their students. Equity pedagogy aims at the acquisition of teaching techniques that enable all students to learn. And the concept of an empowering school culture and social structure calls for more inclusive assessments and structural changes that can provide all students with educational equality and empower all

students. Acquiring cultural competence has become an important task among preservice teachers aside from their content pedagogy.

A wealth of research in the field of attribution theory and academic achievement has suggested a link between students' attributions and academic performance (Christenson, Rounds, & Gorney, 1992; Cortes-Suarez, 2004; Kistner, Osborne, & le Verrier, 1988; Marsh, 1984; Stipek & Hoffman, 1980). Nonetheless, there has been no extensive study examining the relationship between attributions and cultural competence. Attribution theory can examine how preservice teachers arrive at answers to the question what do you think is the major cause of your cultural awareness. As such, within Weiner's model, cultural awareness may be attributed to causes such as cultural exposure, multicultural education courses, family environment, empathy, personal efforts, cross-cultural friendship, personal traits and experiences, and policies and NCATE standards.

The methods used for assigning attributions by researchers have been subject to challenges (Harvey & Weary, 1981; Weiner, 1985b). For instance, while most people view ability as an internal stable factor, others may subject it to change as the individual's effort and knowledge level grows. Additionally, many people consider effort as internal and unstable, whereas others may consider it as a stable factor. To address the criticism of assuming objective assignment of objective assignments of attributions to causal categories, McAuley, Duncan, and Russell (1992) developed the Revised Causal Dimension Scale (CDSII) which allows participants to assign attributions to causal categories at their own wills. By not giving forced assessments or ratings of their perceived causes of their cultural awareness, participants can categorize their own responses into causal dimensions (e.g. internal, stable, uncontrollable).

Statement of the Problem

To respond to the increasing diversity among the student population, preservice teachers need to acquire cultural competence and demonstrate “the knowledge, skills, and professional dispositions to work successfully with children of all races, ethnicities, disabilities/exceptionalities, and socioeconomic groups” (NCATE, 2008, p.6). As attribution theory has been widely applied to the studies of academic achievement, self-efficacy, and behavioral outcomes, it is important to understand preservice teachers’ attributions toward their cultural awareness and whether it is related to their cultural competence. Therefore, there is a need to understand preservice teachers’ cultural competence, their attributions toward their cultural awareness, and the theoretical relationship between the two concepts, namely, attributions and cultural competence. In particular, there is a need to understand if preservice teachers’ attributions of their cultural awareness regarding locus of causality, controllability, and stability are related to essential aspects of their cultural competence.

Purpose of the Study

The purpose of the study was to understand preservice teachers’ cultural competence and their attributions toward cultural awareness and to explore the relationship between their attributions and cultural competence. More specific relationships between attributional dimensions (locus of causality, stability, and personal control, and external control) and cultural competence were examined. Additionally, this study examined how preservice teachers’ multicultural background, racial and ethnic background, age, gender, major, hours of instruction that address multicultural issues, and program status were related to their cultural competence and to their attributions.

Theoretical Framework

Attribution theory and cultural competence were used to guide this study. The three underlying dimensions of attribution constituted the set of variables within attribution construct. Five theoretical dimensions of multicultural education were contextualized to the preservice teacher population for a working definition of preservice teachers' cultural competence. These five dimensions served as a crucial source to understand the construct of cultural competence for preservice teachers.

Attribution Theory

Attribution theory examines the cognitive explanations one arrives at when observing someone's behavior and relates those explanations to observable characteristics of that individual. Once the attributions are made, they serve to predict future behavior (Petri, 1991). Research indicates that if a cause is regarded as stable, then the future outcomes can be anticipated following failure or success. On the other hand, locus of causality influences feelings of pride or frustration depending on the outcome of success or failure. Controllability of a cause, in conjunction with locus, influences whether guilt or shame is experienced following the failure of not obtaining a defined goal. For example, Weiner (1985a) argued that when attributing failure to insufficient effort on a person's behalf, which is internal and controllable, it often elicits the feeling of guilt in that person. Furthermore, expectancy of success and the emotions of pride, guilt, and shame are believed to determine subsequent behavior as a result of thoughts and feelings. A major assumption attribution theories make is that causes attributed to particular behaviors will influence subsequent emotional and non-emotional behaviors. Attribution theories generally acknowledge the importance of motives in generating

attributions and, perhaps more importantly, the role of attributions regarding the direction of a person's future behavior. For example, the attribution of past success to high ability probably serves to motivate future achievement behaviors. Weiner (1986) discussed three universal underlying dimensions identified in previous research, namely, locus of causality, stability, and controllability.

Locus of Causality

Locus of causality is the most widely accepted dimension among the three dimensions of locus of causality, stability, and controllability. The analysis of the structure of causality begins from the internal versus external dimension. This idea flourished and played a leading role in a multitude of attribution theories (Abramson, Seligman, & Teasdale, 1978; Weiner, 1985a). Following the convincing empirical support for this dimension (Sweeney, Anderson, & Bailey, 1986; Weiner, 1985a), Weiner (1985a) identified six empirical studies out of seven reporting a sound locus of causality dimension. These empirical findings together with a logical analysis of causal structure, strongly reinforce the contention that locus of causality is an underlying primary dimension of perceived causality.

Locus of causality has been adopted as a term over locus of control in this study, because another dimension concerns the issue of controllability. According to Weiner (1985a), an event can be internal yet controllable (e.g., mood), therefore, it seems necessary to make such a distinction.

Stability

This dimension is another widely-accepted dimension, which addresses the variability of cause over time. For example, mood and temper are both internal factors.

Nevertheless they differ in that temper is normally considered as stable over time whereas mood may vary and is ephemeral. As with the locus of causality dimension, the stability dimension has been supported both empirically (Sweeney et al., 1986) and theoretically (Abramson et al., 1978; Martinko & Gardner, 1982; Weiner, 1985a). Weiner (1985a) reviewed seven studies and found four of them identified a stability dimension. He has identified the stability dimension as the major determinant of expectancy shifts, a key element in his theory of achievement motivation.

Controllability

In his attribution theory of achievement motivation, Weiner (1979) included another dimension of attribution referred to as controllability. It represents the extent to which a cause is seen as being under the control of the individual. Out of the seven studies under review, Weiner (1985a) found five of them that identified controllability as a causal dimension and conclude it should be used in the causal analysis of attributions. Controllability and locus of causality have been found to be highly correlated (Kent & Martinko, 1995; Russell, McAuley, & Tarico, 1987), but McAuley, Duncan, and Russell (1992) provided convincing evidence that the locus of causality and controllability dimensions were empirically distinct in assessing the psychometric properties of a revised causal dimension scale.

Cultural Competence

To examine the goals, achievements, and attainments of multicultural education, Banks (1992, 1993a, 1993b, 2004) identified five dimensions in multicultural education, including content integration, the knowledge construction process, prejudice reduction,

an equity pedagogy, and an empowering school culture and social structure. Applied to preservice teacher population, this five-dimension model can be described as follows.

Content Integration

Content integration deals with how well a preservice teacher can do in using examples, data, and information from a variety of cultures and groups to illustrate the key concepts, principles, generalizations, and theories in their subject area or discipline.

Knowledge Construction Process

The knowledge construction process examines the ways a preservice teacher can think of to demonstrate how the implicit cultural assumptions, frames of reference, perspectives, and biases within a discipline influence the construction of knowledge, so as to help his or her prospective students better understand how knowledge is created and how it is influenced by factors of race, ethnicity, gender, and social class.

Prejudice Reduction

The prejudice reduction dimension aims to investigate to what extent a preservice teacher can identify the characteristics of children's racial attitudes and seek strategies to help them develop more positive racial and ethnic attitudes.

Equity Pedagogy

Equity pedagogy requires preservice teachers capable of using teaching techniques that cater to the learning and cultural styles of diverse groups and social classes and thus facilitating the academic achievement of students from diverse backgrounds.

Empowering School Culture and Social Structure

An empowering school culture and social structure exists when a preservice teacher endeavors to ensure his or her prospective students from diverse racial, ethnic, and social-class groups experience educational equality and feel empowered. This includes a preservice teacher believing all students can learn, making assessments fair to all student groups, and participating and collaborating with others in making structural changes within the school environment for all student groups to achieve educational equity.

To operationalize preservice teachers' cultural competence in light of Banks' model (1992, 1993a, 1993b, 2004), cultural competence refers to preservice teachers' capacity to infuse cultural and ethnic knowledge into their subject areas, provide alternative interpretations to concepts to show how knowledge construction is affected by biases, find ways to help their prospective students to reduce their prejudices, develop instructions that enable all students to learn, and participate in restructuring school culture to help promote educational equity.

Research Questions

The research questions for this study were as follows:

1. What is the underlying structure of preservice teachers' cultural competence?
2. How are preservice teachers' cultural competence and attributions of cultural awareness related to their demographics including age, gender, ethnicity, major, program status and hours of instructions that addressed multicultural issues, and multicultural background?

3. Is there a significant relationship of preservice teachers' attributional styles of cultural awareness and their cultural competence?

Significance of the Study

Weiner's (1979, 1985a) attribution theory identifies the causal attribution process as a primary influence in future behavior. Further, attributions for outcomes have been shown to influence persistence in hardships and to influence expectations about future success or failure (Weiner, 1985a). Significant results would reveal that preservice teachers' attributional styles are potentially a determining factor in how they approach and interpret multicultural education and how they resolve cognitive dissonance in a multicultural educational setting. If the way preservice teachers assign attributional explanations to their cultural awareness is related to their perceived cultural competence, then it may be possible to train them to adjust their attributional styles of thinking prior to and while receiving multicultural education. After a broad review of 15 attributional retraining studies, Forsterling (1985) concluded that attributional training has been fairly successful in increasing persistence and performance. This is further proved by many other reports (Borkowski, Weyhing, & Carr, 1988; Furnham, 2003; Luzzo, James, & Luna, 1996; Perry & Penner, 1990) that attributional style is trainable. Significant relationships between preservice teachers' attribution and cultural competence may suggest a means of preservice teachers' attributional training in promoting their persistence and performance in multicultural education. In a study on expatriate cross-cultural attribution training, Buerkle (1999) found that cognitive flexibility training served well in promoting more complex attributions for the behavior of foreigners.

Gaining a further insight into the relationship between attributional styles and cultural competence in preservice teachers may lead to identifying possible emotions preservice teachers are going through and developing effective strategies for motivating them to improve their willingness to learn about diversity issues. Such insight will help preservice teachers achieve a higher level of cultural competence, which may ultimately help improve the effectiveness of multicultural educational training programs.

Overview of the Method

The research design used in this study was correlational in nature in that the independent variables were not manipulated by the researcher and assigning subjects into groups was not possible. Convenience and purposive sampling was employed in collecting data from teacher education programs in two large Midwestern universities. The researcher went to 37 face-to-face classes and meetings where preservice teachers in teacher education programs were encouraged to participate.

Two instruments were used in this study. Multicultural Teaching Scale (Wayson, 1993), referred to heretofore as MTS, was used to measure preservice teachers' perceived cultural competence and study the underlying structure of cultural competence. This instrument is composed of 37 items assessing preservice teachers self-evaluation of their cultural competence in line with Banks' (1993a, 1993b) five dimensions of Multicultural Education: Content Integration (8 items), Knowledge Construction Process (6 items), Prejudice Reduction (11 items), Equity Pedagogy (5 items), and Empowering School Culture (7 items).

Another instrument used in the study was The Revised Causal Dimension Scale (CDSII) (McAuley, Duncan, & Russell, 1992). The instrument measuring preservice

teachers' attributional styles of their cultural awareness consists of 12 items, with 3 items representing each of the four dimensions in line with Weiner's attribution theory (1985a, 1986), namely, locus of causality, stability, personal control and external control.

To counterbalance the potential effect of one instrument over the other, the order of the two scales was alternately assigned to the participants. Additionally, participants' demographic information such as racial and ethnic background, age, gender, major, hours of instruction that address multicultural issues, and program status, etc. were collected to examine the relationship between participants' demographics and their perceived cultural competence and their attributions.

Factor analysis and regression analysis were performed to study the underlying structure of the concept of cultural competence as measured by the Multicultural Teaching Scale. Correlation analyses, t-tests and analyses of variance (ANOVA) were employed to determine the relationships between demographics and participants' attributional styles and cultural competence. Lastly, canonical analysis was used to examine the relationship between preservice teachers' attributions and their perceived cultural competence. All data analyses were performed using SPSS version 17.0 (SPSS, Chicago IL).

Assumptions and Limitations

Assumptions

1. Participants in the research study reacted to the Revised Causal Dimension Scale (CDSII) and the Multicultural Teaching Scale (MTS) in a way that truly reflected their levels of cultural competence and their attribution toward their cultural awareness.

2. The nonrandom data collection from the participants reflected similar outcomes to the general population.
3. Participants truthfully responded to the questions on the CDSII and MTS measures.
4. There was stability in participants' response to these two measures over time.

Limitations

1. Both measures are self-report forms, hence participants' responses might have been affected by social desirability. Particularly with the Multicultural Teaching Scale, participants were likely to respond to the questions that are socially desirable.
2. Participants' perceptions of their cultural competence may have been so subjective that their report did not accurately reflect their actual levels of cultural competence.
3. The study was correlational by nature, so the research findings are not able to make causative conclusions.
4. With a convenience sampling, the findings of the study are limited in generalization applicable to other populations.

Definition of Terms

Attribution

An attribution refers to the way people arrive at answers to questions of why things happen. Attributions in this study were measured via the Revised Causal Dimension Scale (CDSII) (McAuley, Duncan & Russell, 1992), an instrument measuring how the attributor perceives his or her own attributions of certain phenomenon along the

four dimensions of causality. These four dimensions include locus of causality, stability, personal control, and external control, with three items included in each dimension.

Locus of Causality Subscale

The locus subscale assesses an attributor's perception of the cause of a phenomenon along the continuum of an internal-external dimension. Internal attribution indicates that the cause is from within the attributor, whereas an external attribution suggests that the cause resides outside the attributor. A total score of 15 does not reflect a direction on the locus of causality dimension, while a score above 15 (i.e., 16-27) reflects an internal locus and a score below 15 (i.e., 3-15) reflects an external locus.

Stability Subscale

The stability subscale of the CDSII measures an attributor's perception of the cause of a phenomenon along the continuum of a stable-unstable dimension. If a cause is unlikely to change over time, it is considered as a stable cause; otherwise it is an unstable cause. A total score of 15 does not reflect a direction on stability dimension, while a score above 15 (i.e., 16-27) reflects a stable cause and a score below 15 (i.e., 3-15) reflects an unstable cause.

Personal Control Subscale

This subscale assesses the attributor's evaluation of the amount of personal control over the cause of a phenomenon along the continuum of much personal control to little personal control. If the attributor thinks he or she has power to create change, he or she perceives a high degree of personal control. On the other hand if the attributor believes he or she has no or little power to create change in the cause, he or she perceives a low degree of personal control. A total score of 15 does not reflect a direction on

personal control dimension, while a score above 15 (i.e., 16-27) reflects a high degree of personal control and a score below 15 (i.e., 3-15) reflects low degree of personal control.

External Control Subscale

The external control subscale measures the attributor's view on the amount of control other people have over the cause of a phenomenon along a continuum of high external control to low degree of external control. A total score of 15 does not reflect a direction on external control dimension, while a score above 15 (i.e., 16-27) reflects a high degree of external control and a score below 15 (i.e., 3-15) reflects a low degree of external control.

Cultural Competence

Cultural competence is a developmental process that evolves over an extended period. Both individuals and organizations are at various levels of awareness, knowledge and skills along the cultural competence continuum (National Center for Cultural Competence, 1998). According to Cross, Bazron, Dennis, and Isaacs (1989), cultural competence is a set of congruent behaviors, attitudes, and policies that come together in a system, agency or among professionals and enable that system, agency or those professions to work effectively in cross-cultural situations.

Combining the definition of Cross, et al (1989) and Banks' model of multicultural education (1993a, 1993b, 1996), preservice teachers' cultural competence refers to preservice teachers' capacity to infuse cultural and ethnic knowledge into their subject areas, provide alternative interpretations to concepts to show how knowledge construction is affected by biases, find ways to help their prospective students to reduce their prejudices, develop instructions that enable all students to learn, and participate in

restructuring school culture to help promote educational equity. There are five essential elements to examine a preservice teacher's cultural competence that can be measured via the Multicultural Teaching Scale (Wayson, 1988, 1993).

Content Integration Subscale

Content integration subscale deals with the extent to which preservice teachers infuse ethnic and cultural content into the subject area in a logical and consistent but not a contrived manner.

The Knowledge Construction Process Subscale

This subscale relates to the extent to which preservice teachers help their future students analyze the knowledge construction process both in science and social studies by studying cultural biases in the course of knowledge construction and alternative interpretations of concepts and historical events.

Prejudice Reduction Subscale

Prejudice reduction subscale evaluates a preservice teacher's reported capacity to design lessons and activities to help students develop more positive interracial attitudes and actions and reduce their prior racial prejudices and discriminations.

Equity Pedagogy Subscale

Equity pedagogy subscale examines if a preservice teacher feels competent in modifying the teaching procedures and instructional styles to meet a wide range of learning styles and facilitate the academic achievement of students from diverse groups.

An Empowering School Culture Subscale

This subscale deals with the extent to which preservice teachers participate in restructuring their school culture and organization to help promote racial, gender, and social-class equity, etc.

Diversity

Differences among groups of people and individuals based on ethnicity, race, socioeconomic status, gender, exceptionalities, language, religion, sexual orientation, and geographical area. (NCATE, 2008, p. 86)

Cultural Background

The context of one's life experience as shaped by membership in groups based on ethnicity, race, socioeconomic status, gender, exceptionalities, language, religion, sexual orientation, and geographical area. (NCATE, 2008, p. 86)

Professional Dispositions

Professional attitudes, values, and beliefs demonstrated through both verbal and non verbal behaviors as educators interact with students, families, colleagues, and communities. These positive behaviors support student learning and development. NCATE expects institutions to assess professional dispositions based on observable behaviors in educational settings. The two professional dispositions that NCATE expects institutions to assess are fairness and the belief that all students can learn. Based on their mission and conceptual framework, professional education units can identify, define, and operationalize additional professional dispositions. (NCATE, 2008, pp. 89-90)

Multicultural Education

A field of study designed to increase educational equity for all students that incorporates, for this purpose, content, concepts, principles, theories, and paradigms from history, the social and behavioral sciences, and particularly from ethnic studies and women's studies. (Banks & Banks, 2004, p. xii)

CHAPTER II

REVIEW OF LITERATURE

This chapter is composed of three parts of literature review relevant to the study. Attributional style with the three dimensions proposed by Weiner (1979, 1985a, 1992) is reviewed in detail, including the historical development of this theory and the nature of attribution. This is followed by a review of attributional consequences including how attributions influence, future behavior, assignment of responsibility, emotions, and self-efficacy in an attempt to show the mechanism and intricacy of attributional styles. Examples are cited to suggest the effectiveness of attributional retraining in improving motivation and behavioral outcome. The Revised Causal Dimension Scale (CDSII) (McAuley, Duncan, & Russell, 1992) is reviewed and sample studies that have used this scale are listed to uncover the relationships between attribution and academic achievement, athletic performance, and behavior outcomes.

Various versions and definitions of cultural competence are reviewed to indicate the evolution of this concept. The growing disparity between the diverse student body and the relatively homogeneous teaching force is documented afterwards to suggest the pressing need for preservice teachers to develop cultural competence. NCATE diversity standard is reviewed to support the importance of multicultural education. Banks' five-

dimension model is then detailed and contextualized to the preservice teacher population. The Multicultural Teaching Scale (MTS) (Wayson, 1988, 1993) is reviewed and studies that used the instrument are described to document the relationship between preservice teachers' multicultural background and experiential learning of diversity and their cultural competence.

The last part of the chapter involves the two general attributions researchers make about preservice teachers' cultural competence. Institutional attributions and personal attributions are explained to indicate current understanding of what influences preservice teachers' cultural competence. In particular, emotions under personal attribution are brought to attention, whereby lies the potential significance for this study.

Attribution Theory

Causal attributions are instrumental to goal attainment and assist in the pursuit of cognitive mastery (Weiner, 1986). Starting from a metaphor that people are scientists acting on their knowledge in trying to understand themselves and their environment, Weiner (1991, 2005) proposed a motivation process guided by attribution inferences and consequences between a stimulus and a response. According to Weiner, when the outcome is negative or unexpected or important, it is very likely to evoke a cognitive search process for the causes, namely, the attributional processes (Gendolla & Koller, 2001; Weiner, 1986, 2005).

Attributional Style

Within any particular outcome, a myriad of distinct causal explanations are possible. Due to such diversity, attribution theorists are driven to create a classification

scheme or taxonomies delineating the similarities and differences between causes and identify their underlying structure and properties.

Locus of Causality

The first systematic inquiry of causal structure was made by Heider (1958), who classified causes into factors within the person (e.g., ability, effort, strength) and factors within the environment (task difficulty, instructor quality, luck). This internal-external distinction became dominant in psychology with the work of Rotter (1966), which formulated the first dimension of causality. Several subsequent distinctions were made via the contrast between perceptions of internal versus external control. Following up with Rotter's contribution, de Charms (1968) proposed a typology categorizing individuals as origins (internally directed) and pawns (externally oriented). Along with such classifications of people, environments have also been categorized as fostering intrinsic versus extrinsic motivation (Deci, 1975; Lepper, Green, & Nisbett, 1973). This simply internal-external classification enables the positioning of causes along an internal-external continuum. For example, ability, effort, mood, indifference are considered personal causes, whereas task difficulty, instructor quality, and luck are considered external sources of causality. This distinction does not suffice the argument made by Weiner et al. (1971) that among the internal or external causes of an outcome some remain relatively constant while others tend to fluctuate over time.

Stability

Recognizing that Heider (1958) had distinguished the differences between dispositional and more variable, changing characteristics, Weiner et al. (1971) added a second dimension of causality measuring causes on a continuum from stable (invariant)

to unstable (variant). It is evident that aptitude is usually considered internal and stable, whereas chance external and unstable. Weiner (1980b) divided his classification of causes into the locus and stability dimensions. He believed that ability should generally be considered internal and stable, whereas effort, mood, and fatigue should be considered more as being internal and unstable. However, he also indicated that any of the causes described may fall into a different category. For example, ability can be perceived as being unstable and effort may be regarded as a stable manifestation of personal industriousness.

Controllability

This dimension recognized that mood, drowsiness, temporary effort are all internal and unstable. Regardless of this position, they are all different in that effort is subject to personal volitional control. This does not apply to mood or drowsiness, whereby under most circumstances cannot be controlled. According to Weiner (1992), many so-called traits like laziness, tolerance, industriousness are often considered as under volitional control, while talent and physical coordination are not. He also cautioned labeling all external causes as uncontrollable by arguing that causes external to the actor may be perceived as controllable by others.

The attribution theoretical model (Weiner, 1979, 1985a, 1992) has been widely applied to varieties of psychological and social phenomena. It has become well recognized that attribution plays an important role in motivation (Antaki & Brewin, 1982; Harvey & Weary, 1981; Heider, 1944, 1958; Weiner, 1985; Weiner et al., 1971). Attributional style regarding locus of causality, stability, and controllability has been well-established (Heaven, 1994). These three dimensions of causality have been well

supported by empirical research in the 1970s and 1980s (Meyer, 1980; Meyer & Koelbl, 1982; Michela, Peplau, & Weeks, 1982; Passer, 1977; Passer, Kelley, & Michela, 1978; Stern, 1983, Weiner, 1986; Wimer & Kelley, 1982). Attributional style suggests an individual's tendency to make consistent causal explanations across events or situations and is an indication of a trait-like individual difference factor (Abramson, Seligman, & Teasdale, 1978; Kent & Martinko, 1995; Martinko, Gundlach, & Douglas, 2002).

Attributional Consequences

Generally speaking, attribution theorists contend that people's behavior results from their causal ascriptions made for their prior outcomes. People's attributional styles from past performance influence their future behavior and goal achievement expectancy. For example if failure is ascribed to some internal and uncontrollable factor like low ability, then it is likely to decrease expectations regarding future success and discourage future efforts. In a similar manner, if one attains success and if the perceived cause is external and unstable, then future success would not be highly anticipated. Individuals making such an attribution will less likely be motivated to try harder towards trying to achieve future success, i.e., lower expectancy leads to lower aspiration. This expectancy-value approach can find its root in the theories of Tolman (1932) and Lewin (1938), with the underlying idea that motivated behavior results largely from individual's subjective likelihood of future success (Atkinson, 1964).

Kepka and Brickman (1971) conducted a study between perceived ability and behavior and found that most people tend to be motivated to try harder with a perceived ability incongruent with their behavior. Not only does the way one attributes one's behavior influence one's own behavior, but the way one attributes others' behavior

influences one's attitude toward others (Bennett & Flores, 1998; Karniol, 1985). In a study where 237 children were asked to provide causal scripts regarding poverty and wealth, Karniol (1985) found that only those who perceived choice for wealth and few no-choice scripts for poverty derogated the poor. In a separate study involving 820 entrepreneurial business women on the influence of causal attribution on expectations of success and motivation, Cort (1996) found a strong link between locus of causality dimension and expectations of success. Findings indicated the attributions of success to effort especially stable effort and ability have a significant influence on the expectations of future success. Similarly, Blears (1995) found a positive association between attributions to ability and effort with performance outcome. He found that attributions to stable causes were associated with emotions conducive to positive expectancies. The association between attribution and performance was further extended to a population of art students, whereby Roach (1993) found that students who ascribed success in college studio art courses to levels and quality of effort tend to have higher expectancies regarding their future artistic success. To test if Weiner's achievement attribution theory applied to special education, Kristner, Osborne, and le Verrier (1988) examined the relationship of learning-disabled children's achievement attributions to their academic performance. They found that learning-disabled children who attributed failures to variant and controllable causes made the greatest gain in achievement.

The attributional causality may lead to an assignment of responsibility (Weiner, 1986, 1995). For example, assuming that a preservice teacher feels that he or she does not have cultural competence to deal with his future students, because he or she did not have enough instruction to address multicultural issues, which in turn is an external factor.

Teachers will more likely be held responsible and accountable for this lack of cultural competence. In contrary, if a preservice teacher ascribes the lack of cultural competence to his or her own cultural biases, he or she will be held responsible to improve him or herself. In two studies regarding attributional analysis of teachers' reactions towards their student failure, Reyna and Weiner (2001) proposed an attribution-inference of responsibility-reaction model. The model holds that if a teacher attributes a student's academic failure to controllable and stable factors such as chronic laziness, then he or she would elicit inferences of responsibility on the part of that student, which would arouse anger and frustration. In the opposite direction, a teacher's ascription of a student's poor academic performance to uncontrollable causes such as low aptitude would elicit low inferences on the part of student responsibility, which in turn would reduce the chance of anger and reprimand.

Attribution is in essence how individuals construe and appraise situations. This cognitive process has great potential to guide and influence one's emotions (Arnold, 1960; Ellis, 1975; Lazarus, 1966; Weiner, 1980a, 1986; Weiner, Russell, & Lerman, 1979). A study involving 484 students (Herr, 2001) found that students who made external and controllable attributions for their poor performance expressed anger, while those who made internal and controllable attributions expressed feelings of guilt. Results suggested that only internal attributions significantly correlated with shame. Significant findings of the study regarding preservice teachers' attributions and cultural competence may indicate that they are going through various emotions in the course of multicultural education.

An area of research drawing much attention is learned helplessness (Seligman, 1975). The essence of this concept is that if a person's responses are perceived as not increasing the likelihood of goal attainment, then a state of helplessness is formed. The constant perception of the cause of failure as uncontrollable and stable is linked with low expectancy, which in turn is proposed to cause feelings of helplessness. This learned helplessness will result in cessation of instrumental responding, and ultimately, continual learning and performance failure, which in turn reinforces the vicious cycle of learned helplessness. Therefore, this theoretical perspective indicates that attributions of failure to factors beyond personal control are maladaptive and produce feelings of helplessness, and consequently, low expectancy of success and motivational decrements. On the other hand, ascriptions of failure to lack of effort or to poor learning strategy are functional in that they are volitionally changeable. In a study of the relationship between learned helplessness and failure among students with and without learning disabilities, Hwang (1992) found that students with learning disabilities were more likely to make malattribution than those who did not suffer from learning disabilities. Another finding is that attributional styles and learned helplessness also differed between students without learning disabilities who passed and who failed academically. The study of how preservice teachers attribute their cultural awareness may indicate some of them are suffering from feelings of helplessness while making external attributions such as racism and institutional perpetuation of inequality and inequity.

Research indicates correlation between attributions and self-efficacy. While attributions are beliefs people have about their success or failure at a task, self-efficacy are beliefs people have about whether or not they can successfully accomplish a task. To

examine Weiner's attribution theory (1985a) and Bandura's self-efficacy theory (1977), Hsieh (2004) investigated 500 undergraduates enrolled in a foreign language learning program and asked them to provide attribution and self-efficacy ratings upon receiving two-semester exam grades. Results indicated a significant positive correlation of self-efficacy with internal, personal, and stable attributions, and a negative correlation with external attributions. In particular, results suggested that students who made external and unstable attributions for success had lower self-efficacy beliefs than those who made internal or stable attributions. Students who made stable or external attributions for failure also had lower self-efficacy compared to those who made unstable or internal attributions.

Preservice teachers' perceived cultural competence is self-efficacy rating in nature, in that it reflects their beliefs about their capabilities to produce designated levels of performance that exercise influence over their students from diverse groups. Significant findings of the present study regarding preservice teachers' attribution and cultural competence may help disentangle the complicated relationship between preservice teachers' self-efficacy beliefs and causal attributions. If preservice teachers regard themselves as highly efficacious, they may attribute their low cultural awareness to insufficient effort. If they regard themselves as inefficacious, they may attribute it to insurmountable barriers such as institutional racism, lack of empathy, and poor interpersonal skills. The study may help providing clues about how preservice teachers' causal attributions affect motivation, performance and affective reactions mainly through their beliefs of self-efficacy.

Attributional Retraining

Attribution theory suggests that attribution of failure to a stable and uncontrollable factor is dysfunctional and maladaptive because hopes about future success are minimized. Therefore, the attributional retraining programs have attempted to change attributions of failure toward unstable and controllable factors such as insufficient effort rather than stable and controllable factors such as lack of ability. Guided by Bandura's self-efficacy theory (1977), such programs are intended to help overcome the debilitating effects of negative self-statements like "I can't" that inhibit motivation. Motivation is inhibited because the expectancy of success has been minimized by these "I can't" beliefs. In light of this, attributional retraining programs have targeted at helping people develop adaptive attributions of failure such as poor strategy or insufficient effort that imply "I can" to reguide them into believing more positively about themselves. Significant findings of the study may help locate the preservice teachers who make dysfunctional and maladaptive attributions of their cultural awareness, which may in turn help teacher educators resort to attributional retraining programs or strategies that serve as a more effective motivational factor in multicultural education.

In a longitudinal study regarding the effects of attributional retraining, Weinberg (2000) investigated 106 clients admitted at four geriatric hospitals where they received an attributional retraining intervention program designed to promote perceived personal control over future health and functional ability. Research findings suggest that attributional retraining enhanced perceived control over future and increased beliefs in powerful external control. Additionally, subjects had low personal control disclosed reported increased hopefulness after the attributional retraining. Similarly, attributional

retraining was reported to have influence on attributions, emotions, and academic behavior (Struthers, 1995) and academic achievements (Stupnisky, 2005). A study of the more short-term effects of attributional retraining revealed that students who received attributional retraining by viewing an 8-minute videotape designed to nurture internal, controllable, and unstable causal attributions for career decision making exhibited significant changes in their attributional styles for career decision making and were more active in career exploration (Luzzo, James, & Luna, 1996). Findings of a significant correlation between preservice teachers' attributions and cultural competence in the study may suggest a potential to set up attributional retraining programs or highlight intervention strategies. It may help preservice teachers promote perceived personal control over their cultural competence and increase hopefulness in both preservice teachers and teacher educators.

The Revised Causal Dimension Scale (CDSII)

The Revised Causal Dimension Scale (CDSII) (McAuley, Duncan, & Russell, 1992) originated from the Causal Dimension Scale (CDS) developed by Russell (1982) to measure how individuals make causal attributions. It fixed the low reliability of controllability dimension of CDS by breaking that dimension into two dimensions: personal control and external control. Therefore, CDSII has four dimensions: locus of causality, stability, personal control, and external control. This major revision is based on the idea that control should be further differentiated regarding whether the cause is controllable by the person or by the other people, in that some cause can be controllable by others while uncontrollable by the person, and vice versa. For example if a student

ascribes lack of cultural competence to poor pedagogy of the instructor, this cause could be perceived as under the control of the instructor but uncontrollable by the respondent.

A thorough literature search located 31 journal articles, dissertations and theses, and papers presented at conferences that have used CDSII as the research instrument. More specifically, there are 7 peer-reviewed journal articles, 1 paper presented at the annual American Educational Research Association conference, and 23 dissertations and theses.

In Daniels' (1997) dissertation study, CDSII was utilized to investigate 220 six grade students' beliefs about why they succeed or fail in the Virginia Literacy Passport Test (LPT). The study confirmed the reliability and validity of the Revised Causal Dimension Scale, and factor analysis supported McAuley's hypothesized two factor structure of personal and external control. T-tests results indicated that the students who passed LPT attributed their outcome more to internal, stable, and controllable causes than those who did not pass the test. Daniels did not find significant differences between gender and ethnicity in the study, but she found a significant interaction between minority and nonminority males and females. The study concluded with an implication of the importance of causal attributions in motivating students and attribution retraining in enhancing effective literacy education.

Greenlees et al. (2007) adapted CDSII into a 16-item scale to investigate the team-serving attributional bias (TSAB) and moderators of this bias in sports team players. They reworded each original item of CDSII to reflect a team rather than individual attribution. In addition, Greenlees et al. also expanded the instrument into a 16-item scale in comparison with the original 12-item scale while keeping both the original 12 items

and the suggested four attribution dimensions by McAuley et al. (1992). 528 athletes participated in the study. Results supported the hypothesis that members of successful teams would make more internal, stable, and controllable attributions than members of unsuccessful teams after an important match. Additionally, Greenlees et al. found the moderating effect of gender and match importance on stability attributions, with perceptions of success being positively associated with stable attributions for males regardless of match importance but only positively associated with stable attributions for females when they perceived the match to be important.

Wakefield and Hudley (2001) presented a paper in annual American Educational Research Association (AERA) conference that examined the relationship between causal dimensions of racial discrimination and hostile responses of adolescent African American males via CDSII. Participants involved 250 male African American students in grades 9-12 in an urban multiethnic high school who completed the Discrimination Response Index (DRI) and the Revised Causal Dimension Scale (CDSII). Results indicated that low perceived personal control related to participants' interpretation of racial discrimination is associated with hostile responses from the respondents. In situations of racial discrimination where someone was present, participants with low perceived control were more likely to endorse hostile behaviors than those with high perceived control.

The three sample studies described heretofore disclosed a significant relationship between attributions and academic achievement, athletic performance, and behavioral outcomes via CDSII. They suggest a potential relationship between attributions and cultural competence among preservice teachers as cultural competence is an acquired

capacity and an outcome after preservice teachers' efforts and multicultural education in teacher education programs.

Cultural Competence

The conceptual background for cultural competence derives from a combination of counseling psychology and healthcare professions that have taken a lead in operationalizing and measuring this construct. In fact, no single definition of cultural competence has yet reached universal agreement. This concept is still evolving despite its crucial role in multicultural education as well as in multicultural counseling. In research literature, this concept has been named in many ways, such as cultural competence (Betancourt, Green, & Carrillo, 2002; Cross, Bazron, Dennis, & Isaacs, 1989; Gillum, 2008; National Center for Cultural Competence, 1998; Tervalon & Murray-Garcia, 1998), cultural competency (Barrera & Corso, 2002; Crandall, George, Marion, & Davis, 2003; Hitchcock et al., 2006; Tanabe, 2007), cross-cultural competency (Dolhun, Munoz, & Grumbach, 2003; Pence & Macgillivray, 2008), multicultural competence (Hasslen & Bacharach, 2007), multicultural competency (Kitsantas & Talleyrand, 2005), culturally responsive (Bergeron, 2008; Siwatu, 2007; Stairs, 2007; VanderStaay, 2007), culturally proficient (Guerra & Nelson, 2007; Nuri-Robins, Lindsey, Terrell, & Lindsey, 2007; White-Hood, 2007), and others. The confusion over the terminology can be easily found in peer-reviewed journal articles where multiple terms have been used simultaneously without any differentiation even in a single article (Abernethy, 1995; Boyle & Springer, 2001; Geron, 2002; McAllister & Irvine, 2001; Sue, 1998).

For the present study, cultural competence is selected among the many terms because it is the most straightforward version and most popular one as well. There is no

consensual definition of cultural competence and it is still evolving from diverse perspectives, interests and needs. Betancourt et al. (2002) in healthcare defines cultural competence as the ability of systems to provide care to patients with diverse values, beliefs and behaviors, including tailoring delivery to meet patients' social, cultural, and linguistic needs. Denboba (1993) describes cultural competence as the ability of an individual, a system, organization, or program to honor and respect the beliefs, language, interpersonal styles and behaviors of individuals and families receiving services, as well as staff who are providing such services. Denboba points out that cultural competence is a dynamic, ongoing, developmental process that requires a long-term commitment. Davis (1997) operationally defines cultural competence as the integration and transformation of knowledge about individuals and groups of people into specific standards, policies, practices, and attitudes used in appropriate cultural settings to increase the quality of services and thereby producing better outcomes. Both definitions of Betancourt et al. (2002) and Denboba (1993) are lacking in width and depth of the concept of cultural competence, in that both of them are confined to the systems of healthcare and human services and fail to specify the elements that need to be addressed to achieve cultural competence in teaching. The most seminal work defining cultural competence was provided by Cross et al (1989). It set a solid foundation for understanding cultural competence and remained relatively constant on account of its comprehensive coverage of elements that make up of cultural competence. According to Cross et al. (1989), cultural competence is a set of congruent behaviors, attitudes, and policies that come together in a system, agency or among professionals and enable that system, agency or those professions to work effectively in cross-cultural situations (Cross et al., 1989).

Cross et al. (1989) held that five essential elements contribute to a system's, institution's, or agency's cultural competence, including valuing diversity, having the capacity for cultural self-assessment, being conscious of the dynamics inherent when cultures interact, having institutionalized culture knowledge, and having developed adaptations to service delivery reflecting an understanding of cultural diversity. Unfortunately, this definition applies to a system or organization rather than individuals. It is not applicable to preservice teacher population. Translating the definitions cited heretofore into the context of teacher education, preservice teachers' cultural competence can be perceived as a pedagogical expectation and behavior that shows their acceptance and respect for student diversity, attentions to the dynamics of difference, acquisition of cultural knowledge, and their capacity to meet the needs of diverse student populations. One thing worthy of note is that cultural competence is a developmental process that evolves over an extended period. Individuals may be at various levels of awareness, knowledge and skills along the cultural competence continuum (National Center for Cultural Competence, 1998). It is dependent upon the continual acquisition of cultural knowledge, the development of more positive attitude toward diversity and more advanced skills of dealing with diversity, and an on-going self-inquiry and self-evaluation of progress.

Multicultural Education and NCATE Diversity Standard

A major means for preservice teachers to achieve cultural competence is through teacher education programs where multicultural education has been mandated to include while training preservice teachers. One of the most challenging situations facing American education in the past two decades is the rapid growth of minority populations in the United States. Today, one in five children in the United States lives in an

immigrant family (Center for Health and Health Care in Schools, 2005). Immigration from Central and South America and Asian countries increases while the Hispanic segment of the population born in this country grows at a faster pace than other segments. It is predicted that by the year 2020, youth of Hispanic-origin will constitute 25% of the cohort ages 17 and under, and that the Asian American group will grow from 2.9% of the youth segment in 1982 to 4.2% in 2020 (Pennock-Roman, 2002). The demographic change in American society highlights the fact that the United States is rapidly shifting from a nation that is predominantly White to a country where most residents will come from non-White, non-European, and non-English-speaking groups (D'Andrea & Daniels, 2001). It is predicted that by 2050, we will be an ever more heterogeneous society than any other time in U.S. history (Agence France Press, 2008).

In the coming decades, teachers in the United States will find their classrooms increasingly filled with non-white students (Azwell, Fayle, & Lyman, 1993; Olson, 2000). In stark contrast to the rapid growth of students of color, the majority of teachers in the United States is and is expected to continue to be White, middle-aged, female, middle class, monolingual, and Eurocentric (Banks & Banks, 1993; National Collaborative on Diversity in the Teaching Force, 2004; National Education Association, 1992; Zimpher & Ashburn, 1992;). According to National Center for Education Statistics (2007), female teachers make up 73-75 percent of the total full-time teaching force, and White teachers represented 83 percent of public school teachers in 2003-2004.

In response to the increasing discrepancy between the backgrounds of teacher and student populations, two solutions are generally proposed. The first solution is recruiting more teachers from ethnic groups so that students have role models (Zirkel, 2002; Zirkel

& Cantor, 2004). The second solution is to educate preservice teachers to be more knowledgeable and responsive to the increasingly diverse student population. In brief, the growing demographic disparity between students and teachers calls for increased attention to multicultural teaching strategies and cultural competence among all teachers (Banks & Banks, 2007; Gay, 1997; Howard, 2006; Zeichner, 1992). Fortunately, the growing disparity between diverse student population and homogeneous teaching force did not go unnoticed. In August 2002, the American Psychological Association's (APA) Council of Representatives approved the "Guidelines on Multicultural Education, Training, Research, Practice, and Organizational Change for Psychologists". These guidelines were subsequently published in 2003 to focus on helping psychologists and other mental health professionals to understand themselves as racial/cultural beings as counselors, clinicians, researchers, educators, and administrators. As early as the 1970s, multicultural education emerged as a field of intellectual concern in preparing teachers to meet the needs of growing diverse student population. The National Council for Accreditation of Teacher Education (NCATE, 1977) established multicultural education as a specific criterion to evaluate teacher preparation programs. The NCATE Standards define multicultural education as "Preparation for the social, political, and economic realities that individuals experience in culturally diverse and complex human encounters" (1977, p. 4). Despite its constant revisions every seven years, the core principles and standards regarding multicultural education remained important in the accreditation of teacher education institutions. Specifically, NCATE standards require teacher candidates to demonstrate "the knowledge, skills, and professional dispositions to work successfully with children of all races, ethnicities, disabilities/exceptionalities, and socioeconomic

groups” (2008, p. 6). This breaks down to more concrete expectations from preservice teachers such as operationalizing the belief that all students can learn, demonstrating fairness in educational settings by meeting the educational needs of all students in a caring, non-discriminatory, and equitable manner, and understanding the impact of discrimination based on race, class, gender, disability/ exceptionality, sexual orientation, and language on students and their learning. In fact, NCATE (2008) has a specific unit of diversity standard addressing the importance of multicultural education and what is expected from preservice teachers in response to the increasingly diverse student population.

Dimensions of Multicultural Education

To help preservice teachers gain cultural competence more effectively, Banks (1991, 1992, 1993a, 1993b, 2004) and Banks (Banks & Banks, 2007) formulated a five-dimension model of multicultural education as a guide for both teacher training and school reform based on his work, research, and field observations since 1960s. The five dimensions include (1) content integration, (2) the knowledge construction process, (3) prejudice reduction, (4) equity pedagogy, and (5) an empowering school culture and social culture.

Content Integration

Content integration deals with how well preservice teachers can infuse ethnic and cultural content into the subject area in a logical and consistent but not a contrived manner. It resonates with NCATE standards that preservice teachers “consider school, family, and community contexts in connecting concepts to students’ prior experience and applying the ideas to real-world issues” (NCATE, 2008, p. 18), and that they

“contextualize teaching and draw effectively on representations from the students’ own experiences and cultures” (p. 34).

Banks (2004) suggested several different approaches to integrate content about racial, ethnic, and cultural groups into the curriculum while cautioning their flaws. The most popular practice in the current curriculum is the contributions approach where teachers supplemented isolated facts about ethnic and cultural group heroes and heroines into the curriculum without changing the structure of their lesson plans and units. The major drawback with this approach is that it reinforces the notion already held by many students that ethnic minorities are not integral parts of mainstream U.S. society and that the history of minority groups are separate and apart from U.S. history (Banks, 2004). Another approach that endorses a higher level of content integration is the additive approach, an approach to integrate content about ethnic and cultural groups into the school curriculum while maintaining its organization and structure. Unfortunately, this approach still does not fix the problem that ethnic and cultural groups remain on the margin of the mainstream curriculum.

Banks and Banks (2007) pointed out unequal opportunities of integrating ethnic and cultural content in subject areas. They contended that there tend to be more frequent and ample opportunities for teachers to use ethnic and cultural content to illustrate concepts, themes, and principles in the social studies, the language arts, and in music than in math and science. But this opportunity gap does not excuse teachers in such disciplines as math and science of denying efforts in this dimension.

Knowledge Construction Process

This dimension aims at teaching activities that can help students to understand, investigate, and determine how the implicit cultural assumptions, frames of references, perspectives, and biases of researchers and textbook writers influence the ways in which knowledge is constructed (Banks, 1996). It requires multicultural teaching to move beyond content integration to change the structure and organization of academic knowledge in subject areas. This dimension expects teachers to change the ways in which both teachers and students view and interact with knowledge, thus helping students to become knowledge producers as well as knowledge consumers.

Accordingly, preservice teachers are expected to have the capacity to help their future students to understand why the cultural identities and social positions of researchers need to be taken into account when assessing the validity of knowledge claims. Disclosing how the values, personal histories, attitudes, and beliefs of researchers might influence the knowledge they create is recommended as an effective way to reject positivist claims of disinterested and distancing knowledge production. This will assist students in discovering the fallacy that knowledge can be created without being influenced by the cultural assumptions and social position of the knowledge producer. Therefore, teachers are encouraged to challenge the paradigms, themes, and concepts that exclude or distort the life experiences, histories, and contributions of marginalized groups. This is to help students reconceptualize and expand the mainstream knowledge, to make it more representative and inclusive of the nation's diversity, and to reshape the frames of references, perspectives, and concepts that make up school knowledge (Banks, 1996).

Prejudice Reduction

The prejudice reduction dimension of multicultural education seeks to help students develop positive and democratic interracial attitudes and actions and reduce their prior racial prejudices and discriminations. To achieve this, preservice teachers often have to deal with and adjust their own professional dispositions and instill in them “the ideal of fairness and the belief that all students can learn” (NCATE, 2008, p. 22).

Research indicates that children become aware of racial differences as early as three years old and have developed many negative attitudes and misconceptions toward different racial and ethnic groups before they go to school (Ramsey, 1998; Stephan & Vogot, 2004). To help students understand how ethnic identity is influenced by the context of schooling and the attitudes and beliefs of dominant social groups and develop more positive intergroup attitudes, Banks and Banks (2007) recommended providing students with lessons, units, and materials that include content about different racial and ethnic groups and making use of multiethnic materials that include positive images of the ethnic groups in a consistent and sequential way. The positive effect of the multiethnic courses and curriculum materials on reducing students’ negative attitudes toward diverse minority groups can be found in many studies (Allport, 1954; Cheng & Zhao, 2006; Fisher, 1965; Lessing & Clark, 1976; McGeehan & Han, 1994; Shirley, 1988). What material a teacher presents to his or her students, how is the material to be presented, and how student contact and interaction is encouraged will likely influence the student’s extant attitudes toward other diverse groups.

Equity Pedagogy

An equity pedagogy is implemented when preservice teachers in their disciplines practice culturally responsive teaching, i.e., modify their teaching procedures and instructional styles to meet a wide range of learning styles and improve the academic achievement of students from diverse racial, cultural, socioeconomic, and language groups. NCATE explicitly expects candidates (preservice teachers) to “confront issues of diversity that affect teaching and student learning and develop strategies for improving student learning and candidates’ effectiveness as teachers” (NCATE, 2008, p. 36) and to “identify and design strategies and interventions that support student learning” (p. 19). Banks and Banks (2007) proposed that teachers in various disciplines analyze their pedagogy to determine the extent to which multicultural issues and concerns are reflected in it. He advocated the use of a diversity of teaching approaches and styles including the adoption of cooperative learning techniques in math and science instruction to facilitate the wide range of learning styles within diverse groups and an attitude of being demanding but highly personalized when working with students from these groups.

In his book, Banks (2004) posited a historical perspective of the development of educational concepts and theories regarding the low academic achievement of low-income students. According to him, the earliest wave of research on this goes to geneticists (Herrnstein, 1971; Jensen, 1969) who believed that students from low-income families as well as some ethnic groups were born to be intellectually disadvantaged than their white peers and those from affluent families. Refuting this idea, cultural deprivation theorists (Bloom, Davis, & Hess, 1965; Riessman, 1962) believe that low-income students can achieve as high as their affluent peers, but socialization experiences both in

their homes and communities have deprived them of the knowledge, attitudes, and skills acquired by middle-class students that are essential for academic success. To challenge the assumption of this paradigm that the cultural practices of low-income students are inadequate and inferior, the cultural difference theorists contended that these students are not academically successful because their rich cultures and values are too different from school culture (Hale-Benson, 1987; Shade, 1982). They believe that students from diverse cultures and groups come to school with many strengths rather than deficits. Unfortunately, cultural identity, communicative styles, and the social expectations of students from marginalized ethnic and racial groups often conflict with the values, beliefs, and cultural assumptions of teachers. The middle-class mainstream culture of the schools has created a cultural dissonance and disconnect in students from these groups.

Therefore, Banks and Banks (Banks, 2004; Banks & Banks, 2007) suggest that teachers use instructional materials and practices that incorporate important aspects of the family and community culture of their students and cultural knowledge, prior experiences, frames of reference, and performance styles of their ethnically diverse students to ensure an equity pedagogy in making learning encounters more relevant to and effective for their students.

An Empowering School Culture

The empowering school culture dimension expects preservice teachers to participate and collaborate with people around them in examining and reforming the culture and organization of the entire school environment to help promote racial, gender, and social-class equity. According to Banks and Banks (2007), all parties including teachers, staff, school administrators, etc must participate and interact with each other in

creating a school culture that empowers students from diverse groups. Teachers in particular, play a crucial role in implementing multicultural programs because their attitudes toward diversity will directly influence their way of handling multicultural and sensitive teaching materials (Banks & Banks, 2007). Therefore, Banks and Banks suggest that preservice teachers gain the knowledge about diverse groups so as to develop democratic attitudes and values that are essential for successful multicultural education. This appeal resonates very well with NCATE's standards that require preservice teachers to "understand the impact of discrimination based on race, class, gender, disability/exceptionality, sexual orientation, and language on students and their learning" (NCATE, 2008, p.7)

To nurture an empowering school structure, Banks and Banks (2007) provided a figure that included 11 variables, out of which eight necessitate the efforts from teachers. These eight variables are teaching styles and strategies, formalized curriculum and course of study, instructional materials, assessment and testing procedures, school culture and hidden curriculum, learning styles of the school, language and dialects of the school, and community participation and input. One may wonder how a teacher can contribute to reforming the school culture and hidden curriculum that do not seem to have much to do with them. According to Banks and Banks (2007), a school's hidden curriculum is one "that no teacher explicitly teaches but that all students learn" (p. 24). He contends that it often counts more than manifest or overt curriculum in that it communicates more effectively to students how they are viewed as human beings and what attitude toward diversity the school holds. To nurture a positive hidden curriculum, or untaught lessons (Jackson, 1992), preservice teachers can learn to get in touch with their own cultures and

perspectives to help them relate to and comprehend the culture of their students. Additionally, they can assimilate the views, perspectives, and ethos of their students while interacting with them. This act of culture sharing and interaction may translate to the students that their perspectives will be legitimized and valued, which will ultimately help enhance their academic achievement (Banks & Banks, 2007).

In summary, to combine the definition of Cross, et al. (1989), the diversity requirement of NCATE (2007), and Banks' model of multicultural education (Banks, 1993a, 1993b, 1996, 2004; Banks & Banks, 2007), preservice teachers' cultural competence refers to preservice teachers' capacity to value diversity, be aware of cultural values and biases and the classroom dynamics when cultures interact, acquire knowledge of various cultures, and develop a pedagogy that reflects an understanding and acceptance of cultural diversity, enables all students to learn, and empowers the school culture. There are five essential elements that can help a preservice teacher acquire cultural competence.

Multicultural Teaching Scale

The Multicultural Teaching Scale (MTS) (Wayson, 1993; Wayson & Moultry, 1988) is a self-reporting instrument designed to assess preservice teachers' self-reported cultural competence that authorities (Banks, 1981, 1984; Bennett, 1986; California State Department of Education, 1977; Codianni, 1981; Gollnick & Chinn, 1986; Halverson, 1975; Noar, 1974; Wayson, 1988) feel are important for these professionals who are trained to teach children from diverse cultural background. In light of Banks' five-dimension model of multicultural education, Thabede (1996) recruited a panel of three

experts with strong multicultural background who did a conceptual analysis on MTS and classified the 37 items into Banks' five dimensions.

To explore the measurement properties of MTS in line of Banks' five dimensions, Gorham (2001) applied a maximum likelihood factor analysis procedure with oblique rotation on MTS. The result did not support Banks' five-dimension model. Instead, Gorham (2001) came up with five different factors including general awareness, relationships with students, providing instruction to reduce/eliminate prejudice, building respect for diversity, and combating prejudice. However, the five factors were found to be highly correlated and no internal consistency coefficients were reported. Besides, it did not appear as a robust solution, in that only the first four factors had Eigen values greater than 1, and there were too many cross-loadings of the items, let alone many of the significant loadings were as low as .16. As such, more studies are needed to verify the factor solution of MTS.

Following the factor analysis results, Gorham (2001) assessed the relationship between elementary school teachers' perceived cultural competence and their multicultural background and demographics, and found teachers who had multicultural background, early education experience with student from diverse groups, and multicultural friendship experiences reported higher levels of cultural competence. Another interesting study that used MTS was conducted by Ross (2002) to examine preservice teachers' perceptions of cultural competence during the student teaching experience as a result of participating in a diversity and poverty simulation. Findings evidenced increased cultural awareness of those preservice teachers as a result of their participation in the experience. Research results also indicated that the participants did

not successfully translate that awareness into their pedagogy when teaching students of diverse population and poverty.

Attribution and Cultural Competence

Research has provided convincing empirical evidence of positive relationships between higher levels of student achievement among culturally diverse students and teachers well equipped with culturally responsive instructional strategies (Gay, 2000; Knapp, Shields, & Turnbull, 1995; Ladson-Billings, 1994; Turner, 2005), for which multicultural education holds a big credit. On the other hand, there are criticisms that many preservice teachers are not well prepared for the increasing student population despite the fact that multicultural education has been practiced for decades in all accredited teacher education programs as required by NCATE (Dee & Henkin, 2002; Grant, 1993; Knapp et al., 1995; Ladson-Billings, 1994; Melnick & Zeichner, 1995; National Center for Education Statistics, 1999; Sleeter, 1992).

To find out the roadblocks hindering the effectiveness of multicultural education and the adversities that prevent teachers from being more culturally competent and acting as agents of change, research results suggest two major attributions: institutional attribution and personal attribution.

Institutional Attribution

Many scholars (Fullan, 1993; Snell & Swanson, 2000; Wasley, 1991) believe it is the entire hierarchical and bureaucratic institutional system that is discouraging teachers from acting as agents of change, thus perpetuating educational inequity and social injustice instead of alleviating them. According to Fullan (1993), “The way that teachers are trained, the way that schools are organized, the way that the educational hierarchy

operates, and the way that education is treated by political decision-makers result in a system that is more likely to retain the *status quo* than to change it” (p.3). Some of the institutional factors working against teachers becoming agents of change are hierarchy and bureaucracy in the educational system, inadequate time for teachers, insufficient opportunities of collaboration, and uneven distribution of teacher education faculties.

The hierarchical nature of the institutional system manifests itself best when those who are outside the classroom are put in roles of authority over teachers who can't get involved in decision making anywhere other than their own classrooms (Fullan, 1999; Oakes & Lipton, 1998). For example, the legislators making educational laws in the States are not those working in educational settings on a daily basis, but those who are more concerned with the economy and education business rather than with the interests of diverse students. Teachers are expected to conform to those laws and regulations stipulated by the state and the national government rather than acting as powerful agents of change. Additionally, many educational reforms to address diversity issues and to increase educational equity do not serve the immediate interests of those in positions of power, hence arousing resistance instead of support from them. Therefore, teachers' voices are silenced and their willingness to change is mitigated in front of the resistance from the daunting power relations.

Another factor scholars believe responsible for teachers' willingness to change and their development of cultural competence is bureaucracy in the educational system (Collinson & Cook, 2000; Firestone & Pennell, 1993; Wasley, 1991). Under the pressure of policies such as “No Child Left Behind” teachers are overburdened with teaching students to numerous tests to improve students' test scores. Aside from this, affected by

the state revenue and private sponsorship, everything teachers do from text materials to their pedagogy have to please those in power so as to keep the school being funded and any major change a teacher wants to make has to go through lots of paperwork from the authority. Burdening teachers with toilsome paperwork and overwhelming disciplinary tasks, the bureaucratic nature of the educational system constrains teachers through external controls on curriculum, assessment, and increasingly, pedagogy (Wasley, 1991). Despite some degree of autonomy inside their classrooms, teachers have little control regarding their professional activities in other contexts (Firestone & Pennell, 1993) and little support, if any, from external sources.

What is the key to change in teaching and learning? Collinson and Cook (2000) held that giving teachers enough time is the one of most important aspects of making change happen. Unfortunately, they have little time in their work day for anything other than teaching and carrying out their bureaucratic duties. For beginning teachers, things are even worse. They are so overwhelmed with the challenges of learning how to teach that they hardly have any time or energy left to think about trying to change things.

Individuals are often powerless in front of the current of bureaucracy. But if they can unite, they become much more influential and powerful. The reality is that, however, teachers often do not have much chance to get to know their colleagues and teaching unions presently have little power in many states including Oklahoma. Teaching, more often than not, has become a solely independent activity. Other than following the stipulated content teachers are supposed to teach and the regular ritualistic meeting where authoritarian policies are dispersed, teachers are left alone after they step out of their classrooms. They have little contact with their colleagues, mostly brief interactions

during lunch and in the teacher's lounge. And for those who are married and do not eat out, they barely have enough chance to know their colleagues other than their names and superficial greetings. Therefore, the opportunities for collaboration are very rare, in that they do not know one another well enough to talk about their concerns and thoughts, not to mention to put their thoughts together and address them as a unity.

Another aspect of institutional attribution for teachers' inadequate cultural competence is the lack of faculty of color in teacher education institutions that confines the preservice teachers to the impressions of professional people of color that emanate from the culture at large as portrayed, for example, by media (Fuller, 1992). "The implication of this reduced exposure to diversity is the increased likelihood that preservice teachers will have difficulty understanding and appreciating students whose culture and socio-economic backgrounds are different from their own" (Fuller, 1992, p. 193).

Personal Attribution

One of the major personal attributions that hinder the development of cultural competence in a preservice teacher is negative emotions including discomfort, cognitive dissonance and negative emotions including anger, frustration, fear, anxiety and despair in the course multicultural education (Chizhik & Chizhik, 2002; Fried, 1993; Giroux, 1992; Howard, 2006; Martin, 1995; Peters-Davis & Shultz, 2005; Roberts & Smith, 2002; Wang, 2008). For example, preservice teachers may encounter anger or frustration when they are initially exposed to multicultural education (Martin, 1995; Wang, 2008). Unaware of the existence of inequities and unconscious of their impressions of members of microcultural groups and of the stereotypes that they harbor, they may find themselves

traversing new cognitive and affective terrain, which has the potential to create an initial awareness of the tension and dynamics inherent in issues of diversity (Giroux, 1992; Peters-Davis & Shultz, 2005). The intention of such practices in multicultural education as creating contradictions within the framework of accepted practice can be misconstrued by preservice teachers in the classroom in that it may be the first time for them to question their traditional assumptions about issues of democracy and diversity, hence experiencing cognitive dissonance which can be stressful or painful, which in turn causes their resistance to learn about diversity issues (Chan & Treacy, 1996; Chizhik, 2003; Martin, 1995; Rhone, 2002; Wang, 2008) and therefore hinder their development of cultural competence.

However, if we can identify emotional arousals in the classrooms addressing multicultural issues and engage those emotions in a healthy way, we may help preservice teachers go past that negative emotional stage and reconstruct their self-identities that eventually lead to higher levels of cultural competence (Chizhik & Chizhik, 2002; Roberts & Smith, 2002; Wang, 2008).

Therefore, identifying the emotions of preservice teachers when dealing with issues of diversity may help them improve the cultural competence and effectiveness of multicultural education in the long run. As Frijda (2007) argued, emotions are caused by events appraised in particular ways by different individuals. Investigating how preservice teachers appraise the cause of their cultural awareness and examining the relationship between their attributional styles and their perceived cultural competence may provide information of particular emotions they are experiencing and particular attributional styles they wear in multicultural education. If the relationship between attribution and

cultural competence is confirmed by the study, attributional retraining may be another way to render preservice teachers more willing to make efforts in achieving higher cultural competence.

CHAPTER III

METHOD

This study explored the underlying structure of cultural competence among preservice teachers and the relationships between attributional styles toward cultural awareness and their cultural competence. More specific relationships between attributional dimensions (locus of causality, stability, and personal control, and external control) and specific domains of cultural competence for preservice teachers were examined. Additionally, this study examined how preservice teachers' multicultural background, ethnicity, age, gender, major, hours of instruction that address multicultural issues, and program status are related to their cultural competence as well as their attributional styles.

The following research questions were addressed in this study:

1. What is the underlying structure of preservice teachers' cultural competence?
2. How are preservice teachers' cultural competence and attributions of cultural awareness related to their demographics including age, gender, ethnicity, major, program status and hours of instructions that addressed multicultural issues, and multicultural background?

3. Is there a significant relationship of preservice teachers' attributional styles of cultural awareness and their cultural competence?

This chapter of the study discusses the method that was used to answer the research questions. First, a complete description of the sample, including the criteria for participation in the study, sampling method, and a review of the criteria used to determine the sample size and a description of the data collection sites will be presented. The chapter continues with an in-depth description of the sample characteristics. Following this, the chapter will provide a review of the instruments that were used to measure preservice teachers' attributions toward cultural awareness and their cultural competence. The research design and data collection procedures will be delineated, and finally, the technique of data analyses will be discussed.

Research Design

The present study was correlational in nature because the variables were not manipulated by the researcher and assigning subjects into groups was not feasible. Also, convenience and purposive sampling was conducted in the teacher education programs in two large mid-western universities. The researcher went to classes taught in a face-to-face format under the permission of course instructors and encouraged students to participate in the survey. Participants were self-selected based on their decision as to whether or not to participate.

The research design for this study was a self-report survey in which students expressed their perceived levels of cultural competence and their attributions for cultural awareness. The survey was constructed to allow students to quantify their self-reported cultural competence in light of Banks' five-dimensional model and their attributions

along four dimensions in line with Weiner's attribution theory (i.e., locus of causality, stability, and personal controllability and external controllability).

In this study the major variables were dimensions of attribution, including locus of causality, stability, external control and personal control and preservice teachers' cultural competence. Age, gender, ethnicity, major, program status, hometown size, racial or ethnic background, hours of instruction for courses that address multicultural issues, and multicultural background were identified as demographic variables to explore between-group differences based on preservice teachers' attributional styles and their cultural competence.

To examine the relationships between two constructs composed of two sets of variables, the study utilized the Multicultural Teaching Scale (MTS) (Wayson, 1988, 1993) and The Revised Causal Dimension Scale (CDSII) (McAuley, Duncan, & Russell, 1992). These two scales measured preservice teachers' perceived cultural competence and attributional styles toward their cultural awareness. Both scales were alternately assigned to each participant to counterbalance the possible effect of one instrument over the other. Of the 793 eligible respondents, 416 (52.5%) completed the MTS first before they were given CDSII and 377 (47.5%) took the CDSII first. Preservice teachers' demographic information included racial and ethnic backgrounds, age, gender, major, hours of instruction addressing multicultural issues, multicultural background and program status.

Research Data Source

Research was conducted at two large Midwestern universities, one being a comprehensive university located in a rural area and the other a regional university in a

suburb. The teacher education programs at both institutions are accredited by the National Council of Accreditation for Teacher Education (NCATE).

Teacher education programs offered at the comprehensive university are administered within the Professional Education Unit (PEU), which is housed under four colleges within the university namely, College of Education, College of Arts and Sciences, College of Agricultural Sciences and Natural Resources, and College of Human Environmental Sciences. The teacher education programs under PEU range from pre-kindergarten to elementary and secondary teacher education to P-12 education. It covers a wide spectrum of majors such as art, music, agricultural education, technical education and chemistry education. Preservice teachers from all four colleges under PEU were recruited for the study. Many of the courses are taught by adjunct faculty or graduate assistants due to the research focus of the university. The PEU offers a wide range of undergraduate programs. Masters' and doctors' degree programs in the College of Education mainly aim at fostering teacher educators and researchers.

Housed under the College of Education and Professional Studies, teacher education programs at the regional university are integrated into four departments including the Department of Advanced Professional Services, Department of Special Services, Department of Curriculum and Instruction, and Department of Professional Teacher education. A variety of majors are involved in these teacher education programs, including bilingual education, secondary education, special education, and art and music, etc. The college offers a variety of undergraduate and masters' programs in early childhood, elementary, and special education. Most of the classes in teacher education programs are taught by full-time faculty. The college and the university have a strong

commitment to diversity and multiculturalism. With a firm belief in the inherent worth and dignity of every person and dedication to fostering tolerance, sensitivity, understanding, and mutual respect among its members, the University seeks to maintain a community that recognizes, values, and nurtures diversity to promote the exchange of ideas and enrich campus life. As an example of valuing and encouraging diversity, the University has a Global Experience component consisting of co-curricular experiences both on and off campus aiming to create cross-cultural interactions. The on-campus opportunities to connect with different cultures include International Student organizations, clubs, on-campus chapters of International Organizations like Invisible Children, and even living with international students in residence halls. The university also encourages students to seek opportunities off campus, through service projects with world organizations, tutoring English as a second language in local public schools, local internships related to international affairs, etc. The Centre for Global Competency in particular offers a list of International events held on campus. The university strongly encourages students to attend, participate, or coordinate international events. Advisors from the Centre help students find engaging diversity experiences and prepare them to appreciate diversity throughout the world.

Human Subjects Approval

The researcher submitted all pertinent study information, including research plan, IRB application form, information sheet, and invitation script to the Institutional Review Board for human subjects approval at Oklahoma State University. The study was approved as “exempt” as all conditions were met in that category (Appendix A).

Meanwhile, the IRB application for the recruitment of students from the urban institution was approved.

Recruitment Procedure

Initial contact with the Professional Education Unit at the rural comprehensive university was made by emails to the program director. At the scheduled appointment, the director introduced the researcher to a list of instructors and staff members in charge of classes and student meetings. Once permission was obtained to solicit participation of the students in classes and meetings, the researcher went to those classes at a scheduled time introducing the research project to encourage the students to participate either in class or at a scheduled time outside of class depending on the instructors' class schedules. A total of 16 instructors and one staff member allowed the researcher to solicit participation from their students.

To reach the preservice teacher population at the urban university, initial contact was made by a phone call to the associate dean, who then introduced the researcher to chairs of the four departments that offer teacher education courses. The four department heads sent out emails to their faculty members involved informing them of the researcher who was seeking help recruiting their students. Upon receiving emails from individual instructors, the researcher sent the approved IRB form of the research project together with information sheets and survey forms. Twelve instructors showed interest and granted permission to recruit their students. As a result, the researcher spent two days intensive at the urban institution in September of 2009 and accessed twenty classes to recruit participants for the study.

Participants

The population of interest was preservice teachers. More specifically, the study targeted at the population of students who were admitted to teacher education programs or yet to be admitted. Regardless of their admission statuses, however, the eligible participants had to have plans to teach in the near future. To filter through the participants who were enthusiastic about participating in the survey but did not qualify for participation, the research designed two screening questions at the end of the survey asking about their admission status and whether they have plans to be teachers in the near future. Those who did not plan to be teachers in the near future did not count as valid participants in the study, hence were dropped from the data analyses process.

Participants were solicited from classes in teacher education programs. To prevent repetitive participation, the research tried to avoid classes that were likely to have overlapping student populations with previous classes where the research already solicited participants and gave specific instructions before the survey stressing that those who have already participated in this study please do not participate.

Sample Characteristics

Of the 833 participants in the study, 40 participants did not qualify due to the absence of their plans to be teachers in the future. As a result, 793 participants counted as valid participation, out of whom six hundred and thirty-five women (80.1%) and 180 men (18.9%) participated in the study. Eight participants did not disclose their gender information (1%). Of these participants, 83.4% were Caucasian, 16.6% were people of color including 6.7% Native American, 2.1% Hispanic, 2.7% Black, non-Hispanic, 0.9% Asian American, 3.5% Biracial/Multiracial, 0.6% International, and 0.1% with missing

information. The ages of the participants ranged from 19 to 60 years old, with 87.1% being between the ages of 19 and 25 and 1.1% not reporting their age. Nineteen majors were involved in the study, with 27.7% of the respondents from early childhood education, 31.5% from elementary education, and 35% from secondary education. The sample is comprised of 47.5% juniors and 39.2% seniors, with 13.2% indicating they are in their fifth year. Sixty-four participants (8.1%) revealed that they haven't received instruction in their coursework that addressed multicultural issues, 115 participants (14.5%) have reported that they received 1-2 hours of instruction on multicultural issues, 189 participants (23.8%) have received 3-4 hours, 165 participants (20.8%) have received 5-6 hours, 247 participants (31%) have received 7 hours and above, and 13 participants (1.6%) did not report number of hours of instruction they received on multicultural issues. Of the 793 eligible participants, 472 (59.5%) were from the comprehensive university and 321 (40.5%) were from the regional university.

Instrumentation

The Multicultural Teaching Scale (Wayson, 1988, 1993), referred to heretofore as MTS, is a self-reporting instrument designed to assess preservice teachers' self-reported cultural competence levels. The individual items were developed from a pool of literature by various authorities (Banks, 1981, 1984; Bennett, 1986; California State Department of Education, 1977; Codianni, 1981; Gollnik & Chin, 1986; Halverson, 1975; Noar, 1974) who deem them important for teacher candidates to be educated on how to teach children from diverse cultural backgrounds. Under a grant funded by The Affirmative Action Grants Program, Wayson administered this scale to all preservice teachers at Ohio State University who were student teaching between the years 1985-1986. With approximately

700 preservice teachers to gather results from, the study (Wayson & Moultry, 1988) reported an inter-item reliability for the scale at .90. Other studies (Gorham, 2001; Jairrels, 1993; Thabede, 1996) using MTS all reported Cronbach's alpha at above .97 level, thus confirming its high internal consistency.

In light of Banks' five-dimension model of multicultural education, Thabede (1996) did a conceptual analysis of the scale through a panel of three experts with strong multicultural backgrounds. The conceptual analysis classified the 37 items on MTS into 5 subscales in light of Banks' model. The five subscales include: Content Integration (8 items), Knowledge Construction Process (6 items), Prejudice Reduction (11 items), Equity Pedagogy (5 items), and Empowering School Culture (7 items). A field test of this instrument involving the five subscales reported an overall alpha of .97 and a high correlation between all 37 items and the overall scale score (Gorham, 2001). All 37 items included in MTS are linked to a Likert Scale ranging from 1 to 6, whereby 1 indicates little competence and 6 indicates extreme competence. Sample items under the Content Integration Subscale include: "demonstrate a basic knowledge of the contributions made by minority groups to our society" and "show how mainstream Americans have adopted food, clothing, language, etc. from other cultures". Items such as "identify social forces which influence opportunities for minority group members" and "analyze instructional materials for potential stereotypical attitudes" constitute the Knowledge Construction Subscale. Prejudice Reduction Subscale includes items such as "plan instructional activities that reduce prejudice toward other cultural groups" and "help students examine their prejudices", etc. Such items as "adapt instructional methods to meet the needs of learners from diverse cultures" and "feeling that every student can learn" make up of the

Equity Pedagogy Subscale. The fifth Empowering School Culture Subscale includes items like “visit students’ homes in the poor part of town” and “develop instructional method that promotes intercultural cohesiveness”, etc.

The Revised Causal Dimension Scale (CDSII) (McAuley, Duncan, & Russell, 1992) was used to measure preservice teachers’ attributional styles of their cultural awareness. It consists of 12 items with four dimensions in line with Weiner’s attribution theory (1985, 1986), namely, locus of causality, stability, person control and external control. Participants were asked to identify the major cause of their cultural awareness, and then to rate the cause along the four dimensions long a Likert scale of 1 to 9 with 1 being extremely negative and 9 being extremely positive. Sample items under locus of causality subscale include “Is the cause something that reflects an aspect of yourself or an aspect of the situation” and “Is the cause something inside of you or outside of you”. Stability subscale includes items like “Is the cause something permanent or temporary” and “Is the cause something stable over time or variable over time”. Personal control subscale sample items are “Is the cause something manageable by you or not manageable by you” and “Is the cause something over which you have power or you have no power”. And the external control subscale include items such as “Is the cause something over which others have control or others have no control” and “Is the cause something other people can regulate or other people cannot regulate”, etc.

The Revised Causal Dimension Scale (CDSII) (McAuley, Duncan, & Russell, 1992) originates from the Causal Dimension Scale (CDS) developed by Russell (1982) and is used to measure how individuals make causal attributions. Based on Weiner’s attribution theory (Weiner, 1985), Russell (1982) developed CDS to represent the

dimensions of locus of causality, stability, and control, and provided evidence to support the reliability and validity of this scale (Dobbins, 1985; McAuley, Russell, & Gross, 1983; Russell & McAuley, 1986; Russell, McAuley, & Tarico, 1987; Wilson & Linville, 1985). However, Vallerand and Richer (1988) reported values of coefficient alpha below .50 for the control dimension, indicating a low internal consistency. To reduce the psychometric problems of the control dimension, McAuley et al. (1992) revised CDS into CDSII with the locus of causality and stability subscale items remaining unchanged while expanding the control dimension into personal and external control dimensions. Hence the revised model has four dimensions, locus of causality, stability, personal control, and external control. This major revision is based on the idea that control should be further differentiated regarding whether or not the cause is controllable by the person or by the other people, in that some cause can be controllable by others while uncontrollable by the person, and vice versa. The goodness-of-fit index reported a value of .958 (McAuley et al., 1992), indicating the four-factor model was a better fit for the data being considered (Tanaka, 1987). The average internal consistency statistics of the four sub-scales across the four studies are: locus of causality, .67; stability, .67; personal control, .79; external control, .82 (McAuley et al., 1992), indicating the reliability of the revised control subscale has been increased by treating personal and external control dimensions separately. The permission to use the instrument to measure preservice teachers' attributional styles of cultural awareness was approved by the first author (Appendix B).

A demographic sheet revised from Wayson's MTS was used to collect the descriptive information including preservice teachers' multicultural background and their age, gender, ethnicity, major, program status, neighborhood, hometown size, and hours of

instruction addressing multicultural issues. Items that examined the participants' multicultural background were adopted from Wayson's MTS using a Likert scale ranging from 1 to 5 (1 indicating mono-cultural and 5 indicating multicultural). Sample items include: "What type of neighborhood did you grow up in as a child?", "What was the cultural diversity of your circle of friends in elementary school?", and "What type of cultural diversity have you experienced in a work setting?" The fact that Dr. Wayson retired from Ohio State University many years ago made him inaccessible, nevertheless, the instrument was open for public use (Gorham, 2001; Ross, 2002; Thabede, 1996)

Data Collection

This research study was conducted during the Fall 2008 semester. After agreeing to participate, students were given two survey forms with alternate orders of MTS and CDSII.

The survey was composed of two parts, part one including MTS and CDSII in an alternate order, and part two covering general demographic questions and items on multicultural background. The combination of the two instruments together with the two data collection sites produced four survey forms, with form numbers 1 and 3 indicating MTS in precedence of CDSII, and form numbers 2 and 4 indicating otherwise, form numbers 1 and 2 indicating data source from the comprehensive university and 3 and 4 from the regional school. Participants were presented with information sheet and informed the participation was totally voluntary. They were informed the survey was confidential and anonymous, and that they could terminate the survey any time at their will. Upon agreeing to participate, participants were handed over survey forms randomly and instructed to fill out the survey that included the two instruments and the

demographic information section at the end of the survey (Appendix C). The participants were asked to complete the survey independently and at their own pace and informed that they can receive assistance from the researcher should they need clarifications on any survey items.

Following the data collection, all data were coded and entered as text format in notepad, which was then imported into The Statistical Package for the Social Sciences (SPSS 17.0) until no error was found after checking the data against the original survey results.

Data Analysis

The gender, program status, admission status, major, and teaching plan of the participants were all dummy coded. This allowed the researcher to carry out statistical analyses with categorical (gender, admission status, etc.) and continuous variables.

Factor analysis was conducted to address the first research question. Thereafter, descriptive statistical analysis, t-tests, analysis of variance (ANOVA), and correlation analysis were performed to analyze the second research question from the study. Last, canonical analysis was conducted to examine the relationship between preservice teachers' attributional styles and their perceived cultural competence levels. Two sets of variables were included in the analysis including dimensions of attribution and underlying structure of cultural competence.

Research Question 1. What is the underlying structure of preservice teachers' cultural competence?

Analysis 1. An exploratory factor analysis using principal axis analysis and an oblique rotation with Oblimin procedure was performed to explore the factor structure of cultural competence as measured by MTS.

Research Question 2. How are preservice teachers' cultural competence and attributions of cultural awareness related to their demographics including age, gender, ethnicity, major, program status and hours of instructions that addressed multicultural issues, and multicultural background?

Analysis 2. Correlation analyses, t-tests and ANOVA were performed to examine if demographic variables were significantly related to preservice teachers' cultural competence and their attributions toward cultural awareness.

Research Question 3. Is there a significant relationship of preservice teachers' attributional styles of cultural awareness and their cultural competence?

Analysis 3. Canonical correlation analysis was conducted to explore the relationship between preservice teachers' attributional styles of cultural awareness and their cultural competence. The four subscales of CDSII, namely, locus of causality, stability, personal control, and external control, were entered as one set of variables, and the empirical factors of MTS as the other set.

CHAPTER IV

RESULTS

The findings of this study are organized into four sections. The first section will report the result of exploratory factor analysis of items on Multicultural Teaching Scale to address research question 1. The second section will utilize correlation analysis, t-tests and analysis of variance (ANOVA) to address the second research question. The third section will report canonical correlation analysis results to address research question 3. Lastly, the fourth section will report additional statistical analyses to explore potential differences in preservice teachers' admission status, research data source and order of instruments in the survey.

Results for Research Question 1

Research Question 1. What is the underlying structure of preservice teachers' cultural competence?

As discussed previously, The Multicultural Teaching Scale (Wayson, 1988, 1993) initially contained 37 items. Thabede (1996) did a conceptual analysis of MTS and successfully categorized the items into five categories from Banks' model of multicultural education. To determine the number of factors, a principal axis factor analysis was performed. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .97, indicating that the data were appropriate for factor analysis (Gorsuch, 1983).

Bartlett's test of sphericity led to the rejection of the null hypothesis ($p < .01$) that the correlation matrix was an identity matrix. A criterion of .40 was adopted as the cutoff point to identify the items loaded significantly on the factors (Stevens, 2001). A direct oblimin rotation with delta set at 0 was chosen over varimax rotation (Gorsuch, 1983).

The three primary criteria used to determine the number of factors to extract were eigenvalues, scree plot, and a parallel analysis (Horn, 1965). Before the oblimin rotation, five eigenvalues were found to be greater than 1.00, which were 15.87, 1.87, 1.43, 1.19, and 1.07. According to Costello and Osbourn (2005), retaining factors with eigenvalues over 1.00 is the default in most statistical software packages including SPSS, yet it is among the least accurate methods for determining the number of factors to retain and usually produces too many factors. Following the oblimin rotation, the scree test suggested five factors, which respectively accounted for 42.88%, 5.04%, 3.88%, 3.23% and 2.90% (prerotation) for a total of 57.93% of the variance. Using the procedures of parallel analysis recommended by O'Connor (2000), mean eigenvalues were computed from a factor analysis of 100 random data sets generated from the same rank as the original data. Only three eigenvalues for the original data for a specific factor were bigger than the eigenvalues for the related factor computed from the random data sets. Therefore, parallel analysis only suggested three factors instead of five should be retained (Thompson, 2004). Using a criterion of .40 as a cutoff point (Stevens, 2001), only one item had a structure coefficient of .45 on the third factor. However, this item also loaded significantly on the first factor, with even a higher structure coefficient of .50. As a result, a two-factor solution was deemed to be more appropriate and parsimonious.

Both structure and pattern coefficients were considered in defining the two factors. An examination of the factor loadings in the two-factor solution showed 23 items on the first factor and 11 items on the second factor had both structure and pattern coefficients of over .40. Because of the large correlation between the two factors ($r = .69$), the pattern coefficients and structure coefficients are quite different in size. Therefore, both sets of coefficients were considered in interpreting the factors and factor scores instead of unit weights were used in subsequent analyses.

A careful examination of all the items loaded significantly on Factor 1 showed that a main theme overflowing among all these items is the application and activation of multicultural knowledge. These items are all about practical instructional ideas and strategies that demonstrate cultural competence, what a preservice teacher can do in practice, and how a preservice teacher can bring students from all cultures to work and play together, which is typically viewed as praxis in multicultural education. Therefore, factor 1 was labeled as “Praxis”.

Regarding the items with significant loadings on Factor 2, all of them highlighted what and how much a preservice teacher knows about other cultures and if they are well aware of cultural biases and stereotypes. As a result of the highlight of a knowledge base necessary for the embodiment of cultural competence, Factor 2 was termed as “Knowledge”.

Table 1 shows both the pattern and structure coefficients of the items on the two factors, final communality estimates for each item, initial eigenvalues of the two factors, percentage of variance each factor accounts for after extraction, sums of squared loadings after rotation, and reliability coefficients of the two subscales. As can be seen from

Table 1, the sums of squared loadings after rotation were 13.93 for Factor 1 and 12.30 for Factor 2. The internal consistency coefficients and 95% confidence intervals for the two factors were as follows: Praxis ($\alpha=.95$) [.942, .953], and Knowledge ($\alpha=.89$) [.883, .904], indicating high reliability of the two factors. The Cronbach's alpha for scores on the entire scale was .96, confirming the robust psychometric property of the instrument.

Table 1

Factor Structure of the Multicultural Teaching Scale (N=730)

Item No.	Statements	I		II		h^2
		P	S	P	S	
34	Get students from differing cultures to play together.	.77	.72	-.07	.46	.52
33	Get students from differing cultures to work together.	.76	.73	-.06	.47	.53
26	Help students work through problem situations caused by stereotypical attitudes.	.71	.78	.11	.61	.63
35	Feeling that every student can learn.	.68	.54	-.20	.27	.31
36	Identify school practices that harm minority students.	.65	.68	.05	.50	.47
23	Develop activities that increase self-confidence of minority students.	.64	.75	.17	.61	.58
27	Be direct in expressing feelings to someone from another culture.	.62	.63	.00	.44	.39
29	Identify student behaviors that are indicative of negative racial attitudes.	.60	.71	.16	.57	.51
22	Help students recognize that competence is more important than ethnic background.	.59	.64	.08	.48	.41
18	Plan instructional activities that reduce prejudice toward other cultural groups.	.58	.73	.22	.62	0.56

25	Assist all students to understand the feelings of people from other ethnic groups.	.58	.72	.21	.61	.55
37	Deal with prejudice shown by my own parents.	.58	.49	-.12	.28	.25
21	Help students examine their prejudices.	.57	.66	.13	.53	.45
19	Create a learning environment that allows for alternative styles of learning.	.55	.65	.15	.53	.43
20	Provide instructional activities that help students develop strategies for dealing with racial confrontations.	.54	.72	.27	.64	.56
28	Identify solutions to problems that may arise as the result of cultural diversity.	.54	.73	.27	.64	.57
30	Develop instructional methods that promote intercultural cohesiveness.	.54	.74	.29	.66	.59
31	Develop instructional methods that dispel myths about ethnic groups.	.53	.70	.24	.61	.52
32	Visit students' homes in the poor part of town.	.46	.44	-.03	.29	.20
5	Help students see cultural groups as real people.	.45	.63	.26	.57	.43
7	Present cultural groups in our society in a manner that will build mutual respect.	.44	.66	.32	.63	.49
24	Deal with prejudice shown by students' parents.	.44	.59	.22	.52	.37
17	Provide instruction showing how prejudice affects individuals.	.42	.62	.29	.59	.44

15	Know ways in which various cultures contribute to our pluralistic society.	.00	.51	.74	.74	.55
1	Demonstrate a basic knowledge of the contributions made by minority groups in our society.	-.09	.39	.70	.64	.41
12	Know different patterns of child rearing practices among cultures.	-.02	.45	.68	.67	.45
4	Identify the social forces which influence opportunities for minority group members.	.05	.50	.65	.68	.47
16	Know the history of minority groups in the United States.	.02	.45	.63	.64	.41
13	Adapt instructional methods to meet the needs of learners from diverse cultures.	.21	.62	.59	.73	.56
3	Develop materials appropriate for the multicultural classroom.	.10	.50	.58	.65	.43
10	Effectively utilize ethnic resources in the community.	.19	.59	.57	.70	.51
11	Identify the similarities between Anglo-American and other cultures.	.15	.51	.53	.63	.41
14	Analyze instructional materials for potential stereotypical attitudes.	.30	.62	.46	.66	.49
2	Identify cultural biases in commercial materials used in instruction.	.02	.33	.45	.47	.22
9	Present diversity of cultures as a strong positive feature of American heritage.	.37	.61	.35	.60	.44
8	Identify how language affects performance on certain test items.	.24	.47	.33	.50	.28

6	Show how mainstream Americans have adopted food, clothing, language, etc. from other cultures.	.29	.48	.27	.47	.26
	<i>Eigenvalue</i>	15.87		1.87		
	<i>Percentage of Variance</i>	41.47		3.51		
	<i>Sum of Squared Loading</i>	13.93		12.29		
	<i>Reliability (Cronbach's Alpha)</i>	.95		.89		

Note. P=pattern coefficients; S=structure coefficients; I=Praxis; II=Knowledge

Relating Factors to the Original Subscales

Multiple regression analysis was used to see how the first factor is related to the original subscales. The outcome value was the factors scores of praxis subscale from the factor analysis results. The predictor variables were sum of scores on the subscales of Content Integration, Knowledge Construction, Prejudice Reduction, Equity Pedagogy, and Empowering School Culture. Overall, 98% of the variance of praxis was explained by the model entered ($R^2 = .98$), $F(5, 724) = 6127.10$, $p < .01$.

Similarly, multiple regression analysis was conducted to examine how the second factor is related to the original subscales. The five subscales within Banks' model were entered simultaneously as the predictor variables, and the criterion variable was the factor scores of the knowledge subscale produced in the exploratory factor analysis. Overall, the model explained 94% of the variance of knowledge factor ($R^2 = .94$), $F(5, 724) = 2318.64$, $p < .01$. Due to multicollinearity, beta weights are usually unstable (Stevens, 2001). Therefore, zero-order correlations and semi-partial correlations between the two factors and the five original subscales were examined and presented in Table 2.

Table 2 results show that all the five subscales, namely, Content Integration, Knowledge Construction, Prejudice Reduction, and Equity Pedagogy, and Empowering School Culture have moderate to high zero-order correlations with both praxis and knowledge Factor. Whereas the semi-partial correlations are shown to be similar to the zero-order correlations presented in Table 2, big changes in the magnitude of the correlation in general were found and in one case, it changed the correlation between Empowering School Culture subscale and Knowledge factor from significant to non-significant. However, the semi-partial correlation between the five subscale scores and

the two factor scores mostly remained significant in a positive direction with one exception. The relationship between Knowledge Construction subscale and Praxis factor, positive as a zero-order correlation ($r=.66, p<.01$), was negative as a semi-partial correlation ($r=-.06, p<.01$). It is important to note that the changes in the magnitudes of the correlation coefficients resulted from partialing out the effects of the relationship among the five predictor variables.

Table 2

Correlations of Variables and Factors

Variable	Factor I: Praxis		Factor II: Knowledge	
	Zero-order	Semi-partial	Zero-order	Semi-partial
Content Integration	.78**	.03**	.91**	.21**
Knowledge Construction	.66**	-.06**	.92**	.28**
Prejudice Reduction	.95**	.24**	.79**	.04**
Equity Pedagogy	.88**	.14**	.75**	.03**
Empowering School Culture	.91**	.17**	.75**	.01

Note. ** $p < .01$ (2-tailed).

From the high zero-order correlations of prejudice reduction ($r = .95$) and empowering school culture ($r = .91$) with praxis, it can be seen that these two dimensions within Banks' model mainly defined the praxis factor. It's plausible that to reduce the prejudices of students and parents, and help empower the school culture necessitates a lot of action. Therefore, it appears that praxis was a good reproduction of the original subscales.

The high zero-order correlations of knowledge construction ($r = .92$) and content integration ($r = .91$) with knowledge factor confirmed the appropriateness of naming the second factor as knowledge, because being aware of the cultural assumptions and biases and reflecting them in the content area for preservice teachers require a big knowledge base in multicultural issues. Consequently, it seemed reasonable to label the second factor as knowledge.

On the whole, results from both the exploratory factor analyses and multiple regression analyses showed that the two-factor model of praxis and knowledge was an appropriate solution of the Multicultural Teaching Scale.

Results for Research Question 2

Research Question 2. How are preservice teachers' cultural competence and attributions of cultural awareness related to their demographics including age, gender, ethnicity, major, program status and hours of instructions that addressed multicultural issues, and multicultural background?

To find out if the demographic variables such as age gender, ethnicity, program status, and hours of instruction preservice teachers received on multicultural issues have a significant relationship to their cultural competence or attributions toward cultural awareness, correlational analyses, t-tests and analysis of variance (ANOVA) were performed via SPSS 17.0, with the demographics serving as independent variables and attributions and cultural competence serving as dependent variables respectively.

Age

Zero-order correlation analysis was performed between age and the four dimensions of preservice teachers' attributional styles of cultural awareness and the two

dimensions of their cultural competence. As shown in Table 3, age was significantly positively correlated with locus of causality and personal control, but negatively correlated with external control. This suggests that participants with older age scored significantly higher on locus of causality and personal control dimensions and lower on external control dimension.

Table 3

Correlations of Age and attribution Variables

	Locus of Causality	External Control	Personal Control
Age	.147**	-.121**	.146**

Note. All non-significant correlations were omitted.

** $p < .01$ (2-tailed).

Gender

Females and males were compared on the dependent variables. The dependent variables were participants' 4 dimensions of attributions toward their cultural awareness and 2 dimensions of their cultural competence from the factor analyses results.

Independent sample t-tests were performed comparing the mean scores of locus of causality, external control, personal control, and stability for the female participants with those for the male participants. The alpha levels of mean-score differences on all the four outcome variables across the gender groups were greater than .50, indicating no significant differences between the male and female preservice teacher groups on any of the four attribution dimensions. Therefore, no gender differences were found in preservice teachers' attributional styles toward their cultural awareness.

Independent samples t-tests were also performed comparing the mean scores of praxis and knowledge between female and male participants. The alpha level of praxis mean-score difference was .004. This test was found to be significant, $t(722) = -2.86$, $p < .01$, indicating that male preservice teachers scored significantly lower on praxis subscale than their female counterparts.

Ethnicity

A one-way between-subjects analysis of variance (ANOVA) compared the mean scores of attributions based on participants' ethnicity. The alpha level of locus of causality was .002. This test was found to be significant, $F(6,787) = 3.44$, $p < 0.01$. Follow-up tests were conducted to evaluate pairwise differences among the means using Tukey HSD test. No differences between the means of the seven groups were found despite the overall significant difference based on ethnicity.

A one-way between-subjects analysis of variance (ANOVA) was also performed to compare the mean scores of cultural competence based on participants' ethnicity. The alpha level of knowledge was .002. This test was found to be significant, $F(6,707) = 3.43$, $p < 0.01$.

Follow-up tests were conducted to evaluate pairwise differences among the means scores of knowledge using Tukey HSD test, which found no significant differences between the means of the seven groups despite the overall significant difference based on ethnicity.

Major

Prior to analysis participants were grouped into bigger categories to increase cell size for more reliable results. Rather than entering 20 majors into SPSS 17.0 as the

independent variables, participants were categorized into five more general majors, namely, early childhood education, elementary education, secondary education, P-12 art, music, foreign language, and physical education, and special education. A one-way ANOVA was performed to compare the mean scores of attributions based on participants' five different majors. The alpha levels of locus of causality, external control, personal control, and stability were .260, .083, .251, and .508 respectively, indicating no differences in major regarding participants' attributions toward cultural awareness.

A one-way ANOVA was also performed to compare the mean scores of cultural competence based on participants' majors. The alpha levels of praxis and knowledge were .141 and .216 respectively, indicating no significant differences on praxis and knowledge scores among the major groups of early childhood education, elementary education, secondary education, special education, or P-12 education on art and music.

Program Status

A one-way ANOVA was used to test for mean score differences of attributions among the participants with different program statuses. The groups differed on locus of causality, $F(4,769) = 2.97, p < .05$, and personal control, $F(4,767) = 2.82, p < .05$.

Tukey post-hoc comparisons of the five groups indicate that the junior first semester group ($M=16.56, SD=4.70$) scored lower on locus of causality than junior second semester group ($M=18.33, SD=4.68$). Meanwhile, the junior first semester group ($M=18.66, SD=4.35$) scored lower on personal control than "other" group ($M=20.09, SD=4.23$) which were mostly graduate students in teacher education programs.

A one-way ANOVA was employed to compare the mean scores of cultural competence based on participants' program statuses. Levene statistic shows that the

assumption of homogeneity of variance among the groups on knowledge subscale was violated ($F(4, 723) = 3.68, p < .01$), indicating that the resulting ANOVA may be inaccurate. The alpha levels of praxis and knowledge were .043 and .031 respectively, indicating significant differences on praxis ($F(4, 723) = 2.47, p < .05$) and knowledge ($F(4, 723) = 2.67, p < .05$) scores among the major groups of participants with different program statuses. However, because the ANOVA assumption of homogeneity across the program status groups on knowledge subscale was not met, robust-test of equality of means was performed. The Brown-Forsythe statistic shows that the mean differences among the groups on knowledge scores were nonsignificant, $F(4, 317.27) = 2.33, p > .05$.

Follow-up tests were conducted to evaluate pairwise differences among the mean scores of praxis using Tukey HSD test. The post-hoc test found that participants at their junior first semester scored significantly lower on praxis ($M = -.04, SD = .94$) than those who have been in the program longer and were mostly graduate students (“Other” group) ($M = .29, SD = 1.01$).

Hours of Instruction

A one-way ANOVA was used to test for group differences with varied hours of multicultural instruction on their attribution scores. No significant differences were found among the groups.

A one-way ANOVA compared the mean scores of cultural competence based on hours of instruction on multicultural issues participants received. It showed that there was significant difference among the groups on their reported scores of knowledge, $F(7, 712) = 2.06, p < .05$. Tukey post-hoc comparisons of the eight groups (see Table 32) indicate that the participants who did not receive instruction ($M = -.26, SD = 1.14$) on multicultural

issues scored significantly lower than those who received 5-6 hours ($M=.08$, $SD=.86$) and those with over 13 hours of instruction on multiculturalism ($M=.19$, $SD=.94$).

Multicultural Background

Zero-order correlation analysis was conducted to see if multicultural background of the participants was related to their attributions or cultural competence.

Table 4

Significant Correlations of Multicultural Background and Outcome Variables

	Locus of Causality	Personal Control	Praxis	Knowledge
Multicultural Background	.165**	.149**	.161**	.215**

Note. All non-significant correlations were omitted. ** $p < .01$ (2-tailed).

As can be seen from Table 4, multicultural background was positively correlated with locus of causality, personal control, and praxis and knowledge. This suggests that participants with more multicultural background scored higher on locus of causality, personal control dimensions in their attributions of cultural awareness. They also scored higher on praxis and knowledge subscales in their reported cultural competence.

Results for Research Question 3

Research Question 3. Is there a significant relationship of preservice teachers' attributional styles of cultural awareness and their cultural competence?

To examine the relationship between the two concepts of attribution and cultural competence among preservice teachers, zero-order correlation analysis was conducted as between the two sets of variables (see Table 5).

Table 5

Zero-order Correlations of Attribution and Cultural Competence Variables

	Locus of Causality	External Control	Stability	Personal Control
Praxis	.177**	.037	.017	.259**
Knowledge	.186**	.092*	.060	.223**

Note. ** $p < .01$. * $p < .05$ (2-tailed).

Significant positive relationships were found between the two groups of variables. Praxis was found to be positively related to personal control ($r = .259, p < .01$) and locus of causality ($r = .177, p < .01$). Meanwhile, knowledge had a positive relationship with personal control ($r = .223, p < .01$), locus of causality ($r = .186, p < .01$), and external control ($r = .092, p < .05$). The significant zero-order correlations among the many variables within the two concepts confirmed the need to conduct further analyses to decode the relationships more precisely.

Canonical correlation analysis is a method for determining relationships between two sets of variables (Stevens, 2001; Thompson, 1984) and was used to answer the last research question in this study. The four subscales of The Revised Causal Dimension Scale (CDSII) (McAuley, Duncan, & Russell, 1992) including Locus of Causality, stability, Personal control and External Control served as one set of variables, and the two factors from The Multicultural Teaching Scale (Wayson, 1988, 1993), namely, Praxis and Knowledge, were entered as the other set of variables. The overall relationship between the attributions toward cultural awareness and cultural competence outcomes was significant, Wilks' $\lambda = .91, F(8, 1392) = 7.99, p < .001$. The dimension reduction analysis indicated the significance of the second function of the correlation, $F(3, 697) = 4.55$,

$p < .01$. Function 1 emerged with a canonical correlation of .27 ($R^2 = .07$, $p < .001$), and the second function emerged with a canonical correlation of .14 ($R^2 = .02$, $p < .01$) (See Table 6).

Table 6

Canonical Correlation Results of Attributions and Cultural Competence

Canonical Variate	Eigenvalue	Rc	Proportion of Variance
1	.08	.27**	.07
2	.02	.14**	.02

Note. Rc = canonical correlation coefficient.

** $p < .01$.

Canonical loadings were used to examine the contribution of each variable to the variates. Loadings equal to or greater than .40 indicate a meaningful contribution to the multivariate relationship (Stevens, 2001). Analysis of the first canonical variate (Function 1, see Table 7) reveals that the attribution variable set with the highest canonical loading was personal control ($r = .99$), followed by locus of causality ($r = .56$), stability ($r = .17$), and external control ($r = .06$). The dramatic decrease in standardized canonical coefficients in comparison to structure coefficients suggested that locus of causality was relative redundant in terms of unique relationship to the first variate.

The cultural competence variable set having the highest loading was praxis ($r = .99$), succeeded by knowledge ($r = .85$). Due to the high correlation between praxis and knowledge, the standardized canonical coefficient of knowledge ($r = .23$) on the first canonical variate was tremendously reduced. The first canonical function indicates a significant relationship between preservice teachers' personal control and their praxis and knowledge in cultural competence.

Table 7

Canonical Results of Attributions and Cultural Competence on Function 1

Variable Sets	Standardized Canonical Coefficient	Structure Coefficients
Attribution variables		
Locus of Causality	.09	.56
Stability	.15	.17
Personal Control	.94	.99
External Control	-.07	.06
Competence Variables		
Praxis	.81	.99
Knowledge	.23	.85

The results of the second canonical function are presented in Table 8. Among the predictor variables, stability ($r = .68$) contributed most to the overall relationship, followed by external control ($r = .47$), locus of causality ($r = .44$), and personal control ($r = -.11$). The cultural competence variable set having the highest loading was knowledge ($r = .52$), followed by praxis ($r = -.15$). Therefore, using a cutoff correlation of .40 (Stevens, 2001) for interpretation, the second canonical function indicates that there is a significant relationship between preservice teachers' reports of high levels of inner cause of their cultural awareness which is stable and under external control and their reported high levels of knowledge in cultural competence.

Table 8

Canonical Results of Attributions and Cultural Competence on Function 2

Variable Sets	Standardized Canonical Coefficient	Structure Coefficients
Attribution variables		
Locus of Causality	.62	.44
Stability	.75	.68
Personal Control	-.51	-.11
External Control	.33	.47
Competence Variables		
Praxis	-1.33	-.15
Knowledge	1.54	.52

Additional Findings

In addition to examining the data to address the three research questions, extra sets of t-tests were performed to explore for significant differences among preservice teachers' admission status, research data source, and the order of the instrument they took while completing the survey.

Admission Status

Prior to the analysis participants were grouped on the basis of their admission status, i.e., some of them were already admitted into teacher education programs at the time of the survey while others were not. Independent sample t-tests were performed comparing the mean scores of locus of causality, external control, personal control, and stability for the participants who were admitted to teacher education programs with those whom were yet to be admitted. The alpha level of locus of causality mean-score

difference was .043. This test was found to be significant, $t(773)= 2.03$, $p < .05$. It indicates that the participants who were admitted to teacher education programs ($M=17.57$, $SD=4.83$) tend to attribute their cultural awareness to an internal cause more than their counterparts who were not yet admitted ($M=16.88$, $SD=4.64$).

Independent sample t-tests were also performed comparing the mean scores of praxis and knowledge for the participants who were admitted with those who were not. Levene's statistic shows that the two groups had unequal variances on both praxis and knowledge. Hence, correction procedures were used to approximate degrees of freedom and respective t scores. The alpha levels of praxis mean-score difference was .705 and knowledge was .388, indicating the neither of the results was significant. Therefore, no significant group differences were found on their reported praxis and knowledge scores.

Order of Instrument

To counteract the possible effect of one instrument over the other, participants were given the instruments Multicultural Teaching Scale (MTS) (Wayson, 1988, 1993) and Revised Causal Dimension Scale (CDSII) (McAuley, Duncan, & Russell, 1992) in alternate orders. To determine whether the order of the instruments made a difference in the participants' outcome scores, t-tests were employed to compare the group of participants who took MTS first with the group that took CDSII first during the survey. Independent sample t-tests were performed comparing the mean scores of locus of causality, external control, personal control, and stability for the participants who took MTS prior to CDSII with those took the two instruments in the reverse order.

The alpha levels of personal control mean-score difference was .010 and stability was .043. These two tests were found to be statistically significant, personal control

$t(773)= 2.60, p < .05$, and stability $t(771)= 2.03, p < .05$. This indicates that the participants who took MTS first during the survey attributed to factors that were more under personal control and they saw more stability in those major causes than the group who took CDSII first instead.

Independent sample t-tests were performed comparing the mean scores of praxis and knowledge for the participants who took MTS before CDSII with those who took the two instruments the other way round. The alpha level of knowledge mean-score differences was .001. This test was found to be significant, $t(728)= -2.86, p < .01$, suggesting that the participants who took MTS first scored lower on knowledge subscale than their peers who took CDSII first.

Research Data Source

To find out whether research data source played a role in preservice teachers' report of their cultural competence and attributions toward their cultural awareness, independent samples t-tests were conducted to compare the data from the two institutions, one being a large Midwestern comprehensive university and the other a large Midwestern regional university.

Independent samples t-tests were performed to compare the mean scores of locus of causality, external control, personal control, and stability for the participants who were from the comprehensive university with those from the regional institution. Levene's statistic shows that the two groups had unequal variances on both external control and stability. Hence, correction procedures were used to approximate degrees of freedom and respective t scores. The corrected alpha levels of mean-score differences were .217 on external control and .522 on stability, suggesting that the research data source differences

among the participants were not significantly related to their attribution on the external control or stability dimension.

The Alpha level for locus of causality was .045, hence the test was significant $t(775) = -2.01, p < .05$. This indicates that the participants from the regional university attributed their cultural awareness to more internal causes than those from the comprehensive university. The test for personal control was also significant, $t(773) = -2.06, p < .05$, suggesting that the participants from the regional school perceived the causes of their cultural awareness to be more under personal control than their peers from the comprehensive university. Independent samples t-tests were performed comparing the mean scores of praxis and knowledge for the participants from the regional university with those from the comprehensive school. The alpha level of praxis mean-score difference was .011. This test was found to be significant, $t(728) = -2.55, p < .05$, indicating that the participants from the comprehensive university scored lower on praxis subscale than their counterparts from the regional school.

CHAPTER V

CONCLUSIONS AND IMPLICATIONS

For over half a century, a wealth of attribution research has been conducted to study how students attribute their academic achievement, how sports players attribute their athletic performance, and how teams attribute their collective achievements, and many other contexts. Understanding how one attributes one's achievements or behavioral outcomes can help us gain an insight into the cognitive, motivational, and emotional aspect of a phenomenon, which may serve as a predictor of future outcomes. Therefore, the purpose of this study was to understand how preservice teachers attribute their cultural awareness. No previous studies were done to investigate preservice teachers' attributions toward their cultural awareness.

Multicultural education has been increasingly important to prepare preservice teachers for the increasing diversity in student body. Banks' five-dimension model has almost become an icon of multicultural education regarding the various aspects preservice teachers need to work on to develop their cultural competence. Yet, few studies, if any, have been conducted to examine the empirical nature of the theory. How can we effectively measure preservice teachers' readiness to deal with students of diversity?

The purpose of this study was to bridge the gaps that exist within the multicultural education and human motivation literature. Limited research has been conducted on the instrumentation to assess cultural competence among preservice teachers despite the flourishing development of measurements on multicultural counseling competence. It is unanimous that cultural competence among preservice teachers has become critical to respond to the increasing diversity in the student population, but there have been few empirical studies to date that uncover the underlying structure of this theoretical construct. Out of the small pool of studies assessing preservice teachers' cultural competence, most were descriptive studies and few, if any, had a factor analytical design.

Furthermore, studies are needed that address preservice teachers' attributions of their cultural awareness. Early research focused on what might have appeared as barriers that hinder preservice teachers' willingness to get involved and deal with diversity issues in education, and most of them were conceptual and theoretical in nature. Approaching this issue from a positive side can enable preservice teachers to voice their opinions more openly, which may help disentangle their cognitive and motivational mechanism in the process of multicultural education.

The two disciplines in current scholarship, human motivation and multicultural teacher education are reaching their maturation stage. A multitude of studies have been done to explore and explain attributions and multicultural education, but there has been a scarcity of research that bring the two disciplines together to better serve the increasingly diverse and globalized society.

As such, this study sought to meet the following objectives:

- 1) To explore the underlying structure of cultural competence among preservice teachers.
- 2) To identify the potential significant differences in cultural competence and attributional styles among preservice teachers by their demographic differences including age, gender, ethnicity, major, program status, hours of multicultural instruction, and multicultural background.
- 3) To investigate the possible relationship between preservice teachers' attributions toward their cultural awareness and their cultural competence.

Eight hundred and thirty-three students in teacher education programs volunteered to participate in this study. As the population of interest is preservice teachers, the final eligible sample size was 793, barring the 40 participants who were in teacher education programs but had no plan of becoming teachers in the future. The sample was rather homogeneous in terms of gender and ethnicity, which is consistent with what the literature says about the teaching force, i.e., predominantly female and White. In addition, as the participants were mostly undergraduate students in teacher education programs, the majority of them were in their early twenties, with the mode age of 21. On the other hand, the participants were diverse in the sense that they were from two large Midwestern universities with different regional characteristics and covered a wide range of majors from pre-K to secondary to special education.

This chapter presents an overview of the results, conclusions of the study, and implications. Limitations of this study are addressed, followed by recommendations for future research directions and concluding comments.

Summary of Findings

The summary of findings begins with a review of results from the exploratory factor analysis that revealed the underlying structure of cultural competence as measured by the Multicultural Teaching Scale (MTS) (Wayson, 1988, 1993). It then moves to a presentation of major findings related to differences by demographic variables, and concludes with canonical results exploring the relationship between the two concepts. Lastly, additional analyses results are briefly reviewed to identify possible research data source differences, admission status differences, together with potential instrument influences of one over the other.

The exploratory factor analysis of the items on the Multicultural Teaching Scale (MTS) (Wayson, 1988, 1993) produced two factors in cultural competence for preservice teachers. The praxis and knowledge factors were found to be highly correlated. The multiple regression analyses with the five initial subscales to predict praxis and knowledge confirmed the appropriateness of the two-factor solution in the previous analysis.

The correlation analyses, t-tests, and ANOVA uncovered the significant relationships between demographic variables of preservice teachers and their attributions and cultural competence.

Age was found to be positively correlated with locus of causality and personal control, but negatively correlated with external control. Participants with older age scored significantly higher on locus of causality and personal control dimensions and lower on external control dimension.

Gender differences were found in praxis dimension with respect to preservice teachers' cultural competence. Male preservice teachers scored lower on praxis than their female peers.

There was a significant overall difference across the ethnic groups on both locus of causality and knowledge subscale, though no specific group difference was found in the follow-up Tukey test.

The significant differences were found among preservice teachers with different program statuses in terms of locus of causality, personal control, and praxis. Preservice teachers at their junior first semester scored lower on locus of causality than the junior second semester group. In addition, it was found that the "other" group scored higher than the junior first semester group on both personal control in attribution and praxis in cultural competence.

The groups with different hours of instruction on multicultural and diversity issues differed on their reported knowledge scores. The group that did not receive any formal instruction on multicultural issues scored significantly lower than both groups that received 5-6 hours, and 13 hours and above.

Multicultural background was found to be positively correlated with locus of causality, personal control, and praxis and knowledge. Participants with more multicultural background scored higher on locus of causality, personal control dimensions in their attributions of cultural awareness. They also scored higher on praxis and knowledge subscales in their reported cultural competence.

Two significant relationships between preservice teachers' attributions and cultural competence were discovered from the canonical correlation analysis. The first

significant relationship was that personal control was positively associated with praxis and knowledge. Participants who attributed their cultural awareness to factors highly controllable by them scored high on praxis and knowledge subscales in their reported cultural competence. The second relationship was that stability, external control and inner locus of causality were related to knowledge dimension in cultural competence. Participants who thought the major causes of their cultural awareness were from inner locus, stable, and controllable under external forces scored relatively high on the knowledge dimension in their reported cultural competence.

Conclusions

Components of Cultural Competence

The two-factor solution in the exploratory factor analysis of cultural competence as measured by the Multicultural Teaching Scale (MTS) (Wayson, 1988, 1993) suggested that praxis and knowledge are two aspects of cultural competence. The high correlation between the two components disclosed the interconnectedness of these two aspects.

Praxis is originally a Greek word which means practice and application of knowledge, skills or a theory (Merriam-Webster dictionary, 2009; Online Etymology Dictionary, 2009). In the context of multicultural teacher education, praxis refers to preservice teachers' application of skills, strategies, and pedagogical practices that help them successfully work with diverse students. To promote culturally responsive pedagogy, the Center for Multicultural Education published *The Journal of Praxis in Multicultural Education*, a bi-annual peer-reviewed journal devoted to highlighting effective practices in pre-K-16 classrooms that help diverse learners to improve their academic achievements. *International Journal of Multicultural Education* is another

platform where teachers and researchers are encouraged to share their successful practical instructional ideas and strategies through praxis articles. In her book *Walking the road: Race, diversity, and social justice in teacher education* (2004), Cochran-Smith proposed six principles of culturally responsive pedagogy covering a wide range of instructions of what to do and how to do it so as to empower students of diverse cultural backgrounds. In delineating the diversity standard for teacher education programs, the National Council for Accreditation of Teacher Education (NCATE, 2008) expects preservice teachers to have extensive and substantive field experiences and clinical practices that help them to interact with students from various groups, confront issues of diversity, and develop strategies to improve student learning and teaching effectiveness. All these expectations, in essence, are targeting at praxis in preservice teachers to demonstrate their cultural competence.

Knowledge is another component of cultural competence flowing out of the factor analysis results of the study. In fact, many researchers and theorists in multicultural education have repeatedly argued the importance of knowing about other cultures and how the neglect of diversity knowledge can affect teaching and learning (Banks, 1996; Diller, 2007; Howard, 2006; Nieto, 1992). According to these scholars, understanding racism, prejudice and White privilege, knowing cultures and cultural differences, and being aware of stereotypes and biases in knowledge construction process are key to the development of cultural competence in response to increasingly diverse student body. Therefore, knowledge constitutes another aspect of cultural competence for preservice teachers.

The high correlation between praxis and knowledge in the study highlights the argument that both knowledge and skills are important in the development of cultural competence and that they complement each other. This is manifest in many scholars' cultural competence model that embraces both aspects (Howard, 2006; Nieto, 1992; Sue, 1982; Sue, Arredondo, & McDavis, 1992) as well as NCATE (2008) diversity standards.

Demographic Differences

The significance of age difference in relation to the participants' attribution of cultural awareness regarding locus of causality and personal control, together with external control of inverse correlation suggests that age is more than a number. The importance of taking age into account when it comes to attributional differences is well represented in earlier studies (Banziger & Drevenstedt, 1982; Ruble, Parsons, & Ross, 1976; Weiner, Graham, Stern, & Lawson, 1982). In a study using affective cues to infer causal attributions, Weiner et al. (1982) found only the undergraduates in the experiment displayed an association of pity with low ability in contrast to the 9-year-olds and 11-year-olds, indicating the different attributional styles between the undergraduate group and the younger groups.

The lack of gender differences in the current study adds to the conflicting results of gender in attribution in the extant literature. In a cross-cultural study (Chandler, Sharma, & Wolf, 1983) on achievement attribution, while gender difference was found significant on locus of causality, it was not on the other dimensions like stability. In other studies, however, some found gender differences (Dickhauser & Meyer, 2006; Elkins, Philips, & Konopaske, 2002; Greenlees et al., 2007) in attributions while others

did not (Cui, Liu, Zhang, & Zheng, 2007; Merritt & Harrison, 2006; Newcombe, van den Eynde, Hafner, & Jolly, 2008).

The gender difference found in praxis dimension in preservice teachers' cultural competence showed that male preservice teachers scored lower on the praxis dimension than their female peers. They felt less able to apply what they had learned on diversity issues to real life situations, such as bringing students from diverse cultures to work and play together. Literature disclosed the importance of considering gender in teaching diversity issues (Abrums & Leppa, 2001; Beagan, 2003; Cattani, 2002; SenGupta, Hopson, & Thompson-Robinson, 2004), but so far no study was found to explore gender differences in cultural competence among preservice teachers.

The overall difference across the ethnic groups in both locus of causality and knowledge is intriguing, in that ethnicity factor was not only significant in preservice teachers' attributions toward their cultural awareness, i.e., an inner versus an external locus, but in how competent they felt in knowing about other cultures. Early studies reported that minority students often attributed their failure to external and uncontrollable factors (Friend & Neale, 1972; Murray & Mednick, 1975), and they seemed less sensitive to the value of effort in their attributional styles (Katz, 1969), but some scholars argue that ethnicity in these studies has been confounded by social class differences (Flowers, Milner, & Moore, 2003; Graham, 1994). In his dissertation study on perceived cultural competence among business education student teachers, Thabede (1996) found that ethnicity was significant in predicting cultural competence in all five dimensions in line with Banks' model (2004).

The significant differences among preservice teachers with different program statuses in terms of locus of causality, personal control, and praxis suggest the effectiveness of teacher education programs in several ways. In particular, students in the later stage of teacher preparation programs seemed more inclined to internal causes and more likely to act as agents of change and confront diversity issues than their peers one semester their junior. It seems that time spent in the teacher education programs made a difference among the preservice teachers in the study. Those in the programs longer perceived higher levels of personal control concerning the major causes of their cultural awareness than those who were in their first semester. Besides, they reported better grasp of skills and strategies in dealing with students from diverse backgrounds than their junior peers. The significant finding of program status in preservice teachers' attributional styles and reported cultural competence indicate that teacher education programs served well in instilling a sense of responsibility in preservice teachers to acquire cultural knowledge, skills, and responsive pedagogy for effectively teaching and interacting with their future diverse students.

The significant difference in knowledge subscale in cultural competence across the groups with different hours of multicultural instruction suggests that multicultural education did increase preservice teachers' knowledge base in multicultural and diversity issues significantly. This finding resonates with the findings in Gorham's study (2001) that the more hours of multicultural instruction, the more likely teachers were to report behaviors that reflect building respect for multicultural diversity, a factor of cultural competence according to Gorham.

The positive correlation between preservice teachers' multicultural background with locus of causality, personal control, and praxis and knowledge resonates with the age-old argument on the important environmental factors. It is plausible that the environment where a preservice teacher grows up with regards to his or her diversity and multicultural exposure may have a far-reaching impact on his or her perceptions of cultural awareness and cultural competence.

Attribution in Relation to Cultural Competence

Two significant relationships between preservice teachers' attributions and cultural competence were discovered from the canonical correlation analysis, which paralleled the previous research results that linked attributions with academic achievement, self-efficacy, and behavioral outcomes.

The first significant relationship, personal control positively related to praxis, revealed that those participants who perceived a high degree of personal control regarding the major causes of their cultural awareness felt more competent in taking actions and bringing students from different background together. It suggests that if the preservice teachers think they have the power to work on diversity issues and improve their cultural awareness, they will likely feel more competent in incorporating skills and strategies to work with students from different backgrounds successfully. An alternative interpretation of this significant relationship is that if preservice teachers feel more competent in diversity pedagogy and instruction to successfully interact with students from diverse backgrounds, they feel a higher degree of personal control regarding the major factor leading to their cultural awareness.

The second relationship of stability, external control and inner locus of causality in positive relation to knowledge in multicultural and diversity issues attests that those who thought the major causes of their cultural awareness were more stable, controllable under external forces, and from a more inner locus, felt more competent in what they know about issues in multiculturalism.

These findings are very interesting from different vantage points. First, preservice teachers who think their cultural awareness results from causes that are highly under personal control also feel confident in their knowledge about multiculturalism and in their application of what they've learned about multicultural and diversity issues in their teaching practice. As correlation goes both ways, it also appears that preservice teachers who reported higher levels of cultural competence in both praxis and knowledge dimensions felt higher degrees of personal control when it comes to what leads to their cultural awareness. On the other hand, preservice teachers who think even though they have the internal drive to learn about other cultures, if the external power constantly make them learn about other cultures, they may actually develop the knowledge. Unfortunately, there is a lack of evidence of its effectiveness in promoting their actual behavioral outcome in actively dealing with diversity and multicultural issues. Lastly, the second significant canonical function also seems to be suggesting that preservice teachers who reported more competence in their knowledge dimension felt a relatively inner, stable, and externally controllable cause of their cultural awareness.

Additional Conclusions

The teacher education programs were found to be effective as far as the significant admission status differences in attribution go. The t-test found significant

group differences between those who were admitted to teacher education programs and those who were not regarding the locus of causality. The group admitted to teacher education programs attributed their cultural awareness to more inner causes than the other group which was yet to be admitted.

There has been debate as to whether the order of the instruments will affect the research results (Allan, 1995; Arnau, Thompson, & Cook, 2001). In the current study in particular, significant differences were found between the two groups who had alternative order of the instruments in the survey. It was found that the participants who took The Multicultural Teaching Scale (MTS) (Wayson, 1988, 1993) before they took The Revised Causal Dimension Scale (CDSII) (McAuley, Duncan, & Russell, 1992) scored significantly higher on personal control and stability, but lower on knowledge subscale than the other group who took two instruments in the reverse order. This group of participants somehow thought the major causes of their cultural awareness were more stable and controllable by them than the other group. They reported a better grasp of cultural knowledge than their peers in the other group.

Another interesting additional finding is the research data source differences in participants' attributions and cultural competence in the study. It was found that participants from the regional university scored higher on locus of causality, personal control, and praxis. These participants seemed to perceive the major causes of their cultural awareness to be more inner and controllable by them than those from the comprehensive university. In addition, they reported more competence in carrying out skills and strategies in successfully working with students from diverse cultures than their counterparts from the comprehensive institution.

Implications

This study raised serious concerns of understanding and operationalizing cultural competence among preservice teachers. The demographic differences in preservice teachers' attribution of cultural awareness and cultural competence revealed the important roles of environment in shaping perceptions. The conflicting results of demographic findings to the extant literature on attribution and cultural competence suggest the need for further studies to unravel the myth. The significant relationships disclosed between attribution and cultural competence imply the interplay of cognitive reasoning and achievement outcome in multicultural education.

Theoretical Implications

The findings of the current study shed light on alternative ways of approaching and understanding multicultural education. While praxis and knowledge were found to be two aspects of cultural competence, their high correlation suggests a more uni-dimensional than multi-dimensional model of cultural competence.

Although Thabede (1996) successfully came up with Banks' five-dimension theoretical model of multicultural education (Banks, 2004) to operationalize cultural competence with high inter-rater reliability among a panel of experts, this model failed in the current study as well as in another empirical study exploring the underlying structure of cultural competence (Gorham, 2001). Five different factors emerged in Gorham's study (2001), though it was a weak solution with high factor correlations and low factor loadings. The high factor correlations found in the current study with the two-factor solution together with the study aforementioned indicated the uni-dimensional instead of multi-dimensional trait of cultural competence among preservice teachers as measured by

Multicultural Teaching Scale (MTS) (Wayson, 1993; Wayson & Moultry, 1988). This indication posed an intriguing question: is there an over-definition of multicultural education or are the items on the MTS not representative enough? What are the core components of cultural competence? From the research results in the current study, it seems that the preservice teachers cared much more about what they need to know about multicultural and diversity issues and how well they can apply what they've learned to their teaching practices than what they think and how they feel about students from diverse cultures.

The two factor structure of cultural competence among preservice teachers as measured by MTS is similar, but not identical to Sue and his colleagues' model (Sue, 1982; Sue, Arredondo, & McDavis, 1992) of multicultural counseling competence composed of three dimensions: beliefs, knowledge, and skills. According to Sue and his colleagues, to achieve cultural competence, counselors need to recognize their personal values and beliefs about race and ethnicity, develop knowledge about diverse cultural views and experiences, and identify effective skills in working with clients from ethnicity groups. Out of the three dimensions, knowledge and skills were discovered in the factor structure of MTS for the current study, which is a good size of overlapping. Looking back at the items that defined the two factors, there is a similarity between the knowledge and skills dimensions in Sue et al.'s model (1982) and the knowledge and praxis dimensions in the present study. According to Sue and his colleagues, cultural competence is made up of three important ingredients, namely, beliefs/attitudes, knowledges, and skills. To them, the perfect cultural competence necessitates the mastery of many types of knowledge on diversity issues, including a good understanding of the

treatment of minority groups in the sociopolitical system, both general and specific knowledge and information about diversity issues, and institutional barriers that hinder equity across diverse groups. The items that loaded significantly on the knowledge factor of MTS reflected a good recognition of cultural differences and similarities among various groups, social forces that influence the opportunity for minority groups, and generic and specific instructions that meet the needs of diverse learners. Meanwhile, Sue and his colleagues argue that to demonstrate the cultural competence in skills dimension, one needs to be able to generate and properly respond to a wide variety of verbal and nonverbal responses as well as practice institutional intervention skills when appropriate. This is consistent with the praxis factor on MTS, in that most of the items loaded on this factor are focused on how preservice teachers are expected to integrate equity pedagogy and help with prejudice reduction among their students, and contribute to empower school and social structure to help improve education equity and equality. Nonetheless, the belief dimension was missing in the findings of the present study.

The two factor solution was comparable to the NCATE diversity standards (2008) to some extent, in that the NCATE standards stipulate that preservice teachers need to demonstrate “the knowledge, skills, and professional dispositions to work successfully with children of all races, ethnicities, disabilities/exceptionalities, and socioeconomic groups” (NCATE, 2008, p.6). Knowledge and praxis were present in the study, which are fairly close to knowledge and skills as stated in the NCATE diversity standards (2008). The major difference between the two-factor solution in the present study and NCATE standards is the absence of professional disposition dimension.

The discrepancy between the factor solution in the study and Banks' five-dimension model (2004), Sue et al.'s model of multicultural counseling competence (1982), and NCATE diversity standard (2008) may be a result of several factors. First, the items on MTS may have missed the disposition dimension. It can be seen that most of the items on MTS are on knowledge and praxis dimensions. Nothing but one item, i.e., feeling that every student can learn, is found to be measuring preservice teachers' beliefs or professional dispositions. Second, Banks' five-dimension model may have been featured with over-definition. Both the high correlations among the five original subscales in Bank's model disclosed in the correlation analysis and the high correlations of the two factors in the study implied the possible uni-dimensionality of cultural competence as measured by MTS. The five aspects of multicultural education make great sense in how to prepare teachers for the increasingly diverse society, but they may all share common issues to work on to achieve cultural competence. In addition, perhaps in reality, dispositions don't matter as much as is expected for preservice teachers. To them, having a good command of cultural knowledge and knowing how to acquire the skills to interact with their students effectively may be all that matters to them.

Regardless, the present study seemed to be suggesting that knowledge and praxis are two aspects of cultural competence among preservice teachers, which is well supported by literature on multicultural education. Sinagatullin (2003) proposed that to meet the challenges of increasing diversity, it is vital that a multicultural teacher gain, possess, and maintain specific pedagogical skills and a big knowledge base. He claimed that preservice teachers need to gain the skills to develop students' positive attitude to native and global values, to teach children tolerance toward other cultures, to instill in

students a positive attitude toward increasing and everchanging human diversity, to nurture compassion and empathy in students toward children with alternative health and living conditions, to develop supportive attitudes toward members of the opposite sex, to master classroom management skills that integrate multicultural content, to gain lesson organization skills motivate students from diverse cultures and backgrounds, and to become skilful in creating a positive environment that promotes student socialization and unbiased knowledge construction. To gain and keep these skills, Sinagatullin (2003) held that a big knowledge base is extremely important. To him, there are many kinds of knowledge a preservice teacher need to grasp for their prospective diverse classrooms, namely, the knowledge about ethnic, national, and global values, knowledge about diversity and surrounding issues, knowledge about students diverse learning styles as a result of student's social, cultural, religious, geographical, parental, academic, technological, individual psychological, and biophysical factors. He also advocated the importance of knowledge of the traditions of folk pedagogy such as fairy tales, proverbs, riddles, anecdotes, holidays and cultural rituals in empowering students from diverse cultures. Similarly, Diller (2007) listed several major steps toward cultural competence, with the first step being the awareness and acceptance of differences, followed by knowledge of other cultures, and concluded by the ability to adapt and adjust generic practices to accommodate cultural differences.

Despite conflicting results in demographic differences in attributions and cultural competence, it seems unanimous that such environmental factors such as multicultural background, age, and hours of instruction on multicultural and diversity issues play an important role in how preservice teachers attribute their cultural awareness and their

reported cultural competence. It is more likely that such social factors as age, gender, ethnicity, coupled with varied experiences in multiculturalism such as multicultural background and multicultural education combine to influence preservice teachers' attributions and achievements in multicultural education, which may help explain the conflicting results of demographic variables when accounting for them separately.

The two significant relationships found between preservice teachers' attributional styles toward cultural awareness and their cultural competence shed light on the relationship between attribution and multicultural education. It seems plausible that sense of high degree of personal control and attribution of cultural awareness to inner and stable cause which is controllable by external forces such as NCATE standards and diversity requirement in teacher education curricula are conducive to the acquisition of knowledge and praxis in cultural competence. It also makes sense that the more competent preservice teachers feel in knowing about multicultural and diversity issues and interacting with students from diverse backgrounds, the higher degree of personal and external control they may feel regarding what leads to their cultural awareness, and the more they tend to think this cause is from within them and it is stable. Both relationships imply that if the preservice teachers feel compelled to learn about other cultures and interact with people from diverse backgrounds because of their personal needs and aspirations, they may be more likely to succeed in the course of multicultural education, and hence develop higher levels of cultural competence in the long run. Meanwhile, the more successful they are in the course of multicultural education, the more personal and controllable attributions they tend to make in terms major causes of their cultural awareness.

The first significant relationship between personal control in attribution and praxis in cultural competence suggested a link between the amount of personal volitional control regarding the major causes of their cultural awareness and their perceived competence in interacting with students from diverse backgrounds. The second relationship discovered between stability, external control and inner locus of causality in attribution as related to multicultural and diversity knowledge indicates that internal and stable cause controllable by others may help preservice teachers learn about important aspects of multiculturalism. But we are not sure if this will help with their competence in interacting with students from diverse groups and bring them to work and play together. Regardless, it seems external forces such as school and national policies may have played positive roles in boosting preservice teachers' cultural competence.

In demonstrating external forces that are conducive to multicultural education, Cochran-Smith (2004) elaborated several external and influential forces, including institutional capacity and mission, relationship with local communities, and governmental/regional policies. According to her, the nature of the institutions or organization that sponsor teacher education programs regarding their broader missions or goals constitutes institutional environment, and it will in turn impact the quality of teacher education programs and influence individual students involved. In collegiate teacher education, Cochran-Smith (2004) and Villegas and Lucas (2002) maintain that the institutional capacity and mission is also influenced by the approaches to multicultural education at the department, school, and institutional levels.

Another external force Cochran-Smith (2004) mentioned is the relationship with local communities, which is closely related to interactions between teacher education

programs and their immediate community including local families, neighborhoods and schools, etc. She argued that there is a widespread separation between teacher education programs and local communities. To a larger circle, the evaluation policies and approaches to teacher education programs stipulated by governments and agencies also influence multicultural teacher education. Lastly, Cochran-Smith (2004) described the impact of competing or even conflicting agendas in the current multicultural teacher education programs. The external forces described above, according to the researchers, will influence the quality and direction of multicultural teacher education, hence relate to how individual preservice teachers approach multicultural education and interpret their cultural awareness, which may eventually be related to their achievement in multicultural education.

It seems that external forces such as policies, institutional environment may help preservice teachers acquire knowledge about other cultures and develop their cultural awareness, but what might be more important is the implanting of sense of human agency and autonomy in them so that they will be more motivated to gain cultural knowledge and act as agents of change at the same time. After all, knowledge without action is still knowledge, but the power of knowledge cannot be reflected without action, or in this case, praxis. Despite decades of multicultural education, there has been criticism about its lack of effectiveness. Perhaps as teacher educators, we should make our students feel empowered and instill in them a sense of responsibility to motivate them to learn about multicultural and diversity issues and develop the skills to interact with people of diversity, rather than merely focusing teaching them the knowledge and skills per se. We may also encourage them to not only improve their multicultural knowledge base, but

also actively interact with diverse students to improve their cultural competence, which in turn may help improve their attribution to a more inner, stable, and controllable style.

Pedagogical Implications

The results of the study revealed the significant relationship between attribution and cultural competence. Given this finding, we might want to ask: what is more important in multicultural teacher education and what can be done to help improve the effectiveness of multicultural education? We might also want to ask: What can we do in multicultural education to encourage more positive attributional styles of cultural awareness? How can we help preservice teachers make more inner, stable, and controllable attributions which may in turn propel the effectiveness of multicultural education? What are the core components of cultural competence? Are knowledge and praxis enough to demonstrate cultural competence?

The failure of the Multicultural Teaching Scale (MTS) (Wayson, 1993; Wayson & Moultry, 1988) to support Banks' five dimensional model (2004) and other relevant models of cultural competence raised serious concerns of what really matters in multiculturalism. Although the two components of praxis and knowledge in cultural competence among preservice teachers were found in the study, their high correlation as well as the high correlation of the five dimensions in Banks' model seems to be suggesting there is more to the important elements of cultural competence. As teacher educators, we may want to stress the importance of acquiring multicultural knowledge and encourage preservice teachers to practice what they know about diversity issues in education at the same time on account of the close relationship between these two aspects.

As cultural competence is a developmental process, understanding the relationship of moral development (Kohlberg, 1984), identity, especially racial identity development (Helms, 1994) and cultural competence may help us gain a better grasp of what makes up of cultural competence and how to operationalize it more effectively. Knowledge and skills in successfully dealing with students are important to achieve cultural competence for preservice teachers, but ignoring their moral and identity statuses runs the risk of producing a more implicit racism and perpetuating social inequity, in that they may speak and behavior in a politically correct way, but don't really care about students from different backgrounds. With the absence of moral education, a passion for social justice, or denial of one's own identity, it is unlikely to nurture genuine care and inclusiveness of diverse students from a preservice teacher. As teacher educators, we may want to keep moral education and identity development abreast with multicultural education, so that our preservice teachers are well rounded and truly get ready for the increasing diversity in student body.

On the other hand, paying particular attention to preservice teachers' motivations might serve as a facilitator in the process of multicultural teacher education. Perhaps empowering the preservice teachers and instilling a sense of autonomy and human agency in the course of multicultural education are more important than cramming the knowledge and forcing them to be culturally responsive. Instead, preservice teachers need to be intrinsically motivated to enjoy the process and achieve higher levels of cultural competence in the long run.

Previous studies disclosed many institutional and personal barriers in the process of multicultural teacher education, the significant relationship between preservice

teacher's attribution and cultural competence suggests that when preservice teachers feel they are in charge, they will be more likely to act as agents of change and practice culturally responsive pedagogy despite all the personal and institutional barriers they might have to deal with in reality. On the other hand, if preservice teachers perceive the cause of cultural awareness as being totally beyond personal control, resides outside of them, and can only be controlled by external forces such as policies and regulations, they might acquire the knowledge because they are forced to, but little is known about their actual action outcomes. To ensure their behavior outcomes demonstrating the kind of cultural competence as expected from multicultural education, preservice teachers need to feel in control as to what they choose to learn and why they should be learning what they are learning.

Limitations

The design of this study carried some methodological strengths and weaknesses that should be taken into account when interpreting the data. First, the use of solely quantitative analysis eliminated the kind of rich and highly descriptive individualized information that's more likely to obtain in qualitative research. Without other sources of data, it is difficult to judge the truth of the participants' reports. Also, clarifying the participants' responses and further probing is limited due to the absence of follow-up data. Nevertheless, the quantitative approach to this study was appropriate to answer the research questions. Second, the study was only correlational in nature. Despite the big sample size, only a proportion of preservice teachers from two large Midwestern institutions volunteered to participate in the study, so the current findings must be considered with the knowledge that they reflect only a proportion of preservice teachers

involved in teacher education programs. In addition, the issue of self-selection bias applies to the current study. It is likely that students at both institutions who chose to participate in the survey were more likely to have some intrinsic interests in the topic of multicultural education. Thus, it is plausible that the participants in the survey felt a greater degree of interest and investment in diversity issues than those who chose not to participate.

Interpretive Limitations

The first interpretive limitation of the study is that the findings may not generalize to real life situations. Due to the self-report nature of the study, the responses from the participants may not represent their true levels of cultural competence or attributional styles. Despite the voluntary nature of the participation and reassurance from the researcher about the anonymity and confidentiality of the raw data, there is still possible fear of identity disclosure due to the presence of the researcher and instructors during their participation. Not only that, because cultural competence is a sensitive topic, participants might have responded to the MTS items in a socially desirable way, which might help explain the negative skewness of the data on preservice teachers' reported cultural competence.

Additionally, this study is limited to the representation of the sample. The sample is very homogeneous, predominantly White and female. In spite of the big sample size of the study, the numbers of participants when collapsed into ethnic groups were tremendously diminished, except for the Caucasian group. Ideally, a comprehensive study utilizing multivariate statistics and exploring demographic and multicultural background differences would include data from various groups with a much larger

sample size. Additionally, the self-selection bias might have affected the generalizability of the study on account of the potential differences between those who chose to participate and those who did not.

One other thing worthy of caution is practical versus statistical significance of the finds in the study. Undoubtedly, significant relationship was found between preservice teachers' attributional styles of cultural awareness and their cultural competence. Nevertheless, the correlation coefficients and the shared variances by the two covariates were rather small. Given the big sample size of the study, the significance might be solely statistical (Stevens, 2001). Therefore, more studies exploring the relationship between the two constructs are needed.

Instrumental Limitations

As described in chapter 3, both The Multicultural Teaching Scale (MTS) (Wayson, 1988, 1993) and The Revised Causal Dimension Scale (CDSII) (McAuley, Duncan, & Russell, 1992) were widely used and recognized for their reliability.

However, due to the latent nature of attribution, CDSII did not work very well in the data collection process. Because people rarely measure the property of a cause, many participants were confused and even frustrated in the survey process and asked for clarifications. It is possible that some participants faked responses just to get by while being unable to understand the instrument. It seems that many respondents had not been asked these types of questions before or may not have read these items carefully. As a result, there were a number of missing responses to the instrument.

Meanwhile, the items on MTS tend to be lengthy and hard to comprehend, which might have tired out the participants and eventually affected the reliability of the study

results. As cultural competence is a touchy issue, the self-report nature of the instrument might have rendered the responses under the influence of social desirability. There was once case where the participant quit participating in the study, confessing to the researcher afterwards that she was ashamed that she felt little competence on those MTS items. Another thing worthy of note is the difference between reported competence and actual competence. Even if the participants were truthful with their responses concerning how competent they felt on those items, there might have been a discrepancy between their perceived cultural competence and their actual levels of cultural competence. This potential discrepancy might have affected the results of the study.

Future Research Directions

The purpose of this study was to contribute to multicultural education by addressing the gaps between attribution research and multicultural teacher education. The discrepancy between the factor solution of cultural competence as measured by the Multicultural Teaching Scale (MTS) (Wayson, 1993; Wayson & Moultry, 1988) and theoretical dimensions of cultural competence in Banks' model (2004), Sue et al.'s model (1982), and NCATE diversity standards (2008), future research should make efforts to develop a more robust and representative instrument to capture the essence of cultural competence for preservice teachers.

More psychometric studies are needed to test the underlying structure of cultural competence for preservice teachers. In particular, perhaps more items specifically on disposition dimension could be added to the extant MTS item pool to test whether professional disposition is another important component of cultural competence. Future research needs to explore how to measure preservice teachers' cultural competence more

effectively and objectively. Further research is needed to determine whether Banks' five-dimension model is problematic with over-definition or the MTS instrument is not representative enough to capture his five components of multicultural education. Not only is research on instrumentation of preservice teachers' cultural competence warranted, but also evaluation endeavors on Banks' five dimensions of multicultural education should be made.

It is promising to broaden the horizon of cultural competence by relating it to other important developmental aspects of preservice teachers such as moral development, identity development, empathy and sense of social justice, etc. Future studies might focus on these other aspects in developing a more inclusive instrument to measure the core foundations of cultural competence. Aside from knowledge and praxis, perhaps the philosophical implications of cultural competence can help us better understand this concept, hence operationalize it and measure it more effectively.

Third, considering the large sample size and small correlation coefficients between attributional styles and cultural competence, replications of this study are encouraged to check its practical significance and generalizability. It would be interesting to compare the findings of this study with those of replicated studies in other regions of teacher education programs or in a more diverse sample. Efforts are needed to provide a fuller explanation of the relationships of preservice teachers' attributional styles and their cultural competence.

Furthermore, the findings of study regarding the demographic differences in attribution and cultural competence added to the conflicting results in the literature in these respects. Perhaps there are interaction effects of some of the demographic variables.

It is also possible that some other elements are serving as mediators that need to be discovered. The contradictory results of the roles of these demographic variables such as age, gender, ethnicity, program status, and hours of multicultural instructions in preservice teachers' attributional styles and cultural competence merit more studies to unlock the myth.

As indicated by the existing research, there is a lack of motivational approach to multicultural teacher education. In addition to deepening our understanding of the relationship between attribution and cultural competence, researchers should continue to explore the association between cultural competence and other motivational variables. Specifically, researchers should examine whether and how self-theory, expectancy-value theory, and goal orientation theory and the like are related to preservice teachers' acquisition of cultural competence.

The study of emotions has been relatively neglected in multicultural education (Schutz & Lanehart, 2002; Wang, 2008). Based on the significant relationship between attribution and cultural competence found in the study, future research can investigate the emotion in the course of multicultural teacher education because of the close relationship between attribution and emotion. Research shows that emotion plays a very important role in multicultural education that helps preservice teachers to develop cultural competence in dealing with students of diversity. Literature has disclosed many negative emotions including anger, frustration, fear, anxiety and despair in the course multicultural education, and failure to handle these negative emotions in a healthy way may incur resistance in preservice teachers to learn about diversity and therefore hinder their development of cultural competence (Chizhik & Chizhik, 2002; Fried, 1993; Giroux,

1992; Howard, 2006; Martin, 1995; Peters-Davis & Shultz, 2005; Roberts & Smith, 2002; Wang, 2008). The significant relationship between attribution and cultural competence for preservice teachers may help researcher to identify the negative emotions associated with preservice teachers' attributional styles, which may help improve the effectiveness of multicultural teacher education and lead to higher levels of cultural competence among preservice teachers (Chizhik, 2003; Chizhik & Chizhik, 2002; Roberts & Smith, 2002; Wang, 2008).

In addition, a variety of research methods should be used to investigate these questions. By means of various research methods, such as surveys, interviews, field observations can increase the reliability of research findings. It is necessary and important in future research to employ multiple research methods to avoid discrepancies because of limitations of one specific research method technique. For example, further interviews and classroom observations with a sample of respondents may help test validity and reliability of the findings of the current study regarding preservice teachers' cultural competence and attributional styles.

Finally, an essential question facing attribution and multicultural education researchers is the issues of what comes first-the attribution or the cultural competence? Future research can endeavor to design experimental studies to determine the causal-comparative effect of the two constructs, so that it becomes clear if attributional styles influence cultural competence or vice versa.

Concluding Comments

The intent of conducting this research was to obtain data from preservice teachers as they are building the future of the world by dealing with the increasingly diverse student population.

This study contributes to the attribution literature by adding the context of multicultural education and examining how attribution not only applies to academic achievement, self-efficacy and behavioral outcomes such as athletic performance and aggression, but also to preservice teachers' cultural competence.

This study contributes to the multicultural education literature exploring the underlying property of cultural competence and comparing the findings of the study with the current theoretical models of Banks (2004), NCATE standards (2008), and Sue et al. (1982). This study contributes to multicultural education literature also by taking an interdisciplinary approach, namely, psychological approach to multicultural teacher education. This study suggests areas for additional research in order to uncover the empirical dimensions of cultural competence and explore the role of motivation in multicultural teacher education.

This study brings additional attention to the importance of multicultural background and experience in developing cultural competence among preservice teachers and expands the possibility of exploring interactional effects of environmental factors such as hours of instruction on multicultural issues and multicultural background in future research rather than merely focusing on main effects of single demographic variables.

This study provided recommendations on the need to empower preservice teachers and instill a sense of autonomy and human agency to help improve the effectiveness of multicultural education. Another direction to which the study pointed was by ways of exposing preservice teachers to multicultural and diversity issues and encouraging them to engage in social interactions with diverse student body, teacher educators may cultivate more positive attributional styles of their cultural awareness. The study brings to the need to nurture preservice teachers' feelings of personal control and inner, stable, and controllable attributions which may help enhance cultural competence and encourage multicultural teaching professional development of preservice teachers to better serve an increasingly diverse U.S. society.

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Appendix A

Oklahoma State University Institutional Review Board

Date: Friday, July 11, 2008
IRB Application No ED08111
Proposal Title: The Relationship Between Attributional Styles of Cultural Awareness and Cultural Competence for Preservice Teachers

Reviewed and Processed as: Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 7/10/2009

Principal Investigator(s):

Yan Yang	Diane Montgomery
305 Willard	424 Willard
Stillwater, OK 74078	Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,



Shelia Kennison, Chair
Institutional Review Board

Appendix B

Revised Causal Dimension Scale Use Permission

Re: requesting CDSII permission

Edward McAuley [emcauley@uiuc.edu]

Sent: Monday, March 31, 2008 7:24 AM

To: Yang, Yan

Permission granted. Please go to my lab website to download the scale (see below).

EM

At 01:50 PM 3/26/2008, you wrote:

Hi Dr. McAuley,

I am a doctoral student in Educational Psychology at Oklahoma State University. I plan to use one of the instruments you and two other researchers developed in 1992 (CDSII) as one of the instruments for my dissertation. I wish you would generously grant me permission to use this instrument. Thanks a lot in advance!

Sincerely,
Yan

=====
Yan Yang
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Appendix C

Demographic Survey

Demographical Information

Please tell us the following things about yourself and mark the appropriate number that applies to your situation.

50. What is your racial/ethnic background?

- | | | |
|---------------------|-------------------------|--------------------------|
| 1 = Asian American | 2 = Black, non-Hispanic | 3 = Hispanic |
| 4 = Native American | 5 = Caucasian | 6 = Biracial/Multiracial |
| 7 = International | | |

51. Your gender? 1 = Male 2 = Female

52. Your age: _____

53. What is your hometown size?

- | | | |
|------------------|-------------------|------------------|
| 1 = below 10,000 | 2 = 10,000-50,000 | 3 = above 50,000 |
|------------------|-------------------|------------------|

54. Are you going to teach in your home community? 1 = Yes 2 = No

55. Where would you like to teach?

- | | | |
|-------------------|----------------|----------------|
| 1 = suburban area | 2 = urban area | 3 = rural area |
|-------------------|----------------|----------------|

56. What is your major?

- | | |
|--|--|
| 1 = Early Childhood Education (Grades P-3) | 2 = Elementary Education (Grades 1-8) |
| 3 = Art (Grades P-12) | 4 = French (Grades P-12) |
| 5 = German (Grades P-12) | 6 = Spanish (Grades P-12) |
| 7 = Instrumental Music (Grades P-12) | 8 = Vocal Music (Grades P-12) |
| 9 = Physical/Health/Safety Education (Grades P-12) | 10 = Agricultural Education (Grades 6-12) |
| 11 = Biological Sciences (Grades 6-12) | 12 = Career and Technical Education (Grades 6-12) |
| 13 = Chemistry (Grades 6-12) | 14 = Earth/Space Science (Grades 6-12) |
| 15 = English (Grades 6-12) | 16 = Mathematics-Intermediate/Advanced (Grades 6-12) |
| 17 = Physical Science (Grades 6-12) | 18 = Physics (Grades 6-12) |
| 19 = Social Studies Education (Grades 6-12) | 20 = Other (Specify _____) |

57. What is your status in the teacher education program?

1 = Junior first semester

2 = Junior second semester

3 = Senior first semester

4 = Senior second semester

5 = Other-Specify _____

58. Please estimate the number of hours of instruction you have received in your coursework regarding multicultural issues.

1 0 hour of instruction

5 7-8 hours of instruction

2 1-2 hours of instruction

6 9-10 hours of instruction

3 3-4 hours of instruction

7 11-12 hours of instruction

4 5-6 hours of instruction

8 13+ hours of instruction

Multicultural Background

Please indicate by marking a number (1, 2, 3, 4, or 5) that corresponds to your background in each statement.

Scale: 1 = One Culture through 5 = Multiculture

- | | | | | | | |
|----|---|---|---|---|---|---|
| 59 | How many cultures are represented in your family? | 1 | 2 | 3 | 4 | 5 |
| 60 | What type of neighborhood did you grow up in as a child? | 1 | 2 | 3 | 4 | 5 |
| 61 | What was the cultural diversity of students in your elementary school? | 1 | 2 | 3 | 4 | 5 |
| 62 | What was the cultural diversity of students in your middle or junior high school? | 1 | 2 | 3 | 4 | 5 |
| 63 | What was the cultural diversity of students in your high school? | 1 | 2 | 3 | 4 | 5 |

64	What was the cultural diversity of your circle of friends in elementary school?	1	2	3	4	5
65	What was the cultural diversity of your circle of friends in middle or junior high school?	1	2	3	4	5
66	What was the cultural diversity of your circle of friends in your high school?	1	2	3	4	5
67	What was the cultural diversity of your friends in college?	1	2	3	4	5
68	What is the cultural diversity of the teaching staff in your school?	1	2	3	4	5
69	What was the cultural diversity of the faculty members in your college (undergraduate)?	1	2	3	4	5
70	What type of cultural diversity have you experienced in a work setting?	1	2	3	4	5

Two final questions:

71: Have you already been admitted to teacher education program? 1 = Yes 2 = No

72: Do you plan to be a teacher in the near future? 1 = Yes 2 = No

Thank you for your time!

VITA

Yan Yang

Candidate for the Degree of

Doctor of Philosophy

Thesis: THE RELATIONSHIP BETWEEN ATTRIBUTIONAL STYLES OF CULTURAL AWARENESS AND CULTURAL COMPETENCE FOR PRESERVICE TEACHERS

Major Field: Educational Psychology

Biographical:

Education: Graduated from No.7 Middle School, Longchang, Sichuan, P.R.C., in July 1995; received Bachelor of Arts degree in English from Sichuan University, Chengdu, Sichuan, P.R.C., in June 1999; received Master of Arts degree in Foreign Linguistics & Applied Linguistics from Southwest Jiaotong University, Chengdu, Sichuan, P.R.C., in June 2004. Completed the requirements for the Doctor of Philosophy in Educational Psychology at Oklahoma State University, Stillwater, Oklahoma in May, 2009.

Experience:

Assistant Professor, Southwest Jiaotong University, Chengdu, China, 1999-2005; Examiner, College English Test, Band IV & VI, China, 1995-1999; Interpreter, Foreign Affairs Office, Southwest Jiaotong University, 1998; Instructor & Research Assistant, Educational Psychology, Oklahoma State university, 2005-2007; Research Assistant, International Studies Office & Social Foundations and Qualitative Research, Oklahoma State University, 2007-2009.

Professional Memberships: American Educational Research Association, American Psychological Association, International Society for the Scientific Study of Subjectivity, National Association of Multicultural Education, Comparative International Education Society.

Name: Yan Yang

Date of Degree: May, 2009

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: THE RELATIONSHIP BETWEEN ATTRIBUTIONAL STYLES OF CULTURAL AWARENESS AND CULTURAL COMPETENCE FOR PRESERVICE TEACHERS

Pages in Study: 156

Candidate for the Degree of Doctor of Philosophy

Major Field: Educational Psychology

Scope and Method of Study: To explore the relationship between attributional styles of cultural awareness and cultural competence for preservice teachers, this study involved 793 preservice teachers with a wide range of majors from two large midwestern universities. Exploratory factor analysis was conducted to explore the underlying structure of cultural competence. Correlation analyses, t-tests, and analyses of variance were used to explore demographic differences in preservice teachers' attributional styles and cultural competence. Canonical correlation analyses were adopted to uncover the relationship between attributional styles and cultural competence.

Findings and Conclusions: Praxis and knowledge were found to be two highly correlated aspects of cultural competence. The failure of the study to produce a factor structure as described in Banks' model of multicultural education or in NCATE diversity standards raised serious concerns of understanding and operationalizing cultural competence among preservice teachers. The demographic differences found in the study regarding preservice teachers' attributional styles and cultural competence indicated the potential importance of environmental factors in attribution and multicultural education. A canonical correlation analysis found two significant relationships between preservice teachers' attributional styles of cultural awareness and their cultural competence. The first canonical variate disclosed a positive relationship between personal control and praxis, and the second variate revealed stability, inner locus of causality, and external control in positive association with knowledge. Implications for teacher educators were discussed and future research directions suggested.

ADVISER'S APPROVAL: Diane Montgomery
