

DEVELOPING A SCALE FOR CULTURALLY RESPONSIVE PRACTICE:
VALIDATION, RELATIONSHIP WITH SCHOOL ORGANIZATIONAL FACTORS,
AND APPLICATION

By

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ABSTRACT

DEVELOPING A SCALE FOR CULTURALLY RESPONSIVE PRACTICE: VALIDATION, RELATIONSHIP WITH SCHOOL ORGANIZATIONAL FACTORS, AND APPLICATION

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The primary goal of this dissertation is to develop and provide preliminary validation for a new measure of culturally responsive practice. This instrument, which is called the Culturally Responsive Practice Scale (CRPS), include items that reflect ways that teachers teach multicultural students in their classrooms. To accomplish the goal, three studies are presented in this dissertation.

In chapter 1, the study sought to develop the initial instrument to measure the construct of culturally responsive practice among teachers in secondary schools in South Korea. Based on the results of analyzing the literatures about culture-oriented pedagogy and of review of the initial items by professionals, the face and content validity has been demonstrated. In addition, the statistical analysis results provided evidence of reliability of the scale of CRP with strong Cronbach values ranging from .93 to .95. The multidimensional factor structure of the CRP scale received support from the results of EFA and CFA, which yielded the construct validity for the measurement. Finally, the study suggested that the multidimensional construct of CRP has four distinct components: (a) Recognizing student diversity; (b) Acknowledging family background; (c) Teacher efficacy; and (d) Teaching application. Throughout the process of developing the scale, CRP has evidences supporting its validity, especially in face and content validity and construct validity.

In the chapter 2, the study aimed to examine the structural relationships among leadership, organizational learning, and culturally responsive practice and to test the

mediating effect of organizational learning between leadership and culturally responsive practice. This process also sought evidence for criterion-related validity of the CRP scale. By using structural equation modeling (SEM), confirmatory factor analysis was run to test whether the proposed factor structure and the scales represent the reality. After confirming the measurement model, the causal relationship among organizational learning, transformational leadership, shared instructional leadership, and culturally responsive practice were tested by using SEM, and confirmed by good values of model fit indices ($\chi^2/df = 2.19$, NFI = .976, TLI = .954, CFI = .972, RMSEA = .057, $p < .001$). Finally, the mediating role of organizational learning between principal leadership and culturally responsive practice was tested by decomposing the effects among the four latent variables. The results from the relationship of CRP with school variables offer evidences for criterion-related validity of the CRP scale.

The chapter 3 examined not only how the constructs of organizational learning, principal leadership, and culturally responsive practice are related to student achievement in schools, but explored the evidence of predictive validity for CRP. The results show that all school level variables except transformational leadership are statistically significant correlated to student achievement. In addition, the result that mathematics and English as foreign language are correlated to CRP offer tentative evidence for predictive validity of the CRP scale.

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INTRODUCTION

In South Korea (hereafter Korea), current changes in the country's population raise questions about the system's flexibility and how it will respond to new demographic realities. Specifically, once considered largely homogeneous, the children of new immigrants – mainly of migrant workers, international marriages, and North Korean refugees – have entered Korean classrooms. Their presence has shown teachers and administrators unaccustomed to diversity with new challenges (Cho, 2010a). The number of multicultural students is getting larger, and in 2014 the Ministry of Education announced that almost 1.07% of students are from multicultural families, which is seven times larger than the last eight years (the Ministry of Education, 2014). It is not surprising that their dropout rate is also large, because of not adjusting to their school and to poverty, which is growing, as reflected in the trend over the past several years (the Ministry of Gender Equality and Family, 2013). Thus, it is necessary to discuss how teachers deal with diversity in their classrooms, and how school-wide capacity supports these teachers.

Notwithstanding that culturally responsive practice (CRP) is widely prescribed as a mean to deal with diversity in schools, many schools do not or cannot properly develop it in Korea. The term CRP indicates consideration of the experiences, cultures, and perspectives of diverse students (Gay, 2002). Related to this, (Ladson-billings, n.d.) coined the phrase “culturally relevant pedagogy”, which “not only addresses student achievement but also helps students to accept and affirm their cultural identity while developing critical perspectives that challenge inequities that schools (and other institutions) perpetuate” (p. 469). This means that to make pedagogical practice effective, educators need to think about student achievement and the culture that each student has. Also, it indicates that this practice might be done while developing critical thinking about the circumstances in which students are situated.

This current research proposes that school factors influence teachers to develop and implement culturally responsive practice. Few previous studies, although contributing significantly to the understanding of CRP, have addressed how the efficacy of CRP may vary with the simultaneous influence of different or organizational factors, and they have not analyzed both direct and indirect influences. Identifying and better understanding those influences will complement the general prescription that schools need to turn into culturally responsive communities. In this study, my focus is primarily on research questions that concern CRP, and how these concepts have relationships each other. Thus, the purposes of this study are to develop a scale of the culturally responsive practices of teachers; to examine the nature and strength of principal leadership and organizational learning as antecedents of CRP; and to determine whether organizational learning mediates the relationship between principal leadership and CRP.

Goals and Significance of the Dissertation

The primary goal of this dissertation is to develop and provide preliminary validation for a new measure of culturally responsive practice. This instrument, which will be called the Culturally Responsive Practice Scale (CRPS), will include items that reflect ways that teachers teach multicultural students in their classrooms. The goal is to develop a self-report instrument that may be useful for researchers and practitioners who are interested in studying the culture-oriented teaching practice. The development of this instrument can help researchers continue the study of cultural responsiveness, which is recently gaining more attention in the fields of education. The instrument may also be useful for practitioners who are designing professional development programs on multicultural education.

A secondary goal of this dissertation is to better understand how culturally responsive practice is associated with organizational features within schools, as well as to determine if CRP is associated with student achievement. In other words, this study assumes that in order

to cultivate higher level of CRP, organizational supports such as organizational learning and integrated leadership within schools are needed; an CRP as a comprehensive way of teaching has an influence on student performance. Thus, examining how CRP has positive effects on student achievement can help both researchers and practitioners rethink how schools need to be transformed in a multicultural society.

In light of the scrutiny placed upon schools by diversity in student population, it is important for schools and faculties to maintain an awareness of all factors which could contribute to improvements in the academic achievement of students. It becomes the more important for school members to examine readiness for facing the needs of newly emerging populations of minority students as well as for newly perceived groups of minority students.

Organization of the Dissertation

To accomplish the goals described above, a series of studies are presented in this dissertation. Chapter 1 includes a pilot study that was utilized for initial item development, as well as field studies that focus on refining these items and testing the underlying factor structure. These studies focus on face and content validity, identification of an underlying factor structure, and reliability.

In chapter 2, the research focuses on the structural relationships among organizational learning, principal leadership, and CRP while seeking the evidence for criterion-related validity of the CRP scale. The primary method of this chapter is structural equation modeling (SEM) including basic statistical techniques such as correlational analysis and confirmatory analysis.

In chapter 3, the study moves its attention to CRP's possibility having positive a correlation with student achievement as well as its predictive validity. For the purpose of the chapter, correlation analysis is recruited. Unlike the other chapters, the unit of analysis is a

school level, so that the data are aggregated from individual teacher scores to school level average scores for CRP.

Thus, each chapter focuses on a specific topic related to CRP. Also, each offers some evidence on certain types of validity of CRP developed in chapter 1. Each chapter is written as a discrete study, including relevant literature review, methodology, analysis and results, and discussion.

References for each chapter are listed in the last part of this dissertation.

Table 1-0. Structure of the Dissertation

	Chapter 1	Chapter 2	Chapter 3
Topic	Developing a scale of Culturally Responsive Practice	Structural Relationship among Organizational Learning, Leadership, and CRP	Does CRP have a correlation with student performance?
Types of Validity	Face & Content Validity Construct Validity	Criterion-related Validity	Predictive Validity
Method	Factor Analysis	Structural Equation Modeling	Correlation Analysis

CHAPTER 1.

DEVELOPING A SCALE FOR CULTURALLY RESPONSIVE PRACTICE

Introduction

Culturally responsive pedagogy has recently become a topic of interest to Korean and American public school educators due to the rapid change in student cultural demographics over the past ten years. Along with social changes, school faces challenges in diversity. Teachers who want to maximize learning experiences for all students need to gain knowledge about their students' culture, and they may combine their teaching profession with that knowledge (Villegas & Lucas, 2002). Various researchers (Bennett, 2001; Gay, 2002; Ladson-Billings, 1995; Villegas & Lucas, 2002) have identified the need for considering students' cultural backgrounds in the process of teaching and learning. Ladson-Billings (1995) insisted that culturally relevant pedagogy is based on the cultural knowledge, prior experiences, and performance styles of racially diverse students to make learning experiences more meaningful and relevant. This means that in order to make pedagogical practice effective, educators need to think about student achievement and the culture that each student has. Also, Gay (2002) indicated that in schools, when members of the mainstream cultural group interact with those from the minority groups, those from the mainstream do so from a position of power and privilege. As a result, culturally responsive teaching requires that the teacher develop critical perspectives about the circumstances in which students are situated. Hence, those from minority groups will likely be at a disadvantage if any culture clashes occur (Bennett, 2002). Conditions ripe for culture clash are increasing in Korean schools, and as a result, teachers will benefit from bringing the concept of cultural responsiveness into classroom practices. Along with this, schools will need to help teachers improve their awareness of diversity in their classrooms.

In particular, this study investigates how Culturally Responsive Practice (CRP) can be expanded to the interactions between teachers and students of the same race, culture, and nationality. In Korea, multiculturalism, recognized as newly emergent phenomenon, is more likely to have been blinded by the one concept: *Danil minjok*. Specifically, Korea has been considered as a homogeneous society for a long time, having the long-held reverence for one language, pure Korean blood, and one history. In its culture and race, Koreans consider that Korea is a nation-state and this is evident through the concept of *Danil minjok*. *Danil minjok* is the traditional norm of Koreans since modern Korea was built. *Danil minjok*, people of a country consisting of a single race (*Danil minjok*, n.d.), is “the belief that Koreans form a nation, a 'race,' and an ethnic group that shares a unified bloodline and a distinct culture” (Korean ethnic nationalism, n.d.). This notion has been established in Korean culture after the Imperial Japan protectorate (Cheon, 2015). Koreans were proud of being *Danil minjok*, which is pure and differentiated from other nations that include various races and cultures. Perhaps it is the way of protecting the nation from other outside powers and consolidating people to keep the nation safe and unified (Chang, 2012).

After the Korean War and Japanese rule, there have been inter-racial and inter-cultural marriages, and Koreans experienced children of those families. Under the remaining fear and hatred of other countries (and the people of those countries), people of different races (even though they are half Koreans) appeared to be not welcomed by native Koreans (Chang, 2012). Children from multi-racial and multi-cultural families tried to hide their racial and ethnic identities in an effort not to be differentiated and to be mingled with other native Koreans. For Koreans who experienced unforgettable harsh memories from other countries, discrimination and “othering” people from inter-racial and inter-cultural families were the way of keeping their nation “pure” in the same way they had protected it from other powers in the past (Chang, 2012; Moon, 2015). Concerning the concept of *Danil minjok*, which has

been deeply rooted in Korean culture, mingling with students of other cultures and races is something for Koreans to adjust to. Also, frequent invasions of other powers in their history made Koreans uncomfortable to live harmoniously with people of other races and cultures. In that, the term of multiculturalism, which is perceived as a relatively new phenomenon by Korean, is in fact a phenomenon that Koreans have not seen because they are covered by a single word that defines them. However, Korea is becoming a multicultural society(Chang, 2012; Choi, 2010; Kang, 2010; Moon, 2015). With the changes in government policies and their daily lives, Koreans are in the age of transition.

Therefore, this study explores what elements should be considered to teach students effectively and interact actively with students of the diverse race, culture, and nationality. In Korean context, racial or national diversity in the student population raises understanding of culturally responsive practice (CRP). Furthermore, this study examines the potential of CRP that can play a role to recognize the diversity such as family culture, religion, and SES, within a racially homogenous student population as mainstream of Korean. In this part, I introduce constructs of CRP, and I look at the application of it for overcoming challenges that culturally and racially diverse students face. Then, I develop the CRP scale to measure teachers' culturally responsive practice and test its reliability and some aspects of validity.

Research Questions

The rapid change in population in Korea makes school faces challenge in student diversity. While recognizing the importance of cultures of students, it has been argued that how teachers deal with diversity in their classroom. Thus, it is meaningful to develop a scale to measure of teachers' CRP; utilize the instrument to assess the schools' and teachers' readiness to overcome the challenges from diverse student population. Specifically, this study seeks to develop the reliable and valid survey instrument to measure the degree of secondary

school teacher's culturally responsive practice. Additionally, this study pursues to determine whether the factor structure of the CRP reflect a multidimensional definition of CRP.

Background

Korean Context: Why CRP is Important in Korea

As Korea has become an increasingly multicultural society, the influence of the global epoch has been great. International population migration is steadily increasing. In 2015, the number of immigrants to the total population is 2 million, representing 4.0%. If the current trend continues, it is expected that the number of foreigners in Korea will reach 2.53 million in 2020, and 4.09 million by 2050 or 9.2 per cent of the total population (Statistics Korea, 2017). This international population comes from three main sources; immigrant worker, international marriages and North Korean refugees.

Immigrant worker. The steady increase in domestic migrant workers has come from the economic need to increase the international price competitiveness of production goods through the low - wage market of Korean companies and to fill the scarce labor force. In the early 1990s, the influx of migrant workers mainly came from the need for companies to cut labor costs, but now Koreans who want to work in the 3D (dirty, difficult and dangerous) industries such as machinery, dyeing, lathing, and plating are forced to employ migrant workers is increasing. As of March 2016, 1,940,000 immigrants were in Korea; Among them, migrant workers account for about 31.9% (Statistics Korea, 2017). In that, there are 190,000 migrant workers entering the Employment Permit System and 300,000 foreign nationals. Even if the total number of migrant workers is about 720,000, it is estimated that there are about 800,000 informal migrant workers because many foreign students or marriage immigrants participate in labor. The number of foreign children increased from 1,200 to 1,400 in 2009 to 1,748 in 2010, an increase of 37.6%. As for the places where children of

migrant workers are located, the urban area is 1546 people (88.4%), and the municipal area is 202 people (11.6%).

International marriage. Although the history of international marriage in Korea is known to have originated from the Korean War, the claims that are opposite to the history of a single nation have gained considerable persuasiveness. International marriages began to take a new turn in the early 1990s. In the reality that rural men have difficulty finding a spouse, the marriage project of the village bachelor and the Chinese woman was promoted. The ratio of international marriages to total marriages was 1.2% in 1990 and 10.8% of total marriages in 2010; it reached 21.3% in 2015. The couples of 'Korean males and foreign females' accounted for 62.6 % of the total marriages of immigrants. The couples of 'foreign males and Korean females' accounted for 22.9 % of the total marriages of immigrants.

North Korean refugees. North Korean refugees who have escaped from North Korea and acquired Korean nationality have also steadily increased since the great flood of 1995, reaching 1,418 in 2016; the total number of North Korea refugees are 30,212 as of December 2016 (Ministry of Unification, 2017). Superficially, they feel that there will be no problem because they can communicate with each other and have similar appearance. However, they are reluctant to reveal their identity as North Korean refugees, so they are struggling with differences in the meaning of words due to the heterogeneity of the dialect and language. The most serious problem that North Korean refugees face is cultural differences (Kang, 2010). For instance, consumption culture is one of them. In North Korea, there is a socialism rather than capitalism, which does not allow individual to own property, thus, they have difficulty in managing personal household accounts after settling in Korea. Also, they are experiencing difficulties in their workplace due to cultural differences. Many of them settled in the country are unemployed, employed in 3D industries or irregular workers, and live as basic livelihood recipients. Under these harsh situation, children in North Korean refugee families still suffer

from discrimination among peers due to their accent, or for speaking in a different dialect (Kang, 2010), even though they are the same racial group with little difference in appearance. As a result, these students undergo hardship adjusting to school life; in turn it leads higher dropout rates (Cho & Yoon, 2011). Thus, CRP is highly needed for understanding the cultural background of students and for predicting impacts of diverse culture on their learning, which will lead to successful academic performance of culturally and racially students.

Efforts for Multicultural Society in Korean

For multicultural society, the Korean government and social service institutes are beginning to introduce new policies to address this ethnic diversity challenge. For instance, the policy –adopted in 2006 by the Policy Coordinating Division of the Human Resources Bureau of the Ministry of Education and Human Resources Development (now the Ministry of Education, Science, and Technology)– seeks to “help children of interracial marriages and migrant parents residing in Korea receive better education” (MEHRD, 2006, p. 1). The comprehensive policy attempts to address these key challenges for students of diverse backgrounds. In terms of education MEHRD recognizes that many children from multicultural backgrounds have been identified as experiencing study difficulties and identity confusion.

Therefore, the MEHRD policy supports several public and private measures to improve education for students of diverse backgrounds and help to incorporate them into mainstream Korean society: (a) after-school programs which include Korean language lessons, help with schoolwork, IT training, cultural experiences, and other adaptation programs; (b) a separate counselor in each school to assist multicultural students in schoolwork, developing friendships, and adapting to school; (c) in-service training for teachers consisting of at least

two hours of coursework on multiculturalism that fosters understanding of other cultures, teaching strategies for diverse students, and ways to deal with student isolation; (d) expansion of Korean language and culture classes in pre-service teacher programs; (e) provide promotion incentives for current teachers to obtain Korean as a Second Language (KSL) certificates; (f) rewrite textbooks to delete references to Korean homogeneity and insert material that reflects the country's increasing diversity; (g) encourage volunteerism for schools in agriculture and fishing villages (MEHRD, 2006).

Schools are to help students prepare for a better future, especially by equipping them with an understanding of how to live harmoniously with children of diverse cultures. Kang (2010a) pointed out two educational problems in connection with immigrant minority students in Korean schools. First, they have lower academic achievement, and second, they are not integrated into the lives of native Korean students. Further, Kang suggests that immigrant minority students make slower progress in language development compared to native Korean children. Due to delayed language development, often these students are viewed as learning-disabled. This designation alienates them even further from mainstream Korean life.

In addition, school time generally consumes the largest part of the day for young children. In schools, children learn and develop values through social interactions. Teachers play a role in creating learning environments to facilitate the development of such values. Thus, teachers not only convey fact-based curricular knowledge, but also must now provide models of acceptance and celebration of ethnic and linguistic diversity. Therefore, teachers in schools need to recognize the diversity in student population and understand their cultural background so that they provide students with culturally and properly appropriate teaching practice.

Culturally Responsive Practice for Multicultural Students

There is a growing body of research on the topic, which teaching practice need to correspond to students' family and community cultures for their successful learning (Gay, 2002; Mcallister & Irvine, 2010; Santamaria, 2009). In order to indicate the culture-oriented way of teaching or pedagogy, scholars used the term of culturally appropriate (Au & Jordan, 1981), culturally congruent (Mohatt and Erickson, 1981), culturally relevant pedagogy (Ladson-Bilings, 1995), culturally responsive teaching¹ (Gay, 2000), and culturally sustaining pedagogy (Paris, 2012).

Like this, the terms used in various forms in the early stage have been summarized in two representative terms to the present, relevant and responsive. Looking up the definition of dictionary, the difference between *responsive* and *relevant* is apparent. The term *responsive* means "reacting quickly and positively; answering," and *relevant* is "closely connected or appropriate to the matter at hand." Following the definition, culturally responsive sounds reactive, while culturally relevant appears proactive to a culture (Kim, 2017). I also like to use the word *responsive* in terms of taking positive and reactive actions in dealing with a student's culture in the classroom. Also, this is related to teachers' behavioral response to cultural diversity of students as well as their attitudes and beliefs towards different students' cultures; this is how students can be involved in their learning and then be successful.

In the same manner, the word *practice* expresses a set of teacher's jobs within school, including teaching, counseling, managing students, not restricted to teaching itself. Therefore, *culturally responsive practice* was the chosen term for the purposes of this study.

¹ The noticeable thing in her book is that she used the term culturally responsive teaching and culturally responsive pedagogy interchangeably.

Emerging rationale for culturally responsive practice. As increasing minority population, there is an urgency to prepare educators who can effectively facilitate culturally diverse students' success (Au, 2007; Gay, 2002; Villegas & Lucas, 2002). Ladson-Billings (1995) suggested the necessity of curriculum reform making connections between culturally relevant pedagogy and students' experience, in order for teachers to establish cultural frameworks of reference and to improve learning for students under high risk. In the same manner, culturally relevant teachers build on the strengths of multicultural students, helping them acquire cultural capital and new knowledge, and connecting the students to the mainstream of schooling (Lipman, 1997). The combination of culturally relevant teaching and good teaching practice has evolved into culturally responsive teaching. Culturally responsive teaching "builds on multicultural education and culturally relevant pedagogy where teachers use the cultural knowledge, prior experiences, frames of reference, and performance styles of cultural and linguistically diverse (CLD) students to better scaffold learning concepts" (Gay, 2000, p. 29).

Moreover, Gay (2000) has defined culturally responsive teaching (CRT) "as using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to and effective for them" (p. 29). In other words, understanding and teaching to a students' learning style is a foundation in culturally responsive teaching. She summarized CRT by defining six areas that are specifically addressed by the effective culturally responsive teacher. The first area is that CRT is validating. Everything a student has should be given credence by the teacher. The second area is that CRT is comprehensive. The effective CRT teacher teaches the complete child. A third area is that an effective CRT teacher is multidimensional. Teaching in the moment, utilizing prior knowledge and experiences, and looking and understanding from more than one perspective are all part of being multidimensional. She also included that the

effective CRT teacher is transformative and emancipatory. Effective CRT teachers respect the culture and experiences of their students by using that fund of knowledge to build the student up rather than tearing down or demeaning the student.

Golnick and Ghinn, (2004) regards CRT as a core multicultural principle to meet the need of all students. CRT asserts that “students’ cultures, viewing them as transformative and emancipatory strengths; incorporates students’ cultures in the teaching process, thus empowering them to take responsibility of their learning; and leads to increased future participation in societal activities” (Santamaria, 2009, p 226). Also, CRT is based on the proposition that culture intensely influences how children learn (Smith, 1998). Ladson-Billings (2001) calls her theoretical framework “culturally relevant pedagogy” (p. 144). She assumes that successful teachers (a) focus on students’ academic achievement, (b) develop students’ cultural competence, and (c) foster students’ sense of sociopolitical consciousness.

Like what Ladson-Billings suggested, Gay explained that culturally responsive teaching is “a means for unleashing the higher learning potentials of ethnically diverse students by simultaneously cultivating their academic and psychosocial abilities” (Gay, 2000, p. 20). Teachers’ knowledge of and attitudes toward cultural diversity are powerful determinants of learning opportunities and outcomes for culturally different students (Gay, 2002). Similarly, teachers’ beliefs about how students learn and the expectations that they for different racial groups may influence the way they conduct their lessons (Steinberg & Morris, 2001). This perspective of culturally responsive teaching seeks to improve participation and increase learner interest by drawing on students’ homes and communities as resources as the essence of CRT (Au, 2007; Giouroukakis & Honigsfeld, 2010; Moll, Amanti, Neff, & Gonzalez, 1992; Siwatu, 2007). This can be a challenge if teachers are approaching their students from an ethnocentric perspective.

Diverse approaches to culturally responsive practice. As reviewed above, these studies of Culturally Responsive Practice have paid attention more to teachers' roles and how to teach in a culturally responsive way. However, in the discourse of CRP, consideration of students' families and their personal background need to be treated as a crucial factor that is presumed to anticipate how culturally and racially diverse students learn and understand. In that, recognizing students' family background might be the first step to engage students in schooling. More specifically, following the assumption that students' engagement in learning increases their academic performance, teachers can facilitate this engagement by creating individualized and supportive contexts that are focused on students' learning with consideration of their family and personal background (Steinberg & Morris, 2001).

Along these lines, Villegas and Lucas (2002) recognized the current status of educational context that is becoming more diverse, and they tried to find the possible strategies for the treatment of diversity issues. They suggested that teachers be aware of their students' lives in order to teach meaningful content knowledge and to involve students in the learning process. This does not mean to know their students at the level of a cultural or social group, but to know individual students' family makeup, immigration history, favorite activities, concerns, and strengths. In this regard, creating strong linkages between schools and families may support student engagement in other ways, as well as by fostering congruence in the values adolescents are exposed to, both at home and at school.

There are other researchers paying attention to the interactions between teachers and students, and classroom management. (Weinstein, Curran, & Tomlinson-clarke, 2003) labeled these actions as "culturally responsive classroom management" (p. 269). In their study, while focusing on the difficulties in classroom management and organization, the researchers investigated the abilities that teachers need in order to teach diverse classrooms in culturally competent ways. They examined what the approaches and strategies are, to have

culturally responsive classroom management. Using several examples of classroom settings, they demonstrated diverse students' difficulties and where the teachers' and students' gap came from. Based on Weinstein et al. (2003), (Milner & Tenore, 2010) also conducted a study of culturally responsive classroom management practices, with observations of two teachers from an urban and diverse middle school. During more than one year of observations, the authors built on the principles of culturally responsive classroom management: "understanding equity and equality; understanding power structures among students; immersion into students' life worlds; understanding the Self in relation to Others; granting students entry into their worlds; and conceiving school as a community with family members" (p. 591).

Even though the primary studies of CRT were usually conducted in the U.S., they could be applied to other contexts including Korea, even though studies on CRP in Korea are at an early stage, and empirical studies of CRP are very rare. In the recent research by Hong and Chang (2006), they explore Korean elementary teachers' culturally responsive teaching self-efficacy (CRTSE) by (Siwatu, 2007), and to categorize it based on culturally responsive teaching theory by Gay (2000). While confirming the factor structure and reliability of the CRTSE, the results showed that elementary teachers in Korea do not apply cultural response teaching methods in their classroom.

Chu (2010) explored how to apply CRP to classroom teaching in elementary moral education in Korea. However, there is a limitation in reflecting the original intention of CRP which requires a general change that includes the classroom environment and the classroom culture. In Noh (2009)'s study focusing on the relationship between cultural response proficiency, self-efficacy, and multicultural teaching ability, it is found that the teachers' self-efficacy is significantly lower than that of middle school teachers. Thus, in order to increase the self-efficacy of the pre-service teachers, it is necessary to increase the frequency of

exposure to the multicultural environment. Like this, in Korea, research on CRP is on the beginning stage to introduce the theory. However, it is a field that needs to be studied because it is accompanied by the demands of the field that actually operates the curriculum including the multicultural perspective and the revised national curriculum, which highlight the reconstruct the curriculum based on the various needs and characteristics of students.

In sum, scholars commonly insist that teaching practice and classroom management need to be implemented equitably and in culturally sensitive ways; also, CRP is a universal construct, which means that it characterizes a common belief that is inherent in all multicultural contexts. Therefore, one might assume that implementing culturally responsive teaching would be similarly appropriate across cultures and samples.

The purpose of this study is to examine teachers' culturally responsive practice, specifically how to measure it to suit the Korean context, and if so, what school characteristics might predict CRP. To respond to these two general issues, I create a questionnaire using existing items from some established measures assessing teachers' belief in diversity (Pohan & Aguilar, 2001), teachers' sense of efficacy (Siwatu, 2007), and multicultural education scale (Guyton & Wesche, 2005; Groulx & Silva, 2010). Other measures for analysis are developed from existing scales assessing principal's leadership and a set of demographic questions about teachers and schools.

The development of the culturally responsive practice questionnaire involves several phases –analyzing measures related culturally responsive, designing the preliminary scale, pilot testing the scale, item analysis, and exploring the relationship of the developed CRP scale to other known constructs.

Background of measures for CRP. There are some conceptual studies on culturally responsive teaching or multicultural education, but only a limited amount of literature has been used in a quantitative measurement. For developing a scale of CRP, the related literature

needed to be analyzed. In particular, there are a few works on quantifying culturally responsive pedagogy or teaching. Here, I synthesize some quantitative research on the related concept of culturally responsive teaching.

Guyton and Wesche (2005) developed the Multicultural Efficacy Scale (MES) as a tool for measuring this concept, along with the multicultural teacher education dimensions of intercultural experiences, minority group knowledge, attitudes about diversity, and knowledge of teaching skills in multicultural settings. In their study a total of 665 undergraduate and graduate teacher education students from geographic regions across the United States completed the 160-item MES pilot, and supplied demographic information regarding their gender, age, socioeconomic status, education level, and ethnic and religious backgrounds. The first stage of analysis reduced the MES to 80 items. The second stage produced a final MES consisting of 35 items: 7 experience items, 7 attitude items, 20 efficacy items, with one additional item asking participants to identify their strongest beliefs about teaching in multicultural educational settings. The overall intent of the MES is consistent with the purpose of this study, namely, to use the CRPS as a means of diagnosing the extent of teachers' readiness in the schools in terms of the skills, knowledge, attitudes, and understandings to move teachers toward becoming multicultural efficacious.

Based on the study of Guyton and Wesche (2005), Groulx, and Silva (2010) measured culturally relevant teaching with three dimensions: background experiences with respect to diversity, beliefs about practices in teaching culturally diverse students, and efficacy implementing multicultural teaching strategies. In particular, they emphasized that the MES scale needs to include teachers' efficacy for improving student achievement.

In this regard, Siwatu (2005, 2007) researched and created a culturally responsive teaching self-efficacy instrument that measure the teachers' beliefs that they can effectively teach students from diverse backgrounds and achieve the expected goals. In an attempt to

increase efforts to prepare culturally responsive teachers, Siwatu (2009) developed the 40-item Culturally Responsive Teaching Self-Efficacy Scale (CRTSE). Siwatu (2009) believes that many of the existing teachers' self-efficacy measures were insufficient in assessing preservice and in-service teachers' culturally responsive teaching self-efficacy beliefs. He designed a scale to assess teachers' self-efficacy to execute practices of culturally responsive teaching. The items on the scale included reference to each of the 29 culturally responsive teaching competencies (p. 4). These competencies describe the practices (e.g. knowledge and skills) of successful teachers of students from culturally and linguistically diverse backgrounds and whose pedagogical approach is culturally responsive (Siwatu, 2009). It is well documented that teachers' beliefs influence their attitudes toward diverse students and teaching practices (Guskey & Passaro, 1994; Dilworth, 2004; Guyton & Wesche, 2005). In that, the more confident teachers are, the more actively and flexibly they can respond to the pedagogical needs of situations where arise in classrooms. Table 1-1 shows representative empirical studies on CRP using quantitative method.

Table 1-1. Empirical Studies on Developing CRP Related Scales

	Guyton & Wesche (2005, 2010)	Groulx & Silva (2010)	Siwatu (2007)
Scale name	Multicultural Efficacy Scale (MES)	Multicultural Efficacy Scale (MES)	Culturally Responsive Teaching Self-Efficacy Scale (CRTSE) and Culturally Responsive Teaching Outcome Expectancy (CRTOE)
Aspects	1) Intercultural experiences, 2) Minority group knowledge, 3) Attitudes about diversity, 4) Knowledge of teaching skills in multicultural setting	1) Background experiences with respect to diversity, 2) Beliefs about practices in teaching culturally diverse students, and 3) Efficacy implementing multicultural teaching strategies	1) Self-efficacy of teaching 2) Teaching outcome expectancy
	Based on the Bennett et al. (1990)	Having subscale of each dimension	Each scale is regarded as one-factor.

However, as examined above, there is a very limited literature to deal with the concept of culturally responsive teaching in a quantitative way. Even though qualitative and conceptual studies gave an insight and framework for investigating culturally responsiveness, quantitative research methods that have the merit of diagnosing, analyzing and generalizing phenomena are also needed. Also, previous studies have focused on measuring the effectiveness of education by looking at the culturally responsive competence of pre-service teachers in the teacher education institutes, or improving the preparation of pre-service teachers. However, there are few studies that can measure or diagnose the culturally responsive competence of in-service teachers in consideration of the educational environment surrounding the students and the real worlds where in-service teachers face.

Moreover, there is a lack of consideration of multicultural education linked to each task that teachers are responsible for in the school. Specifically, in the school field, teachers play a variety of roles beside class teaching. For example, counseling with individual students, communication with parents, and part of school administration work are required, and it is difficult to neglect these tasks because they ultimately relate to student guidance. Therefore, it is important to develop a measurement tool that takes into account school context.

In addition, research on the development of measurement tools considering the educational environment in Korea is very limited. In particular, when considering the various roles that Korean teachers play in the school, the tools for measuring culturally responsive teachers need to be evaluated in various aspects and diagnosed from various perspectives. Thus, for the purpose of this research, which examines current teachers' perceptions of students' diversity and considers Korean context, I needed to develop and validate the new scale of CRP.

Research Goals: Revisiting Research Questions

The literature review suggests a need for a better scale to measure in-service teachers' culturally responsive practice. Following in previous research, the scale should be task-specific and include activities directly related to teaching students. This scale would allow the researcher to examine the underlying structure of teachers' culturally responsive practice. Based on previous research, it is hypothesized that culturally responsive practice of teachers is multidimensional. Therefore, the current study addresses the following goals, which can be answers to research questions.

RQ1. Can face and content validity of the Culturally Responsive Practice scale be established?

Goal 1. Provide evidence for the face and content validity of the CRP

RQ2. Can internal consistency reliability be established for the CRP?

Goal 2. Provide evidence for the reliability of the CRP

RQ3. Can factor structure of the CRP reflect a multidimensional definition of CRP?

Goal 3. Provide evidence for construct validity of the CRP

Methodology

The Culturally Responsive Practice Scale (CRPS) was developed as a teacher self-report measure of CRP in order to identify those teachers who may be ready to appropriately interact with multicultural students in their classrooms. CRP scale development consisted of six main steps that were supported by the literature in scale development (e.g., DeVellis, 2003; Merrell, 2008): (1) define construct, (2) design scale, (3) pilot test and expert review, (4) revise the items, (5) evaluate items, and (6) validate. The development of the scale consisted of two phases as illustrated in Figure 1. Phase 1 included creating and refining a initial version of the scale and testing pilot with a small sample. Phase 2 consisted of main

testing the revised scale with a large sample of participants in order to evaluate scale items and conduct reliability and validity analysis of the scale.

Steps for Item development

The development for CRP items follows the process as described below.

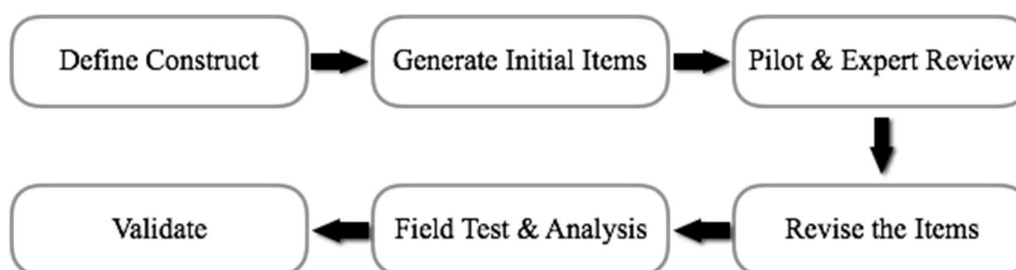


Figure 1-1. Scale Development Process

Defining the construct. Self-report scales can be developed to be reliable and valid measures when there is strong theoretical support on the relation between the phenomena of interest and other constructs. Merrell (2008) described this approach as the rational-theoretical approach. This approach starts with a description of personality traits and behaviors that can be measured and the creation of items that are suitable within those domains. Merrell stated that the benefit of using the rational-theoretical approach is that items in the scale will have strong face validity and be “psychologically meaningful and theoretically unified” (p. 204). Therefore, the first step in developing the CRP was to clearly define the construct of interest. The construct of interest for this research study was teacher CRP. As constructed based on the literature, CRP consists of four core dimensions: attitude, knowledge, efficacy, and application; *attitude* refers to multicultural attitude toward diverse students; *knowledge* indicates having understandings of diverse cultures and their impacts on teaching and learning process; *efficacy* is defined as a teacher’s belief in his or her confidence to successfully implement multicultural practices (Guyton & Wesche, 2005); and application

means use of culture-centered teaching, which is a pedagogy that recognizes the importance of including students' cultural references in all aspects of learning (Ladson-Billings, 1994). These constructs were clearly defined and answered research question two, “Can factor structure of the CRP reflect a multidimensional definition of CRP?”

Designing the scale. Items included in this scale were generated to reflect the four core competencies of CRP. Guided by the theoretical and empirical research on culturally responsive and multicultural education, I developed an initial version of questionnaires for measuring CRP of teachers. The CRP instrument initially contained 16 descriptive statements, indicating the extent to which each statement characterizes the aspects of culturally responsive teaching along a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree): Knowledge (4 items), attitude (4 items), teachers’ teaching efficacy (4 items), and application (4 items)

Pilot testing and expert review. Once the initial pool of items and scale format were designed, experts reviewed the pool of items. A convenience sample of experts, either knowledgeable in the content area or with practical experience working in education, were requested to provide feedback on the relevancy of the item to the construct of interest, the clarity and conciseness of items, and additional items to consider including (DeVellis, 2003). These experts came from a variety of Korean professionals with backgrounds in education and psychology.

Professionals from education (e.g., teachers, professors, principals, etc.) had minimum of two years of experience working in a middle or high school setting. A total of five experts reviewed the CRP scale: two professors in universities and three teachers (two with Ph.D. degree and one with master degree). Experts were invited by email to participate in the study and sent the pilot version of the CRPS assessment with space beside each item for comments and questions. The experts had two weeks from the time they received the

form to provide feedback. Based upon expert feedback, items were revised and one item was removed because of item ambiguity.

CRP constructs. In the next section, I provide more information about each of the four domains in the CRP construct.

Recognizing student diversity is defined as the ability to comprehensively recognize and respect student's diversity in terms of their cultural and social background. Teachers who are recognizing students' diversity have an understanding of students' social and cultural differences, and recognize the importance of valuing their culture in teaching and learning process. Teachers also have a good understanding of the role of diversity in one's academic and social development.

Acknowledging Student Family Background is defined as the ability to take the perspective of and empathize with students' family background. Teachers who are acknowledging student family background build strong and supportive relationships through mutual understanding and cooperation. They are sensitive to cultural diversity and appreciate different perspectives of parents, students, and school personnel. This sensitivity allows them to effectively problem solve conflicts between students and school personnel.

Teacher Efficacy is defined as a teacher's belief in his or her confidence to successfully implement multicultural practices (Guyton, Wesche, 2010). Kagan (1992) asserts the beliefs teachers hold influence their perceptions and judgments, which in turn affects their behavior in the classroom. In other words, teacher efficacy is a future-oriented motivational construct that reflects a teacher's competence beliefs for teaching tasks. Teacher efficacy contributes to achievement because high efficacy teachers try harder, use management strategies that stimulate student autonomy, attend more closely to low ability student needs, and modify students' ability perceptions (Ross & Gray, 2006).

Teaching Application is the reported use of culture-centered teaching, which is a pedagogy that recognizes the importance of including students' cultural references in all aspects of learning (Ladson-Billings, 1995). It plays a role not only in communicating and receiving information, but also in shaping the thinking process of groups and individuals. Teaching application that acknowledges, responds to, and celebrates fundamental cultures offers full and equitable access to education for students from all cultures. To be effective in multicultural teaching, teachers must relate teaching content to the cultural backgrounds of their students.

Distributing the survey. Questionnaires were sent via Google form. When teachers completed the survey instrument, the answers were automatically returned into excel file in Google drive: the anonymous questionnaire was distributed by one teacher of each school with a specific web address. Also, the questionnaire included school code to recognize where the answer is from. Thus, the process protected the teachers' anonymity; their names could not be associated with their responses.

Instrument reliability. Reliability of a scale demonstrates evidence that a scale is accurately measuring the same concept over time, across raters, or within items (Gall, Gall, & Borg, 2007). Evidence of validity suggests that a scale is actually measuring the concept intended; this definition is usually referred to as construct validity which then encompasses other forms of validity such as criterion, convergent, and discriminant validity (Messick, 1995). The exploratory factor analysis is considered one way to examine a test's evidence of validity and reliability. In general, exploratory factor analysis is used to extract factors or dimensions of a given construct which are meaningful to that construct (Preacher & MacCallum, 2003). It is significant to recognize that exploratory factor analysis is a statistical technique that helps researchers determine how items group together, but it does not tell the reason why these items cluster a particular way, nor does it provide a formal test of a

hypothesis (Agresti & Finlay, 2009). Therefore, the interpretation of the structure of a group of items need to be based on theoretical background.

Once a structure has been established, the next step is to test the internal consistency of the subscales that emerged. This can be done using Cronbach's (1951) alpha statistic, which examines the internal interrelation of the scale's items. This analysis can also determine if dropping items from a particular scale will increase a scale's reliability.

Analyzing the data. Exploratory Factor Analysis (EFA) is run to extract a set of factors, test stability of the factor structure of the scales, and check that all items loaded on the appropriate factor. In this phase, common factors are extracted by Principal Component Analysis and Varimax Orthogonal Rotation. This method is often used to determine if factors load to predetermined theoretical constructs as hypothesized (Agresti & Finlay, 2009). Using the SPSS statistical software package, an exploratory factor analysis with varimax rotation is conducted, using an eigenvalue of 1.0 or higher to determine which factors load to which constructs. The analysis determines if survey instrument items are correlated with the hypothesized theoretical underpinnings of sub dimensions. Next, A confirmatory factor analysis (CFA) is conducted to indicate the relation of the observed variables to the proposed underlying constructs (Kline, 2010). While revealing structural relations, the construct validity for CRP could be preliminarily supported throughout the CFA.

Analysis and Results

Pilot Test

Participants. The participants of the pilot test were selected from a population of teachers in South Korea. Specifically, the convenience sample for this study consisted of 112 secondary school teachers from 10 secondary schools in Gyungsang province.

Of the respondents, 60.7% were women, and 39.3% were men. Also, 12.8% of respondents were in twenties, 43.6% in thirties, 23.1% in forties, 15.4% in fifties, and only 0.9% were in sixties. As for the years of experience, 10.2% had less than 6 years, 38.6% had more than 6 but less than 10 years, 23.1% had more than 11 but less than 15 years, 10.5% had more than 16 but less than 20 years, 5.8% had more than 21 but less than 25 years, 1.8% had more than 26 years of experience of teaching.

Factor analysis and revision of items. A factor analysis (principal axis factoring) was conducted for determining if initial items generated based on previous researches fit to the reality. Evaluation of the eigenvalues and scree plot are the principles of factor extraction. The criteria of whether to retain an item include the following ones: (1) the mean of the factor is no less than 3.0; (2) items load strongly on one single factor (> 0.5); (3) items do not cross-load on multiple factors; (4) correlation coefficient between every item and total score is no less than 0.4. Four factors having eigenvalues greater than 1 accounted for 56.36% of the total variance, and their factor loadings were between 0.31 and 0.88.

Some items did not meet the criteria described above: there were items with below .40 factor loadings. Also, items in dimensions of knowledge and attitude were not clearly categorized by the theoretical divisions. In other words, some items in the dimensions of knowledge and attitude seem to share a commonality characterized differently from the original theoretical category. More specifically, the first 4-item factor consisted of item

number 8, 2, 5, and 6, which were originally designed for *knowledge* except for number 2.

The second 4-item factor included item number 7, 1, 3, and 4, which were initially generated for measuring attitude except for item number 7. These results suggested that first and second dimensions for CRP needed to be revised when it comes to their combinations and definitions. Professionals and I discussed how to interpret these statistical results and how to revise the CRP scale.

Table 1-2. CRP Matrix in Pilot Test

	Factor 1	Factor 2	Factor 3	Factor 4
CRP8	.881	-.017	-.012	-.102
CRP2	.641	.021	-.087	.164
CRP5	.627	.189	-.013	.058
CRP6	.500	.301	.151	.011
CRP7	-.269	.469	.418	.028
CRP1	-.185	.654	.101	.118
CRP3	.049	.599	-.110	.069
CRP4	.109	.331	-.170	.137
CRP10	-.257	.196	.662	.002
CRP11	.257	-.063	.366	.226
CRP12	.319	-.044	.352	.060
CRP9	.181	.196	.349	.039
CRP13	-.185	.101	.118	.654
CRP14	.109	-.170	.299	.579
CRP16	-.269	.418	.028	.469
CRP15	.049	-.110	.069	.331

Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization.

With consideration of the statistical results as well as related literature, items and the dimensions are revised as follow: Acknowledging family background (4 items), Recognizing student diversity (4 items), Teachers' teaching efficacy (4 items), Teaching application (4 items).

Main Study

Participants. The participants in this study was selected from a population of teachers in South Korea. Specifically, the convenience sample for this study consisted of 422

secondary school teachers from 24 secondary schools in Seoul, Gyeonggi province, Incheon, and Gyungsang province, which the population of multicultural students in these four regions is listed on the highest proposition among all over the regions in South Korea. Of the respondents, 67.53% were women, and 32.47% were men. Also, 15.6% of respondents were in twenties, 41.6% in thirties, 25.6% in forties, 16.1% in fifties, and only 1.4% were in sixties. As for the years of experience, 13.3% had less than 6 years, 46.5% had more than 6 but less than 10 years, 20.1% had more than 11 but less than 15 years, 9.5% had more than 16 but less than 20 years, 7.8% had more than 21 but less than 25 years, 2.8% had more than 26 years of experience of teaching.

Table 1-3. Demographic Characteristics of Samples in Main Study

Category		Frequency	Percentage (%)
Gender	Female	284	67.53
	Male	138	32.47
Age	20 – 29 years	66	15.6
	30 – 39 years	174	41.2
	40 – 49 years	108	25.6
	50 – 59 years	68	16.1
	60 + years	6	1.4
Experience	1 -5 years	56	13.3
	6 – 10 years	196	46.5
	11 – 15 years	85	20.1
	16 – 20 years	40	9.5
	21 – 25 years	33	7.8
	26 + years	12	2.8
Education Degree	Undergraduate	305	74.2
	Graduate	117	25.8

Results

Face and content validity. Content validity refers to the extent to which the instrument represents all of the content related to the particular constructs (Heffner, 2004). Instrument items were developed using related research. Face validity requires looking at the

items and using subjective judgment to determine if the items appear to measure what they are intended to measure (Walsh & Betz, 2001). To obtain face validity, the initial items were evaluated by three teachers with Ph.D. degree. Items that were a) unclear, b) repeated, and c) double barreled were eliminated, or made clearer. The evaluators individually provided comments via Word and were returned to the researcher through email. The researcher first provided each evaluator a handout that had the definition of culturally responsive practice, a list of 16 items that were originally constructed, and were told that this questionnaire was about the degree of culturally responsive practice of teachers in their teaching and learning. The researcher asked these individuals to 1) read the definition of CRP, 2) ensure that all the items in the list corresponded to the definition, 3) ensure that items were clear, unrepeated, and not double barreled, and 4) help reword unclear items to become more readable statements for the questionnaire. Professionals conducted an item-by-item review of the instrument to consider whether the items appeared to measure teachers' perceptions of their degree to the culturally responsive practice. In an initial look at construct validity, professionals also reviewed each item as they perceived the match to the theoretical underpinnings of culturally responsive pedagogy, multicultural education, and teacher efficacy.

Statistical analysis. This study adopts the proposed 16-item scale to measure a sample of 422 teachers from 24 secondary schools in South Korea. With reflecting the results of the pilot test and related literature, items and the dimensions are revised with acknowledging family background (4 items), recognizing student diversity (4 items), teachers' teaching efficacy (4 items), teaching application (4 items). Presented in Table 1-4 are item specific mean and standard deviation for all items of the CRP scale. Overall, the participants responded indicate a positive proposition toward culturally responsive practice (3.12 – 3.86).

Table 1-4. Items for Culturally Responsive Practice

Items	M	SD
1. I think students have diverse cultural backgrounds.	3.86	1.16
2. As a teacher, I need to learn about my student cultural backgrounds.	3.60	1.12
3. I believe students' diversity must be considered in the classroom management.	3.76	1.05
4. I believe students' self-esteem is increased when their social and cultural backgrounds is respected.	3.85	1.29
5. I have participated in the professional development for multicultural education.	3.12	1.11
6. I acknowledge students' family environment.	3.46	.92
7. I consider students' social and family backgrounds in the class plan.	3.72	.99
8. I teach students respecting on student's personal backgrounds.	3.33	1.18
9. I am able to obtain information about my students' academic strengths.	3.79	.90
10. I am able to determine whether my students like to work alone or in a group.	3.57	1.05
11. I am able to use my students' cultural background to help make learning meaningful.	3.69	1.02
12. I am able to critically examine the curriculum to determine whether it reinforces negative cultural stereotypes.	3.76	1.14
13. I think students can understand differently what I teach.	3.68	1.27
14. I structure the class content based on the difference among students' background.	3.32	1.21
15. I am able to facilitate students to work in a group.	3.68	1.04
16. I encourage students to think differently and have different perspective on class contents.	3.54	1.12

Verifying construct validity by EFA and CFA. An exploratory factor analysis (principal axis factoring) was conducted, allowing for correlations among factors (Fabrigar, Wegener, MacCallum & Strahan, 1999). The intent is to assure that the items actually measure the intended concepts.

Evaluation of the eigenvalues and scree plot are the principles of factor extraction. The criteria of whether to retain an item include the following ones: (1) the mean of the factor is no less than 3.0; (2) items load strongly on one single factor (> 0.5); (3) items do not cross-load on multiple factors; (4) correlation coefficient between every item and total score is no less than 0.4. After the above steps, a stable factor structure was established. Four factors

having eigenvalues greater than 1 accounted for 57.28% of the total variance. 16 items were retained and their factor loadings were between 0.52 and 0.81.

The exploratory factor analysis yielded four factors with eigenvalues greater than one; The number of factors was confirmed as originally suggested in scale development studies. Each factor yielded four items. Costello and Osborne (2005) recommended the examination of the scree plot to determine the number of factors to be retained. The scree plot also indicated that a four-factor solution was most reasonable. All items met the criteria described above and had commonalities above .40. The first 4-item factor, *Recognizing student diversity*, had a Cronbach's alpha reliability of .96. Recognizing student diversity accounted for 29.86% of the variance. The second 4-item factor, *teaching application*, had an alpha reliability of .85. Teaching application accounted for 10.60% of the variance. The third 4-item factor, *teacher efficacy*, had an alpha reliability of .85. Teacher efficacy accounted for 8.95% of the variance. The fourth 4-item factor, *acknowledging student family background*, had an alpha reliability of .85. Acknowledging student family background accounted for 7.87% of the variance. For more details about the primary factor loadings, means, and standard deviations for each scale item please see Table 5.

Guided by the results of the exploratory analysis, a confirmatory factor analysis (CFA) was employed. Testing the four-factor model derived from the EFA was coupled with testing the one-factor model of the CRP construct and initial four-factor model. A confirmatory procedure was employed, using structural equation modeling software, AMOS 20. AMOS output was generated for the following models: (a) the one-factor model; (b) the four-factor model derived from the EFA's results. Using a nested approach allowed for a direct comparison among these proposed models. Nesting means that the main constructs of the model remain constant, but the number of estimated relationships changes (Kline, 2010).

Put differently, models are considered nested when one, which is more restrictive, can be obtained by placing constraints on another model, which is more general.

Table 1-5. Structural Matrix for Culturally Responsive Practice

Item Number	Factor Loadings (Dimensions)			
	1	4	3	2
CRP1_1	.776	.227	-.044	.126
CRP1_3	.710	-.025	.223	.158
CRP1_4	.547	-.007	.064	.103
CRP1_2	.532	.363	.082	.175
CRP4_3	.242	.752	.022	-.087
CRP4_2	.292	.578	.427	-.076
CRP4_1	.488	.563	.350	-.094
CRP4_4	.225	.548	.074	-.220
CRP3_4	.032	-.019	.804	.170
CRP3_2	-.002	.069	.745	.265
CRP3_3	.013	.079	.743	.258
CRP3_1	.012	.111	.672	.254
CRP2_3	.306	-.032	.157	.678
CRP2_2	.041	-.017	.337	.646
CRP2_4	.260	.424	-.020	.624
CRP2_1	.476	.333	-.045	.516
Eigenvalue	4.78	1.70	1.43	1.26
Accumulated variance	16.45	32.52	45.56	57.28

NOTE: Extraction method principal axis factoring was used.

A total of 422 teachers (at least 13 teachers were randomly selected from each school) from these secondary schools responded to the instrument that contained 16 items for CRPS. Although it was not possible to select a random sample of secondary schools in this region, data were taken from both urban and suburban schools from diverse geographic areas, representing the entire socioeconomic status range. This sample size is considered appropriate for CFA model testing because the number of participants was greater than the minimum of 200 (422 secondary school teachers), and the ratio of a sample size to items was greater than 5:1 (Hair, Babin, Anderson, Tatham, & Black, 1998). In the current study, the sample size/item ratio was 7:1.

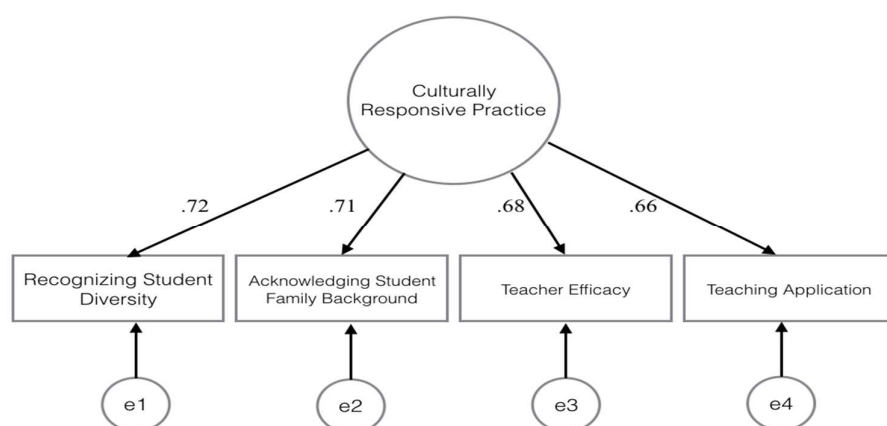


Figure 1-2. Confirmatory Factor Analysis for CRP

Table 1-6 reports goodness-of-fit indices for evaluating the three models derived from AMOS and employed as criteria. CFA results clearly indicate that the one-factor model was not a good fit for the data and that the revised four-factor model had better fit indices results compared to the initial four-factor model. Although it is a difficult procedure to generate models of educational and psychological attributes that can fully satisfy the CFA fit indices criteria (Kline, 2005), the confirmatory procedure for the four-factor model yielded acceptable fit measures. The analysis of the four-factor model yielded a sound fit for the data, with all indices at or near the proposed levels of minimum fit indicative of a good model. As suggested above, the chi-square statistic must be interpreted with caution (Kline, 2005). Overall, these indices provide a sound support basis for the postulated measurement model for CRPS.

Table 1-6. Model Fit Indices

Model Description	χ^2/df	GFI	CFI	NFI	TLI	RMSEA
Four-factor model (derived from EFA)	3.31	.976	.982	.979	.968	.069

NOTE: χ^2/df improvement is reflected by a lower value. GFI, CFI, NFI, and TLI improvement is reflected by a higher value. RMSEA improvement is reflected by a lower value.

Reliability assessment. The assessment of reliability could be considered part of the testing stage of the newly developed measure. Although reliability may be calculated in a several ways, the most commonly accepted measure is internal consistency reliability using Cronbach's Alpha (Henson, 2001). The CRP had high alpha coefficients of reliability of .96 and alpha coefficient of each factor ranged between .93 and .95. Table 1-7 shows four subscales of CRP based on EFA with number of items and their reliabilities.

Table 1-7. Reliability for Subscales of Culturally Responsive Practice

Subscales	Number of items	Cronbach a
Recognizing student diversity	4	.94
Acknowledging student family background	4	.95
Teacher efficacy	4	.95
Teaching application	4	.93
Total	16	.96

Discussion

The present study sought to examine the initial factor structure of an instrument developed to measure the construct of teacher culturally responsive practice among teachers in secondary schools in South Korea. In addition, initial evidence of reliability and validity of the CRP was examined by exploring internal consistency of the scale as well as confirmatory analysis. A need for teachers committed to culturally responsive practice ability has been strongly communicated in the last decade of scholarly literature (Banks, 2001; Delpit, 1995; Gay, 2000).

Although there are some multicultural efficacy related scales in the fields of multicultural education and educational psychology, there was few measures for measuring CRP for current teachers, nor is much empirical literature present on the actual practice of culturally responsive practice in Korea. This gap in the literature, paired with the limited

empirical examination of the competencies being used in education was sought to be addressed by the development of the CRP. Items for the CRP were developed based on a multidimensional definition of culturally responsive practice that was a result of synthesized literature in various fields (Groulx & Silva, 2010; Guyton & Wesche, 2010; Siwatu, 2007, 2011).

This study used a quantitative nonexperimental descriptive design to address the psychometric properties of the CRP including: (a) initial factor structure; (b) scale reliability; (c) construct validity; more evidence of other aspects of validity for the CRP will be examined in the next chapters of this dissertation. A summary and discussion of the findings is presented in this chapter. Limitations of the current research study and implications for future research and training are also provided.

Goal 1 pursued that the newly developed Culturally Responsive Practice Scale (CRPS) would yield face and content validity. Support for this hypothesis was found by synthesizing literature and professionals' reviews.

Goal 2 sought that adequate evidence for the reliability of the CRPS would be supported via internal consistency using Cronbach values of .70 or above. The results provide support for this goal, with internal consistency values ranging from .93-.95 for the four CRP subscales. A strong Cronbach value provides useful information about a scale's internal structure by demonstrating that items within a scale are sufficiently correlated with one another (Cronbach, 1951; Worthington & Whittaker, 2006). Reliability evidence is particularly important in scale development research insofar as it increases confidence that the items on a scale are yielding consistent scores. The ability to replicate adequate internal consistency in the study strengthens support for the argument that the CRPS subscales are consistently measuring culturally responsive attitudes and behaviors across samples of secondary teachers in South Korea.

Goal 3 stated that the newly developed Culturally Responsive Practice Scale (CRPS) would yield a multidimensional factor structure, representing a multidimensional definition of the construct. Support for this goal was found in the exploratory factor analysis and the confirmatory analysis. Results from the exploratory factor analysis suggested a four-factor structure in the data. The study results in the revision of 16 items, including the 3 items re-allocated in different dimensions from the initial design. Revising these items and names was justified empirically given their poor inter-correlations with other items and the entire scale. Based on these results, each dimension of the CRP was renamed; these changes were also justified theoretically given the literature emphasizing the importance of family background in student learning (Ladson- Billings, 1994, 2001). The final factor structure of the CRPS suggests that there is a conceptually meaningful construct of teacher's culturally responsive practice that is comprised of four distinct subcomponents: (a) Recognizing student diversity; (b) Acknowledging family background; (c) Teacher efficacy; and (d) Teaching application.

Limitations

Several limitations to this study should be noted. The limitations to this investigation fell into two categories: (a) sampling methodology and generalizability; and (b) threats to construct validity.

Sampling methodology. Since a sample was recruited in convenience for this study, it is quite possible that participants who chose to take part in a study with this description may have greater commitment or adherence to culturally responsive attitudes than those who chose not to participate. Other selection bias information in the literature suggests that those who participate in social science research tend to be more educated, altruistic, extroverted, intelligent, and of higher social class than those who do not participate (Kalnins, 2007).

These limits to the sampling procedures limits the overall generalizability of the findings of this scale to a more highly educated and possibly more culture-oriented

population of teachers, as opposed to all teachers (thus limiting external validity). While the sample was recruited from teachers currently in the nation in terms of regions where the high percentages of multicultural populations, the majority of the sample had high level of experience teaching and was likely to have more understanding of multicultural education. It is possible that these findings are not generalizable to beginner teachers or teachers with less understanding or training. Finally, the target population for this study was all secondary teachers in South Korea. However, no data was collected regarding participants' specific teaching subject. It is possible that given the items of the CRPS, very different endorsements could have existed for social studies teachers versus music teachers, for example.

Selection bias may have also been an issue insofar as all participants were recruited via convenience sampling through an online internet survey, with no paper-pencil formats used in this study. It is possible that teachers who are not familiar with computers, internet access, or interest in belonging to online social networking groups were missed in this study's recruitment procedures.

Threats to construct validity. The data in this study revealed relatively high levels of each component of culturally responsive practice. While these findings could be indicating authentic high levels of these constructs, it is also possible that the high endorsements on items could be a result of participants feeling internally pressured to report higher levels of culturally responsive practice than are necessarily characteristic of their attitudes. This phenomenon is otherwise referred to as social desirability response bias (Nederhof, 1985). This bias refers to a participant's inclination to misrepresent his or her responses in a socially favorable manner by denying "socially undesirable traits and to claim socially desirable ones," (Nederhof, 1985, p. 269). Such desirability demands could have influenced participants' responses, as participants may have felt compelled to over-identify with social advocacy-related questions regarding their teacher skills and behaviors. Additionally, this

study utilized only retrospective, self-report measures to assess CRP. This limitation of mono-method bias of measurement may limit the ability to accurately measure the construct in a just world as they exist in the reality. Thus, further research need to measure CRP from diverse perspectives such as principals and students. It can be possible to look at the differences between teachers' and the other school members' perceptions of CRP.

Implication

Although this investigation was exploratory in nature, there are several important possible implications from the findings in this study. The CRP instrument suggested a four-factor structure of the construct of teacher's culturally responsive practice. These factors included emphasis on awareness and knowledge of multicultural education, as well as behaviors related to collaboration, self-efficacy, participating in multiculturalism related programs, providing support for parents, and working within the school as well as community context.

While this study focused on teachers already in the field, the findings related to the CRPS instrument provide implications for training programs in education. Proponents of culturally responsive practice have argued for a stronger emphasis on multicultural education training as a necessary component to the values already placed on other teaching outcomes (i.e., students' achievement test scores) in education training (Cochran-Smith, 2004a, 2004b).

The specific dimensions of the CRP scale also have several implications for training of teachers entering the workforce. Training may seek to increase emphasis on student's cultural diversity awareness and knowledge of multiculturalism in society as well as include behavioral markers in the community. Additionally, the forth factor, teacher efficacy, was conceptualized as a more developed or advanced skill of teaching. Schools may seek to identify their teachers who are engaging in the efforts to try new and better instructional strategies and consult with

these teachers for brainstorming ways to increase this behavior among other novice advocates or beginning teachers.

In conclusion, this scale development research study introduced the Culturally Responsive Practice Scale (CRPS) and sought to address the gap in the teacher field and research regarding culturally responsive practice orientation South Korea. Scale development procedures continue to increase within the field of psychology (Clark & Watson, 1995) and psychological principals were considered when developing the CRPS as well as considering validity relationships. It is the hope that the growing emphasis on the construct of culturally responsiveness in teaching and learning process continues to be a focus in research, training programs for fields such as school counseling and professional development programs, as well as real practice.

CHAPTER 2.

STRUCTURAL RELATIONSHIPS AMONG LEADERSHIP, ORGANIZATIONAL LEARNING, AND CULTURALLY RESPONSIVE PRACTICE

Introduction

Researchers have urged attention to what makes it possible for schools to develop culturally responsive practice (CRP), looking for answers beyond the input of quality teachers or resources. This study aims to show how the CRP can be supported or facilitated by school resources. Several authors (e.g., Johnson, 2007; Larson & Murtadha, 2005; Young, 2010) have focused their attention on analyzing whether specific leaders' characteristics influence the development of CRP, while others (e.g. Johnson, Møller, Pashiardis, Vedøy, & Savvides, 2011; Ylimaki & Jacobson, 2013) have focused on the analysis of organizational factors. This study highlights the simultaneous influence of both kinds of factors.

First, principals' leadership has been emphasized as one of the most important individual influences on school reforms, including improvements in teaching practice (Leithwood & Jantzi, 2008b; Supovitz, Sirinides, & May, 2010), because leaders take responsibility for all jobs within schools, and they can impact organizational culture, climate, and conditions to improve schooling. It is well documented in the literature that effective leadership by school principals is a crucial factor for teachers' attitude and for improving schools' organizational capacity, regardless of national setting (Casavant & Cherkowski, 2001; Hallinger & Heck, 2010). Therefore, the investigation on school leadership is a vital part of understanding school improvement. Over the decades various styles of principal leadership have emerged. Among them, transformational and instructional leaderships have consistently gotten attention from scholars (Hallinger, 2005). In particular, transformational leadership is regarded as a prominent form of leadership. The ability to be a transformational leader is undoubtedly important to being an effective administrator; however, without considering teaching and learning practice in the classroom, it is not enough to create the

condition for sustained successful schools (Marks & Printy, 2003; Printy, Marks, & Bowers, 2009). In other words, while transformational leadership primarily focuses on developing productive organizational cultures, instructional leadership usually deals with the teaching profession of teachers, called the “core of schooling.” There is a sense that schools that implement successful reform exhibit an “academic press” due to the instructional leadership in the building or in the district (Hallinger, 2005). Compared to conventional instructional leadership viewed as a top-down model, current instructional leadership is called shared instructional leadership (Marks & Printy, 2003), which relates to instructional support for teachers and teachers’ participation in the process of leadership.

Attention to the organizational influences on CRP is also important. Although several organizational factors have been analyzed, scholars are paying growing attention to the possibility that the collective capability of organizational learning plays a key role in determining school reforms (Bui & Baruch, 2010; Schechter & Qadach, 2012).

Organizational learning regards teachers as active participants in the system, and it gives the meaning of positive problem solver to each school. Having a strong organizational capacity (Marks & Louis, 1999), a school can develop its shared framework for school reform under rapid changes in population such as what Korea faces. Therefore, it is necessary to discuss how teachers deal with diversity in their classrooms. In that way, organization learning may have a potential to cope with the uncertainties occurring in schools. As shown above, in the context of Korea, organizational learning might be treated as a crucial factor to deal with challenges within schools. Specifically, Korean public schools implement teacher rotation, which requires teachers to transfer to another school after working for a limited period of time in one school. Every three to five years, teachers should move to a different school within the city or province. In this regard, one school hardly develops and keeps its own

culture. Therefore, organizational learning that has a system to gather, store, and diffuse information within one organization can be a useful concept in this setting (Schechter, 2007).

In this chapter, the purpose is to clarify the structural relationship needed to facilitate the culturally responsive teaching of teachers. In order to test the mediating relationship, this study will utilize structural equation modeling (described more in the methodology section). Examining the mediated effect in structural equation modeling should be on the basis of theoretical or practical evidence between conceptions to connect the relationship (Kline, 2005). Thus, in this section, I examine the connections between the constructs at the center of this study: organizational learning, leadership, and CRP. Moreover, throughout the process of examining relationship among variables, criterion-related validity might be tested as the part of validating CRP developed in Chapter 1 (Han, 2017a).

Literature Review

The review of selected literature represents research from many authoritative sources as it pertains to the relationship among organizational learning, principal leadership, and culturally responsive practice (CRP). The review includes the historical background of these three conceptions and a discussion of their philosophies and approaches. Specifically, the need for organizational learning, its benefits and challenges, and the role that teachers and administrators play in the learning process are presented. Then, the potential impact of transformational and shared instructional leadership is examined. Moreover, in order to develop validate? the scale of CRP, the concept of culturally responsive practice is reviewed by focusing on its definition and features in a critical way. The review of the research is focused on leadership influences on organizational learning that might, then, influence a certain type of quality teaching practice.

In what follows in this chapter, I first discuss the meaning and application of each of the three conceptions. Next, I examine the conceptual connections among concepts and suggest the conceptual framework for understanding supportive school structure for culturally responsive teaching. It should be noted that exceptions and complexities abound in each conception. Despite this limitation, it will be helpful to identify the main defining qualities of these varying conceptions and their underlying assumptions, so that the structural model among them can be developed and then empirically tested and further explored.

Organizational Learning: Meaning and Application

Attention to the organizational influences on teaching practices is important. Although several organizational factors have been analyzed, scholars are paying growing attention to the possibility that the collective capability of organizational learning plays a key role in determining school reforms (Bui & Baruch, 2010; Schechter & Qadach, 2012). Organizational learning regards teachers as active participants in the system, and it gives the meaning of positive problem solver to each school. Having strong organizational capacity (Marks & Louis, 1999), schools can develop their shared framework for school reform under rapid changes in the population. For example, in South Korea, once considered largely homogeneous, the children of new immigrants – due primarily to migrant workers, international marriages, and North Korean refugees – have entered Korean classrooms. Their presence has presented teachers and administrators unaccustomed to diversity with new challenges and uncertainties (Cho, 2010b). It is not surprising that their dropout rate is also large because of not adjusting to their school and to poverty, which is growing, as reflected in the trend over the past several years. Thus, it is necessary to discuss how teachers deal with diversity in their classrooms. In that, organization learning may have a potential to cope with the uncertainty occurring in schools.

As shown above, in the context of Korea, organizational learning might be treated as a crucial factor to deal with challenges within schools. Specifically, Korean public schools implement teacher rotation, which requires teachers to transfer to another school after working for three to five years in one school within the city or province. In this regard, one school hardly develops and keeps its own culture. Therefore, organizational learning that has a system to gather, store, and diffuse information within one organization can be a useful concept in this setting (Schechter, 2008).

Also, although schools have a principal with strong leadership to adjust to the changeable environment, one may plausibly believe that this strong leader may not be very effective; this is because several research studies have shown that schools are loosely coupled organizations where formal structure and internal activities are often not closely connected (Elmore, 2000; Meyer & Rowan, 1977; Weick, 1976). In other words, teachers working in the isolated classroom may not be influenced by principals' leadership behaviors. Thus, one may reasonably expect the relationship between principals' leadership and teaching practices to be mediated by other factors; thus, I propose the importance of organizational learning.

In this section, I first describe how the organizational learning (OL) has been conceptualized in educational field. Thereafter, I examine the potential of OL to help teachers adjust to rapid change in school context.

Diverse approaches to organizational learning. The concept of organizational learning has emerged within education to facilitate teachers' and students' learning in schools. In this regard, in order for teachers to teach students adequately, they might be involved in a continuous learning process focused on new and expansive patterns of thinking. As Stoll (2009) pointed out, learning processes involve dialogue, allowing members of the organization to connect, discuss, and debate. In essence, organizational learning is "embedded in the deeply held beliefs and shared conceptualizations that develop among

members of the organization over time as particular understandings and practices evolve through unconscious and regular interactions” (Supovitz, 2010). Organizational learning, thus, involves social interaction and the social processing of knowledge (Marks & Louis, 1999), as individuals within the organization develop and share new knowledge and tools that result in commonly held ideas or practices or collective learning.

A variety of research within school settings supports the concept of organizational learning with diverse approaches: socio-cultural (Peck, Gallucci, Sloan, & Lippincott, 2009; Silins & Mulford, 2002), school capacity (Marks & Louis, 1999; Silins, Mulford, & Zarins, 2002), single-double loop learning approach (Argyris & Schön, 1978), and organizational mechanism (Elmore, 2000; Schechter, 2007).

Socio-cultural approach to organizational learning. With the socio-cultural view of organizational learning, (Peck et al., 2009) examined how new knowledge and change occur within communities of practice where learning is not separate from work. They indicated the need to institutionalize structures that support adult learning, document what is learned, share the learning across the system, and reallocate resources to support communities of practice. Under the pressure to transform schools dealing with diversity, schools need to have a capacity to engage in continuous learning as organizations (Hallinger & Heck, 1999). The key factor of organizational learning is how to leverage and motivate the learning process and practice at all levels in the organization. More intensively, the concept of organizational learning is specifically related to the organizational climate, learning opportunities, and collaborative work process (Senge, 2012; Watkins & Marsick, 1993).

Many scholars believe that organizational learning is more than just the sum of individual learning that results in institutional memory at the organizational level (Supovitz, 2010). Organizational learning in schools has grown out of the desire to build school environments in which participants learn how to learn together (Silins & Mulford, 2002). In

addition, organizational learning exploits what members have already learned as they work together to innovate, and it allows members to become proactively engaged in problem solving in the long term (Collinson, Cook, & Conley, 2006). In other words, organizational learning is a system that creates new values and culture, which foster a sense of learning among faculty members.

Organizational learning as school learning capacity. School learning capacity refers to a set of conditions that enable teachers' professional learning and that support teaching and learning (Mulford & Silins, 2003). In other words, organizational learning in schools is a collective competence to promote the teaching profession. Also, Silins et al. (2002) found that organizational learning is evident in schools where teachers are open to feedback, discuss their practice with colleagues, and are active in all levels of the school. Moreover, Watkins & Marsick (1993) viewed organizational learning as one who has the capacity for integrating people and structure to move an organization in the direction of continuous learning and change. Thus, having collective learning relationships within schools has been identified as a critical aspect of culture that supports improvement to cope with any risky situation, and it enables teachers to be involved in the process of policy implementation.

In Marks and Louis (1999), school capacity for organizational learning has five dimensions as components: structure, shared commitment and collaborative activity, knowledge and skills, leadership, and feedback and accountability. Shared commitment and collaborative activity especially emphasize the importance to develop school-wide-knowledge processing that engages teachers as active members. In the same manner, (Louis, Marks, & Kruse, 1996) argued that schools' capacity for innovation and reform relies on their ability to collectively process, understand, and apply knowledge about teaching and learning. Therefore, schools need to establish their own capacity for teachers to think, share, and treat information collectively in a consistent way (Kruse, 2003; Silins & Mulford, 2002).

Organizational learning as single and double loop learning. Debates on organizational learning have also focused on the concepts of single and double-loop learning. Argyris and Schon (1996) developed a theoretical model of organization learning that distinguishes between single-loop learning and double-loop learning. Single-loop learning refers to a lower level of learning (Fiol & Lyles, 1985) wherein individuals engage routinely in adaptive problem-solving in which existing heuristics are applied to familiar contexts (Morgan, 1998). Single-loop learning is relatively superficial and relies deeply on existing organizational routines. The organization carries on its present policies without questioning underlying values, norms, and policies (Argyris & Schön, 1978).

On the other hand, double-loop learning reflects a deeper exploration into the underlying assumptions and beliefs in the organization (Argyris & Schön, 1978); Cousins, 1998). Double-loop learning refers to a higher-level of learning (Fiol & Lyles, 1985), in which there is creative problem-finding, and in which existing heuristics are questioned or modified as individuals face discontinuous change or deliberately engage in experimentation (Morgan, 2006). Double-loop learning involves detecting and correcting errors within an organization's underlying norms, policies, and rules. Within the school context, double-loop learning entails having both teachers and administrators examine values that guide their behaviors on a day-to-day basis (Vooght, Lagerweij, & Louis, 1998).

As March (1991) distinguished exploitative and exploratory learning, a key distinction is that single loop learning refers to incremental or routine changes, while double loop learning refers to transformational or more radical change and innovation (Easterby-Smith, Crossan, & Nicolini, 2000).

Organizational learning as mechanism. Organizational learning provides steady opportunities to learn, work, and grow strategically to improve how the organization itself responds to challenges. As a result, individuals, teams, and entire organizations can learn,

construct meaning, and transform on a continuous basis (Giles & Hargreaves, 2006; Schechter, 2007). Furthermore, Elmore (2004) stated that in order for schools to keep up, there needs to be a mechanism implemented through which new knowledge about teaching and learning can enter schools, and structures or processes wherein teachers and administrators can assimilate, adapt, and polish new ideas and practices.

In the same manner as Huber (1991), Schechter (2008), in developing the term of organizational learning mechanism (OLM), suggested that enabling teachers to discuss collectively avenues to improve teaching and learning requires a shift in how the whole organization learns. Schechter's OLM is an instrument designed for elementary schools to assess where they are in their organizational learning cycles and to gauge their readiness for becoming a learning organization. OLM measures school-level knowledge, as faculty respond to items about indicators of organizational learning rather than about their own individual learning (Schechter, 2008). Four subscales comprise the measure: (1) analyzing information; (2) storing, retrieving, and putting information to use; (3) receiving and disseminating information; and (4) seeking information. Schechter's approach to designing an organizational level measure is applicable to a culture of evidence measure. His study suggested that the shift from top-down learning to organizational learning promotes the concept of professional community. This in turn triggers more extensive and shared efficacy, and internal motivation for teachers and the school as an organization (Schechter, 2008; Schechter & Qadach, 2012). In sum, a mechanical approach to organizational learning refers to the systemic process of collective learning within the organization.

The potential of OL to overcome the challenges in schools. In both U.S. and South Korea, students are becoming more diverse in terms of their races and cultures. Once one group is characterized as a multi-cultural group, it implies that it is not easy to be schooled in one certain way or perspective, and it is necessary to discuss how teachers deal with diversity

in their classrooms. That is, current change in student population within classrooms can be viewed as an uncertainty in the school organization. In this perspective, we need to discuss how to deal with or reduce this uncertainty in schools.

In order to adjust to the changing environment and to make appropriate strategic choices, organizations must not only become aware of on-going environmental changes (Hall & Saias, 1980; Schechter & Qadach, 2012) but also make sense of the environment (Weick, 2000). Therefore, intensive activities helping the organization to learn from their experience and to know their environment better can lead to more successful decisions regarding operational practice. Specifically, in the case of classroom diversity, school members need to recognize the change in their student population and the need to communicate at the collective level; in turn, this discourse ultimately influences teaching practice. Also, organizational renewal requires organizational knowledge to keep pace with changes in the environment (Levinthal & March, 1993). Existing knowledge that can no longer accommodate or explain events in the environment must be altered, and new understandings of the environment must be developed for effective organizational adaptation (Daft & Weick, 1984).

In this study, organizational learning is defined as the process through which organization members develop shared knowledge based on the analysis of the data gathered from or provided by multiple sources, including the organizational members themselves. Successful organizational learning depends on the acquisition and assimilation of new diverse bases of knowledge for subsequent actions (Ghoshal, 1987).

Organizational members must invest efforts in developing their organizational learning mechanism (OLM) aiming to revise and develop their knowledge by facilitating collecting information, by analyzing information, by intensifying processes of information storage and retrieval, and by receiving and disseminating information (Schechter, 2008;

Schechter & Qadach, 2012). According to Ghoshal (1987), in order to maximize its potential, “the organization must consider learning as an explicit objective, and must create mechanisms and systems for such learning to take place. In the absence of explicit intention and appropriate mechanisms, the learning potential may be lost” (p. 432).

In sum, if the organizational learning mechanism provides organizations with the relevant knowledge about their environment, a decrease in organization members’ sense of uncertainty is to be expected. In other words, I believe that the higher the intensity of use of organizational learning mechanism, the lower organization members’ sense of uncertainty will be, including that teachers will actively make changes in students’ learning situations.

Principal Leadership: Leaders’ Role in a Shared Way

Principals’ leadership has been emphasized as one of the most important individual influences on school reforms, including improvements in teaching practice (Leithwood, Louis, Anderson, & Wahlstrom, 2004; Supovitz et al., 2010), because leaders take responsibility for all jobs within schools, and they can impact organizational culture, climate, and conditions to improve schooling. It is well documented in the literature that effective leadership by school principals is a crucial factor for teachers’ attitudes and for improving schools’ organizational capacity, regardless of national setting (Casavant & Cherkowski, 2001). Therefore, the investigation of school leadership is a vital part of understanding school improvement.

Over the decades, various styles of principal leadership have emerged. Among them, transformational leadership and instructional leadership have gotten consistent attention from scholars (Philip Hallinger, 2005). In particular, transformational leadership is regarded as a prominent form of leadership. The ability to be a transformational leader is undoubtedly important to being an effective administrator; however, without considering teaching and

learning practice in the classroom it is not enough to create the condition for sustained successful schools (Marks & Printy, 2003; Printy et al., 2009). There is a sense that schools that implement successful reforms exhibit an “academic press” by performing instructional supports in the building (Hallinger, 2005). Compared to conventional instructional leadership viewed as a top-down model, current instructional leadership is called shared instructional leadership (Marks & Printy, 2003), which relates to instructional supports for teachers and teachers’ participation in the process of leadership.

In the following section, I would visit two distinct types of leadership, and I state the nature of each type of leadership. Subsequently, I examine how two different types of principal leadership influence organizational learning.

Transformational leadership. Extensive research on and literature in school organization have suggested that the extent to which organizational learning and the teaching profession are fostered and sustained in a school depends on principal leadership.

Some studies have examined the relationship between principal leadership and school performance, including student outcomes (Leithwood & Jantzi, 2008; Leithwood et al., 2004). As expected, these studies have confirmed that principal leadership contributes positively to student achievement, not directly but through school organizational conditions (e.g. organizational commitment, collective efficacy). A principal’s leadership has many impacts on organizational factors including organizational learning in schools. Several research projects on principal leadership have been studied from different perspectives, but typical forms are transformational leadership and instructional leadership. Recently, there has emerged additional approaches to leadership, such as shared leadership, integrated leadership, and distributed leadership.

This study pursues the leadership that integrates the most significant role of the managerial and instructional behavior of principals, considering their interactions with

teachers. In order to do this, I look at the most representative types of principal leadership, which are transformational leadership and shared instructional leadership. James Burns was the first scholar to employ the term transformational leadership. Bass extended Burns' initial introduction of transformational leadership. Burns and Bass studied political leaders, army officers, and business executives (Bass, 1997). Leithwood and his colleagues extended the study of transformational leadership into the field of education.

Leithwood and his colleagues have created the most fully developed model of transformational leadership in schools. They have identified three categories of transformational leadership. The first category is setting direction, which is evident in a leader's ability to build a vision, develop specific goals and priorities, and convey high performance expectations (Leithwood & Jantzi, 1999b, 2006). The second category is developing people, which includes providing intellectual stimulation, offering individualized support, and modeling desirable professional practices and values. The final category is redesigning the organization, which includes developing a collaborative school culture, creating structures that foster participation in school decisions, and creating productive community relationships.

Also, recent research consistently supports the positive effect of transformational leadership on the diverse aspects of organizational outcomes in schools. Leithwood and Jantzi (2006) showed the effect of transformational leadership on teachers, their classroom practices, and student gains in literacy and numeracy in English elementary schools. They found that the degree of transformational leadership explained the extent to which teachers changed, but the extent of teacher change bore no relationship to students' achievement gains in either literacy or numeracy. This result means that transformational leadership is not enough to improve students' performance; so, mediating variables are needed to make better models.

In conclusion, transformational leadership has shown several impacts on schools, teachers, and even student achievement. However, transformational leadership shows a lack of direct linkage with instruction, or with teaching and learning practices in each classroom (Hallinger & Leithwood, 1998; Marks & Printy, 2003; Printy et al., 2009). Thus, recent research suggests that sustained school improvement necessitates leadership that combines transformational behaviors with instructional support (Hallinger, 2005; Marks & Printy, 2003).

Shared instructional leadership. Conventionally, instructional leadership has been known to be a top-down approach to school leadership, through which the principal more firmly direct teachers instructionally for the sake of continuity (Hallinger, 2005). According to Hallinger (2005) instructional leadership has three dimensions for administrators to follow; “defining the school’s or district’s mission, managing the instructional programs, and promoting a positive learning climate.” However, characterized as a rational model of leadership, the traditional view of instructional leadership may make reform difficult to implement over time, given the complex nature of schools and school districts (Halliger, 2005).

Recent studies have also confirmed the importance of an academic focus that is supportive rather than controlling. Instructional leaders may enhance the academic excellence of their students by improving the quality and quantity of academic-oriented interactions between teachers and students, but not by controlling and specifically directing the classroom instruction of teachers (Alig-Mielcarek & Hoy, 2005). For instance, (Lee, Walker, & Chui, 2012) identified the distinction between supportive and controlling types of instructional leadership behaviors. They indicated that where principals have adopted more instructional management techniques, the relationship between student attachment and student learning is stronger. On the other hand, in schools where principals have adopted greater levels of direct

supervision, the positive relationship between student attachment and student learning was diminished. Thus, principals who encourage teachers to embrace new ideas and innovative practices influence student learning by enhancing the positive school-related experiences of teachers and students.

According to Marks and Printy (2003), instructional leadership emphasizes the technical core of instruction, curriculum, and assessment, and it provides direction and affects the routine activities of teachers and students in schools. They conceptualized a new version of instructional leadership, called shared instructional leadership, in which the demands placed on administrators as instructional leaders are shared or distributed across stakeholders.

Shared instructional leadership moves school members forward to accomplish school goals and enact the vision. Shared instructional leadership, then, appears to be the model of instructional leadership most useful to school reform. The common feature of debates on instructional leadership that appears in the literature is its essential prioritization of student learning by emphasizing and facilitating the classroom practices of teachers (Leithwood et al., 2004).

Conceptual Framework: How They Work Together

The primary purpose of this study is to clarify the structural relationship needed to facilitate the culturally responsive teaching of teachers. In order to test the mediating relationship, this study will utilize structural equation modeling (described more in the methodology chapter). Examining the mediated effect in structural equation modeling should be on the basis of theoretical or practical evidence between conceptions to connect the relationship. Thus, in this section, I examine the connections between the conceptions that this study is mainly dealing with.

How leadership influence organizational learning. The literature on school effectiveness and improvement has stressed the role of school principals as the most important factor to enhance the quality of schooling (Copland, 2003; Hallinger & Heck, 1996). However, it also notes that sustainable school reform cannot be accomplished by a single leader (Harris, 2003; Leithwood et al., 2007; Muijs & Harris, 2003); Spillane, 2006). In this regard, the discourse of a shared form of leadership research has gained popularity with practitioners, educators, scholars, and policy makers (Harris, 2003; Leithwood et al., 2007) to achieve school goals, to build organizational capacity, and to improve teaching and learning through the participation and empowerment of teachers (Hatcher, 2005).

Several scholars have revealed a relationship between principal leadership and organizational learning (Collinson et al., 2006; Marks & Louis, 1999). Leadership that is democratic (also referred to as distributed or shared) has been found to be an important condition for learning to occur (Collinson, et al 2006). Also, Leithwood and his colleagues (1998) found that transformational leadership is closely linked to organizational learning, as school leaders clearly communicate their vision and expectations, helping to strengthen the culture and providing structures to support learning throughout the school organization.

In addition, Silins and Mulford (2002) found significant contributions of transformational leadership to both student and organizational learning in schools. To be specific, this research showed that student outcomes are more likely to improve where leadership sources are distributed throughout the school community, and where teachers are empowered in areas of importance to them. The best leadership for organizational learning is a principal skilled in transformational leadership, and administrators and teachers who are actively involved in the core work of the school (Silins & Mulford, 2002).

All these studies above establish a link between principal transformational and instructional leadership behaviors, and organizational learning. Additionally, some studies

conducted by Leithwood, Spillane, and their colleagues (2007) highlight the importance of the shared form of leadership in fostering organizational learning for improving school performance. As reviewed above, even though some research has revealed the effect of certain leadership on organizational learning, there is less research that links these two types of leadership of school principals comprehensively with organizational learning.

Principal leadership to improve teaching quality. Although related studies usually have focused on the general terms of teaching quality or teaching practice, but not on the specific type of instructional practice, defining and measuring teachers' instruction has no consensus among scholars: it is definitely difficult and complicated. Considering this limitation, this study regards culturally responsive teaching as a type of quality teaching practice.

Many scholars have reported that principals' strong leadership influences instructional performance (Camburn & Han, 2009; P. Hallinger & Heck, 1996; Marzano, Waters, & McNulty, 2005; Stoll & Louis, 2007). In order to lead school improvement, the principal needs to be an instructional leader and a transformational leader at the same time (Marks & Printy 2003). Transformational leadership is necessary to facilitate instructional leadership. The need to be transformational is especially critical in turning around low performing schools. Many urban schools are under-performing and are in need of leadership that is innovative and capable of reforming schools. However, transformational leadership itself is not enough to influence teaching practice significantly. For example, in (Thoonen, Slegers, Oort, & Peetsma, 2012) study on the relationship between transformational leadership and classroom teaching practices among elementary school teachers, they found that overall the principal's transformational leadership behaviors directly affect the degree to which teachers engage in certain professional learning behaviors. However, while the principal's intellectual stimulation of creativity and innovation improve teachers to keep up-to-date with changes in

their practice, the principal's vision building behaviors associated with setting collective goals and directions has had negative effects on keeping up-to-date. Similarly, the principal's individualized support of teachers has negative effects on those teachers' desires to experiment and reflect on their practice. These findings imply that transformational leadership has a limitation in enhancing the teaching profession. We know that in order to turn around low performing schools, strong leadership focused on instructional improvement is essential (Resnick & Glennan, 2002). This indicates the needs to the call for instructional leadership to influence teaching practice of individual teachers. Moreover, the process for impacting teaching practice through principal leadership is not simple but complicated. In other words, although the impact of principal leadership has been supported by literatures, recent studies have indicated that more dynamic interaction happens in these influences.

More specifically, in the Hallinger and Heck's (2005) meta-analysis of the principal's role in enhancing student achievement, they employed Pitner's (1988) models to describe how the principal plays a role in student performance: direct-effects, antecedent-effects, mediated-effects, reciprocal-effects, and moderated-effects models. Among Pitner's models, the one which best characterizes the direction of this research is referred to as the mediated-effects with reciprocal-effects. Although there are some research studies of the direct impact of principal leadership on student achievement, recent studies (Heck & Hallinger, 1996; Marzano, et al., 2005) have contended that their impact is more indirect and more complex. In other words, as examined above, there are organizational factors to mediate the impact of leadership on student achievement; also there might be individual factors to transfer this influence to student performance. For example, Marzano et al., (2005) stated that an effective leader builds a culture that positively influences teachers, who in turn positively influence students. Therefore, this study assumes that although principal leadership has a positive

impact on student work, it is not a sole impact but needs to have a mediator such as organizational learning and the teaching practice of teachers.

Improving teaching quality throughout teacher learning process. At its core, the concept of organizational learning rests on the premise of improving student learning by developing teachers' competence. Therefore, it is crucial to examine the connections between organizational learning and teachers' instructional practices. (Darling-Hammond & McLaughlin, 1995) suggested that in order to help teachers rethink their teaching practice, professional development is needed that involves teachers in both capacities of teaching and learning, and that creates new visions of what, when, and how teacher have to learn. Of course, throughout professional development as a formal type of training teachers can develop their capacity to learn in terms of teaching practices. However, whenever certain kinds of skills or competences are needed by either of policy, the school environment, or social pressure, it is not easy to find appropriate professional development for them. Rather, if there is a mechanism or capacity to learn within a school, teachers are more likely to learn new demanded skills and to think reflectively on their teaching. As teachers work together, they develop shared understandings of the level of effort, commitment, and professionalism that they expect of each other. According to (Kruse, Louis, & Bryk, 1994), a strong collective focus on student learning is not enforced by rule but by mutually felt obligations to standards of instruction and learning. In other words, teachers act according to their professional rules and duties, which organizational learning emphasizes.

In terms of managing uncertainty in classrooms, organizational learning also supports culturally responsive teaching. In the process of teaching practice, teachers face a variety of uncertainties in their classrooms. Instructional practice, originally, is context-specific and situated-complexities, so that it cannot be explained in one certain way (Lampert, 2001;

Munthe, 2003). Under current changes in student population especially, teachers are more likely to be confronted with unexpected realities.

Such uncertainties tend to lead teachers to think in ways to avoid them instead of overcoming or challenging them. More specifically, teachers surrounded by uncertainties or unexpected circumstance are less likely to try an effort to adapt new strategies, and they are more likely to devalue diversity in students, so that they are more likely to stay away from uncertainties. In that, starting from the negative image of the term of uncertainty, combined with actual difficulties in classroom realities, there is an increasing tendency for teachers to avoid uncertainties. In this regard, organizational learning as a sense-making process allows teachers to recognize that uncertainties in teaching practices inherently and inevitably occur, and to understand that they are able to control and treat the unexpected with colleagues in schools. In particular, sense-making by organizational learning can reduce the distance between the phenomenon and teachers' belief (Weick, 1995).

In sum, the central logic in the organizational learning literature is useful for understanding how it improves teaching practices. However, the literature on organizational learning rarely points to the possibility of the effect of organizational learning on culturally responsive teaching explicitly. Nevertheless, throughout the above literature, the benefits of organizational learning to support culturally responsive teaching can be drawn. In other words, culturally responsive teaching necessitates having an open-mind to changes in the context in which students have a variety of cultural background; the open-mind set allows teachers to share their practice with other teachers. Moreover, in order to deal with challenges confronted by individual teachers who are supposed to use culturally responsive teaching, it is crucial to have a collective endeavor that embraces all related stakeholders in instructional practices: Well-functioning organizational learning enhances the individual and the collective

responsibility that teachers accept for student learning. Hence, organizational learning may have a positive and stable effect on facilitating culturally responsive teaching.

As shown above, previous research studies have consistently emphasized the positive impact of principal leadership and organizational learning on teaching profession. However, these studies usually have focused on general terms of teaching quality or teaching practice, but not on certain types of instructional practice. In other words, defining and measuring teachers' instruction has no consensus among scholars: it is difficult and complicated. Considering this limitation, this study regards culturally responsive teaching as a type of quality teaching practice.

This study, while pointing out teachers' multicultural competence as the crucial factor in the teaching process, follows the assumption that educators' understanding and application of culturally responsive practice have positively influenced student achievement and performance. Most of recent research on the effects of leadership have been guided by complex causal models including mediators (Leithwood & Mascall, 2008). This study also aimed to explain the indirect impact of leadership on teachers' culturally responsive practice by using organizational learning as a mediator. Thus, based on the literature review, this study suggests the conceptual model for stating the relationship among transformational leadership, shared instructional leadership, organizational learning, and culturally responsive practice, as shown in Figure 2-1.

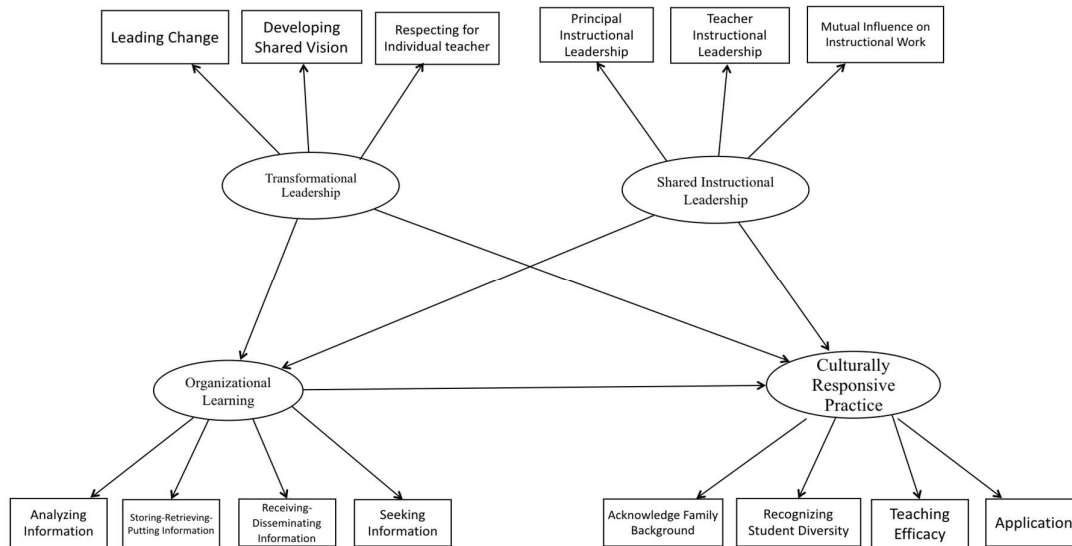


Figure 2-1. Conceptual Model for the Study

The present study aims to examine the structural relationships among transformational leadership, shared instructional leadership, organizational learning, and culturally responsive practice. In addition, this study intends to verify the mediating role of organizational learning between principal leadership and culturally responsive practice. Therefore, the focus of this study is presented by the following set of hypotheses.

Hypothesis 1. The hypothesized structural model explaining the causal relationships among transformational leadership, shared instructional leadership, organizational learning and culturally responsive practice will be valid.

Hypothesis 2-1. Transformational leadership will have a positive effect on culturally responsive practice.

Hypothesis 2-2. Transformational leadership will have a positive effect on organizational learning.

Hypothesis 2-3. Shared instructional leadership will have a positive effect on culturally responsive practice.

Hypothesis 2-4. Shared instructional leadership will have a positive effect on organizational learning.

Hypothesis 2-5. Organizational learning will have a positive effect on culturally responsive practice.

Hypothesis 3. Organizational learning will mediate the relationship between principal leadership and culturally responsive practice.

Methodology

Sample

The sample in this study was selected from a population of teachers in South Korea. Specifically, the convenience sample for this study consisted of 425 secondary school teachers from 24 secondary schools in Seoul, Gyeonggi province, Incheon, and Gyeongsang province. The reason why these areas are selected is that the population of multicultural students in these four regions is listed on the highest proportion among all over the regions in South Korea. Of the respondents, 67.53% were women, and 32.47% were men. Also, 15.6% of respondents were in twenties, 41.6% in thirties, 25.6% in forties, 16.1% in fifties, and only 1.4% were in sixties. As for the years of experience, 13.3% had less than 6 years, 46.5% had more than 6 but less than 10 years, 20.1% had more than 11 but less than 15 years, 9.5% had more than 16 but less than 20 years, 7.8% had more than 21 but less than 25 years, 2.8% had more than 26 years of experience of teaching.

Measures: Latent Factors and Indicators

Prior to conducting the factor analysis, items for the survey were selected to represent the constructs based on previous theory and empirical evidence (See Han, 2017a). Each question

was scored by a 5-point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The proposed measurement models for the latent factors follow below.

Table 2-1. Demographic Characteristics of Samples

Category		Frequency	Percentage (%)
Gender	Female	284	67.53
	Male	138	32.47
Age	20 – 29 years	66	15.6
	30 – 39 years	174	41.2
	40 – 49 years	108	25.6
	50 – 59 years	68	16.1
	60 + years	6	1.4
Experience	1 -5 years	56	13.3
	6 – 10 years	196	46.5
	11 – 15 years	85	20.1
	16 – 20 years	40	9.5
	21 – 25 years	33	7.8
	26 + years	12	2.8
Education Degree	Undergraduate	305	74.2
	Graduate	117	25.8

Determinants of organizational learning mechanism. Organizational learning mechanism is defined as the degree to which teachers have a learning cycle within their schools. In this study, this construct is treated as a latent factor with effect indicators, that is, the latent factor explains variance in the measured indicator variables. As depicted in the proposed measurement model (see Figure 1 below), the determinants of the organizational learning mechanism are analyzing information, storing-retrieving-putting to information to use, receiving-disseminating information, and seeking information (Schechter 2008, 2012).

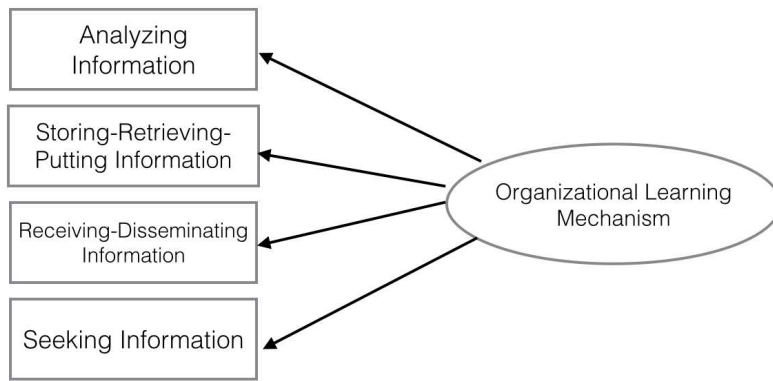


Figure 2-2. Proposed Measurement Model of Organizational Learning Mechanism

Determinants of leadership. In this study, there are two constructs leadership: transformational leadership and shared instructional leadership. Transformational leadership refers to a process that brings substantial changes in the attitudes and faith of school members, and fundamentally contributes to high levels of participants' commitment to the organizational goals (Leithwood, Jantzi, & Steinbach, 1999; Ro, 1994). The determinants of transformational leadership are leading change, developing a shared vision, and respecting individual teachers. In addition, shared instructional leadership is defined as the degree to which "principals and teachers mutually influence curriculum, instruction, and assessment (Printy et al., 2009)." The determinants of shared instructional leadership are principal instructional leadership, teacher instructional leadership, and principal and teacher's mutual influence on matters of instruction, curriculum, and assessment.

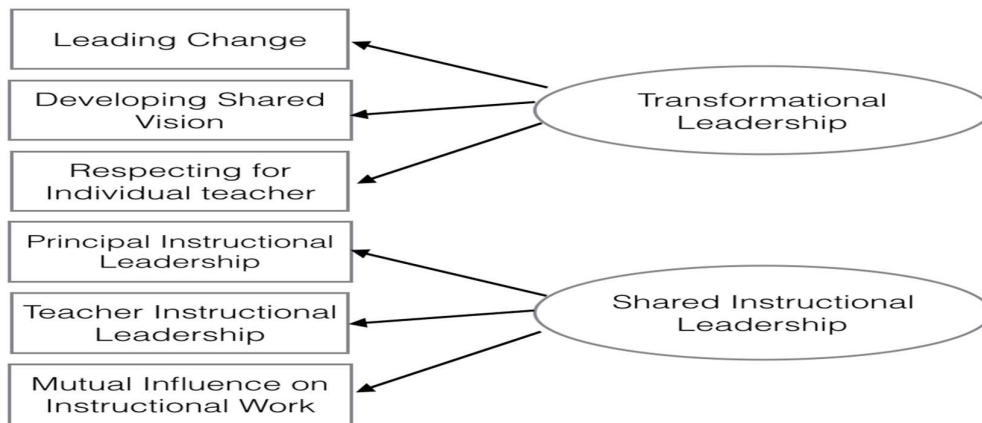


Figure 2-3. Proposed Measurement Model of Leadership

Determinants of culturally responsive practice. Culturally responsive practice is a construct that represents the degree to which teachers are aware of students’ diversity and are ready to use teaching methods in a culturally responsive way. In the analysis, this construct is treated as a latent factor with multiple effect indicators, implying that the latent factor explains variance in the measured indicators. As depicted in the proposed measurement model, the determinants of culturally responsive practice are acknowledging family background, recognizing student diversity, teachers’ teaching efficacy, and application.

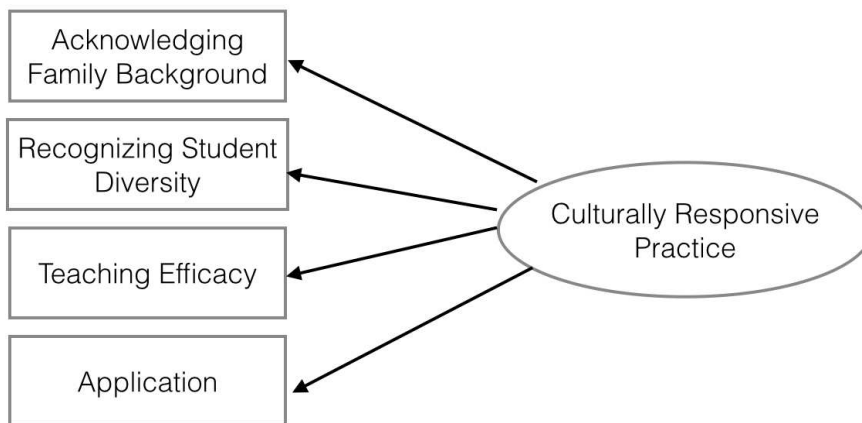


Figure 2-4. Proposed Measurement Model of Culturally Responsive Practice

Validation of Scales

This study conducted two factor analyses to test the reliability and validity of the scales:

First, Exploratory Factor Analysis (EFA) was run to extract a set of factors, test stability of the factor structure of the scales, and check that all items loaded on the appropriate factor. In this phase, common factors were extracted by Principal Component Analysis and Varimax Orthogonal Rotation. The number of factors was fixed as originally suggested in scale development studies, and in order to assess internal consistency, Cronbach's alpha coefficient was used.

Second, a Confirmatory Factor Analysis (CFA) was performed using structural equation modeling (SEM). The purpose of CFA is to check whether the proposed factor structure and scale appropriately represents the reality. In this phase, the goodness of fit indices such as χ^2/df , RMSEA, NFI, TLI, CFI were used to assess factor structure model fit and determine the availability of the scales.

Validity is also an important factor in establishing the psychometric properties of a measurement. Validity examines whether a test measures what it purports to measure (Salvia & Yessldyke, 2007). Especially, the study in this part extends the research reported in Chapter 1 by providing further evidence of the Culturally responsive practice scale's validity. Specifically, this study seeks to provide evidence of criterion-related validity; criterion-related validity pertains to the relationship between a measure and another independent measure. There is evidence of criterion-related validity when a measure (or independent variable) is associated with an outcome variable (or dependent variable) in logical way. This study reported in this chapter tests criterion-related validity by determining if self-reports of CRP is associated with other school organizational variables such as organizational learning and principal leadership.

Explanatory Factor Analysis

Organizational learning. Four factors were extracted for organizational learning as expected except OL4_1: 4 items for OL1, 3 items for OL2, 3 items for OL3, and 2 items for OL4. Factor loadings of items were high ranging between .57 and .81, and the communalities of all factors were above .5, which were considered somehow high. All of four factors explained 70.3% of the variance and the result of EFA for organizational learning are shown in Table 2-2 in detail.

Table 2-2 Organizational Learning Factor Matrix

Item Number	Factor1	Factor2	Factor3	Factor4
OL3_2	.805	.124	.231	.132
OL3_1	.751	.096	.248	.238
OL3_3	.727	.181	.059	.363
OL4_1	.570	.188	.113	.489
OL1_1	.206	.808	.098	-.063
OL1_2	.086	.780	.207	.240
OL1_3	.089	.700	.230	.287
OL2_3	.079	.024	.790	.346
OL2_1	.257	.320	.737	.051
OL2_2	.281	.385	.690	.040
OL4_2	.310	.184	.145	.789
OL4_3	.339	.118	.200	.726
Eigenvalue	5.27	1.48	1.05	.936
Explained Variance	20.72	17.86	16.17	15.52
Accumulated variance	20.72	38.58	54.75	70.27

After removing OL4_1 extracted in different factor from the original design, four factors for organizational learning were extracted again. Overall factor loadings of the scale ranged between .70 and .81. The communalities of all factors above .5, and alpha coefficient was .91. The four factors explained 71.9% of the variance, and Table 2-3 shows the result of EFA for organizational learning in detail.

Table 2-3 Revised Organizational Learning Factor Matrix

Item Number	Factor1	Factor2	Factor3	Factor4
OL3_2	.810	.130	.229	.142
OL3_1	.766	.103	.232	.261
OL3_3	.730	.191	.061	.362
OL1_1	.206	.808	.103	-.065
OL1_2	.081	.782	.211	.235
OL1_3	.084	.701	.237	.280
OL2_3	.086	.021	.769	.375
OL2_1	.236	.311	.759	.039
OL2_2	.267	.377	.704	.037
OL4_2	.315	.197	.134	.794
OL4_3	.344	.130	.188	.733
Eigenvalue	4.83	1.41	1.04	1.01
Explained Variance	19.86	17.86	16.17	15.52
Accumulated variance	19.86	39.09	56.70	71.88

Transformational leadership. Three factors were extracted for transformational leadership: Factor 1 included 4 items for leading change; factor 2 included 3 items for Developing shared vision,; factor 3 included 3 items for respecting for individual teacher. This resultant factor structure was consistent with what was originally identified in earlier work (Ro, 1998), in which all items tapping three facets of transformational leadership - loaded high on one factor. Overall factor loadings of transformation leadership scale ranged between .71 and .84. The communalities of all factors above .5, and alpha coefficient was .91. The three factors explained 73.8% of the variance, and Table 2-4 shows the result of EFA for transformational leadership in detail.

Table 2-4. Transformational Leadership Factor Matrix

Item Number	Factor 1	Factor 2	Factor 3
TL1	.839	.140	.197
TL2	.835	.221	.044
TL3	.825	.227	.223
TL4	.810	.246	.139
TL5	.228	.753	.170
TL6	.058	.727	.318
TL7	.313	.814	.040
TL8	.171	.288	.796
TL9	.452	-.005	.753
TL10	.088	.523	.713
Eigenvalue	4.17	1.81	1.40
Explained Variance	41.72	18.05	14.00
Accumulated Variance	41.72	59.77	73.77

Shared instructional leadership. Three factors were extracted for shared instructional leadership: Factor 1 included 7 items for principal instructional leadership; factor 2 included 7 items for teacher instructional leadership; and factor 3 included 4 items for mutual influence on instructional work. This resultant factor structure was inconsistent with what was originally identified in earlier work; however, some items showed low factor loadings, which need to be removed from the scale.

Table 2-5. Shared Instructional Leadership Factor Matrix (Initial)

Item Number	Factor 1	Factor 2	Factor 3
SIL3	.787	.047	.108
SIL6	.776	.146	.147
SIL1	.758	.166	.211
SIL9	.683	.361	-.084
SIL8	.582	.556	.023
SIL5	.545	.236	.279
SIL2	.467	.040	.165
SIL14	.177	.765	.174
SIL15	.083	.735	.257
SIL13	.227	.665	.189
SIL7	.409	.606	.058
SIL11	.447	.602	.071
SIL12	.539	.558	.012

Table 2-5. (cont'd)

SIL4	-.047	.301	.202
SIL16	.088	.273	.767
SIL17	.338	.086	.756
SIL18	.216	.088	.753
SIL10	.003	.308	.376
Eigenvalue	6.60	1.66	1.44
Explained Variance	22.42	19.07	12.42
Accumulated Variance	22.42	41.49	53.91

After removing items with low factor loadings, three factors for shared instructional leadership were extracted again. Overall factor loadings of the scale ranged between .59 and .80. The communalities of all factors above .5, and alpha coefficient was .89. The three factors explained 60.1% of the variance, and Table 2-6 shows the result of EFA for shared instructional leadership in detail.

Table 2-6. Shared Instructional Leadership Factor Matrix (Revised)

Item Number	Factor 1	Factor 2	Factor 3
SIL14	.800	.086	.203
SIL15	.765	.012	.258
SIL13	.712	.217	.128
SIL11	.634	.435	.035
SIL7	.630	.328	.096
SIL12	.589	.464	.044
SIL3	.117	.802	.076
SIL6	.222	.781	.116
SIL1	.235	.768	.176
SIL5	.299	.569	.224
SIL2	.077	.485	.142
SIL17	.114	.298	.797
SIL18	.110	.180	.792
SIL16	.279	.060	.779
Eigenvalue	5.53	1.48	.140
Explained Variance	22.80	22.11	15.19
Accumulated Variance	22.80	44.91	60.10

Culturally responsive practice. Four factors were extracted for culturally responsive practice: Factor 1 included 4 items for acknowledging family background; factor 2 included 4 items for recognizing student diversity; factor 3 included 4 items for teaching efficacy; and

factor 4 included 4 items for teaching application. This resultant factor structure was consistent with what was originally designed in this study.

Table 2-7. Culturally Responsive Practice Factor Matrix

Item Number	Factor1	Factor2	Factor3	Factor4
CRP1_1	.776	.227	-.044	.126
CRP1_3	.710	-.025	.223	.158
CRP1_4	.547	-.007	.064	.103
CRP1_2	.532	.363	.082	.175
CRP4_3	.242	.752	.022	-.087
CRP4_2	.292	.578	.427	-.076
CRP4_1	.488	.563	.350	-.094
CRP4_4	.225	.548	.074	-.220
CRP3_4	.032	-.019	.804	.170
CRP3_2	-.002	.069	.745	.265
CRP3_3	.013	.079	.743	.258
CRP3_1	.012	.111	.672	.254
CRP2_3	.306	-.032	.157	.678
CRP2_2	.041	-.017	.337	.646
CRP2_4	.260	.424	-.020	.624
CRP2_1	.476	.333	-.045	.516
Eigenvalue	4.78	1.70	1.43	1.26
Explained Variance	16.45	16.07	13.04	11.72
Accumulated variance	16.45	32.52	45.56	57.28

Confirmatory Factor Analysis

In order to explore the answers to research questions and test the hypotheses, the collected data was analyzed in different ways depending on each hypothesis. The statistical analyses were conducted in two steps as follows:

First, correlation analysis was employed to see the relations among the three latent variables by SPSS 21.0 Statistics.

Second, in order to examine the comprehensive relationships among the three constructs, SEM (structural equation modeling) was employed by AMOS 20.0. SEM incorporates the psychometric notion of unobserved variables and measurement error in the estimation procedure, so that it is possible to estimate multiple and interrelated dependence relationships as well as achieve more reliable and heuristic analysis (Fornell & Larcker, 1981). In this process, the goodness of model fit indices for hypothesized model were computed, which determined whether the hypothesized model grounded on the previous studies was acceptable. Then, direct, indirect and total effects among the four variables were analyzed to identify the mediating effect of organizational learning between leadership of principal and teacher CRP.

Third, to verify the significance of these direct, indirect, and total effects, bootstrapping was employed. Additionally, to test whether the mediation of organizational learning was full or only partial, an alternative model was proposed; then, χ^2 difference test was performed.

Analysis and Results

Correlations of the Variables

Correlation analysis was run to test the relationships among all dimensions subsumed in four latent variables. In this process, Pearson correlation coefficients and p-value were computed. The results are described in Table 2-8. By and large, significant and positive correlations were found between almost all dimensions. There were significant and positive correlations between two dimensions of transformational leadership and culturally responsive practice ($r = .268 \sim .352$), but correlations between one dimension of transformational leadership (TL2; developing shared vision) and culturally responsive practice were relatively low ($r = .082 \sim .200$).

There were significant and positive correlations between three dimensions of shared instructional leadership and four dimensions of CRP ($r = .195 \sim .362$). In particular, ‘mutual influence on instructional work’ of shared instructional leadership and ‘recognizing student diversity’ of CRP showed relatively strong correlation ($r = .362, p < .01$). Meanwhile, ‘principal instructional leadership’ of shared instructional leadership had a relatively lower level of correlation with ‘recognizing student diversity’ of CRP ($r = .195, p < .01$).

The correlations between transformational leadership and shared instructional leadership were statistically positive and significant ($r = .322 \sim .461$). Especially the relationship between TL1 of transformational leadership which consisted of items on leading change and SIL1 of shared instructional leadership was strong ($r = .461, p < .01$). On the other hand, TL2 of transformational leadership which included items on developing shared vision had relatively lower relationship with SIL3 of SIL ($r = .322, p < .01$), but overall higher coefficient loadings were shown that other correlations.

Table 2-8. Correlations among Variables

	CRP1	CRP2	CRP3	CRP4	TL1	TL2	TL3	SIL1	SIL2	SIL3	OL1	OL2	OL3	OL4
CRP1	1													
CRP2	.500**	1												
CRP3	.360**	.441**	1											
CRP4	.464**	.365**	.493**	1										
TL1	.303**	.352**	.287**	.238**	1									
TL2	.082	.200**	.209**	.087	.759**	1								
TL3	.268**	.286**	.281**	.284**	.551**	.599**	1							
SIL1	.195**	.202**	.224**	.254**	.461**	.374**	.344**	1						
SIL2	.300**	.253**	.204**	.288**	.446**	.324**	.398**	.622**	1					
SIL3	.362**	.348**	.280**	.293**	.421**	.322**	.345**	.424**	.447**	1				
OL1	.360**	.341**	.220**	.235**	.409**	.288**	.279**	.347**	.372**	.322**	1			
OL2	.356**	.368**	.256**	.285**	.444**	.307**	.327**	.221**	.294**	.381**	.529**	1		
OL3	.347**	.403**	.219**	.230**	.403**	.253**	.235**	.277**	.334**	.282**	.407**	.501**	1	
OL4	.322**	.341**	.216**	.190**	.422**	.276**	.279**	.248**	.283**	.292**	.425**	.496**	.689**	1
CRP: Culturally responsive practice								TL: Transformational leadership						
CRP1: Recognizing student diversity				CRP3: Teacher efficacy				TL1: Leading change		TL3: Respecting for individual teacher				
CRP2: Acknowledging family background				CRP4: Teaching application				TL2: Developing shared vision						
OL: Organizational learning								SIL: Shared instructional leadership						
OL1: Analyzing information				OL3: Receiving-Disseminating information				SIL1: Principal instructional leadership						
OL2: Storing-Retrieving-Putting information				OL4: Seeking information				SIL3: Mutual influence on instructional work						
								SIL2: Teacher instructional leadership						

*p < .05, **p < .01

There were significant and positive correlations between organizational learning and culturally responsive practice ($r = .190 \sim .403$). Especially the relationship between OL3 of organizational learning which consisted of items on receiving-disseminating information and CRP2 of culturally responsive practice was strong ($r = .403, p < .01$). On the other hand, OL4 of OL which included items on teaching application had relatively lower relationship with CRP4 of CRP ($r = .261, p < .01$).

The correlations between shared instructional leadership and organizational learning were statistically positive and significant ($r = .221 \sim .381$). Especially the relationship between OL2 of OL which consisted of items on storing-retrieving-putting information and SIL3 of shared instructional leadership was strong ($r = .381, p < .01$). On the other hand, OL2 of OL which included items on storing-retrieving-putting information had relatively lower relationship with SIL1 of shared instructional leadership ($r = .221, p < .01$).

In conclusion, almost all of observable variables of four latent variables, transformational leadership, shared instructional leadership, organizational learning and culturally responsive practice showed significant and positive correlations, which is consistent with the direction of the hypotheses of this study.

Testing Validity for CRP: Criterion-Related Validity

As a part of the process for verifying validity of the new scale, this chapter provides evidence for criterion-related validity. To explore evidence for criterion validity and to test hypothesis 4, the results of correlations among variables were examined. All four of the relevant correlations were significant (see Table 2-8). Participants' reports of their CRP were positively associated with shared instructional leadership, $r = .195 \sim .362, p < .001$. Also, CRP were positively associated with transformational leadership, $r = .082 \sim .352, p < .001$. Finally, CRP was positively correlated to organizational learning, $r = .190 \sim .403, p < .001$.

As a result, it has been found that CRP also has a similar relationship with the school organizational variables that have been proven to have a positive relationship with teaching quality (Camburn & Han, 2009; Darling-Hammond & McLaughlin, 1995; Hallinger & Heck, 1996; Kruse et al., 1994; Marzano et al., 2005; Stoll & Louis, 2007) in the previous studies. In that, the result of testing the relationship between CRP as teaching quality and school organizational variables is consistent with the prior research. Thus, hypothesis 4 is fully supported and evidence for criterion-related validation is obtained.

Confirmatory Factor Analysis

In order to confirm the reliability of the hypothesized factor structure, the goodness of model fit indices were evaluated. For the factor structure to be determined as a good model, comparative fit index (CFI), normed fit index (NFI), and Tucker-Lewis Index (TLI) ought to be greater than .90; the value of the root mean square error of approximation (RMSEA) to be lower than .08 (Kline, 2005). The acceptable ratio of χ^2/df , which is commonly used as an alternative fit index, ranges from 2 to 3. Transformational leadership and shared instructional leadership, having three observed variables respectively, became saturated models²; thus, the goodness of model fit indices could not be yielded.

The hypothesized measurement model in which all of four latent variables were entered was performed. The result showed the following goodness of fit: $\chi^2/df = 2.43$, CFI = .977, NFI = .962, TLI = .965, RMSEA = .067. Overall model fit, meeting the standard of good fit, indicated that the measurement model was reasonably acceptable. The revised measurement model is illustrated in Figure 2-5 and the results of CFA for the revised measurement model are summarized in Table 2-9.

² Saturated model is the trivial but fully explanatory model in which there are as many parameter estimates as degrees of freedom. The model constructed less than 4 observed variables becomes saturated model. Most goodness of fit measures will be 1.0 for a saturated model, but since saturated models are the most un-parsimonious models possible, parsimony-based goodness of fit measures will be 0. Some measures, like GFI, NFI, RMR, TLI, RMSEA, cannot be computed for the saturated model. Thus, to yield goodness of model fit indices at least more than 4 observed variables are needed (Lee, 1990).

Table 2-9. Measurement Model Fit Indices

Model	χ^2/df	p	CFI	NFI	TLI	RMSEA
Standard of Good Fit	3>		.90<	.90<	.90<	.80>
Hypothesized Model	2.45	.000	.977	.962	.965	.067

Structural Model Fit Assessment

To test the hypothesized model which builds on previous research, the model fit indices were computed. The hypothesized model proposed that principal leadership would have a relationship with organizational learning and that organizational learning would have a relationship with culturally responsive practice. This full structural model in this study consisted of four latent variables, 14 observed variables and 16 error terms. The fit indices calculated in this model were fairly acceptable: $\chi^2/df = 2.19$, NFI = .976, TLI=.954, CFI = .972, RMSEA = .057, $p < .001$. Overall, the hypothesized model showed a good fit to the data itself meeting the standard.

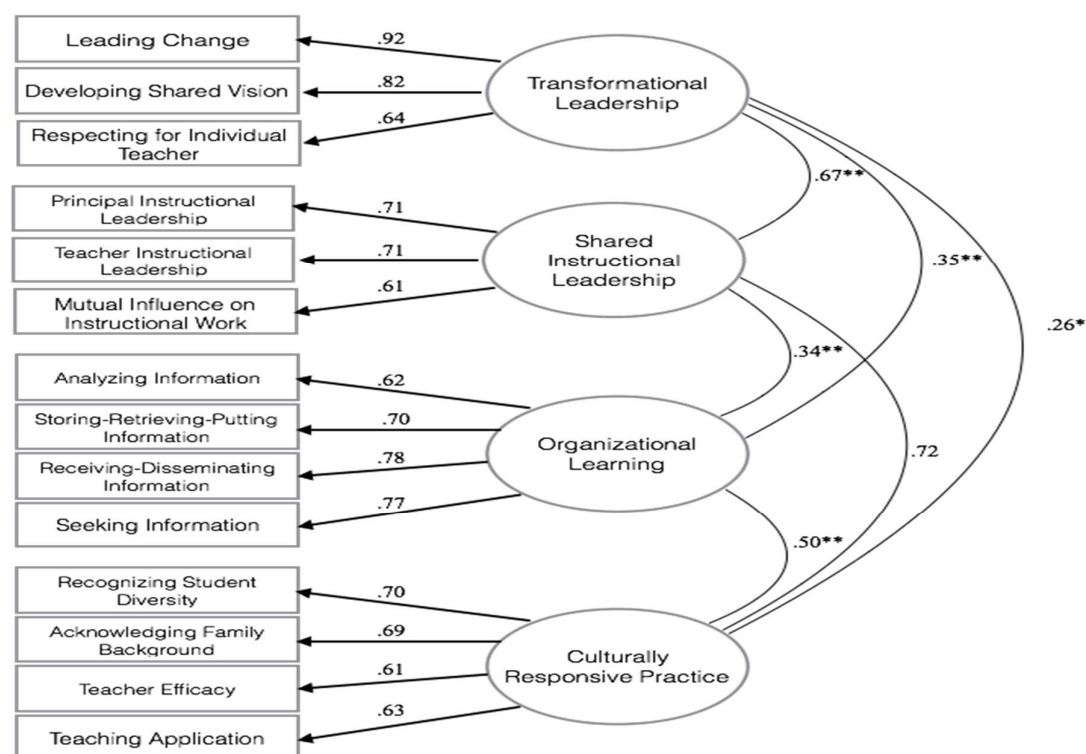


Figure 2-5. Measurement Model for the Study

This result indicated that the hypothesized structural model was a good model, which resultantly supported hypothesis 1 that structural equation model explaining the causal relationship among transformational leadership, shared instructional leadership, organizational learning, and culturally responsive practice will be valid. The model fit indices for the hypothesized model are presented in Table 2-10.

Table 2-10. Structural Model Fit Indices

Model	χ^2/df	p	CFI	NFI	TLI	RMSEA
Standard of Good Fit	3>		.90<	.90<	.90<	.80>
Hypothesized Model	2.193	.000	.972	.976	.954	.057

The Relationships among Variables

To examine the relationships among transformational leadership, shared instructional leadership, organizational learning and culturally responsive practice and test the related hypotheses, the path coefficients (standardized estimates) with standard error and critical ratio were calculated.

The results showed that four out of five initially hypothesized paths were statistically significant at $p < .001$. One path (Transformational leadership \rightarrow Culturally responsive practice) was not validated due to the nonsignificant path coefficient of -.03 at $p = .396$.

More specifically, transformational leadership was found to have significant positive effects on organizational learning with a standardized path coefficients of .35, which supported hypothesis 2-1. In addition, organizational learning had a significant and positive standardized path coefficient of .45 at $p < .001$, which also supported Hypothesis 3. However, the relationship between transformational leadership and culturally responsive practice was found to be nonsignificant with the standardized path coefficient of .03, which failed to support hypothesis 2-1. The results of SEM are presented in Table 2-11 and Figure 2-6.

Table 2-11. Hypothesized Paths for the Model

The Hypothesized Paths	Standardized Estimates	S. E.	C. R.	P
Culturally Responsive Practice ← Transformational Leadership	-.03	.060	-.849	.396
Organizational Learning ← Transformational Leadership	.35**	.030	4.955	***
Organizational Learning ← Shared Instructional Leadership	.34**	.065	3.738	***
Culturally Responsive Practice ← Shared Instructional Leadership	.33**	.136	3.333	***
Culturally Responsive Practice ← Organizational Learning	.45**	.164	5.703	***

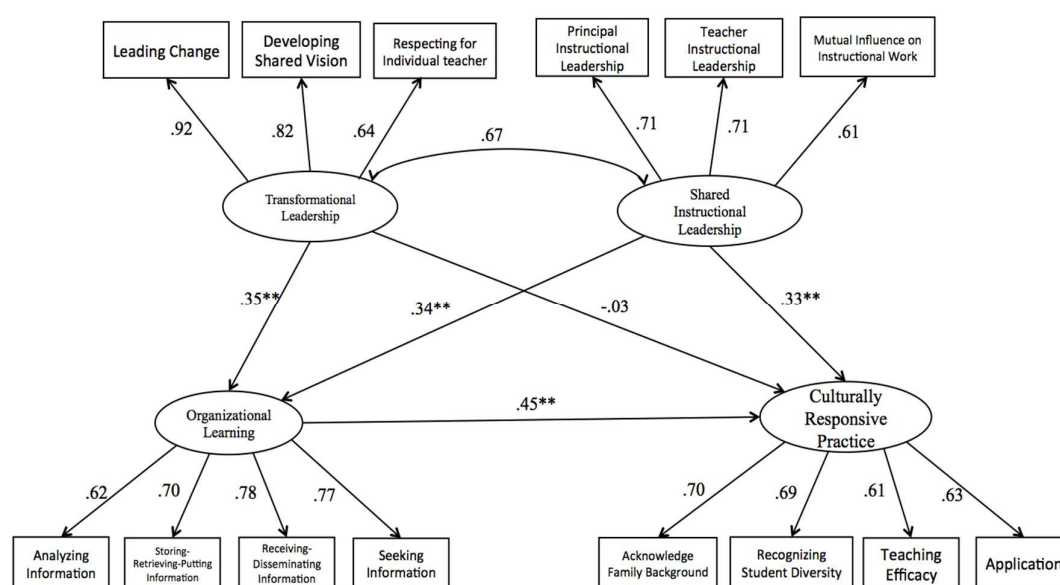


Figure 2-6. Standardized Path Coefficients of the Structural Model

Mediating Effects of OL

Mediating effect in a structural model can be identified by decomposing total effects among the variables into direct and indirect effects. A direct effect is the effect of the independent variable on a dependent variable without any mediator. On the other hand, indirect effect is the effect of the independent variable on dependent variable through one or

more mediators; in this regard, the indirect effect is also termed the mediation or mediating effect (Kline, 2005). Total effects are the aggregation of direct and indirect effects of an independent variable on a dependent variable.

In this study, to test the mediating role of organizational learning between leadership and culturally responsive practice, the total effects of transformational leadership, shared instructional leadership and organizational learning on culturally responsive practice were decomposed as direct and indirect effects. Moreover, to test the significance of the indirect effects--mediating effects--bootstrapping was performed, through which a p-value of indirect effect resulted. Table 2-12 shows the decomposition of effects of transformational leadership, shared instructional leadership and organizational learning on culturally responsive practice.

Table 2-12. Direct and Indirect Effects of Two Leaderships on CRP

Paths	Direct Effect	Indirect Effect	Total Effect	P
Culturally Responsive Practice ← Organizational Learning ← Transformational Leadership	-.030	.158**	.128	**
Culturally Responsive Practice ← Organizational Learning ← Shared Instructional Leadership	.340**	.112**	.442	***

More specifically, the results showed that although transformational leadership of principal had a nonsignificant direct effect on culturally responsive practice with path coefficient of -.03, as was suggested earlier in this chapter, it had a significant indirect effect on culturally responsive practice through organizational learning (indirect effect = .158, $p < .01$). As a result, the mediating role of organizational learning between transformational leadership and culturally responsive practice was verified, which therefore supported hypothesis 3. Shared instructional leadership had direct effect, but also an indirect effect through mediation of OL.

Discussion

Summary

The aim of this part was to examine the structural relationships among leadership, organizational learning, and culturally responsive practice and test the mediating effect of organizational learning between leadership and culturally responsive practice. Additionally, this part of the study sought to evidence of validity for CRP scale. After a body of related literature was reviewed, based on which hypothesized structural model explaining the relationships among the latent variables was constructed. The sample of this study using a questionnaire method consisted of 424 secondary school teachers from 24 secondary schools. The collected data was analyzed in different ways depending on each hypothesis.

Before hypotheses testing, scales employed in this study were validated. Exploratory factor analysis was performed to extract a set of factors and test the reliability of the scales by SPSS 21.0 Statistics. Then, confirmatory factor analysis using structural equation modeling was run to test whether the proposed factor structure and the scales represent the reality. With model fit indices such as χ^2/df , RMSEA, NFI, TLI, CFI computed, the availability of the scales was finally confirmed.

After scale screening, the hypotheses were tested. The hypothesized model fit was assessed by using SEM, and then causal relationships among the four latent variables, transformational leadership, shared instructional leadership, organizational learning, and culturally responsive practice were examined. Finally, the mediating role of organizational learning between two forms of leadership and culturally responsive practice was tested by decomposing the effects among the four variables.

Findings and Discussion

The key findings in relation to hypotheses are as follows: First, hypothesis 1 is related to the model fit assessment. Overall, the initially hypothesized model that depicts the structural relationships among transformational leadership, shared instructional leadership, organizational learning, and culturally responsive practice show a good model fit ($\chi^2/df = 2.19$, NFI = .976, TLI = .954, CFI = .972, RMSEA = .057, $p < .001$). Accordingly, the hypothesized model is determined to be a good model, which supports hypothesis 1 that structural equation model explaining the causal relationship among organizational learning, principal leadership, and culturally responsive practice would be valid.

Second, hypotheses 2-1~2-5 are related to structural relationships among the four latent variables. Except hypothesis 2-1, the rest of four hypotheses are supported by the significant standardized path coefficients. More specifically, transformational leadership is hypothesized to have direct influence culturally responsive practice, but it is not supported by the data. This result is consistent with the previous studies that suggested the weak direct relationship between transformational leadership and teaching practice (Heck & Hallinger, 1996; Thoonen, Sleegers, Oort, & Peetsma, 2012).

Hypothesis 2-2 predict that transformational leadership would have a significant positive effect on organizational learning, and the results supported this. This finding suggests that if a principal exerts transformational leadership, the teachers are more likely to develop organizational learning within their schools. This result backs up the previous studies (Collinson et al., 2006; Marks & Louis, 1999) that have consistently proved the significant relationship between transformational leadership and organizational learning relations. This finding also provides important evidence for the notion that leadership has a wide influence not only on direct or dyadic relation in which a leader is included, but also on all of social relations across the organization even when they don't include the leader (Leithwood &

Mascall, 2008), showing that transformational leadership explicitly had impacts on organizational learning.

Hypothesis 2-3 predicts that shared instructional leadership would have a significant positive effect on organizational learning, and the results supported this. This finding suggests that if a principal and teachers collaboratively work in the way of shared instructional leadership, the teachers are more likely to develop organizational learning within their schools.

Hypothesis 2-4 predicts that shared instructional leadership would have a significant positive effect on organizational learning, and the results support this. This finding suggests that if a principal exerts shared instructional leadership, the teachers are more likely to develop organizational learning within their schools.

In hypothesis 2-5, organizational learning is predicted to have a significant positive effect on culturally responsive practice, which is supported by the data. This result is in line with the extant literature in that they all have dealt with the impact of organizational learning on teaching profession (Darling-Hammond and McLaughlin, 1995; Kruse, Louis, & Bryk, 1994). But, as was the case in the aforementioned relationship between transformational leadership and CRP, these studies haven't reflected the culturally responsive practice; instead, they also have mainly focused on teacher's instructional practice in relation to teacher quality. To date, scholars examined the relation between organizational learning and teaching profession; however, this study explores the effects of organizational learning on CRP. In this regard, the present study is the first to explore the impact of organizational learning on CRP, reflecting various aspects of teaching quality other than instructional practice itself.

Hypothesis 3 is related to the mediating role of organizational learning between principal leadership and culturally responsive practice. Specifically, the result demonstrates that organizational learning mediates not only the effects of transformational leadership of

principal on culturally responsive practice but also the effects of shared instructional leadership on culturally responsive practice; thus, hypothesis 3 is supported. This finding suggests that principal leadership enhances the level of organizational learning, which in turn leads to the increased level of culturally responsive practice. In addition, without organizational learning, the effects of transformational leadership of principal on culturally responsive practice are unlikely to be realized.

Finally, hypothesis 4 predicts that CRP have a significant positive relationship with organizational learning, transformational leadership, and shared instructional leadership, which is associated with evidence of criterion-related validity for CRP scale, and the results supported this.

Conclusion

Recent schools, faced with growing diversity in student population, need teachers who understand how these changes impact their teaching, that is to say, who are able to deal with multicultural students in the manner of culturally responsiveness. In this context, the current study is significant in that it identified the antecedents of teacher CRP and the complex structural mechanism that works in reality. More specifically, the current study revealed that two forms leadership of principal had significant effects on teacher CRP through organizational learning; this means that leadership of principal enhances the level of organizational learning, which in turn leads to the increased level of teacher CRP.

These key findings ultimately advance theoretical discussion on teacher CRP in school organization as well as increase our understanding of teacher as a learner in the organization. Finally, from a practical standpoint, this study suggests that principals exert both leadership styles and play a key role in facilitating organizational learning and teacher CRP in school organization.

Implication

This finding is in line with the previous studies (Harris, 2003; Leithwood et al., 2007; Resnick & Glennan, 2002; Johnson, 2007; Larson & Murtadha, 2005; Young, 2010), which addressed the relations among organizational learning, principal leadership, and culturally responsive practice; however, these studies have limitations in that there is no research focused on all conceptions simultaneously. In this regard, it seems that the present study, addressing organizational learning as a primary mediator between principal leadership and CRP, not only is differentiated from the previous studies, but also sets the stage for in-depth research associated with the structural relations within school organization.

Although this study did not directly visit integrated leadership, the results asserted the importance of integrated leadership, which include attributes of two main leadership styles. Each leadership type has its own role in school reform, specifically in the study, influencing teachers' culturally responsive practice and organizational learning positively. Based on its nature and assumptions, I anticipate that a principal exerting integrated leadership, we can anticipate, effectively may cause effective organizational learning and effect teachers' practice in a culturally responsive way. Therefore, the analytic results of this study offer tentative evidence that integrated leadership ultimately has a positive effect on organizational learning and culturally responsive practice of teachers.

Furthermore, this finding carries significant importance in that it stirs up attention to organizational learning. Especially, organizational learning in school organization has recently been noted in an increasing number of educational studies. Yet, because of the complex and multi-dimensional nature, the relevant research has been descriptive level. Therefore, given the significance of organizational learning in organizations, more efforts seem to be required to examine the potential of organizational learning in school in more in depth.

Finally, overall findings of this study provide practical implications for principals: In order to cultivate higher level of CRP, a principal is required to exercise integrated leadership as a critical strategy, because integrated leadership precedes before other variables, i.e. organizational learning and CRP in this study model. That is, to activate organizational learning and CRP in school organization, most importantly, principals should exert integrated leadership themselves. Principals, cognizant of the potent role of organizational learning, which mediates the effects of integrated leadership on CRP, should serve to provide the conditions or institutional support in which teachers can enjoy high levels of organizational learning. Then, it is possible that teachers who are actively involved in learning mechanisms in their schools can exhibit more increased the level of CRP.

CHAPTER 3.

THE RELATIONSHIP BETWEEN CULTURALLY RESPONSIVE PRACTICE AND STUDENT ACHIEVEMENT

Introduction

The impact of the ethnic demographic shifts will result in greater emphasis placed on the academic achievement gaps reflected in minority students enrolled in public schools. Educational leaders will need to push for reform efforts that include new instructional methods and pedagogical strategies to address the distinct cultural and academic needs of diverse student populations.

Related to this, (Ladson-billings, 1994) noted the phrase, “culturally relevant pedagogy,” which “not only addresses student achievement but also helps students to accept and affirm their cultural identity while developing critical perspectives that challenge inequities that schools (and other institutions) perpetuate” (p. 469). This means that to make pedagogical practice effective, educators should think about student achievement and the culture that each student has. More specifically, researchers in the US (Banks, 2002; Delpit, 1995; Gay, 2000) have found that White teachers from middle class backgrounds are challenged to assist students as they negotiate the gap between the school culture and the norms of their family and community, develop culturally sensitive and responsive curriculum and instruction, and avoid perceiving diversity as a deficit. These differences negatively impact the quality of students’ learning opportunities.

Culturally responsive practice (CRP) is a way of teaching implemented to enable students to be involved in learning process by the use of their cultural references that convey knowledge, skills, and attitudes (Ladson-Billings, 1994). Specifically, CRP recognizes, respects, and uses students’ own cultures, identities, and family backgrounds to create optimal learning environment. Thus, the achievement of all students is a common expectation

where effective culturally responsive pedagogy is in place. To that end all students' views and strengths are represented and capitalized upon within the context of culturally responsive practice. This approach in turn promotes not only the achievement of all students but the belief that all students are capable of academic rigor and excellence (Ladson-Billings, 2009; Rogers, 2008).

The current challenge in school is to face diversity in student population; it has been argued that school community members need to value each students' background in the manner of the culturally responsiveness. Moreover, it is critical to examine CRP's potential to improve student academic performance, which is the core value in schools. Thus, this study follows the assumption that educators' understanding and application of culturally responsive practice have positively influenced student achievement and performance. Focused on creating understanding about the academic achievement of multicultural students, this quantitative study explores the relationship of CRP to student achievement and describes other aspects of school influence on student performance. Specifically, this study seeks to determine whether there is a significant difference in the academic achievement of students in secondary schools that have high implementations of CRP, transformational leadership, shared instructional leadership and organizational learning and students in schools that do not highly implement those things. An additional intent of this study is to verify the predictive validity of CRP.

Literature Review

Importance of Culture in Academic Achievement

Culturally responsive teachers should “believe that all students can succeed” (Ladson-Billings, 1994, p. 44). This is rooted in a constructivist pedagogy that maintains “an overriding belief that students come to school with knowledge and that that knowledge must be explored and utilized in order for students to become achievers” (p. 52). Specifically, teachers with higher culturally responsive practice regard students as “the primary source and center, subjects and outcomes, consumers and producers of knowledge” (Gay, 2000, p. 33). Moreover, a culturally responsive teacher begins with what the students already know which empowers them and allows them to feel a sense of ownership of their learning (Ladson-Billings, 2009). In other words, culturally responsive teachers did not view their students’ cultures as something that limits their learning, but instead they view their students’ cultures as the foundation on which to build students’ deeper understanding in contents being taught.

It is well documented that there is a gap in the achievement levels of students of color as compared to their White peers (Ogbu, 2003; Talbert-Johnson, 2004; Walton & Cohen, 2007). Especially, African American students are three years behind by eighth grade and trail their White counterparts by four years at the end of high school (Columbia College, 2005). These gaps were mainly caused by the differences of culture between students and schools (Irvine & Armento, 2001; 1990; Delpit, 1995). The mismatch between school culture and the culture of the students creates the potential for misunderstanding of actions and misinterpretation of communication between teacher and student. This misunderstanding and miscommunication, or lack of cultural synchronization, (Irvine & Armento, 2001) increase the possibility of failure for students who lack the cultural capital (Delpit, 1995) to navigate the unstated culture and norms of the school.

Also, included in the literature of focusing on students' cultures in the process of teaching and learning are many studies stating that cultural differences between mainstream and minorities have an effect on the achievement gap. Delpit (1995) argued there is a culture clash that exists between students' homes and school cultures in the classroom. These differences allow teachers to "easily misread students' attitudes, intent, or abilities as a result of the differences in styles of language use and interaction patterns" (Delpit, 1995, p. 167). Consequently, when teachers' and students' expectations of one another are culturally inaccurate or insensitive, learning is apt to be impacted, and such impacts are unlikely to be equal throughout the classroom. In that, teachers' knowledge of and attitudes toward cultural diversity are crucial determinants of learning opportunities and outcomes for multicultural students (Gay, 2002). Similarly, teachers' beliefs about how students learn and the expectations that they have for different racial groups may influence the way they conduct their lessons. Therefore, it is important for educators to develop understanding of classroom diversity and to foster learning environment inclusive students' home culture and backgrounds.

Just as teachers demonstrate their cultural experience in educational settings and behaviors, culturally and racially diverse students also reveal their cultural backgrounds in their learning attitudes and behaviors. This can be possible only if students' experience at the school reflects the specific life experiences and perspectives of culturally diverse students. Teachers need to recognize the fact that students are learning in different ways in different conditions, and many of them are influenced by their cultural socialization. Discrepancies in cultural structures, procedural rules, values, practices, and performance styles may cause school failures for culturally diverse students. Teachers should therefore acknowledge that maximizing student success at school requires social competence, academic capacity, and cultural cohesion by implementing CRP.

Effect of CRP on Student Achievement

CRP has been useful to support academic achievement for students of color (Smith & Ayers, 2006; Ware, 2006). Specifically, it places learning in familiar context, which is important for the academic performance of multicultural students (Hefflin, 2002; Lee, 2005). Additionally, it enables teachers to utilize meaningful learning materials, include cultures, customs, and traditions that are different from their own, and bridge between students' personal lives and school activities (Hefflin, 2002). According to Wortham and Contreras (2002), culturally responsive practice enables minority students to both manage academic success and strengthen their identities (Cummins, 2003; Duarte, 1998). Further, it ensures sensitivity to and responsibility for all students as prominent learners (Huber, 1996). High expectations for all students permeate the classrooms of teachers who practice culturally responsive practice.

Teachers need to understand their students' interests and backgrounds; this may mean implementing innovative strategies to build rapport, such as interviewing students, discussing their interests, and taking time to get to know them better (Ladson-Billings, 1997). In the same manner, Berry (2003) concluded that minority students and financially disadvantaged youth typically experience lowered expectations from teachers and school staff even when students demonstrated capability of high achievement. To combat these lowered expectations, Berry asserted that if teachers, administrators, and school districts are serious about understanding the needs of all students, they should critically assess possible systemic beliefs that impede students of color to challenging courses and require more of them behaviorally (Berry, 2003).

The discourse of a cultural context of teaching and learning demonstrates the inclusion of the students' culture as essential in improving student academic performance (Nieto, 2004). Those students who tend to be successful in school bring to school those

values the school deem appropriate. However, those students who fail to assimilate, code switch, or culture switch to the dominant culture of the school are at a greater risk for failing in academic success. Therefore, one possible solution discussed in many studies to the achievement gap disparity rests in the ability of teachers as they work to develop skills that they can use to help increase academic attainment in diverse student populations. Current trends suggest that teachers will need to be significantly improved to address the increasing need for teachers to practice culturally responsive methods and strategies in the classroom setting (Zeichner, 2009).

In this perspective, teachers can leverage students' cultural capital to create equitable learning environments, but teachers need to first embrace cultural diversity and learn who their students are individually, culturally, socially, and emotionally (Carter, 2003; DiMaggio, 1982; Gay, 2013; Ladson-Billings, 1994; Villegas & Lucas, 2007). U.S. classrooms typically consist of a demographically diverse student population coupled with a predominately White, female teaching force (Goldenberg, 2014; National Center for Education Statistics, 2013). Consequently, teachers and students coming from different backgrounds may have different frames of reference about teaching and learning (Carter, 2011; Maylor, 2014). Teachers tend to connect more easily with students whose backgrounds are similar to their backgrounds and students who have more cultural capital than that of economically disadvantaged students (DiMaggio, 1982).

If teachers fail to understand the cultural characteristics of culturally, racially, and linguistically diverse students, they might be at risk of misrepresenting educational activities, which could cause ineffective in student performance. Therefore, teachers should place students and their life history and experience at the core of the teaching and learning process, develop teaching activities in a familiar context to students, and support and encourage cultural diversity and diverse ways of thinking.

Impact of Transformational Leadership on Student Achievement

Several studies have shown that traditional types of leadership theories have positive relationships with various theories related to school organization. However, research does not generally support that leadership has a direct impact on student achievement (Hallinger & Heck 1998.). Rather, researchers claim an indirect effect: such leadership affects many variables in the school and this has a positive effect on student achievement (Hoy et al. 2006, Leithwood et al. 2004). Especially in cases of transformational leadership study, unlike its consistent and significant effects on either teacher or organizational variables, its effects on student achievement showed mixed results (Witziers, Bosker, & Krüger, 2003).

For instance, there are controversial results regarding transformational leadership's effect of student achievement. For instance, Barnes (2011) illustrated the impact of the principal's transformational leadership on the academic achievement of students. This comparison indicates that principals from high performing schools made use of the transformational leadership practices more than their counterparts. The study revealed significantly positive correlations between principal transformational leadership and the scores of their students on mathematics and science standardized tests. In contrast, Hill (2011) compared the transformational leadership practices of principals from two high performing schools (met AYP), as well as the practices of principals from two underperforming schools (did not meet AYP). The results showed that despite the heavy emphasis that literature has placed on the importance of principals' leadership practices on the academic performance, transformational leadership did not significantly affect the performance of schools or of their students, neither for high performing nor underperforming schools. Although there are contradictory results in the effect of transformational leadership on student achievement, as shown above, principals' transformational leadership ultimately yields positive impacts on school performance.

Impact of Shared Instructional Leadership on Student Achievement

Facing challenges such as demographic diversity, nation-wide reform initiatives, and accountability standards, the role of the principal has become increasingly complicated (Fullan, 2001). As leaders, effective principals adapt to these changes by developing greater capacity among school members (Lambert, 2005; Lashway, 2003; Spillane & Sherer, 2004) and creating conditions for organizational learning that focus on student achievement (Hord, 1997). Consequently, successful principals share important issues and develop relationships in their efforts to improve student performance. This type of leadership such as shared instructional leadership challenges traditional types of one hero leader (Schmoker, 2006) and requires both administrators and teachers to take responsibility for leading, decision making, and student learning.

While traditional instructional leadership is assumed to provide a clear instructional vision, high standards for student learning, utilization of data-based decision making, an emphasis on professional development and collaborative communities, and active participation in classroom instruction (Lashway, 2003), shared instructional leadership “involves the active collaboration of principals and teachers on curriculum, instruction, and assessment” (Mark & Printy, 2003, p. 371). Within this setting, the principal solicits ideas, insights, and the expertise of teachers who share responsibility for staff development, curricular development, and supervision of instructional duties.

According to Leithwood, Jantzi, and Steinbach (1999), shared instructional leadership overlaps with transformational leadership because it involves intentional change, aspires to increase teachers’ efforts within the organization, and emphasizes the improvement of teaching and learning. However, they are distinct in terms of what a principal focuses on and how a principal and teachers interact within a school. Shared instructional leadership, which represents cooperative characteristics of educators, can be an initial driver in school

improvement. Such collaborative leadership has been shown to have a direct impact on school achievement (Heck & Hallinger, 2010). Shared instructional leadership can be a crucial role in improving student achievement.

In the context of Korea, the most research on the effectiveness of principal leadership have been conducted in terms of its effects on the school organizational variables. A few studies focusing on its effect on student performance indicated that principal's instructional leadership worked directly (e.g. Bae, 2004; Lee, 2002; Joo, 2006). The literature analyzing the relationship between principal leadership and organizational variables had consistent results with the studies located in other countries.

Since the primary goal of schooling is student achievement, effective principals incorporate a blend of shared instructional leadership and transformational leadership behaviors. Marks and Printy (2003) believed that when transformational and shared instructional leadership is combined, an integrated form of leadership results. They determined that "where integrated leadership was normative, teachers provided evidence of high-quality pedagogy and students performed at high levels on authentic measures of achievement (p. 392)." They also found that in schools where transformational leadership was absent, instructional leadership was not shared, but confined to the principal.

Organizational Learning and Student Achievement

The more principals work routinely with teachers on instructional improvement, the more likely are principals to encourage new or best practices and keep teachers connected to the core of their work. An effective way to connect teachers is to create structures that encourage organizational learning.

Organizational learning plays an important role in helping teachers to collectively focus on their teaching practice. When organizational learning is absent and teachers work in isolation, little professional growth occurs (Pounder, 1999). Successful organizational

learning requires allocated time and specified goals or outcomes (Friend & Cook, 2009). While teachers may have some control over such factors, school leaders can play a key role in providing the support and structures necessary for effective organizational learning. Therefore, organizational learning should positively predict the degree to which teachers work together to improve outcomes for their students. Teachers in a school culture of organizational learning may rely on each other by sharing instructional experience; consequently, higher levels of organizational learning may lead to improved student achievement.

In Korea, research on the organizational learning (or learning organization) have primarily used it as a dependent or a mediating variable. Thus, organizational learning is a school level outcome or mediator to influencing school-level effects such as school climate (e.g. K. Kim & Y. Kim, 2006) and leadership (e.g. Lee, 2007; Park, 2008). Notably, most research on organizational learning has focused on improved outcomes for teachers, with little attention given to its impact on student achievement (Goddard, Goddard & Tschannen-Moran, 2007). Recent studies have begun to examine this link, but much more research is required to establish the connections between organizational learning and student achievement.

Impact of SES on Student Achievement

Students from different family background have different experience and access different resources. Especially, in terms of socio-economic status (SES), children from disadvantaged background and environment may find it difficult to acquire basic skills and achieve academic success (Egeland & Abery, 1991; Egeland & Kreutzer, 1991). A poor family cannot provide enough educational resources for children and offer necessary assistance for children's cognitive development. Children living in poor families with income below the threshold have substantially lower test scores than those of children living in

families with income above poverty threshold (Duncan & Brooks-Gunn, 2000). Students in high SES family have richer material resources, high quality housing, health care, high SES neighborhood, and can go to a better school (Magnuson & Duncan, 2005).

Specifically, a higher SES family can provide children with affluent resources, including more books for children, more opportunities to access libraries and museums, and participating in extracurricular activities (Duncan & Brooks-Gunn, 2000). Students who have more chances to access to books have a better developmental progress on vocabulary and listening comprehension skills (Senechal & LeFevre, 2002). Whereas, a low SES family has limited educational resources, even for healthy food and medical care. Children with limited resources are less likely to develop their cognitive skills, which are necessary for successful academic performance (Heckman, 2008).

Furthermore, family SES is also related to the availability of one's social networks. The social networks influence on children's development directly through interaction with other children; in addition to indirectly influencing children's academic achievement via influencing parents' beliefs, attitude, and behaviors (Cochran & Niego, 2002). With wider social networks, children have more available social resources, and as a result, are more likely to achieve higher academic performance than those without it.

In this study, I focus on the relationship between school wide variables and student achievement. As examined above, SES is one of the crucial factors to determine how students succeed in their learning. Therefore, as a small part of the analysis, SES is tested in a relationship with student achievement; but, is not dealt with as a control variable, which allows to estimate the net effect size of each school variables. A student's SES is composed of various aspects such as parents' job, education, and income. However, in this study, SES is measured by the ratio of students receiving free lunches due to limitations of available data.

Hypotheses

H₀₁. There is no statistically significant correlation between transformational leadership and student achievement.

H₁₁₋₁. There is statistically significant correlation between transformational leadership and student achievement in mathematics.

H₁₁₋₂. There is statistically significant correlation between transformational leadership and student achievement in English as foreign language.

H₀₂. There is no statistically significant correlation between shared instructional leadership and student achievement.

H₁₂₋₁. There is statistically significant correlation between shared instructional leadership and student achievement in mathematics.

H₁₂₋₂. There is statistically significant correlation between shared instructional leadership and student achievement in English as foreign language.

H₀₃. There is no statistically significant correlation between the level of organizational learning within a school and student achievement.

H₁₃₋₁. There is statistically significant correlation between the level of organizational learning within a school and student achievement in mathematics.

H₁₃₋₂. There is statistically significant correlation between the level of organizational learning within a school and student achievement in English as foreign language.

H₀₄. There is no statistically significant correlation between the level of culturally responsive practice within a school and student achievement.

H₁₄₋₁. There is statistically significant correlation between the level of culturally responsive practice within a school and student achievement in mathematics.

H₁₄₋₂. There is statistically significant correlation between the level of culturally responsive practice within a school and student achievement in English as foreign language.

Methodology

A quantitative non-experimental research design using correlation analysis is applied in this study. Creswell (2009) explained a non-experimental approach is effective when statistically answering research questions that a) identify variables that are of significant relationship to outcome or b) predict an outcome. Variables in this study were measured to explain the correlations between student achievement (dependent variable) and the school-wide variables.

Research Design

This study is a part of the dissertation for developing a CRP scale. The study in this chapter took the intent of demonstrating predictive validity of a CRP scale. The data used in this chapter was the same as used in previous chapters. However, for the purpose of the study, is it different in its unit of analysis. Specifically, to examine the effectiveness of school-level related variables on student achievement, all measures in this chapter were converted into school-averaged scores.

Sample. Data for this study is derived from 422 teacher responses from 24 secondary schools in which 13 or more teachers in each school complete surveys. Twenty-four schools within the four South Korean states were selected to ensure variation in geography, demographics, and rate of the number of multicultural student population (see Han, 2007b). In table 3-1 shows the number of secondary schools in Sample regions. Although the number of sample schools was small, the number of samples was adjusted in each region considering the number of schools by region.

Table 3-1. The Number of Secondary Schools in Sample (National and Public Schools)

	Seoul	Gyeonggi	Incheon	Gyeongnam	Total in Sample	Total in S. Korea
High school	74	261	59	78	472	897
Middle school	275	526	123	190	1,114	2,563

Table 3-1. (cont'd)

Sample school	6	8	4	6	24
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Selected teachers in each school were asked to complete the surveys providing some of the evidence for this study. Table 3-2 presents a summary of the characteristics of our sample.

Table 3-2. Demographic Characteristics

Characteristic	M	SD
Teacher Age	39.63	3.49
Teacher Gender	67.53% (female)	
Student-Teacher Ratio	16.8	
Student eligible for free lunch (%)	18.6%	9.41
Achievement at proficiency or above on Mathematic (%)	68.65%	13.84
Achievement at proficiency or above on English as foreign language (%)	72.43%	14.30

Sources of student achievement. The dataset including student achievement and school demographic information were collected from national school information web site (School Info, 2016). The records do not include teacher and student identifiers. Therefore, the study could include only student achievement information at the between-school level, comparing the performance of one school to another. These data were schoolwide results on nation-mandated test of mathematics and English as foreign language in 2015 (School Info, 2016). The data is represented by the percentage of students who met or exceeded the proficiency level on mathematics and English as foreign language tests. These percentages are averaged across grade, thereby resulting in a single achievement score for each subject for each school.

Sources of lunch support. For representing student SES, the rate of students who are eligible for free lunch within a school was used. The information of the rate for each school was collected from national school information web site as well (School Info, 2016). The data is presenting the percentage of the number of students who received lunch support from government fund for each school.

Measures of Principal Leadership, Organizational Learning, and Culturally Responsive Practice

Prior to conducting the regression analysis as primary statistical technique for the study, the dataset, collected from self-reported survey from secondary teachers in Korea (see Han, 2017a), was transformed from multidimensional into unidimensional; and from a teacher level into a school level. Specifically, although the measurements for all conceptions have several subcomponents to measure certain aspects of each construct, I aggregated all scores of dimensions of each construct, and then created average scores for individual school. Details of each variable follow.

Organizational learning mechanism. Organizational learning mechanism is defined as the degree to which teachers have a learning cycle within their schools. In this study, the questionnaire for measuring the organizational learning mechanism consisted of four dimensions: a) analyzing information, b) storing-retrieving-putting to information to use, c) receiving-disseminating information, and d) seeking information (Schechter, 2007; Schechter & Qadach, 2012). In order to examine the causal effects at the school level, the scores from each dimension were aggregated into the one value for organizational learning mechanism. Although the original scores from the survey results were connected to individual teachers, for the purpose of the study, these scores have been averaged at the school level.

Transformational leadership. Transformational leadership refers to a process that brings substantial changes in the attitudes and faith of school members, and fundamentally contributes to high levels of participants' commitment to the organizational goals (Leithwood & Jantzi, 1999; RO, 1994). The questionnaire for assessing transformational leadership was designated with three dimensions: a) leading change, b) developing a shared vision, and c) respecting individual teachers. The scores from the survey for composite measures were calculated into single value representing transformational leadership; and averaged in a school-level score.

Shared instructional leadership is defined as the degree to which “principals and teachers mutually influence curriculum, instruction, and assessment (Printy et al., 2009).” The dimensions of shared instructional leadership are principal instructional leadership, teacher instructional leadership, and principal and teacher's mutual influence on matters of instruction, curriculum, and assessment. The scores of shared instructional leadership are calculated into one composite measure representing shared instructional leadership and this is averaged for a school-level score.

Culturally responsive practice. Culturally responsive practice is a construct that represents the degree to which teachers are aware of students' diversity and are ready to use instructional methods in a culturally responsive way (Gay, 2002; Siwatu, 2007). The original measurement of culturally responsive practice consisted of four subscales: a) acknowledging family background, b) recognizing student diversity, c) teachers' teaching efficacy, and d) teaching application (Han, 2017a). In the same manner with other variables, CRP scores were calculated as a composite school level measure.

Analysis and Results

Individual responses to the teacher survey, aggregated to the school level, were merged with school-level of student achievement results. SPSS was used to calculate means, standard deviations, and reliabilities for scales measuring the four variables for this study. Data were analyzed to examine the correlation of CRP with student achievement in mathematics and English as foreign language by looking at the correlation coefficients among variables.

Correlations between School-level Factors and Student Achievement

The assessment of reliability was conducted for all four school-wide variables. By using Cronbach's Alpha (Price & Mueller, 1986), the alpha coefficients of each variable ranged between .838 and .895. Table 3 shows four variables' alpha coefficients for their reliabilities.

Table 3-3. Reliability of Four Variables

Variable	Cronbach's Alpha
Organizational learning	.870
Transformational Leadership	.895
Shared Instructional Leadership	.868
Culturally Responsive Practice	.838

Pearson correlations among four school-related scales and student achievement in mathematics and English as foreign language are shown in Table 3-2.

Table 3-4. Correlations among Variables

	OL	TL	SIL	CRP	MATH	ENG
OL	1					
TL	.41*	1				
SIL	.60**	.67***	1			

Table 3-4. (cont'd)

CRP	.74***	.51*	.63**	1		
MATH	.62***	.23	.54**	.75***	1	
ENG	.60***	.22	.50*	.74***	.96***	1

* $p < 0.05$, ** $p < 0.01$, *** $p < .001$

NOTE: OL- Organizational Learning; TL- Transformational Leadership; SIL- Shared Instructional Leadership; CRP- Culturally responsive practice; MATH-Mathematics; ENG-English as Foreign Language

Mostly, significant and positive correlations were found between almost all school variables with the exception of correlations between transformational leadership and student achievements. Specifically, the correlations among school variables and student achievements range from $r = .22$ for the correlation between transformational leadership and English as foreign language to $r = .96$ ($p < .001$) for the correlation between mathematics and English as foreign language. All four school-level scales but transformational leadership are significantly correlated with student achievement in both mathematics and English as foreign language: CRP has the strongest relationship ($r = .75$, $r = .74$, $p < .001$), followed by OL ($r = .62$, $r = .60$, $p < .001$) and SIL ($r = .54$ ($p < .01$), $r = .50$ ($p < .05$)).

In conclusion, the four school variables are significantly correlated with each other, which is consistent in previous results (see Han, 2017b) supporting the structural relationships among these variables. In addition, all school variables except transformational leadership showed significant and positive correlations with student achievement in both mathematics and English as foreign language, which is consistent with the direction of the hypotheses of this study. Also, the results of correlations can be supported by the empirical evidence as well as theoretical bases.

Hypotheses Results

There were four hypotheses with two sub-hypotheses that were tested for significance. The statistical tests measured for significant correlations amongst the school-level variables of culturally responsive practice, organizational learning, transformational leadership, and shared instructional leadership, and achievement in mathematics and English as foreign language with consideration of gender and the percentage of lunch support. In order to reject the null hypotheses, the significance level had to be calculated at a level of .05 or less. The results testing hypotheses are listed below.

H₀1. There is no statistically significant correlation between transformational leadership and student achievement.

H₁1-1. There is statistically significant correlation between transformational leadership and student achievement in mathematics.

H₁1-2. There is statistically significant correlation between transformational leadership and student achievement in English as foreign language.

The scores for the transformational leadership are not significant (Math $r = .23, p = .062$; English $r = .22, p = .061$). Therefore, the null hypothesis is not rejected. This indicates the variable does not have statistically significant correlations with student achievement.

H₀2. There is no statistically significant correlation between shared instructional leadership and student achievement.

H₁2-1. There is statistically significant correlation between shared instructional leadership and student achievement in mathematics.

H₁2-2. There is statistically significant correlation between shared instructional leadership and student achievement in English as foreign language.

The scores for the shared instructional leadership are significant (Math $r = .54, p < .01$; English $r = .50, p < .05$). Therefore, the null hypothesis is rejected. This indicates the shared instructional leadership has statistically significant correlations with student achievement in both mathematics and English as foreign language in this model.

H03. There is no statistically significant correlation between the level of organizational learning within a school and student achievement.

H13-1. There is statistically significant correlation between the level of organizational learning within a school and student achievement in mathematics.

H13-2. There is statistically significant correlation between the level of organizational learning within a school and student achievement in English as foreign language.

The scores for the organizational learning are significant (Math $r = .62, p < .001$; English $r = .60, p < .001$). Therefore, the null hypothesis is rejected. This indicates the organizational learning has statistically significant correlations with student achievement in both mathematics and English as foreign language in this model.

H04. There is no statistically significant correlation between the level of culturally responsive practice within a school and student achievement.

H14-1. There is statistically significant correlation between the level of culturally responsive practice within a school and student achievement in mathematics.

H14-2. There is statistically significant correlation between the level of culturally responsive practice within a school and student achievement in English as foreign language.

The scores for the culturally responsive practice are significant (Math $r = .75, p < .001$; English $r = .74, p < .001$). Therefore, the null hypothesis is rejected. This indicates the

culturally responsive practice has statistically significant correlations with student achievement in both mathematics and English as foreign language in this model.

In addition, these hypotheses of the CRP refer to the possible evidence for predictive validity of CRP scale. In other words, statistically significant and positive relationship between CRP and mathematics and English as foreign language achievement might offer a tentative evidence that CRP scale is validated in its predictive power in student achievement.

Discussion

Summary

This study examined how each school level variable related to student achievement, especially focusing on whether culturally responsive practice (CRP) has a positive correlation with student performance; this finding offers initial evidence for predictive validity of CRP. For the purpose of the study, a correlational research design investigated the relationship between school related variables and the percentage of students proficient in mathematics and English as foreign language. The current challenge in school is to face diversity in student population; it has been argued that school community members need to value each students' background in the manner of the culturally responsiveness. Moreover, it is critical to examine CRP's potential to improve student academic performance, which is the core value in schools.

The study offer support for several new findings. First, for the schools in this sample, four school variables show positive correlations with student achievements, even though there are differences in the magnitude of the coefficient values. Two types of leadership show different results for the relationship to student achievements in both mathematics and English as foreign language; transformational leadership does not have statistically significant relationship with student achievement while the shared instructional leadership has a significant relationship with student achievement. In other words, schools that show higher

levels of shared instructional leadership might have a higher level of mathematics ($r = .54$) and English as foreign language ($r = .50$) achievement. Mathematics ($r = .62$) and English ($r = .60$) achievement are significantly correlated to organizational learning. In other words, schools with a higher level of organizational learning are likely to show a higher level of mathematics and English as foreign language.

Finally, mathematics ($r = .75$) and English as foreign language ($r = .74$) achievement are significantly regressed on culturally responsive practice. In that, schools reported higher percentage of students who scored at or above the proficiency level in mathematics and English as foreign language assessment when teachers report that they use high levels of culturally responsive practice. Furthermore, the results in this chapter provides predictive at least tentative validation for the Culturally Responsive Practice scale by showing that CRP and student achievement are correlated at the school organizational level.

Implication

Findings in this study suggest that in schools where the teachers work in the manner of cultural responsiveness, students show higher levels of academic achievements. Further, the more organizational learning mechanism, the greater their students' learning. Finally, the shared instructional leadership, had small, but statistically significant impact on student achievement.

Statistical fit for the model that positioned transformational leadership correlating to student achievement was weak. However, shared instructional leadership and culturally responsive practice showed statistically significant correlations with student achievement. Evidence in the correlation table, however, showed transformational leadership to be correlated with both SIL and CRP. These relationships concur with earlier studies of integrated leadership, consisting of both transformational leadership and shared instructional

leadership. It appears that transformational leadership might be important to the establishment of shared instructional leadership. Where both forms of leadership operate together, there is greater potential to have high relationship with student achievement. These findings are consistent with the work of (Mark & Printy, 2003; Hoy *et al.*, 2006; Leithwood *et al.*, 2004) who position school leadership as the key driver of school improvement processes, particularly when such leadership is shared with teachers.

The results reveal that the student' SES (lunch support rate) is not statistically significant relationship with student achievement. This result is inconsistent with previous literature stating the crucial effects of SES on the student performance (e.g. Sirin, 2005; White, 1982). The result may be provided by the fact the lunch support rate did not represent students' SES appropriately. In other words, lunch support in Korean schools applies to relatively large number of students, and different school districts have different guidelines and qualifications of the recipients. Therefore, future study with multi-dimensional measurement of students' SES might have results different from this study.

One methodological limitation of this study arises from the small number of school samples, which makes causal inference difficult. Since the analysis in this study used variables at the school level, the sampling should be randomized to represent the nature of each school (Agresti & Finlay, 2009). Also, the number of respondents for each school makes representation of each school population uncertain. Thus, the availability of reliable large-scale datasets that can possibly be used to carry out cross-sectional studies of CRP needs to be pursued. In this perspective, while the significant correlation efficient may shed light on our knowledge of the relationships among the variables, the lack of controlling the interactions between other variables than the variables in question, a correlation may be easy to detect and the effect of a variable may be over-assessed.

Conclusion

Culturally Responsive practice provides students with the opportunity to learn and understand the principles and values of students from different cultures (Gay, 2002).

In recent decades both Korean and American classrooms have become more diverse, making it more challenging for schools to provide a quality education for all students. Still, it is justified to say that a quality education should be the norm. However, there are inequalities in education that possibly contribute to the achievement gap.

CRP can help improve student achievement by allowing students and teachers the opportunity to develop an understanding of other students' cultures, views, and beliefs. In order for CRP to be beneficial, there must be a collaborative effort by teachers, administrators, policymakers, parents, students, and communities to develop and implement effective strategies and policies that promote academic success for all students.

Educators will be challenged to evaluate their own personal viewpoints and the assumptions of other cultures to effectively teach in a diverse classroom. Students will also be challenged to understand all students' viewpoints and beliefs so that they can creatively and productively express themselves in a diverse classroom setting. By fostering solutions to these challenges, CRP can create a positive learning environment in which all students from different backgrounds and cultures are able to learn from other students and to achieve academic success. Furthermore, reducing bias in schools will create a more productive school environment.

CONCLUSION

Summary of Each Chapter

The primary aim of this dissertation was to develop a scale for culturally responsive practice (CRP) and find evidences for its validity and reliability. Throughout the process for seeking the evidence for validity of the CRP scale, this study had an opportunity not only to examine the structural relationship among principal leadership and CRP, with mediation of organizational learning, but how the higher level of CRP was associated to the student achievement. Although many scholars have pointed out that culturally responsive practice is crucial to educate all students, little empirical study has been done to measure CRP and to investigate the organizational circumstances that are likely related to higher levels of CRP. This dissertation research offers concrete ideas about facilitating CRP for all students in Korea - culturally and racially diverse students as well as homogenous group of students regarded as mainstream of culture. This study provided empirical evidence for the CRP scale's validity and the structural relationships of CRP with organizational learning and principal leadership. Summaries of the findings for each phase of the overall study follow.

In chapter 1, the study sought to develop the initial instrument to measure the construct of culturally responsive practice among teachers in secondary schools in South Korea. Based on the results of analyzing the literatures about culture-oriented pedagogy and of review of the initial items by professionals, the face and content validity has been demonstrated. In addition, the statistical analysis results provided evidence of reliability of the scale of CRP with strong Cronbach values ranging from .93 to .95. The multidimensional factor structure of the CRP scale received support from the results of EFA and CFA, which yielded the construct validity for the measurement. Finally, the study suggested that the multidimensional construct of CRP has four distinct components: (a) Recognizing student diversity; (b) Acknowledging family background; (c) Teacher efficacy; and (d) Teaching

application. Throughout the process of developing the scale, CRP has evidence supporting its validity, especially in face and content validity and construct validity.

Next, in the chapter 2, the study aimed to examine the structural relationships among leadership, organizational learning, and culturally responsive practice and to test the mediating effect of organizational learning between leadership and culturally responsive practice. This process sought evidence for criterion-related validity of the CRP scale. By using structural equation modeling (SEM), confirmatory factor analysis was run to test whether the proposed factor structure and the scales represent the reality. With the good value of model fit indices such as χ^2/df , RMSEA, NFI, TLI, CFI, the appropriateness of the scales was finally confirmed. After confirming the measurement model, the causal relationship among organizational learning, transformational leadership, shared instructional leadership, and culturally responsive practice were tested by using SEM, and confirmed by good values of model fit indices ($\chi^2/df = 2.19$, NFI = .976, TLI = .954, CFI = .972, RMSEA = .057, $p < .001$). Finally, the mediating role of organizational learning between principal leadership and culturally responsive practice was tested by decomposing the effects among the four latent variables. The results from the relationship of CRP with school variables offer evidences for criterion-related validity of the CRP scale.

Finally, the chapter 3 examined not only how the constructs of organizational learning, principal leadership, and culturally responsive practice are related to student achievement in schools, but explored the evidence of predictive validity for CRP. The results show that all school level variables except transformational leadership have statistically and significantly correlated to student achievement. In addition, the result that mathematics and English as foreign language are correlated to CRP offer tentative evidence for predictive validity of the CRP scale.

The empirical evidence presented here leads to the conclusion that principal leadership features, in turn, shapes organizational learning mechanism in schools that positively affect better teaching practice of teachers, especially culturally responsive practice. These findings are more interesting as they are in line with research findings from other countries, e.g. the USA, where school systems are considerably different from those of Korea. Findings in this research have cross-cultural significance, because this logical path from leadership to teaching practice has support in the research literature from diverse countries.

Implication for Each Chapter

The strength of diagnosis tool is that it can be a starting point for transforming the organization. Throughout the process of measuring the current situation, we might recognize where we stand on and where we should go to. Also, based on the diagnosis, the problem that we face might be revealed and the solution can be raised. In cases of using the CRP scale in a school, for instance, if teachers are diagnosed with insufficient understanding of the family background (CRP dimension 1), it is necessary to enhance the understanding of the socioeconomic and cultural background of the student by strengthening opportunities of interview and counseling for these students. In particular, it is crucial to form a comprehensive understanding of students based on academic research on the impact of socioeconomic and cultural contexts on learning process.

In spite of the fact that Korea has a relatively centralized educational administrative climate, it is important to set up a vision that fits the reality of the unit school and to practice it in order to respond to the demand for strengthening the accountability of the school unit that is currently being spoken around the world. It is necessary to use the CRP scale to diagnose the situation of the school and to set the appropriate school vision based on this. If the result of the

CRP scale shows at a low level despite a significant demographic change in the school environment, it is necessary to increase the understanding of the current changes of the members and to make changes in teaching and learning according to these changes.

Each dimension of the CRP scale might give an insight for training of teachers entering the school. Teacher training may pursue to emphasize student's cultural diversity awareness and knowledge of multicultural society as well as include behavioral markers in the community. By using the CRP scale, schools could seek to identify their teachers who are engaging in the efforts to try new and better instructional strategies and consult with these teachers for brainstorming ways to increase this behavior among other novice advocates or beginning teachers.

Moreover, this scale development research study introduced the CRP scale and pursue to address the gap in the teacher field and research regarding culturally responsive practice orientation in South Korea. It is the hope that the growing emphasis on the construct of culturally responsiveness in teaching and learning process continues to be a focus in research, training programs for fields such as school counseling and professional development programs, as well as real practice. Even though this study did not use the causal analysis such as regression due to the limitation of sampling, it is necessary to figure out the causal relationships between school-level variable, especially CPR, and student performance. Based on the result of the correlation analysis in this study, the possible link between CRP and student achievement has been revealed. Thus, the current study might enable researchers to explore the causal relationship between CRP and student achievement with consideration of control variables.

Implication for Whole Dissertation: Toward Culturally Responsive School in Multicultural Society

The role of school education is very important for overcoming cultural prejudices and discrimination and for multicultural education to be successful. It is because we should

develop the capacity of Korean society by preventing educational alienation and understanding and embracing various races and cultures. To do this, the school principal, teachers, parents, and local communities should cooperate with each other within the school community to expand the scope of culturally responsive practice.

Since the quality of education relies on the quality of teachers (Barber & Mourshed, 2007), education for culturally and racially diverse students should be preceded by changes in teachers' knowledge and awareness in the culturally responsive way in Korea. In this regard, training of culturally responsive practice for in-service teachers as well as prospective teachers is urgently needed because the society rapidly become multicultural society; in turn, multicultural circumstance will continuously affect school education and educational needs. Culturally responsive practice is not something for a specific subject or a particular teacher, but it should be employed in all subjects and all activities of the school activity by all teachers. Thus, teachers with CRP should establish stronger identities of both mainstream students and multicultural students throughout understanding and respecting of mutual cultures.

Multicultural society and multicultural schools provide students with good learning resources and funds of knowledge (Banks, 2008). In the same manner, the efforts to understand the historical perspectives of diverse cultures and develop cultural consciousness (Bennett, 2007) make learning experiences fruitful. Therefore, it is necessary for teachers to acknowledge diversity and difference of culture by participating in professional developmental activities for CRP and to be able to communicate actively with multicultural students and their families. These prepared teachers show human affection as a potential curriculum, and offer fair educational opportunity to students regardless of cultural background. Moreover, it needs to develop a framework for CRP research and develop

programs and materials. It focuses on helping students and school members understand and appreciate the mutual cultural values and encourage them to participate in school lives.

The role of culturally responsive teacher is needed, such as recognizing and respecting individuality, uniqueness, and diversity of students. However, it is not sufficient. The findings of this study further support the premise that if teachers are to integrate and implement culturally responsive practice, schools need to be transformed in the same way. Specifically, simply through exposure to culturally responsive training, it is difficult for teachers to apply their new knowledge into teaching. In that, school organizational factors such as integrated leadership and organizational learning can be a facilitator or a supporter for culturally responsive teachers. This research further can be developed to design a school as a culturally responsive community, which includes a principal with strong culturally responsive leadership (Johnson, 2007), establishes a tight relationship with students' families and local communities, and cultivates learning environment for all students regardless of cultural background. Throughout conducting CRP, the culturally responsive community could promote students' intellectual, social and personal development so that all students can realize their full potential without discrimination.

APPENDICES

APPENDIX A

RESULTS OF PILOT TEST

Table 4-1. Gender in Pilot Test

	Frequency	Percent	Valid Percent	Cumulative Percent
1	44	37.6	39.3	39.3
Valid 2	68	58.1	60.7	100.0
Total	112	95.7	100.0	
Missing System	5	4.3		
Total	117	100.0		

Table 4-2. Age in Pilot Test

	Frequency	Percent	Valid Percent	Cumulative Percent
1	15	12.8	13.4	13.4
2	51	43.6	45.5	58.9
Valid 3	27	23.1	24.1	83.0
4	18	15.4	16.1	99.1
5	1	.9	.9	100.0
Total	112	95.7	100.0	
Missing System	5	4.3		
Total	117	100.0		

Table 4-3. Statistics of Pilot Test

	CRP 1	CRP 2	CRP 3	CRP 4	CRP 5	CRP 6	CRP 7	CRP 8	CRP 9	CRP 10	CRP 11	CRP 12	CRP 13	CRP 14	CRP 15	CRP 16
N Valid	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112
N Missing	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Std. Error of Mean	.057	.092	.074	.134	.069	.079	.093	.093	.073	.075	.078	.079	.077	.096	.092	.082
Std. Deviation	.604	.970	.785	1.414	.732	.831	.981	.986	.775	.789	.826	.833	.818	1.013	.974	.864
Variance	.365	.941	.616	1.999	.535	.691	.961	.972	.601	.623	.682	.694	.669	1.027	.948	.746

APPENDIX B

ITEMS FOR CRP

Table 4-4. Items for CRP

Items	M	SD
1. I think students have diverse cultural backgrounds.	3.86	1.16
2. As a teacher, I need to learn about my student cultural backgrounds.	3.60	1.12
3. I believe students' diversity must be considered in the classroom management.	3.76	1.05
4. I believe students' self-esteem is increased when their social and cultural backgrounds is respected.	3.12	1.29
5. I have participated in the professional development for multicultural education.	3.85	1.11
6. I acknowledge students' family environment.	3.46	.92
7. I consider students' social and family backgrounds in the class plan.	3.72	.99
8. I teach students respecting on student's personal backgrounds.	3.33	1.18
9. I am able to obtain information about my students' academic strengths.	3.79	.90
10. I am able to determine whether my students like to work alone or in a group.	3.57	1.05
11. I am able to use my students' cultural background to help make learning meaningful.	3.69	1.02
12. I am able to critically examine the curriculum to determine whether it reinforces negative cultural stereotypes.	3.76	1.14
13. I think students can understand differently what I teach.	3.68	1.27
14. I structure the class content based on the difference among students' background.	3.32	1.21
15. I am able to facilitate students to work in a group.	3.68	1.04
16. I encourage students to think differently and have different perspective on class contents.	3.54	1.12

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