TEACHERS' CURRICULUM DECISION-MAKING IN THE CONTEXT OF THE DECENTRALIZATION OF CURRICULUM POLICY: THE CASE OF KOREAN MIDDLE SCHOOL TEACHERS

By

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ABSTRACT

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Based on a survey of Korean middle school teachers, this dissertation study examines the current state of Korean middle school teachers' curriculum decision-making and factors related to these decisions. The literature review suggests that teachers generally make four types of curriculum decisions (content to teach, instructional strategies, time allocation for units, and sequence units). Factors related to their perception of control over these decisions include their attention to curriculum materials, their beliefs about curriculum materials, their knowledge, and collaboration with peer teachers.

The results indicated that teachers perceived high control over instructional strategies while they perceived only little control over content to teach. Teachers who taught test-related subjects (mathematics, language arts, English, social studies, and science) were likely to show less perceived control over content to teach than their peers who taught nontest-related subjects. Teachers' attention to curriculum materials rarely showed remarkable relationship to their perception of curriculum control, but teachers' positive beliefs about curriculum materials, teacher knowledge and collaboration with peer teachers were all associated with teachers' perception of curriculum control. Particularly, content and pedagogical knowledge were associated with more perceived control over instructional strategies, but teacher knowledge about how to use curriculum materials did not show significant relationship to teachers' perception of curriculum control. Collaborating with peer teachers also was associated with increased teachers' perception of curriculum control, but interestingly collaboration for curriculum decision-making did not show significant relationship to their perception. This study provides basic and general information about teachers' curriculum decision-making, and allows policy makers and education researchers to understand what should be done in order to encourage teachers to take more responsibilities for curriculum decision-making.

Copyright by SUNHEE PAIK 2011 This dissertation is dedicated to my parents, *Hak Jin Back* and *Il Soon Kim* for their unconditional love and support, which has given me the confidence to face the world

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CHAPTER 1

INTRODUCTION

The Decentralization of Curriculum Policy in South Korea

The Korean education system has traditionally been centralized (Chung, 2008; Kim, 1997; Park, 2003) so that the Ministry of Education (MOE)¹ representing the Korean government has had relatively strong control over curriculum. Since the first national curriculum was developed in the 1950s, MOE has provided Metropolitan and Provincial Offices of Education (MPOEs), local districts, and schools with specific curriculum guidelines about the purposes of education, content, instruction, and evaluation (Lee, 1997; Min, 2008). MPOEs, local districts, and schools have generally followed the requirements of the curriculum guidelines.

The standardized national curriculum has contributed to broadening educational opportunity, but necessarily this has also led to inflexible curriculum implementation at the school level. The national curriculum has presented required subjects, time allotment standards to subjects, and sequences so that there has been little room for MPOEs, local districts, and schools to change or modify the national curriculum. Local contexts as well as students' individual aptitudes and interests have rarely been considered in the national curriculum, and thus students across the country have had to learn the same subjects in the same sequence at the same grade (Kim, 1997).

The standardized national curriculum has been criticized for several reasons. First, in the national curriculum, most subjects are "required" rather than "elective," so that students cannot choose electives depending on their interests and aptitudes. Second, textbooks have been

¹ The Ministry of Education in Korea has changed its title a few times. In 1950's, it was the Ministry of Education, later changed it to the Ministry of Education and Human Resource Development in 2000. The Lee Myung-bak administration changed it to the Ministry of Education, Science, and Technology in 2008. In this paper, I use "the Ministry of Education," which is universally used.

determined by MOE and only a limited number of scholars have participated in developing (or designing) textbooks. Therefore, textbooks have been getting more and more standardized, inflexible, and old-fashioned. Lastly, the same content and sequence in subject matters has discouraged students from cultivating their own interests, critical thinking, and creativity (Kim, 1997).

In response to the criticism of inflexibility in the national curriculum, MOE has made an effort to share the responsibility for curriculum control with MPOEs, local districts, and schools with the introduction of the sixth national curriculum in the early 1990s (Chung, 2008). In the subsequent two revisions of the national curriculum (the seventh national curriculum released in 2000 and the revised seventh national curriculum released in 2007), MOE pushed a more decentralized curriculum policy. In particular, MOE encouraged 16 MPOEs to develop their own curriculum guidelines and to provide these guidelines to their schools (Park, 2008). Local districts are required to provide schools with practical guidelines about implementing schoolbased curriculum based on the MPOEs' guidelines. The revised seventh curriculum also requires schools to determine what subjects to teach and time allotment standards to subjects and to each grade level (Kim, 2004). In sum, "The Korean (education) prototype is a centrally-established curriculum, regionally-developed guidelines, and locally-administered operations and curricular programs" (Schmidt, Houang, & Shakrani, 2009, p. 55)

Problem Statement

The seventh national curriculum suggests that teachers can increase or decrease time allotments for subjects for first through 10th grades within 20 percent of total time allotments. When schools change time allotments, teachers should modify contents in curriculum standards in consideration of subject matter characteristics and students' needs (e.g., aptitudes and interests). The seventh national curriculum offers just basic and common standards that students should learn, but teachers do not need to teach within these standards totally. Rather teachers are encouraged to reconstruct or reorganize contents in curriculum standards in consideration of educational environment, students' aptitudes, and interests. Particularly, the seventh national curriculum expects to transfer textbook-based education into curriculum-based education, which means that textbooks are regarded as one of instructional materials and teachers reconstruct and reorganize contents in textbooks (Lee & Hong, 2008; Seo, 2009).

In order to respond to decentralization of curriculum policy, it is necessary to redefine teachers' roles suggested in the seventh national curriculum, but there are three problems to this end. First, although the decentralized curriculum policy encourages teachers to develop schoolbased curriculum, the national curriculum still details what and how teachers do this (Cho, 2002), but does not tell us how teachers take the control over curriculum decision-making. Second, there has been little consensus about what teachers should do in the context of decentralized curriculum policy and even about why teachers need to modify contents in curriculum standards rather than just teaching as curriculum standards require to teach (Park, 2010). The presidential report published in 1992 illustrated teachers' right to teach with only abstract and narrow concepts (Yeom & Ginsburg, 2007) and further since the sixth national curriculum was implemented, MOE has articulated in abstract and general points about what MPOEs, local districts, and schools should do, but has not shown specific roles for those agencies. School teachers, therefore, have not had clear ideas about their roles in developing school-based curriculum or have not approved that decentralization of curriculum policy can change teachers' roles (Choi, 1996). Third, policy makers and scholars have shown ambivalent attitudes towards teachers as professionals indicating that they regard teachers as professionals

while suspecting teachers' professional abilities, assuming that teachers are not familiar with changing or adjusting the national curriculum due to the long tradition of centralized curriculum policy (Shin, 2009). Furthermore, teachers themselves perceived their lack of experience in modifying or changing content in curriculum standards (Park et al., 2003). It is not totally unexpected, then, that teachers continue to choose safe and convenient ways to follow curriculum guides and textbooks as they have always done (Park et al., 2009).

The first problem can be solved by revising the national curriculum to be less specific, but the latter two problems are more complicated. In the revised seventh national curriculum, teachers have been required to modify the national curriculum taking into account local and school characteristics as well as students' needs (Choe, 1998) rather than implementing teaching within curriculum as required by the national curriculum. However, Korean teachers have had little experience in adjusting or changing the requirements of the national curriculum, and school administrators and experts cannot appropriately support teachers because they also do not have enough experience in developing school-based curriculum (Park et al., 2009). To address these problems, it is important to examine the current state of teachers' roles in developing school-based curriculum and what influence their roles. Without robust and generalizable knowledge about teachers' roles in the context of the decentralization of curriculum policy, it is rarely likely to succeed in encouraging teachers to have more responsibilities for curriculum control and free from strong influence of curriculum standards.

For this dissertation study, I target Korean middle school teachers. Although the seventh and the revised seventh national curriculum aim at decentralizing curriculum implementation at all school levels, teachers might respond to the policy in different ways due to different educational environment between school levels. Middle school teachers are positioned between elementary

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and high school teachers in that middle school teachers are less influenced by college entrance examination than high school teachers, but receive more pressure by assessments (e.g., high school entrance examination) than their colleagues at the elementary level, and this is why middle school teachers were selected for this dissertation study.

Purpose of the Study

The purpose of this dissertation study is twofold. First, this study intends to see the current status of Korean middle school teachers' roles in developing school-based curriculum. To address this purpose, first I examine the extent to which teachers depend on curriculum materials, which are usually considered by Korean teachers. Traditionally, teachers make curriculum decisions based on contents in curriculum materials while the decentralization of curriculum policy encourages teachers to pay more attention to local contexts and students' individual needs. Second, I examine how Korean middle school teachers perceive their curriculum control and what encourages or discourages them from exercising their control. To address these purposes, two research questions are developed as follows.

- 1. To what extent do Korean middle school teachers pay attention to curriculum materials and student contexts when they make curriculum decisions and what influences their attention to curriculum materials and student contexts?
- 2. How do Korean middle school teachers perceive their control over curriculum decisions and what influence their curriculum control?

Third, this dissertation study aims to shed light on teacher beliefs about curriculum materials, which are one of importance factors influencing teachers' dependence on curriculum materials. Curriculum materials such as curriculum guides for subject matter, textbooks, and teachers' guides are considered because these three types of curriculum materials are usually used by Korean middle school teachers when they make curriculum decisions. To address this purpose, the third research question is developed as follows.

3. What are Korean middle school teachers' beliefs about curriculum materials and how do those beliefs relate to teachers' dependence on curriculum materials?

These three research questions will be examined separately.

Significance of the Study

Few studies in the context of Korean education have focused on teachers' responses to curriculum policy, especially the decentralization of curriculum policy. In part, the lack of research studies on these issues might be caused by the fact that the decentralization of curriculum policy is relatively new to Korean education, so that there has been little time to examine whether or not it has been working at the school level. This study will investigate teachers' perception of curriculum control, and factors influencing their curriculum control, and the results of this study help policy makers and education researchers see whether middle school teachers take curriculum control.

Assuming that one of the purposes of the decentralization of curriculum policy is to provide teachers with more curriculum control, it is important to identify what helps and hampers teachers when making curriculum decisions. This study can guide policy makers and school administrators to help teachers take more curriculum control as the decentralized curriculum policy intended.

In addition, this study targets all subject matter teachers at the middle school level. Selecting all subject teachers allow to compare differences between teachers teaching test-related and nontest-related subjects. In the context of Korean education, subjects could be categorized into two types: the one is test-related subject and the other is nontest-related subject, and it is expected that teachers show different responses to the same curriculum policy depending on subjects they teach.

Lastly, this study will examine teachers' beliefs about curriculum materials and relationships between those beliefs and their dependence on curriculum materials. It is usually said that teachers complain about curriculum materials, but reasons of those complaints have been rarely received attention. In addition, considering that the decentralization of curriculum policy intends to change textbook-based education to curriculum guide-based education (Lee & Hong, 2008; Seo, 2009), it is even more important to see any similarities or differences in teacher beliefs between curriculum guides and textbooks.

CHAPTER 2

LITERATURE REVIEW

This literature review consists of three sections. First, research studies on teachers' roles in curriculum development, especially curriculum decision-making are reviewed. The next two sections describe factors that influence teachers' curriculum decision-making. One section shows previous studies on how curriculum materials such as curriculum guides, textbooks, and assessments influencing teachers' curriculum decision-making. The other section examines influences of teacher factors such as teachers' beliefs about curriculum materials, teacher knowledge, and collaboration with peer teachers on their curriculum decision-making.

In the context of Korean education, research studies on teachers' curriculum decision-making have been shown since the sixth national curriculum was released in 1992 because the sixth national curriculum first presented that schools have responsibility for curriculum decision-making (Kim, 1994). Because relatively few studies have examined Korean teachers' curriculum decision-making, I reviewed most studies conducted in the context of American education, which has a history of encouraging teachers to develop their own instructional programs and schools traditionally.

However, it is important to note that pressures for standards-based reform have been increasing in the US education. The poor performance of K-12 American students in mathematics and science has been documented by the Third International Mathematics and Science Study (Schmidt, Raizen, Britton, Bianchi, & Wolfe, 1997) and the National Assessment of Education Program (NCES, 2005). Since *A Nation at Risk* was released in the 1980s, standards-based reform has been the most dominant trend in American educational policy, and the No Child Left Behind Act pushed the trend further by requiring states to develop rigorous curriculum standards. (Hess & Petrilli, 2006). Furthermore, in 2010, common core standards were initiated to provide consistent and rigorous content standards for mathematics and language arts across states (Porter, McMaken, Hwang, & Yang, 2011), and so teachers in the US now relatively little room for curriculum decision-making compared to those in the past. Thus, findings from more recent studies might be different from findings from past studies, and may be less relevant to the Korean context.

Teachers' Curriculum Decision-Making

Curriculum Development and Curriculum Decision-Making

Curriculum development is an activity to bridge the intended curriculum and the enacted one. Shavelson and his colleagues (1987) delineated teachers' roles in curriculum development as follows:

Curriculum, nested within the school, is the content of education, the medium of exchange between teacher and student. Teachers, operating within the curriculum, draw on their subject matter and pedagogical knowledge to translate the curriculum for students in a comprehensible way. (Shavelson et al., 1987, p. 11)

Griffin (1991) distinguished curriculum planning (i.e., curriculum development) from lesson planning. Lesson planning aims at only one lesson in one subject matter at one time, while curriculum planning is developed with a long term perspective, in consideration of coherence across grade levels and related subjects. This literature review targets studies on curriculum planning rather than on lesson planning.

For the curriculum development process, teachers must make important decisions to translate the intended curriculum into the enacted curriculum, which means curriculum decision-making. Thus, teachers' curriculum decision-making occurs in the process of developing the enacted curriculum, and the intended curriculum is translated by teachers' curriculum decision-making into what is eventually enacted. Curriculum decision-making occur at several levels such as the formal level (e.g., federal, state, country, etc.), the institutional level (e.g., individual schools), and the instructional level for classroom teaching, etc., and teachers mostly engage in curriculum decision-making at the instructional level (Shavelson, McDonnell, Oakes, & Carey, 1987; Tyler, 1950).

Teachers have options regarding prior curriculum decisions: they may decide to implement what is desired at higher levels of remoteness from the student; they may modify, sometimes in very significant ways, what others want in the curriculum; or they may completely ignore decisions which have been made at other levels...teachers are very fundamental curriculum decision makers who often determine what decisions actually get implemented. (Klein, 1991, p. 29)

Previous studies have shown various roles of teachers in curriculum decision-making. Teachers make decisions about content coverage and instructional strategies (Kuhs et al., 1985; Remillard, 2005; Sosniak & Stodolsky, 1993), and time allocation and sequence (Freeman & Porter, 1989; Sosniak & Stodolsky, 1993). In addition, prior research in the context of Korean education found that teachers modified or changed suggestions about content and instructional strategies in curriculum standards (Kim, 2004; Kim, 2005; Seo, 2009).

Most studies have reported teachers' decision-making about both content and instructional strategies because it is not easy to distinguish content from instructional strategies in teaching practices. Kuhs and her colleagues (1985) examined the patterns of teachers' use of curriculum-embedded tests, using data collected from teachers' daily logs and the interview. The researchers categorized patterns of teachers' use for (a) placement of students, including assignment to

classrooms within grade and assignment; (b) making decisions about what content topics are to be taught, for how long, and to what standards of performance; and (c) student evaluation, including grading and reporting to others. This study presented teachers' roles in deciding content topics and instructional strategies (i.e., decisions about how long and what standards for performance).

Similarly, Sosniak and Stodolsky (1993) presented teachers' roles in deciding instructional strategies and content to teach. The researchers examined how four elementary teachers (reading, mathematics, and social studies) used and what they thought of textbooks and other materials. The data was collected from multiple methods such as classroom observation, interview with teachers, and document analysis. The authors found variations in the number and types of materials, the depth of coverage of the selected portions of materials, and the sequence of use of materials through classroom observation and district policy regarding instruction in subjects influence these variations. This study showed teachers' decision-making on sequence in addition to content to teach and instructional strategies.

Remillard (2005) focused on teachers' decision-making about instructional strategies. In her study, teachers selected and designed student activities.. The author constructed three arenas in curriculum development and examined what teachers did through class observations and interviews. One teacher supported the traditional teacher-centered instruction and believed that mathematics was a group of topics. She frequently used the textbook as a critical source for her instruction. The other teacher supported more reform-oriented instruction and focused on mathematical understanding and critical thinking. She created tasks and activities for classroom teaching rather than using the textbook. Two teachers selected and designed tasks for student learning and the salient difference between these teachers was that the latter teacher improvised

her teaching in consideration of students' responses in the classroom, while the former was less responsive to students' unexpected difficulties or struggles.

Freeman and Porter (1989) presented various types of teachers' curriculum decision-making. The researchers conducted a descriptive study on what and how teachers actually taught from day to day using teachers' daily log and interview. Four elementary teachers showed variations in their textbook use. One teacher regarded a textbook as a primary source for curriculum decision-making, and the other teacher focused on basic principles in mathematics. Another two teachers focused on the district objectives more than contents in textbooks. These teachers showed variations in mathematics topics covered, examples of problems, instructional materials in textbooks, time allocation, and sequence, and not surprisingly, textbook-bound teachers was influenced by what contents and instructional strategies were emphasized in textbooks. For example, teachers' time allocations parallel emphasis of topics in textbooks, and their sequence of topics generally matched with the sequence in textbooks. In the study, teachers showed various types of curriculum decision-making such as decision-making on content to teach, instructional strategies, time allocation, and sequence, and this provides insight to Korean teachers who have not been so familiar with what and how to change or modify when they interact with curriculum standards.

These studies did not focus teachers' curriculum decision-making but revealed it through showing how teachers use curriculum materials. This might be that teachers in the US usually had taken responsibilities for curriculum decision-makings and so teachers' control over curriculum decision-making has not been an important issue. Rather, some of these studies have been conducted to see whether teachers showed consistent content coverage and pacing the content. These studies, however, provide useful and ample information about what kinds of curriculum decisions teacher make. One missing point in research studies conducted in the US context is that most studies have been conducted by qualitative methods focusing on cases of a small number of teachers. Observing classroom teaching or interviewing with a small number of teachers allows researchers to take a close look, but it is hard to generalize the results.

Unlike teachers in the US, Korean teachers have little experience in taking responsibilities for curriculum decision-making. Since it is still an early stage of the decentralization of curriculum decision-making, most research studies in Korean education context have touched on general patterns for curriculum decision-making through a large-scale survey rather than close look to their actually curriculum decision-making.

Kim's (2004) study was one of the first to look at how teachers responded to the new flexibility allowed in the national curriculum in Korea. He created a list of potential changes that range from largely passive to largely active, as follows: 1) changing sequence for units; 2) adding contents; 3) altering contents; 4) deleting contents; 5) abbreviating contents; and 6) connecting with other subjects . The survey data showed that about two third of the participating teachers reorganized contents in textbooks, but their reorganization was limited to type 1 and 2, which were regarded as passive reorganization. The interview data showed that only a very small number of teachers reported active reorganization (e.g., type 6).

Likewise, Seo (2009) focused on what teachers modified or changed (e.g., objectives, content, instructional strategies, etc.) and what hindered teachers from reconstruct curriculum standards. She interviewed one high school mathematics teacher and five language arts teachers who taught in middle and high schools. The participating teachers showed passive restructuring in that they developed instructional strategies rather than adding or deleting content in curriculum standards.

In order to examine the degree to which Korean secondary teachers actually reconstructed

contents in curriculum standards, Kim (2005) surveyed 4,640 middle and high school teachers in and conducted classroom observation for 115 teachers and interview with 125 teachers. Approximately, two third of teachers reported that they modified, changed, or altered contents in curriculum standards, but their reconstruction was limited to changing sequence of contents in a unit and adding contents. Only small number of teachers tried to connect contents of subjects that they taught with ones of other subjects.

Three studies conducted in the Korean education context showed similar types of curriculum decision-making, but did not cover broad range of teacher' curriculum decision-making. The Korean researchers usually have interests in content to teach and instructional strategies, but rarely in sequence and time allocation. To encourage teachers to teach based more on their own curriculum decision-making than on what curriculum standards suggest, it would be good to examine various aspects of curriculum decision-making, but not limited to decision-making only on content to teach and instructional strategies. Thus, for this dissertation study, I include curriculum decision-making on content to teach, instructional strategies, time allocation for units, and sequence for units.

Curriculum Materials Influence Teachers' Curriculum Decision-Making

This section addresses the definition of curriculum materials in this study and presents research studies regarding influences of curriculum materials on teachers' curriculum decision-making. Curriculum materials influence teachers' curriculum decision-making generally in two ways: 1) specific aspects of curriculum materials (Porter, 1989; Remillard, 2005; Shkedi, 1998; Valencia et al., 2006); and 2) curriculum materials as policy pressure (Archbald & Porter, 1994; Floden et al., 1981; Kuhs et al., 1985; Monfils et al., 2004; Schorr et al., 2004).

The Intended Curriculum: Curriculum Materials

Porter and Smithson (2001) distinguished three kinds of curriculum: the intended curriculum, the enacted curriculum, and the learned curriculum. The intended curriculum reflects initial intentions of educational policies and is shown in curriculum materials such as curriculum frameworks/guidelines, textbooks, and assessments, etc. The enacted curriculum represents teaching practices in classrooms. The learned curriculum is usually measured by student achievement gains (Porter & Smithson, 2001). This dissertation study focuses on teachers' roles between the intended curriculum (i.e., curriculum standards) and the enacted curriculum, which means curriculum development.

Archbald and Porter (1994) created a model of centralized curriculum control. In their model, they addressed three specific controls: curriculum guides, textbook adoption, and testing policies. Curriculum guides set "state learning goals and topics for a course" (p. 22); textbook adoptions intend "to reduce the potential variability in content across different sections of a course (both within and between schools)" (p. 22); and testing policies, like curriculum guides, reflect learning goals and topics and guarantee that students learn as curriculum policies intended. Schmidt and his colleagues (1997) defined curriculum guides as "official documents that most clearly reflect the intentions, visions, and aims of curriculum makers, and textbooks as less official, partial documents that most clearly reflect the intentions as interpreted by other participants in the curriculum process" (Schmidt et al., 1997, p. 7). In order to examine teachers' roles in curriculum development, it is important to see how teachers interact with the intended curriculum, specifically curriculum guides, textbooks, and assessments. Especially, the literature review shows these three types of curriculum materials, so I include these curriculum materials in the analytical model for the study.

Curriculum Materials with Specific Aspects

The structure of curriculum materials across grades influences how much time teachers allocate to each topic (Porter, 1989); teachers were likely to teach in line with textbook's emphasis on topics (Freeman & Porter, 1989); teachers' emphasis on specific topic was influenced by the pedagogical approach embedded in curriculum standards (Shkedi, 1998); teachers do not have enough time to teach based on their own curriculum decision-making if curriculum standards have too many tasks, student activities, and suggestions (Remillard, 2005; Valencia, 2006); and teachers used teachers' guides in difference ways depending on their teaching experience (Jeon, 2006).

Through analyzing teachers' daily logs, Porter (1989) analyzed the structure of the curriculum materials based on students' grades and actual time spent in teaching mathematics, compared to time required to teach it according to the curriculum. Teachers taught numerous topics more than once because some of content overlapped across grades and did not move appropriately from fourth grade to fifth. Porter suggested that the math curriculum should be coordinated across grade levels to "decrease the extent to which what is taught one year is taught again the next" (p13) and that "mathematics should be taught at a regularly scheduled time" (p14). Similarly, as reviewed earlier, Freeman and Porter (1989) presented how features of textbooks influenced teachers' textbook use. The emphasis on content in textbooks largely dominated how much time teachers allocated for topics. The structure of and emphasis on specific topics in curriculum standards usually influence teachers' curriculum decision-making on time allocation, but no connection with other types of curriculum decision-making was shown in these two studies.

In addition to curriculum decision-making, curriculum materials also play important roles in

teachers' practices. Shkedi (1998) presented how the pedagogical-content approach of curriculum standards influenced on teachers' practices. In the study, there were three types of curriculum guides based on the pedagogical-content approach such as the disciplinary approach, the normative approach, and the didactic approach. In the disciplinary approach, teachers regarded the structure of knowledge as important, and curriculum guides with the normative approach "present ideas of truth and that the actions that follow from them are good and desirable" (p. 217). In the didactic approach, "curriculum guide is seen as a means of exposing teachers to appropriate didactic approach" (p. 217). The interview results showed that teachers' roles in classrooms were largely influenced by the types of curriculum guides. For example, teachers with curriculum guides of the disciplinary approach provided students with the structure of knowledge rather than judging good or bad (the normative approach) or following proposed learning activities by curriculum guides (the didactic approach). In order to adequately help teachers, curriculum guides must be complicated enough to provide teachers with a variety of resources and activities for the sake of choice.

Remillard (2005) examined teachers' textbook use in order to see whether curriculum materials contributed to reform-based teaching. Two sample teachers showed different types of textbook use. One teacher was a traditional textbook user, who selected and designed student activities from textbooks and taught as suggested in textbooks. The other teacher though that textbook was one of sources for curriculum planning and she could select diverse suggestions in textbook. Textbooks can provide teachers with choices of tasks, activities, and suggestions about teaching, but too many choices made teachers confused, and it is interesting to note that this result contradicts with the findings of studies conducted by Porter (1989) and Freeman and Porter (1989).

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Valencia et al. (2006) analyzed longitudinal patterns of how four elementary reading teachers used curriculum materials (scripted reading program and supplemental materials) to teach elementary reading, and in turn how curriculum materials shaped teachers' practices. Four teachers had different educational contexts such as curriculum context (mandated or not) and whether highly structured curriculum materials were given. The authors collected the data from classroom observation, individual and group interviews, and documents from classrooms and districts (e.g, lesson plan). The findings indicated that teachers had two problems with strongly mandated curriculum materials. First, teachers usually followed suggestions in the mandated curriculum materials in little consideration of student learning, and second, teachers had only little time to implement materials created by their own if they covered most activities and tasks in the mandated curriculum materials.

Jeon (2006) investigated how two elementary teachers in the US utilized teachers' guide. Teacher A had taught about 25 years while teacher B had only one-year teaching experience. Both teacher A and B showed heavy reliance on teachers' guide when they planned their teaching, but their use and perspective of teachers' guide showed big differences. For example, teacher A used student activities only when those activities helped children learn, and if needed, she modified or altered other contents from additional materials that matched with students' needs. Because she understood that just reading contents in teachers' guide did not necessarily mean that student learned, she argued that teachers' guide should provide instructional strategies that helped student learn. On the other side, teacher B usually followed the sequence of content as suggested in textbooks. Because she perceived that teachers' guide provided the best way for teaching children. Thus, she rarely modified or altered contents in teachers' guide. The author concluded that teachers' guide should include more suggestions about both contents and instructional strategies that enabled teachers to deal with unexpected responses of children and supplement teachers' content knowledge.

In summary, various features of curriculum materials influence teachers' curriculum decision-making. The structure of curriculum materials and emphasis on topics in curriculum materials support or limit teachers' curriculum decision-making, and whether curriculum materials reflected the pedagogical-content approach and reform ideas also have effects on teachers' decisions on what and how to teach. These studies extend the line of studies that aim to help teachers make curriculum decisions, but do not directly apply to education context in Korea. Korean teachers do not have as many options for curriculum materials as their American peers do. Usually, curriculum materials such as textbooks are developed under guidelines of the national curriculum so that most teachers have curriculum materials with similar structure of contents and similar pedagogical-content approaches. Therefore, in this dissertation study, I focus on curriculum materials as policy pressure, which can be varied by individual teachers.

Curriculum Materials as Policy Pressure

In previous studies, generally three kinds of curriculum materials are shown. Assessments have strong policy control in that teachers consider curriculum materials for curriculum decision-making because assessments are required by new policy initiative (Monfils et al., 2004; Kuhs et al., 1985; Shorr et al., 2004) and assessments are required by district (Archbald & Porter, 1994; Floden et al., 1981). In addition to assessments, textbooks and district instructional objectives also influence teachers' curriculum decision-making as policy pressure (Floden et al., 1981).

As reviewed earlier, Kuhs et al. (1985) showed that the teachers used tests as a primary source for decision- making on content, and they were more likely to use curriculum embedded-tests when school districts provided prescriptions for specific instructional strategies. That is,

teachers' perception of tests as policy pressure increased their likeliness of test use.

Archbald and Porter (1994) examined how curriculum policy pressures (the degree to which curriculum guides are specific, textbook adoption, and course-based testing) influence teachers' decision-making on content and pedagogy. The survey was administered to 221 teachers from 12 high schools in California, Florida, and NY, and these teachers were recruited from six districts: two in high control, medium, and low control, respectively. The participating teachers reported that they perceived less control when they taught in the district where provided specific guidelines about content to teach and adopted a single textbook than other districts where had loose policy pressures (e.g., general guidelines and multiple textbooks). The authors also found that teachers felt that they controlled instructional strategies more than content to teach. Policy pressure in the study did not refer to the degree to which teachers perceived policy pressure; rather, the authors defined the degree of curriculum policy pressure with the extent to which curriculum guides were specific, single or multiple textbooks adoptions, and whether course-based testing was required.

In the sub-studies conducted by Schorr et al. (2004) and Monfils et al. (2004), the characteristics of new assessments forced teachers to change their teaching practices. Teachers mentioned that their students were helped to learn state content standards which aligned with the Elementary School Performance Assessment (ESPA). The teacher interview data indicated that there were four kinds of changes in teaching practices which were intended outcomes by ESPA: 1) having students explain their own thought processes, 2) using manipulatives, 3) problem solving, and 4) including students' writing in activities (Schorr et al., 2004), Additionally, the survey data showed that time allocation for test preparation practices remained stable even after ESPA was implemented, but unlike the results from the qualitative data, teachers still showed

conventional teaching practices (i.e., didactic and decontextualized test preparation).

Floden and his colleagues (1981) asked teachers how much they considered curriculum resources that had policy pressure, and compared the power of external resources when elementary mathematics teachers added new topics or deleted old topics. Three sources were curriculum standards such as 1) textbook supplied to the class; 2) district instructional objectives; 3) district test, and the other three factors were 4) an individual's or group's content preference; 5) discussions with the parents of children in the class; and 6) discussions with the parents of children in the class. The authors created a set of hypothetical situations for teachers that systematically varied these potential influences, and asked teachers what their decisions would be in each situation. The teachers reported that they would be more willing to add new topics than to delete old topics, and teachers considered district objectives and test significantly more than the other four factors when they added new topics. Teachers took into account curriculum standards (e.g., district objectives and tests) more than students' preference or parents' opinions. This study is unique in that it enables us to learn relative power of curriculum standards as well as students' needs.

In Korean educational context, Seo (2009) revealed teachers' heavy dependence on textbooks when they developed unit plans. The interview data showed that the participating teachers began analyzing content in textbooks and teachers' guide and usually teach within textbooks. Because textbooks were closely related to assessments, teachers should consider textbooks as the most important sources for instruction. If teachers do not teach any content in textbook, but students see that content in assessments, teachers would be blamed by students and parents. In addition, the close relationship between textbook and assessments hinders teachers to make their own curriculum-related decisions. This study does not clearly present policy pressure through assessments, but given that some assessments are mandated by MOE (e.g., high school entrance examination and the National Assessment of Student Achievement), assessments in Korean education can be regarded as policy pressure.

Summary

Literature reviewed here suggests that teachers consider various types of curriculum materials such as curriculum guides, textbooks, teachers' guides, assessments, etc. Characteristics of curriculum materials (e.g., emphasis on specific content) and policy pressure through curriculum materials influence teachers' curriculum decision-making. Particularly, assessments with policy pressure received high attention by teachers when making curriculum decisions.

Generally, three research gaps were found through the literature review in this section. First, most studies were conducted in the US educational context, but rarely conducted in the context of Korean education. Thus, it is hard to directly apply the findings of these studies to Korean teachers' practices. For example, we cannot assume that how American teachers think of detailed prescription of curriculum guides is equal or similar to how Korean teachers do. Given that teachers in both countries have experienced very different educational environment (e.g., central control over curriculum in South Korea and local control in the US), more research studies are required to understand how Korean teachers' curriculum decision-making looks.

Second, since most studies were conducted in the American context, it can be assumed that features of curriculum materials are different from curriculum materials that Korean teachers usually use. Thus, it is necessary to examine the degree to which Korean teachers pay attention to curriculum materials that they use. It enables us to compare relative power of curriculum materials perceived by Korean teachers as in Floden et al.'s study (1981).

Third, most studies reviewed here were conducted by qualitative methods through taking a close and intensive look for specific teachers' practices. Assuming that these studies were usually conducted in the US context, but unlike the US, the decentralization of curriculum policy is an only early state in South Korea, it would be beneficial to provide overall and general information first and then take a close look for teachers' curriculum decision-making.

Teacher Factors and Curriculum Decision-Making

The literature review generally presents three teacher factors that influence teachers' curriculum decision-making. First, there are a few kinds of teacher beliefs which influence teachers' curriculum decision-making (Coenders et al., 2008; Gill & Hoffman, 2009), and in particular, teachers' beliefs in the authority of curriculum standards encourage teachers to more frequently use curriculum standards (Donnelly & Boone, 2007; Freeman & Porter, 1989; Gill & Hoffman, 2009; Sosniak & Stodolsky, 1993). Second, teacher knowledge about reform ideas and ways of using curriculum standards also play important roles in teachers' curriculum decision-making. If teachers do not have enough knowledge, their teaching practices turn out to be different from initially intended (Cohen, 1990; Choi & Lee, 2008; Hill, 2001; and Son & Chio, 2008). Lastly, collaboration with peer teachers helps or hinders teachers make curricular decisions (Coburn, 2001; Seo, 2009; Shin, 2009; Young, 1985).

Teachers' Beliefs about Curriculum Materials

A few studies have examined teacher beliefs that influence teachers' curriculum decisionmaking and their use of curriculum materials. There are various kinds of teacher beliefs. Coenders et al. (2008) examined how teacher beliefs about curriculum content, teachers' roles, and the development of learning materials influenced their curriculum decision-making. The teachers applied their own beliefs about what to teach and not to teach. Particularly, teachers' beliefs in the authority of curriculum materials (e.g., textbooks, curriculum guides, assessments, etc) are closely related to curriculum decision-making. Teachers who respected the authority of curriculum standards were more likely to use curriculum standards than those who had fewer beliefs about curriculum standards (Donnelly & Boone, 2007; Freeman & Porter, 1989; Remillard, 2005; Sosniak & Stodolsky, 1993).

Gill and Hoffman (2009) identified six categories of teacher beliefs through observing teachers' shared planning time at a middle school. Their categories include beliefs about pedagogical content, general pedagogy, subject matter, curricular choices, resources/textbooks, and students' thinking. Particularly, teachers have their own beliefs about curricular choices and included or excluded topics based on their beliefs (e.g., teachers usually included "fun" and "cool" activities), and teachers showed their beliefs about their textbooks (e.g., textbook problems are confusing because it is not specific enough). This study provides the basic information of types of teacher beliefs, but no relation with teachers' curriculum decision-making was shown.

Since the intentions of reforms are often reflected in textbooks, the degree to which teachers agree with reform-oriented ideas also influence their use of textbooks. In the case study conducted by Remillard (2005), two elementary teachers played different roles in curriculum development and showed different styles of textbook use. The author constructed three arenas in curriculum development and examined what teachers did through class observations and interviews. One teacher supported the traditional teacher-centered instruction and believed that mathematics was a group of topics. She frequently used the textbook as a critical source for her instruction. The other teacher supported more reform-oriented instruction and focused on mathematical understanding and critical thinking. She created tasks and activities for classroom
teaching rather than using the textbook. The salient difference between the two teachers was that the latter teacher improvised her teaching in consideration of students' responses in the classroom, while the former was less responsive to students' unexpected difficulties or struggles.

Freeman and Porter (1989) categorized three types of teachers' textbook use depending on their beliefs in the authority of textbooks: 1) text-bound, 2) focus on the basis, which means teaching "directly related to basic mathematics concepts and skills but skip lessons that are not" (p. 408), and 3) focus on district objectives. Text-bound teachers usually taught based on the content and sequence in the textbook, while other teachers were less likely to depend on textbooks. The degree to which teachers depended on textbooks paralleled teachers' use of textbooks in that the more teachers depended on textbook, the closer relationships between textbooks emphases and instructional emphases were shown. In addition, text-bound teachers covered the largest number of topics in the textbook. This study reveals how teachers' dependence on textbooks influences their curriculum decision-making, but it is important to note that dependence on textbooks does not necessarily mean teachers' beliefs towards textbooks.

Similarly, Sosniak and Stodolsky (1993), as described earlier, found that the variation in teachers' use of curriculum standards was affected by their beliefs in textbook materials as authorities for elementary content. The teachers who strongly believed in textbook materials as an authoritative source were more likely to use textbooks than other teachers who did not so believe.

While Freeman and Porter (1994) and Sosniak and Stodolsky (1993) have focused on teachers' beliefs about textbooks, Donnelly and Boone (2007) paid attention to teachers' beliefs about state curriculum standards. The authors reported that "teachers who regard state curriculum standards as useful and appropriate sources for students are using standards in more ways than are minimally required by school administrators" (p. 252), but the results also indicated that teachers' use of the standards was explained, in part, by the fact that most participating schools mandated adherence to the Indiana Academic Standards.

Most studies focused on teachers' beliefs in the authority of textbooks, and this might be because textbooks are most commonly and frequently used curriculum materials by teachers. Few studies, however, have paid attention to other types of curriculum materials such as curriculum guides and teachers' guides, which Korean teachers usually use for curriculum decision-making. Because these curriculum materials have difference features, teachers may have different beliefs on these curriculum materials. Therefore, it is necessary to examine teacher beliefs on each curriculum material and how their beliefs influence on teachers' curriculum decision

Teacher Knowledge

A few studies have examined how teacher knowledge affects teachers' curriculum decisionmaking and teaching practices (e.g., the implementation of a reform). Some researchers have found that teachers dismissed policy messages that contradicted their previous knowledge, and modified their own knowledge through interactions with other colleagues (Coburn, 2001). Teacher knowledge can guide teachers in the appropriate way to implement curriculum policies (Coburn, 2001; Cohen, 1990; Choi & Lee, 2008), and improve their teaching practices (Son & Choi, 2008).

Coburn (2001) conducted a case study of 19 teachers in one elementary school using observation, interview, and document analysis. The results revealed three types of teachers' "sensemaking" of policy messages. First, teachers changed or modified their interpretation of policy messages through interactions with other teachers. Second, teachers rejected policy messages when those messages 1) did not apply to their grade level; 2) were opposed to their philosophy; 3) were completely outside the bounds of comprehensibility (impossible); 4) did not fit into preexisting programs; 5) were unmanageable; and 6) teachers did not feel they understood those policy messages. Third, teachers spent time in negotiating practical and technical details that ranged across textbooks; keeping time for student individual assessments; how to group students; and activities for instruction. Particularly, the second type of sensemaking, in which teachers rejected policy messages, is related to teacher knowledge in that they disregard when they cannot clearly understand what policy messages mean. This study put emphasis on the importance of teacher knowledge about policy message, but this kind of teacher knowledge was not closely related to teachers' curriculum decision-making; rather general teachers' practices.

Similarly, Cohen (1990) also revealed that lack of teacher knowledge about content and pedagogy reflected from curriculum reform hindered a teacher from appropriately implementing reform-based teaching. The researcher conducted classroom observation in order to examine how Mrs. Oublier, elementary mathematics teacher, responded to new state curriculum policy, which emphasized on children's mathematical understanding rather than mechanical memorization. Mrs. Oublier thought that she succeeded in teaching in line with state curriculum policy, but the author's observation told a different story. The teacher showed paradoxical teaching practices, with a mixture of new mathematics instruction and traditional organization and materials. The author argued that the teacher showed ambivalent teaching practice because she did not have enough knowledge and skills to implement the new curriculum policy, specifically knowledge and skills about both content and pedagogy.

The literature in the US education generally reports why teachers show different teaching

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practices from what curriculum policy or curriculum materials suggest. This is, maybe, because the US education has a strong tradition of local control so that it has been important for education researchers and school educators to align their teaching with curriculum policy. In the Korean literature, some studies have examined how teacher knowledge contributed to improving teaching practices.

Choi and Lee (2008) examined how teacher knowledge and beliefs influenced the depth of implementation of performance assessment in elementary social studies. Superficial implementation means what instruments of performance assessment (e.g., portfolio, presentation, observation, etc) teachers chose, and deep implementation means the degree to which teachers made use of cognitive structure and purposes of performance assessment. Teacher knowledge means knowledge about 1) how to select content for assessment; 2) how to develop assessment instruments and the evaluation criterion; and 3) how to reflect the results of assessment, and teacher belief was measured by the degree to which teachers believed in constructivist learning, which was emphasized in social studies. Through surveying 700 elementary teachers, the researchers found that, for both superficial and deep implementations, teacher knowledge had more impact than teacher beliefs. Teachers who had more knowledge about performance assessment used various kinds of instruments and tasks that required higher level thinking. Further, the more knowledge of performance assessment a teacher had, the more frequent use of the results of performance assessment was shown to improve teaching and learning in social studies.

Likewise, as reviewed earlier, Son and Choi (2008) examined factors influencing teachers' textbook use in elementary mathematics, and found that teacher knowledge about curriculum played a significant role in their textbook use at the high cognitive level of mathematical tasks.

The more teachers had knowledge of curriculum (textbook) the more high level of mathematical tasks they used in their teaching.

Previous studies reviewed in this section cover various types of teacher knowledge influencing teachers' practices and curriculum decision-making. Teachers' misunderstanding or misinterpretation of curriculum policies leads them to misalign teaching with curriculum policies, and content and pedagogical knowledge helps teachers to provide better teaching (Choi & Lee, 2008; Hill, 2001; Son & Chio, 2008). However, no study examines impacts of various types of knowledge on teachers' curriculum decision-making. In the sense, it would be beneficial to examine teacher knowledge about curriculum policy as well as content and pedagogical knowledge and how these all types of teacher knowledge influence teachers' curriculum decision-making, which has been underexamined especially in the context of Korean education. In addition, most studies reviewed here were subject to one specific subject (e.g., mathematics or social studies) rather than multiple subjects, which enable us to understand differences in teacher knowledge between subjects.

Collaboration with Peer Teachers

Teachers valued collaboration with facilitators and other teachers to do curriculum development. They can create research groups to exchange information and develop teaching materials (Choi, 1996; Hur, 2001; Seo, 2009) and collaborate with peer teachers and school administrators to develop school-based curriculum (Seo, 2009). Teachers' collaboration and interactions increased teacher knowledge for content and pedagogy as well as their confidence level to implement the curriculum (Young, 1985), and they helped teachers better understand policy messages (Coburn, 2001). Teachers' collaboration, however, discouraged teachers from integrating their curriculum with their own teaching styles and beliefs (Shin, 2009).

In order to explore reasons why teachers participated in curriculum development and what aspects of their participation they liked and disliked, Young (1985) interviewed 15 teachers who participated in a curriculum development committee at the provincial level. The interviews indicated that these teachers wanted to participate in curriculum development because they desired "to be involved in decision-making, and they valued interactions with other educators in the process of curriculum development. It is meaningful to note that teachers valued interactions with other educators in that teachers 'perceived (interactions) as an excellent source of ideas for use in one's own classroom' and 'increased their knowledge for the subject area, understanding of what curriculum was designed to accomplish, and their confidence in being able to implement the curriculum effectively' (p. 399). The slowness and inefficiency in curriculum development, however, discouraged teachers from working on curriculum development.

Coburn (2001) observed teachers' interactions both in formal and informal settings, and found that teachers brought their worldviews and interpreted the same policy messages in different ways. When teachers had problems with policy messages (e.g., policy messages did not fit in their classrooms, teachers did not understand some policy messages, policy messages contradicted with their preexisting worldviews, etc.), they dismissed those messages. Over time, teachers in the same group showed similar worldviews and teaching practices. The results suggest that interactions with peer teachers in formal or informal settings influence teachers' understanding and interpretation of policy messages as well as teaching practices.

Similar to the US education context, in the context of Korean education, collaboration with peer teachers has advantages and disadvantages. Seo (2009) interviewed with one mathematics teacher and five language arts teachers who joined the group for developing unit plans. Five language arts teachers created a group for collaboration and one leader teacher developed a draft of unit plans considering and analyzing curriculum guides, textbooks, and teachers' guides, and other resources from the internet. The teachers had a monthly meeting to develop unit plans based on the draft that the leader teacher developed, and the draft of unit plans had the analysis of units, objectives, content, materials, the structure of student learning, and student activities. The final version of unit plans looked totally different from the draft, but the leader teacher was very open to criticism by other teachers in the group and valued their comments and revisions. The author concluded that the teachers did not just make unit plans; rather created unit plans with shared knowledge, experiences, and expertise. Teachers' collaboration for curriculum decisionmaking, however, did not always help teachers. One mathematics teacher had experiences in failing to develop unit plans through collaboration with peer teachers because he spent most time in dealing with administrative issues rather than instructional issues when having meetings with his colleagues.

Likewise, in Shin's study (2009), teachers raised the problem of collaboration at the school level. She interviewed eight teachers who taught world history in six high schools in the Midwest in the US, and argued that "team teaching does not always mobilize the decision-making power of teachers. Some teachers argue that team teaching might prevent individual teachers from establishing curricular goals that are in sync with their own teaching styles and beliefs" (p. 205). Teacher collaboration usually helps teachers decide curriculum decisions but it might be a barrier (or hurdle) for teachers when they do not have consensus about the goals of collaboration.

Most studies on teacher collaboration present how collaboration with colleagues generally help or hinder teachers interpreting policy messages, make curriculum decisions, developing unit-plans. These studies, however, rarely ask teachers about how collaboration helps teachers make specific curriculum decisions (e.g., how collaboration with peers helps teachers make decision about content to teach).

Summary

The literature review indicate that teachers make decisions about content to teach, instructional strategies, time allocation for units, sequence of units, etc. when they plan their instruction. Teachers' curriculum decision-making appears to be influenced by two kinds of factors. First, policy pressures or features of curriculum materials play a critical role when teachers decide what and how to teach their students. Particularly, it is important to note that curriculum materials influence teachers' practices through their features (e.g., structure of textbooks) and through policy pressures (e.g., a single textbook adoption, state assessment policy, etc.). Second kind of factors comes from teachers themselves. What teachers think about curriculum standards, how enough knowledge about content, pedagogy, and the intentions of curriculum policy teachers have, and how collaboration between teachers helps them encourage or discourage teachers to make curriculum decisions.

The findings from the previous studies provide ample information about teachers' curriculum decision-making and influential factors, but some research gaps were also found. First, most studies reviewed in this paper were conducted in the US context where have had very different educational environment. Given that Korea and the US have different educational context, especially regarding teachers' control over curriculum decision-making, it is necessary to conduct more research studies in the context of Korean education.

Second, methodologically, many previous studies use qualitative methods such as interview, classroom observation, and document analysis in the context of US education. Qualitative approach enables us to understand what actually happens at the school and classroom level, but it is hard to generalize the findings for other teachers who have different environments. Especially,

school and classroom environment in the US and Korea have differences (e.g., In the US, students go around to take a class while in Korea teachers come to the classroom to teach his/her subject), it is even hard to apply the finding of studies in the context of US education to cases in Korean education. Furthermore, in Korea, teachers have only little experience to take curriculum control and education researchers also need basic and general information to help teachers have more curriculum control. Therefore, it is required to see the current state of teachers' curriculum control in general prior to taking a close look for specific teaching practices.

To bridge the research gap, I will construct the analytical framework based on the literature review in each sub-study.

CHAPTER 3

METHODS

Research Design

This section presents research design. This dissertation study employs a survey method, and the survey questionnaire was developed reflecting the models constructed based on the literature review. Research methods for sub-studies will be described in Chapter 4, 5, and 6.

Data Collection Procedures

Prior to data collection, the data collection instruments were reviewed and approved by the Institutional Review Board (IRB) of Michigan State University. The data source was survey responses from middle school teachers in South Korea. In the following section, I describe data collection procedures.

Data Collection Instrument

The survey questionnaire was developed specifically for this dissertation study, and comprises three parts: 1) teachers' perception of control over curriculum decision-making; 2) teachers' attention to curriculum materials and student contexts when they make curriculum decisions and whether their attention has changed; and 3) teachers' beliefs about curriculum materials, teacher knowledge, and collaboration with peer teachers. I did not use survey items about whether teachers' attention to curriculum materials and student contexts had changed over time.

Teachers' Perception of Control over Curriculum Decision-Making

Five measures are included to examine how teachers perceive their control over curriculum decision-making. These measures are examined by asking teachers the degree to which they perceive control over four types of curriculum decision-making and for evaluating students. The

four types of curriculum decision-making include content to teach, instructional strategies, time allocation for unites, and sequencing units.

Teachers' Attention to Curriculum Materials and Students' Needs and Context

Teachers were asked the degree to which they pay attention to curriculum materials and students' needs and context when they make four types of curriculum decisions respectively. In the context of Korean education, three types of curriculum materials are usually considered by teachers: 1) curriculum guides for subject matter; 2) textbooks; and 3) teacher guides. Second, assessments are also very influential curriculum materials for teachers' curriculum decision-making. Generally, four kinds of assessments are administered at the middle school level: 1) performance assessment; 2) assessments administered by school; 3) the national assessment of student achievement; and 4) high school entrance examination.

In addition to curriculum materials, students' individual needs and local context are included because these two resources are particularly emphasized in the revised seventh national curriculum as key features to provide teachers with more responsibility in the context of decentralization of curriculum policy.

Teacher beliefs

Measures on teacher beliefs about curriculum materials are borrowed from Donnelly and Boone's study (2007). Five measures present positive beliefs (e.g., curriculum materials provide useful instructional suggestions) and six measures present negative beliefs (e.g., curriculum standards are mandated by my school administration). I will ask teachers about their beliefs about curriculum guides, textbooks, and teacher guides respectively because these three curriculum materials are frequently and generally used by middle school teachers in South Korea.

Teacher knowledge

These measures are borrowed from Son's study (2008), which focuses on mathematics teachers and teaching practices. Since this dissertation study focus general teaching rather than subject-specific one, I modified measures that ask teachers about their knowledge on specific mathematics content. In addition, I deleted subject-specific items. Six measures are embedded as follows: 1) teacher knowledge on content; 2) general classroom management; 3) how students learn subject matter; 4) instructional strategies; and 5) ways of using curriculum standards.

Collaboration with Peer Teachers

Measures for teacher collaboration are developed in consideration of the literature review and comprise two kinds of items. First four items ask teachers how collaboration with peer teachers helps them make a decision about main curricular issues (content, instructional strategies, time allocation, and sequence). Second, three items are embedded to ask teachers how collaboration helps them improve their content and pedagogical knowledge as well as knowledge for understanding and interpreting the requirements of the national curriculum.

Survey Item Validation

Once the survey instrument was developed, to examine and critique the instrument, I asked three Ph. D students who had teaching experience at the middle school level in South Korea to review the instrument. Specifically, I asked them if there were any items (or terms) that were unclear or did not make sense to them. After collecting their comments, I revised the instrument and translated it into Korean.

Since Korean language is not completely matched with English, I carefully translated the survey instrument from English into Korean, and then asked two Ph. D. students who are familiar with Korean education to examine items to ensure that they were clearly and completely

translated into Korean. I also asked these students to suggest any alternative words if there is any term that is awkward, unclear or not applicable for Korean education. With their comments, I revised the instrument again.

Pilot Study

A pilot survey was conducted from August 2 through September 2 (Table 1). The pilot survey enabled me to test reliability of survey items and make further improvements in the questionnaire. To this end, I asked 38 Korean middle school teachers to complete the survey and also asked about unclear terms and how to improve the questionnaire. Reliability was assessed using Cronbach's alphas. Results of reliability tests are shown in Table 2. Most groups of items present reasonable degree of reliability (over 0.7), but the reliability for items of negative teacher beliefs on curriculum guide is .549.

Table 1

Timeline	Procedure
August 2 ~ September 2, 2010	Collected the pilot survey data
September 3 ~ November , 2010	Analyzing the data from policy survey Revised the survey instrument
November 15~ December 15, 2010	Collected the final data

Summary of Data Collection Procedure

Reliability of Items in Pilot Survey

Catagoring of items	Cronbach's
Calegories of items	Alpha
Teachers' perception of control over curriculum decision-making	.876
Teachers' attention to curriculum materials and student contexts for curriculum	
decision-making	
1) Content to teach	.835
2) Instructional strategies	.717
3) Time allocation	.717
4) Sequence for units	.879
Whether teachers' attention to curriculum materials and student contexts for	
curriculum decision-making have changed	
1) Content to teach	.931
2) Instructional strategies	.954
3) Time allocation	.951
4) Sequence for units	.916
Teachers' negative beliefs about curriculum guides	.549
Teachers' positive beliefs about curriculum guides	.726
Teachers' negative beliefs about textbooks	.721
Teachers' positive beliefs about textbooks	.706
Teachers' negative beliefs about teacher guides	.824
Teachers' positive beliefs about teacher guides	.690
Teacher knowledge	.918
Collaboration with peer teachers	.928

Participants

The questionnaire was distributed to 1,010 middle school teachers in South Korea. In order to sample teachers, I used a stratified cluster design process. All middle schools in South Korea are stratified by geographic locations and school size. With regard to geographic locations, 16 MPOEs (Seoul, six metropolitan cities, and nine provinces) were categorized into four regions (see Table 3). Within each region, schools were categorized as small schools with at most 40 teachers and large schools with more than 40 teachers. As a result, eight strata were created (four areas * two school sizes). I selected school from each stratum with probability proportional to middle school teachers in each school.

The Korean Center for Educational Statistics provided me with the total number of middle school teachers and the number of teachers who were currently leaving of absence. In total, there were 108,781 middle school teachers and 4,942 teachers were on leave of absence in 2009. Thus, the size of the population for this study was 103,839 middle school teachers. I expected to sample approximately 1% of the population (about 1,000 teachers). I calculated the average number of teachers in each stratum, and then predicted that I needed at least 32 middle schools to select about 1,000 teachers. It is possible to select approximately 1,104 teachers from 32 middle schools.

Thirty two schools were randomly selected by using the random number generator in Excel 2010. To each stratum, I assigned random numbers in each category (e.g., the stratum for small schools in region 1). Once I selected 32 sample schools, I made a list of all the teachers and counted the number of teachers in the selected schools. I excluded counseling teachers, school nurses, religion teachers, librarians because these teachers do not need to make curriculum

decisions. In addition, I excluded native English speaking teachers² because I was not sure if they could complete the questionnaire in Korean and have enough background knowledge about Korean education to complete the survey.

In total, 1,010 teachers from 32 middle schools were selected. To survey the selected teachers, I mailed packets the questionnaires with a guideline and modest monetary reward to a head teacher of the department of academic affairs (DAA) in each school. Usually, a head teacher of DAA is more experienced, responsible for curriculum-related tasks, and has power to assign tasks to other teachers in school. I asked head teachers of DAA to distribute and collect the questionnaires. In the guideline, I briefly described the purpose of the study and who must be included and excluded in the survey. I asked head teachers to send the completed questionnaires back by December 3, 2010, but most head teachers asked to have more time to collect the completed questionnaires. On the front page of the questionnaire, I notified teachers that I would mail a book gift card (valued at about \$5.00) once I received the completed questionnaires.

² As the MOE has launched the plan for the globalized education, English teachers who are native English speakers have been invited to teach in elementary and secondary schools.

	Small schools with at		Large sch	nools with	Total		
	most 40	most 40 teachers		more than 40 teacher		nai	
Region	Schools	Teachers	Schools	Teachers	Schools	Teachers	
1	5	128	4	166	9	294	
2	5	103	4	200	9	303	
3	4	67	3	125	7	192	
4	4	66	3	155	7	221	
Total	18	364	14	646	32	1,010	

Number of Sample Schools and Teachers

Of 32 schools, head teachers in three schools declined to participate in the survey. Teachers of two schools said that it was the busiest time of the year for teachers and so they did not have time to participate in the survey. In another school, the head teacher declined because she did not have authority to ask teachers to complete the questionnaire and suggested to ask a deputy principal. I called the deputy principal to persuade her to help me conduct the survey in her school, but she said that she would allow to survey teachers only if I persuaded all teachers in the school by calling each of them. It seemed impossible to call almost 40 teachers in the school, so I gave up to survey teachers in the school. The head teacher in another school chose not to participate in a curriculum-related survey because his school just opened in 2010 so that teachers in the school were not prepared to participate in the survey. As a result, 618 teachers in 28 schools complete the questionnaire, but I had to delete one school because I received only one response from the one school. Two responses were also deleted because these teachers did not complete the first section of background information. As a result, 615 responses from 27 schools will be analyzed in this study (Table 4).

	Small schools with at		Large sc	hools with	Total	
	most 40	teachers	more than 40 teacher		N	Jiai
Region	Schools	Teachers	Schools	Teachers	Schools	Teachers
1	4	77 (60.2)	3	95 (57.2)	7	172 (58.5)
2	5	72 (69.9)	3	123 (61.5)	8	195 (64.4)
3	3	52 (77.6)	3	93 (74.4)	7	145 (75.5)
4	3	21 (31.8)	3	82 (52.9)	6	103 (46.6)
Total	17	222 (61.1)	12	393 (60.8)	28	615 (60.9)

Number of Responding Schools and Teachers

* The numbers in parenthesis are response rates.

Demographic characteristics of the participants are shown in Table 5. Sampling weights were created based on the sampling plan, the selection probabilities, and the non-response and response rates. Because of the complex nature of the sample design, Jackknife replicate weights were created and used for estimating sampling variability.

	Category	Number of Respondents	%	Total
Region	Seoul	113	18.4	
-	Large cities	162	26.3	
	Small cities	217	35.3	
	Rural areas	123	20	615
Туре	Public	480	78	
	Private	135	22	615
Entrance exam	Yes	310	50.4	
	No	305	49.6	615
Gender	Female	425	69.1	
	Male	190	30.9	615
Degree	Bachelor	389	63.3	
	Master	216	35.1	
	Ph.D	6	1.0	
	Etc	1	0.2	612
Subject taught	Test-related	403	65.5	
	Nontest-related	212	34.5	615
Number of grade taught	Single	425	69.1	
	Multiple	183	29.8	608
Teaching years	0-10	172	28	
	11-20	112	18.2	
	21-30	237	38.5	
	31 and more	40	6.5	561

Characteristics of Survey Participants

CHAPTER 4

TEACHERS' ATTENTION TO CURRICULUM MATERIALS VERSUS STUDENT CONTEXTS

Purpose of the Study

The current curriculum policy in South Korea has been moving towards decentralization, which encourages teachers to be less dependent on curriculum materials (e.g., textbooks) and to consider more environments of local communities and students' individual needs. The decentralization of curriculum policy encourages teachers to consider students' needs rather than providing students with standardized teaching, and to this end, teachers are encouraged to pay more attention to curriculum guides, which provides general directions and objectives about what students should learn and they are also recommended to consider students' needs and context such as local contexts and students' needs. Thus, it is important to examine the current status of teachers' attention to curriculum materials and students' needs and context (i.e., local contexts and students' needs) and to understand why teachers do or do not pay attention to curriculum materials and student contexts.

To develop a lesson plan, Korean teachers use curriculum guides and textbooks with teachers' guides, but they heavily depend on textbooks (Choi, 1996). Lee and Hong (2008) argued that curriculum standards-based teaching gives teachers more responsibility for curriculum decision-making than textbook-based teaching. They acknowledged that textbookbased teaching helps teachers save time and effort to prepare for teaching and to teach many students the same content at the same time. However, textbook-based teaching hinders teachers from reflecting on students' individual needs, and so further results in teachers' indifference. They strongly recommended curriculum guides-based teaching because it can motivate teachers

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to take into account students' individual needs and learning environments in consideration of curriculum standards rather than just sticking to textbooks (Lee & Hong, 2008), thus broadening teachers' control over curriculum decision-making.

Thus, this sub-study examines teachers' attention to curriculum materials and student contexts, and factors influencing their attention to curriculum materials and student contexts. To address this purpose, specific research questions are developed as follows.

- 1. To what extent do teachers pay attention to curriculum materials and student contexts when they make curriculum decisions?
- 2. How is teachers' attention similar or different between curriculum materials and student contexts?
- 3. How do school factors and teacher characteristics influence teachers' attention to curriculum materials and student contexts?
- 4. How does teachers' attention to curriculum materials influence teachers' attention to student contexts?

Methods

This section presents the variables used to measure teachers' attention to curriculum materials and student contexts as well as influential factors on teachers' attention. And analysis methods to address research questions in the study are presented.

Analytical Framework

To address research questions for this sub-study, I created the analytical model as shown in Figure 1. The literature review suggests that the degree to which teachers pay attention to curriculum materials influence teachers' curriculum decision-making, and there are four types of curriculum materials considered in the model. Several kinds of curriculum materials are hierarchically organized in South Korea. First of all, the national curriculum and curriculum guides for a subject matter are developed by MOE. The national curriculum provides general information about the direction of curriculum design, educational goals by school level, organization of curriculum, time allotment standards, and guidelines for the organization and implementation of curriculum. Curriculum guides for subjects (curriculum guides hereafter) address standards and general direction, such as objectives, content, instructional strategies, and assessments for each subject matter. Curriculum guides explain how to use subject matter curriculum standards.

Textbooks are developed in consideration of the national curriculum, subject matter curriculum standards, and curriculum guides, and published by MOE and private publishers. MOE publishes textbooks and teachers' guides for all subjects at the elementary level and for language arts and history subjects at the secondary levels. Textbooks and teachers' guides for all other subjects are approved by MOE once private publishers develop. A few publishers develop considering standards and criterion suggested by MOE so that most textbooks and teachers' guides look very similar, but not very different from one another. In other words, Korean teachers have textbooks and teachers' guides which include similar contents reflecting guidelines of the national curriculum standards (Kim, 2010).

In addition to curriculum guides and textbooks, assessments are the important factors influencing teachers' curriculum decision-making. Four types of assessments are generally considered at the middle school level. First, performance assessments are administered in the classroom setting. "Teachers employ performance assessment tasks requiring students to demonstrate their understanding by constructing responses or by performing tasks, rather than by selecting "right" answers" (Choi, 2005, p.15). Second, there are assessments that are regularly

administered by the school. These types of assessments aim to evaluate student performance for all subjects and occur twice per semester (i.e., mid-term and final examinations). The results of these assessments are very important in that students in some areas apply for high school with the records of assessments for three years of middle school. Third, the national assessment of student achievement examines student performance at the national level in order to provide low performing students with special support. This assessment is implemented nationwide, and in 2010, sixth, ninth, and eleventh graders have to take the assessment. Sixth and ninth graders have five subjects (language arts, social studies, mathematics, science, and English) and eleventh graders have three subjects (language arts, mathematics, and English). Lastly, in some areas, high school entrance exam is an influential factor when teachers develop curriculum. Middle school students in some areas have to take the high school entrance exam while their counterparts in other areas can enter high schools only with middle school grades (Sung & Park, 2008).

In addition to four types of curriculum materials, I added two student contexts in the model. The seventh and revised seventh curriculums encourage Korean teachers to pay more attention to local contexts and students' needs. Local contexts refer to environment surrounding teachers and schools, which teachers should consider when they make curriculum decisions (e.g., geographic and seasonal characteristics).

Variables

Outcome Variables

Outcome variables are teachers' attention to curriculum materials and to student contexts. Curriculum materials are curriculum guides for subject matter, textbooks, teachers' guides, and assessments administered at the school level, which are usually considered by Korean middle school teachers when making curriculum decisions, and student contexts are local contexts and

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students' needs, which are emphasized in the seventh and the revised seventh curriculum.

Teachers were asked how much attention they give to each factor (i.e., curriculum materials and student contexts) when making four types of curriculum decisions: 1) content to teach, 2) instructional strategies, 3) time allocation for units, and 4) sequence for units respectively. As a result, there are 24 items for teachers' attention to factors (four curriculum decisions * six factors) will be considered in this study (see 2.1, 3.1, 4.1, and 5.1 in the questionnaire in Appendix A) (1=no attention; 2=little attention; 3=some attention; 4=much attention; and 5=very much attention).

Independent variables

School factors and teacher characteristics were considered as independent variables in this study. One concern I have in this study is the extent to which teachers' attention to curriculum materials and student contexts might be greater or lesser as a function of the general income level of the local community. For instance, if teachers are working in a low-income community, they might be more likely to pay attention to student contexts when making curriculum decisions. One proxy for community income is the cost of private education expenditure per student a month.

School Factors

School factors include school location, school size (number of classes), school type, whether high school entrance examination is mandatory. In South Korea, not all middle school graduates are required to take a high school entrance examination. Students in eight provinces and one city are required to take a high school entrance examination while those in other areas move on to high school without entrance examination. Because high school entrance examination is developed in consideration of contents in curriculum materials, it can be hypothesized that teachers who teach in the area of high school entrance examination gain more pressure to teach within curriculum materials. In addition to school factors from the survey, I added private education expenditure as poverty level of schools. Statistics Korea (2010) investigated the average monthly private education expenditure per student (PEE) by 16 locations in South Korea (Appendix C). I assigned a PEE score to each school based on their data.

Teacher Characteristics

Teacher characteristics consist of gender, teaching experience, highest degree, subject taught, and whether teachers teach single or multiple grades. One of important examinations in schools in Korea is the National Assessment of Student Achievement (NASA). The purpose of the assessment is to provide basic information of effects of school education through examining student achievement of first through twelfth grades and its longitudinal patterns. In this study, I assume that teachers who teach test-related subjects (language arts, social studies, mathematics, science, and English) for NASA will pay more attention to curriculum materials than those who teach non test-related subjects (e.g., moral education, physical education).

With regard to the number of grade taught, teachers can teach a single grade or multiple grades (seventh through ninth). If teachers teach only one grade, they have to prepare for curriculum decision-making only for one grade while teachers who teach multiple grades have to spend more time for curriculum decision-making for more than one grade. To address how teaching multiple grades make difference in teachers' perception of control over curriculum decision-making, whether teachers teaching a single grade or multiple grades was included in teacher characteristics.

In addition to teachers' demographic background, I added two more variables: the degree to which teachers know about the decentralization of curriculum policy and the degree to which

they agree with the decentralization of curriculum policy. These items was measured using a 5point Likert scale (1=very poor through 5=excellent for teacher knowledge, and 1=strongly agree through 5=strongly agree for teacher agreement). More details about variables used in this study are shown in Table 6.

Table 6

Categories	Outcome variables
	Location (Seoul=0, large cities=1, small cities=0, rural areas=3)
	School type (public=0, private=1)
Sahaal Fastara	Coeducation (single sex=0, coeducation=1)
School Factors	School size (number of classes)
	Private education expenditure per student a month
	High school entrance examination (nonexam area=0, exam area=1)
	Gender (female=0, male=1)
	Teaching experience (number of teaching years)
T 1	Degree (bachelor's=0, advanced=1)
Characteristics	Subject taught (non-test subject=0, test subject=1)
Characteristics	Number of grade taught (single grade=0, multiple grades=1)
	Knowledge about the decentralization of curriculum policy
	Agreement with the decentralization of curriculum policy

Summary of Variables Used in the First Sub-Study

Analysis

Figure 1 shows the analytic model I use for this investigation. The two boxes on the right side show the six factors that teachers could pay attention to as they make curriculum decisions. Those on the top are the four types of curriculum materials described above and the bottom box are the two new factors that the ministry would like teachers to also think about. The two boxes on the left side in Figure 1 represent aspects of teachers and schools that might be relevant to their decisions to pay more or less attention to materials and student contexts.



Figure 1 Analytical Model for Teachers' Attention to the Six Factors

The central goal of this analysis is to define dominant patterns of teachers' attention to curriculum materials and student contexts when making their daily curriculum decisions, in particular whether there are differences between their attention to curriculum materials versus student contexts factors. I also want to see whether teachers' attention to these factors is related to different aspects of their schools or their backgrounds. To address how teachers' attention to the six factors look and how they show difference between curriculum materials and student contexts factors, I will present descriptive statistics and correlations between 24 variables for teachers' attention to curriculum materials and student factors.

Factors influencing teachers' attention to curriculum materials and student contexts are examined by correlations and Hierarchical Linear Modeling (HLM) (Bryk & Raudenbush, 1992). Since the participating teachers were nested within schools, it is possible to estimate the effects of teacher and school level variables simultaneously. Model building was carried out in steps that are consistent with the analytical model (Figure 1) and addressed research questions for this study.

There are two types of independent variables: school factors and teacher characteristics.

School factors include school location, school type, etc., and teacher characteristics include variables about teachers such as teachers' gender, teaching years, subject they teach, etc.

Limitations

This study was conducted by a one-time data collection so that it is not possible to examine the difference in teachers' attention to curriculum materials and student contexts between before and after the decentralization of curriculum policy was implemented. In addition, I collected the data by only surveying teachers, and did not triangulate with other types of data sources (e.g., interview and classroom observation). The survey allows me to gather data on teachers' perception of the degree to which they paid attention to curriculum materials and student contexts, but I was not able to triangulate those perceptions against other types of evidence. Finally, the study is limited to middle school teachers and may not generalize to other grade levels.

Results

In this section, I present descriptive statistics for and correlations between teachers' attention to curriculum materials and student contexts, and then show the factors influencing teachers' attention by HLM results.

Teachers' Attention to Curriculum Materials and Student Contexts

Table 7 shows the descriptive statistics (mean and standard deviation) for teachers' attention to curriculum materials (curriculum guides for subject matter, textbooks, teachers' guides, school assessments) and student contexts (local contexts and students' needs). The participating teachers rated the degree to which they paid attention to each factor with a 5-point Likert scale (1=no attention through 5=very much attention). Among curriculum materials, teachers considered textbooks a great deal no matter what types of curriculum decisions they made (4.06 for content,

3.84 for instructional strategies, 3.83 for time allocation, and 3.83 for sequence), and assessments were followed (3.91 for content, 3.68 for instructional strategies, 3.76 for time allocation, and 3.74 for sequence). Teachers' guides and curriculum guides received relatively less attention than textbooks and assessments. In contrast, teachers were likely to pay less attention to local contexts and students' needs than curriculum materials. Especially, teachers showed low score for their attention to local contexts (3.01 for content, 3.15 for instructional strategies, 3.01 for time allocation, and 2.97 for sequence. Teachers had relatively higher attention to students' needs when deciding instructional strategies (3.50) than other curriculum decisions (3.23 for content, 3.39 for time allocation, and 3.28 for sequence).

Table 7

Descriptive Statistics of Teachers' Attention to Curriculum Materials and Student Contexts

Decision-making	Content		Instructional Strategies		Time Allocation		Sequence	
	М	SD	М	SD	М	SD	М	SD
Curriculum guides	3.11	.708	3.06	.675	3.11	.774	3.10	.829
Textbooks	4.06	.767	3.84	.683	3.83	.694	3.83	.836
Teachers' guides	3.46	.809	3.45	.725	3.46	.801	3.39	.897
Assessments	3.91	.727	3.68	.738	3.76	.751	3.74	.778
Local contexts	3.01	.807	3.15	.790	3.01	.872	2.97	.914
Students' needs	3.23	.750	3.50	.796	3.39	.797	3.28	.890

Correlations

Correlation analysis showed that the average attention to the six factors across four curriculum decisions were greater than among decisions across six factors (Appendix D). For example, teachers' attention to local contexts across the four types of curriculum decisions were highly correlated $(.334 \sim .626)$ while teachers' attention to the six factors for individual content decisions were less correlated $(.138 \sim .443)$. That is, teachers are likely to have similar degree of attention to local contexts no matter what curriculum decisions they made, but the extent to which they considered each type of curriculum materials or student contexts did not look very similar to each other.

Since there was little variation in teachers' attention to these factors across the four types of curriculum decisions, a mean score of each factor across the four types of curriculum decisions was computed. This enabled me to treat teachers' attention to a given curriculum material as a composite score of across the four types of curriculum decisions. Cronbach's alphas for four items within each composite variable are considerably reliable (.772 \sim .862) indicating that the four items in each composite variable consistently measured teachers' attention to each factor.

As shown in Table 8, among curriculum materials, teachers paid considerable attention to textbooks (3.89) and assessments (3.77), but relatively little attention to curriculum guides (3.10). In addition, teachers paid relatively less attention to local contexts (3.03) and students' needs (3.35) compared to attention to curriculum materials. However, it is interesting to note that teachers paid more attention to students' needs than curriculum guides.

Descriptive Statistics of Composite Variables for Teachers' Attention to the Six Factors

Factors	Ν	Max	Min	Mean	SD	Cronbach's Alpha
Curriculum guides	606	1.00	5.00	3.10	.610	.831
Textbooks	609	2.00	5.00	3.89	.575	.772
Teachers' guides	584	1.25	5.00	3.45	.647	.808
Assessments	597	1.25	5.00	3.77	.588	.791
Local contexts	587	1.00	5.00	3.03	.711	.862
Students' needs	606	1.00	5.00	3.35	.658	.828

Correlation between Outcome Variables

As shown in Table 9, the correlation coefficients of outcome variables ranged from .083 to .651. Measures of teachers' attention to the six factors were generally significantly correlated to one another (p < .001), and all factors showed positive correlations. Correlations among the four kinds of curriculum materials and between the two measures of student contexts were higher than correlations between these two sets of measures. For example, teachers' attention to textbooks and assessments were highly correlated (.498, p < .001) while teachers' attention to textbooks showed only low correlations with their concern about local contexts (.083, p < .001) and students' needs (.186, p < .001). Textbooks and assessments were most heavily considered by teachers when making curriculum decisions, and a strong correlation between the two may be explained by the fact that assessments have largely dominated what students should learn and teachers strongly depend on textbooks when they decide content and instructional strategies.

Teachers' attention to teachers' guides also showed high correlations with attention to textbooks (.556, p < .001) and curriculum guides (.525, p < .001). Given that teachers' guides

include a manual about how to utilize textbook, it is natural that teachers' attention to both textbooks and teachers' guides were highly correlated. However, it is interesting to note that teachers' attention to curriculum guides and teachers' guides was highly correlated (.525, p < .001) while teachers' attention to curriculum guides and textbooks showed a low correlation (.251, p < .001).

Teachers' attention to local contexts was most highly correlated to their attention to students' needs (.651, p < .001). Considering that the decentralization of curriculum policy intends to encourage teachers to more consider student contexts, it seems that teachers who pay much attention to local contexts are also likely to consider students' needs much.

Table 9

Correlations between Teachers' Attention to Curriculum Materials and Student Contexts

	Local contexts	Students'	Curriculum	Teachers'	Textbooks
	Local contexts	needs	guides	guides	TEXIDOOKS
Assessments	.335**	.333**	.225**	0.281**	0.498**
Textbooks	.083**	.186**	.251**	0.556**	
Teachers' guides	.193**	.202**	.525**		
Curriculum guides	.356**	.282**			
Students' needs	.651**				
Local contexts					
** p < .001					

Factors Influencing Teachers' Attention to the Six Factors

This section presents how school factors and teacher characteristics influence their attention to the six factors such as curriculum materials and student contexts. To this end, I will show correlations between outcome variables (teachers' attention to curriculum materials and student contexts) and independent variables (school factors and teacher characteristics). These correlations are a preliminary form of analysis providing an estimate of expected associations and strength of relationships. Then I will show HLM results to report what factors among school factors and teacher characteristics have statistically significant associations with teachers' attention to curriculum materials and student contexts.

Correlations between Outcome Variables and School Factors

One thing that could influence teachers' attention to the six factors is the extent to which that context is itself distinctive. That is, teachers in some school contexts may be more likely to consider curriculum materials or student contexts because the context itself is unusual in some way. For this study, I document specific aspects of school contexts to see whether these specific contexts increased teachers' likelihood to take the six factors into account when making curriculum decisions.

As shown in Table 10, teachers' attention to curriculum materials was significantly correlated with most school factors. Location showed negative correlations with most curriculum materials except teachers' guides indicating that teachers in Seoul and large cities showed significantly less attention to curriculum guides (-.116, p < .001), textbooks (-.111, p < .001), and assessments (-.014, p < .001). Teachers in private schools showed significantly higher attention to curriculum materials than their peers in public schools. Whether high school entrance examination is mandatory showed negative correlations with teachers' attention to curriculum guide (-.136, p < .001), textbook (-.031, p < .001), and assessments (-.023, p < .001) suggesting that teachers in exam areas were likely to have less attention to those curriculum materials than those in nonexam areas. Coeducation and number of classes did not show consistent patterns in correlations with teachers' attentions.

Teachers' attention to student contexts were also significantly correlated with most of school factors. Location was significantly correlated with teachers' attention to local contexts (-.168, p < .001) and students' needs (-.143, p < .001) indicating that teachers in Seoul and large cities

were likely to have less attention to local contexts and students' needs for curriculum decisions. Number of classes showed significant correlations with teachers' attention to local contexts (-.037, p < .001) and students' needs (-.037, p < .001) indicating that larger school teachers were likely to pay less attention to student contexts. Similar to curriculum materials, high school entrance examination was significantly correlated with teachers' attention to local contexts (-.164, p < .001) and students' needs (-.071, p < .001) suggesting that teachers in exam areas were likely to have less attention to student contexts than those in nonexam areas.

Table 10

	Location	School type	Coeducation	Number of classes	Entrance exam
Curriculum guides	116**	.133**	025**	022 **	136 **
Textbooks	111**	.045**	.004	.009	031 **
Teachers' guides	.032**	.051**	043**	.032 **	.021 **
Assessments	014**	.049**	035**	004	023 **
Local contexts	168**	.062**	.025**	185 **	164 **
Students' needs	143**	.043**	022**	037 **	071 **
Entrance exam	.652**	023**	.033**	037 **	.351 **
Private education expenditure	.589**	190**	.128**	.248 **	
Number of classes	.276**	259**	032**		
Coeducation	.120**	599**			
School type	112**				

Correlations between Outcome Variables and School factors

** p < .001

Correlations between Outcome Variables and Teacher Characteristics

Table 11 indicated that among teacher characteristics, teacher knowledge about the decentralization of curriculum policy had significant correlations with teachers' attention to curriculum materials and student contexts. Especially, teacher knowledge about the decentralization of curriculum policy had the highest correlation with teachers' attention to students' needs (.215, p < .001). Next, whether teachers taught test or notest subjects had

significant correlations with teachers' attention to teachers' guides (-.110, p < .001), textbooks (-.131, p < .001), local contexts (.163, p < .001), and students' needs (.137, p < .001). It is noteworthy that test subject teachers showed higher attention to teachers' guides and textbooks, whereas nontest subject teachers showed higher attention to local contexts and students' needs.

Teachers' gender and highest degree also showed significant correlations with teachers' attention to some of factors. Male teachers showed less attention to teachers' guides (-.083, p < .05) and textbooks (-.167, p < .001) than female teachers. Teachers who had advanced degrees showed less attention to textbooks (-.081, p < .05) than those who had bachelor's degree.

Teaching years and the extent to which teachers agreed with the decentralization of curriculum policy rarely showed significant correlations with outcome variables. The more teaching years also contributed to the increase of teachers' attention to local contexts (.128, p < .001). As the degree of teachers' agreement with the policy increased, teachers' consideration of curriculum guide (.090, p < .05) and students' needs (.126, p < .001) significantly increased.

Correlations between Outcome Variables and Teacher Characteristics

	Gender	Teaching years	^g Degree	Subject taught	Grade	Knowledge	Agreement
Curriculum guides	.004	.040	.029	044	.029	.185**	.090*
Textbooks	083*	.064	.017	.110*	.011	.167**	.057
Teachers' guides	171**	012	081*	.131*	012	.066	.038
Assessments	167**	002	031	042	.005	.146**	.018
Local contexts	048	.132*	.075	163**	.103*	.173**	.073
Students' needs	010	.026	.057	137*	.073	.215**	.126*
Agreement ¹	.026	.054	.077	.073	034	.140*	
Knowledge ²	.140*	.141*	.128*	121*	.014		
Grade	.047	.057	.030	047			
Subject taught	100*	122*	073				
Grade	.059	.149 **					
Teaching years	.217**						

* p<.05, ** p<.001

Note

- 1) The degree to which teachers agree with the decentralization of curriculum policy
- 2) The degree to which teachers know about the decentralization of curriculum policy

HLM Results

This section presents the results of the HLM analysis. It begins with the results of the unconditional model, and then the model including all independent variables at the school and teacher levels. There were six models for each outcome variable (i.e., teachers' attention to each factor).

Unconditional Model Results

The unconditional model results (Table 12) showed that a large portion of the variance in teachers' attention to curriculum materials and student contexts were between teachers, while only little variance was shown between schools. More than 99% of the variance in teachers' attention to textbooks (99.99%), teachers' guides (99.88%), and assessments (99.97%) were
between teachers, and 95% of the variance in teachers' attention to curriculum guides was between teachers while only 5% of the variance was between schools.

Teachers' attention to local contexts and students' needs showed greater variance between schools than teachers' attention to curriculum materials. Approximately 5.9% of the variance in teachers' attention to local contexts and 5.2% of the variance in teachers' attention to students' needs were between schools.

Table 12

	Curriculum guides	Textbooks	Teachers' guides	Assessments	Local contexts	Students' needs
			Coefficie	nt estimates		
Intercept	3.15**	3.91**	3.48**	3.78**	3.08**	3.39**
			Variance	components		
Teacher level				-		
Variance	0.322	0.321	0.405	0.321	0.481	0.392
Percent of total	92.36	99.99	99.78	99.98	94.10	94.77
School level						
Variance	0.027	0.000	0.001	0.000	0.030	0.022
Percent of total	7.64	0.01	0.22	0.02	5.90	5.23
Deviance statistic	805.37	778.872	887.32	778.7	985.97	890.68
Number of parameters	3	3	3	3	3	3

Unconditional Model Results

** p < .01

School Factors and Teacher Characteristics Model Results

The results shown in Table 13 indicated that few school factors and teacher characteristics were significantly related to teachers' attention to curriculum materials. Especially, only gender and whether high school entrance examination is mandatory were significantly associated with

teachers' attention to textbooks.

There were a few school factors that significantly influenced teachers' attention to curriculum guides. Teachers in small cities were likely to pay less attention to curriculum guides than those in Seoul, large cities, and rural areas (effect size = -.32, p < .10) and private school teachers were likely to pay higher attention to curriculum guides than those in public school teachers (effect size = .40, p < .10). This result is interesting because Korean middle school teachers have the same curriculum guides regardless of school type (public and private). In addition, coeducation (effect size = .19, p < .10), school size (effect size = .02, p < .10), and private education expenditure (effect size = -.02, p < .10) were significantly associated with teachers' attention to curriculum guides.

Subject taught, teaching multiple grades, and teacher knowledge about the decentralization of curriculum policy had significant roles in their attention to teachers' guides. Teachers who taught test subjects (language arts, mathematics, English, social studies, and science) were likely to pay higher attention to teachers' guides than those who taught nontest subjects (effect size = .20, p < .05), and teachers who taught multiple grades were likely to pay higher attention to teachers' guides than their peers who taught single grade (effect size = .16, p < .10). The more teacher knowledge about the decentralization of curriculum policy also significantly increased the degree to which teachers paid attention to teachers' guides (effect size = .13, p < .05).

Only small number of teacher characteristics had significant influences on their attention to assessments. As in attention to textbooks, male teachers were likely to pay less attention to assessments than female teachers (effect size = -.26, p < .01), and teaching multiple grades (effect size = .17, p < .01) and knowledge about the decentralization of curriculum policy (effect size = .09, p < .01) were also significantly associated with their attention to assessments.

Teachers paid considerable attention to textbooks and assessments, and attention to these two curriculum materials were related to by few school factors or teacher characteristics. On the other hand, there were several factors that significantly related to teachers' attention to student contexts. Teachers teaching test subjects were likely to pay less attention to local contexts than those teaching non-test subjects (effect size = -.22, p < .05), and teachers teaching multiple grades were likely to pay higher attention to local contexts (effect size = .24, p < .05) and students' needs (effect size = .18, p < .05). Teachers who had more knowledge about the decentralization of curriculum policy were likely to have higher attention to local contexts (effect size = .12, p < .10) and students' needs (effect size = .20, p < .10). The degree to which teachers agreed with the decentralization of curriculum policy was significantly associated with their attention to students' needs (effect size = .06, p < .05). Among school factors, private education expenditure (effect size = .23, p < .05) had significant associations with teachers' attention to local contexts.

Table 13

School Factors and Teacher Characteristics Model Results

	Curriculum	Textbooks	Teachers'	Assessment	Local	Students'
	guides	TEXTOOOKS	guides	S	contexts	needs
			Coefficier	nt estimates		
Intercept	3.12**	3.91**	3.16**	3.76**	3.14**	3.19**
			Teacher Ch	naracteristics		
Male	0.07	-0.23**	-0.09	-0.26**	-0.16 [†]	0.00
Teaching experience	0.00	0.00	0.00	0.00	0.01^{\dagger}	0.00
Advanced degree	0.02	-0.07	-0.02	0.01	0.01	0.05
Test subject	-0.09	0.02	0.20*	-0.07	-0.22*	-0.19
Teaching multiple grades	-0.01	0.01	0.16^{\dagger}	0.17^{\dagger}	0.24*	0.18*
Knowledge	0.07	0.07	0.13*	0.09^{\dagger}	0.12^{\dagger}	0.20^{\dagger}
Agreement	0.01	0.01	0.04	-0.04	0.00	0.06**
		School Factors				
Location						
Seoul	-0.12	0.13	-0.07	0.16	0.20	0.30
Large cities	-0.31	-0.04	-0.22	0.04	-0.27	-0.01
Small cities	-0.32^{\dagger}	-0.16	-0.17	-0.04	-0.19	0.19
Private school	0.40^{\dagger}	0.12	0.31*	0.13	0.13	0.03
Coeducation	0.19^{\dagger}	-0.03	0.19^{\dagger}	-0.02	0.04	0.02
School size	0.02^{\dagger}	0.01	0.01^\dagger	0.00	0.00	0.00
Private education expenditure	-0.02^{\dagger}	0.00	0.00	-0.01	-0.02^{\dagger}	-0.01
Entrance exam	0.02	0.14^{\dagger}	0.08	0.07	0.23*	0.15
			Variance of	components		
Teacher level	0.3105	0.3012	0.3559	0.2843	0.4173	0.3410
School level	0.0027	0.0000	0.0001	0.0000	0.0000	0.0060
		Model summary				
Deviance statistic	734.82	717.17	790.55	691.86	860.36	779.48
Number of parameters	18	18	18	18	18	18

[†] p < .10, * p < .05, ** p < .01

Attention to Curriculum Materials Model Results

Considering that the decentralization of curriculum policy intends to increase teachers'

attention to student contexts and to decrease teachers' dependence on textbooks, it is important to see how their attention to textbooks and other curriculum materials influence attention to student

contexts. I created two models for teachers' attention to local contexts and students' needs and then added teachers' attention to curriculum materials as independent variables to the previous models (Table 13).

The results shown in Table 14 indicated that after controlling school factors and teacher characteristics, teachers' attention to most curriculum materials significantly associated with their attention to local contexts, and interestingly teachers' attention to local contexts showed positive associations with attention to curriculum guides (effect size=.32, p < .01) and assessments (effect size=.43, p < .01) indicating that teachers who had high attention to curriculum guides and assessments were likely to pay attention to local contexts. In contrast, teachers who paid higher attention to textbooks were likely to pay less attention to local contexts and the association was significant (effect size=.17, p < .05). Teachers' attention to students' needs had significant association only with attention to assessments (effect size=.33, p<.01) indicating that teachers' attention to students' needs had significant astention to students' needs increased as their attention to assessments increased.

Table 14

	Local contexts	Students' needs	
	Coeffici	ents estimates	
Intercept	3.13**	3.16**	
	Teac	cher Level	
Male	-0.13	0.05	
Teaching years	0.01	0.00	
Advanced degree	-0.03	0.05	
Test subject	-0.20	-0.16	
Teaching multiple grades	0.12	0.11	
Knowledge about the policy	0.06	0.14**	
Agreement with the policy	0.03	0.08*	
Attention to curriculum guides	0.32**	0.11	
Attention to textbooks	-0.17*	0.09	
Attention to teachers' guides	0.07	-0.01	
Attention to assessments	0.43**	0.33**	
	Sch	ool Level	
School location			
Seoul	0.13	0.24	
Large cities	-0.40	-0.08	
Small cities	-0.31*	0.12	
Private	0.22*	0.12	
Coeducation	0.10	0.08	
School size	0.00	0.00	
Private education expenditure	-0.02	-0.01	
Entrance exam	0.26**	0.17*	
	Variance	riance components	
Teacher level	0.3363	0.2976	
School level	0.0000	0.0087	
	Model summary		
Deviance statistic	800.51	756.57	
Number of parameters	22	22	

Attention to Curriculum Materials Model Results

p < .10, * p < .05, ** p < .01

Discussion

Teachers' Attention to Curriculum Materials versus Student Contexts

When Korean teachers decide what and how to teach, they usually follow curriculum materials such as textbooks and assessments and concern contents in various types of assessments. Given that curriculum materials provide a common basis of knowledge that students should know, and this contributes to providing equal and high quality education to all students nationwide in Korea, it is natural that teachers consider contents and instructional strategies in curriculum materials. However, when excessive standardization of instruction could be detrimental to students, their own needs might be disregarded. To provide more diverse and student-centered education, Korean teachers have been encouraged to make decisions about what and how to teach rather than teaching only within curriculum standards, and that is why MOE have made efforts to share more responsibilities for curriculum decision-making with teachers

The findings of this study indicate that for curriculum decision-making, teachers pay higher attention to textbooks and assessments than to other curriculum materials. Teachers' heavy dependence on textbooks might be caused by the fact that textbooks provide most detailed information about content and instruction compared to curriculum guides and teachers' guides. Teachers' little attention to both curriculum guides and teachers' guides can be explained by different reasons. Curriculum guides include only basic information (e.g., objectives but not specific contents) so that teachers need to modify or add contents and instructional strategies in addition to contents in curriculum guides. Teachers' guides are guidelines about how to utilize textbook so that large portion of contents covered in both textbooks and teachers' guides. If teachers want to save time to prepare for classroom teaching, it seems easier for them to choose textbooks than reading teachers' guides in addition to textbooks.

High correlation exists between teachers' attention to textbooks and to assessments. Teachers paid considerable attention to assessments when they made curriculum decisions, and this finding is in line with some previous studies (Floden et al., 1981; Monfils et al., 2004; Schorr et al., 2004; Seo, 2009). Assessments had relatively greater policy pressure for teachers (Floden et al., 1981) and teachers adjusted their practices in accordance with the characteristics of new assessments (Monfils et al., 2004; Schorr et al., 2004). In addition, teachers pay a great deal of attention to textbooks, and this might be because contents in textbooks are closely related with assessment items. For example, in Seo's study (2009), the teachers generally taught contents in the textbooks, which is closely related to assessments. When teachers develop assessment instruments, they usually consider contents in textbooks. That is, tight connection between assessment and textbooks explain teachers' heavy dependence on textbooks for decision-making regarding content.

The results of this study also indicate that teachers paid higher attention to curriculum materials than to student contexts factors, and this finding is similar to findings from the study conducted by Floden et al. (1981). In their study, teachers took into account curriculum materials (e.g., district objectives and tests) more than students' preference or parents' opinions when they added or deleted topics in mathematics. However, it is important to note that the participating teachers show considerable attention to student contexts (i.e. some or high attention) even though they paid less attention to student contexts than to curriculum materials. Because only one-time survey was conducted for this study, it cannot be said that teachers have little attention to student contexts and so the decentralization of curriculum policy is successful or unsuccessful. It is also important to note that Floden and his colleagues' study was conducted about 30 years ago so that it may not tell what teachers in the US today. Notably, local contexts receive least attention by

teachers. One possible explanation for teachers' little attention to local contexts is that teachers may not clearly understand what local contexts mean. The 7th and the revised 7th curriculum suggest that teachers consider local contexts, but it is hard to define what local contexts are. Teachers disregard policy messages when they think those messages are not applicable for their teaching practices (Coburn, 2001), and teachers' misunderstanding and misinterpretation might lead them to different teaching practices from policy messages (Hill, 2001). In this sense, if Korean teachers still do not clearly understand what local contexts mean, it is possible that they just disregard "local contexts" when they make curriculum decisions. The other possibility is that teachers do not need to consider local contexts for a certain subject matter. For example, it is assumed that social studies teachers need more consideration of local contexts (e.g., weather), but mathematics teachers teach content with little influence of local contexts. Comparatively, teachers pay more attention to students' needs than local contexts, but still less attention than curriculum materials.

Factors influencing Teachers' Attention to the Six Factors

School factors rarely influence in teachers' attention to curriculum materials and student contexts. One possible explanation for this finding is that Korean middle school teachers are under very similar working conditions across schools. Exceptionally, private tutoring expenditure and high school entrance examination influences in teachers' attention to local contexts. It is assumed that schools in areas with low private education expenditure usually have less competitive educational environment so that teachers can have room to consider local contexts, which do not have close connection with test preparation. In a similar vein, teachers in schools where high school entrance examination is not mandatory may be able to more consider local contexts than those in schools where high school entrance examination is required.

It is also noteworthy that teachers teaching test subjects pay more attention to textbooks and teachers' guides than nontest subject teachers, whereas test subject teachers consider student contexts less than nontest subject teachers. This finding is a clear evidence for test-driven education in South Korea. Teachers teaching test subjects should teach within textbooks, which are main sources of assessments, but nontest subject teachers have more freedom to decide what and how to teach in consideration of student contexts. Another possible explanation is that teachers are provided only one textbook for language arts, moral education, and social studies while they can select one of textbooks for other subjects. Kim (2004) argues that considering teachers' little experiences in changing or modifying contents in textbook, providing only one textbook can limit reorganizing contents in textbook by teachers.

Teachers' attention to curriculum materials have significant influence on teachers' attention to local contexts, and it is interesting to note that attention to curriculum guides is parallel with attention to local contexts while attention to textbook shows negative relation with attention to local contexts. That is, teachers who consider curriculum guides are likely to have more concern about local contexts while those who have attention to textbooks are likely to pay little attention to local contexts. These results support Lee and Hong's (2008) argument that to better meet the goals of the decentralized curriculum implementation, teachers are encouraged to decide what and how to teach in consideration of curriculum guides rather than completely teaching within textbooks.

It is also interesting to note that teachers' attention to student contexts increase when they have high attention to assessments. This result might be interpreted in consideration of features of assessments administered at the school level. For example, in the study conducted by Schorr et al. (2004), teachers changed their practices in line with the intentions of new assessments. In

Korea, teachers should prepare students for various types of assessments, and one of them is performance assessment, which aims at evaluating students' higher order thinking (Choi, 2005). Since performance assessment is different from standardized assessments (e.g., high school entrance examination), teachers might consider student contexts when they develop assessment tools. Even other types of assessments tools, which have multiple choice questions, are developed by teachers who better understand student contexts.

Implications

Through the seventh and the revised seventh national curriculum, MOE encourages teachers to give more attention to student contexts and expects to make diverse school-based curriculum rather than implementing strongly standardized curriculum. To help teachers more consider student contexts, it is important to understand the current state of the degree to which teachers pay attention to curriculum materials and student contexts and what influence teachers' attention to these factors. In that sense, this study provides useful information for policy makers and education researchers.

In order to support teachers to pay more attention to student contexts, it is important to provide teachers with clear and specific information about the decentralization of curriculum policy. In the study, a large number of teachers reported that they had little or no knowledge about the decentralization of curriculum policy, and their knowledge has significant effect on teachers' attention to student contexts. Thus, teachers' relatively lower attention to local contexts may be due to lack of understanding about what local contexts mean. Policy messages can be interpreted in different ways depending on contexts surrounding schools and teachers. In the sense, rather than clarifying or making just one definition of local contexts, it would be good to have teachers determine what kinds of or whether local contexts should be considered. As shown

in Seo's (2009) and Coburn's (2001) studies, informal groups of teachers (preferably teachers teaching the same subject matter) can help teachers clarify or redefine unclear policy messages through discussions with peer teachers.

This study reveals that teachers pay higher attention to textbooks than curriculum guides for subject matter, which provides standards and a general direction rather than specific contents in textbooks (Kim, 2004). In Lee and Hong's study (2008), teachers agreed that curriculum guides-based teaching was desirable but they did not pay high attention to curriculum guides because curriculum guides for subject matter showed abstract and general contents rather than specific and practice-based contents. The researchers acknowledged that textbook-based teaching helps teachers save time and effort to prepare for teaching and to teach many students the same content at the same time. However, textbook-based teaching hinders teachers from reflecting on students' individual needs, and so further results in teachers' indifference. They strongly recommended curriculum guides-based teaching because it can motivate teachers to take into account students' individual needs and learning environments in consideration of curriculum materials rather than just sticking to textbooks.

Professional development is one of useful tools to help teachers better understand from goals of the curriculum policy to ways to utilize various types of curriculum materials rather than following contents and sequence in curriculum materials (Cohen & Hill, 1998; Elmore, 1996; Knapp, 2003). Before providing teachers with standardized professional development, it might be useful to ask what teachers actually need to develop curriculum planning with their own decision-making and to more consider student contexts. For example, teachers need opportunities to learn about how to develop curriculum planning with curriculum guide rather than overview of the curriculum policy (Paik et al., 2011).

CHAPTER 5

TEACHERS' PERCEPTION OF CURRICULUM CONTROL

Purpose of the Study

Given that MOE encourages teachers to reconstruct or reorganize contents in curriculum materials, one important question is whether teachers perceive that they actually have control over curriculum decisions. In this sub-study, I examine teachers' perceived control over the four types of curriculum decisions: content to teach, instructional strategies, time allocation for a unit, and sequence for units as the literature review suggests.. For convenience, I refer to teachers' perception of control over the set of four types of curriculum decisions as *teachers' curriculum control*, and I refer teachers' perception of control over the individual areas of possible control as *teachers' control over* content, instructional strategies, time allocation, and sequence.

In addition, I examine factors influencing teachers' perceived curriculum control. As the literature review shows, two types of factors will be considered. First type of factors is teachers' attention to curriculum materials and student contexts, and second are teachers' beliefs about curriculum materials, teacher knowledge, and collaboration with peer teachers. To address these purposes, research questions are developed as follows.

- To what extent do teachers perceive their curriculum control, and how are their curriculum control perceptions similar or different between four types of curriculum decision-making?
- 2. How do school factors and teacher characteristics influence teachers' perception of curriculum control?
- 3. How do teachers' attention to curriculum materials and student contexts influence their perception of curriculum control?

4. How do teachers' beliefs about curriculum materials, teacher knowledge, and collaboration with peer teachers influence their curriculum control?

Methods

For this analysis, outcome variables are teachers' perception of control over content to teach, instructional strategies, time allocation for a unit, and sequence for units. Independent variables include school factors, teacher characteristics, teachers' attention to curriculum materials and student contexts, teachers' beliefs about curriculum materials, teacher knowledge, and collaboration with peer teachers as the analytical model suggested (Figure 2).

Analytical Model

I created the analytical model for this study based on the literature review (Figure 2). The literature suggests that there are four types of curriculum decision-making. As mentioned earlier, I measured teachers' perception of control over curriculum decisions: 1) content to teach; 2) instructional strategies; 3) time allocation for units; and 4) sequencing units.

There are four types of factors that influence teachers' perception of curriculum control. First school factors refer to educational environments such as school location, school type, coeducation, school size, monthly private education expenditure per student, and whether high school entrance examination is mandatory.

Second, teacher characteristics include gender, teaching experience, highest degree, subjects taught, and number of grade taught. I added two more teacher characteristics such as the degree to which they know about the decentralization of curriculum policy and the degree to which they agree with the policy.

Third, the degree to which teachers pay attention to curriculum materials and student contexts are also included in the analytical model. Curriculum materials include curriculum

guides for subject matter (curriculum guides), textbooks, teachers' guides, and assessments administered at the school level, and these four kinds of curriculum materials are usually considered by Korean middle school teachers when they make curriculum decisions. Curriculum guides are developed in consideration of the requirements of the national curriculum and provided by MOE, and address standards and general direction, such as objectives, content, instructional strategies, and assessments for each subject matter. Textbooks and teachers' guides are developed in consideration of the requirements of curriculum guides and published by MOE and private publishers. Assessments administered at the school level include mid-term and final examinations and performance assessments. Middle school teachers also should consider national assessment of student achievement administered by MOE and high school entrance examination, but these assessments are not considered by all middle school teachers. National assessment of student achievement is considered by only teachers teaching five subjects (language arts, mathematics, English, science, and social studies) and high school entrance examination is considered by teachers only where the examination is mandatory. With regard to student contexts. I include students' needs and the condition of the school and local communities because the national school curriculum suggests Korean teachers to consider these two factors when developing school-based curriculum.

Lastly, teacher factors such as teachers' beliefs about curriculum materials, teacher knowledge, and collaboration with peer teachers are included in the analytical model, and details will be provided in methods.



Figure 2 The Model for Teachers' Control over Curriculum Decision-Making

Variables

Outcome Variables

Teachers' perception of curriculum control was measured by asking teachers how much control they actually have when making curriculum decisions. The literature review suggests that there are four types of curriculum decisions: 1) what content to teach; 2) how to teach content; 3) how to allocate time for a unit; and 4) how to sequence units. Participating teachers were asked to rate their actual control over each curriculum decision using 5 Likert scale (1=no control; 2=little control; 3=some control; 4=much control; and 5=very much control).

Factors predicting Teachers' Curriculum Decision-Making

First factors are about schools where teachers teach such as school location, school type, coeducation, school size, monthly private education expenditure per student, and whether high school entrance examination is mandatory. Second, teacher characteristics consist of gender, teaching experience, highest degree, and subject taught, and the number of grades teachers teach. Third type of factors was teachers' attention to curriculum materials and student contexts. Teachers were asked how much attention they paid to curriculum materials and student contexts when making decisions about content to teach, instructional strategies, time allocation for a unit, and sequence for units respectively using 5 Likert scale (1=no attention; 2=little attention; 3=some attention; 4=much attention; and 5=very much attention). Teachers' attention to the six factors for a type of curriculum decision and their perception of control over curriculum decision were matched. For example, when outcome variable is teachers' control over content to teach, teachers' attention to curriculum materials and student context variables when making decision about content to teach were considered as independent variables.

Teachers' beliefs about curriculum materials were measured by asking teachers the degree to which they agreed with 11 statements (five positive statements and six negative statements) using 5-Likert scale (1=strongly disagree 2=disagree; 3=not sure; 4=agree; and 5=strongly agree). The teachers' statements of negative belief were reverse coded to reflect their degree of positive belief. Teachers were asked to rate their agreement with statements about curriculum guides, textbooks, and teachers' guides respectively. I computed mean scores for positive and negative beliefs about three types of curriculum materials (curriculum guides, textbooks, and teachers' guides).

Teacher knowledge was measured by five items: 1) content knowledge; 2) knowledge about instructional strategies; 3) knowledge about student learning; 4) knowledge about classroom management; and 5) knowledge about using curriculum standards using 5-Likert scale (1=very poor; 2=poor; 3=adequate; 4=good; and 5=excellent). I computed a mean score of teacher knowledge 1 through 4 (content and pedagogical knowledge), and leave knowledge about how to use curriculum standards, which seems more closely related to teachers' curriculum control than

other four types of teacher knowledge.

Lastly, teachers were asked the extent to which collaboration with peer teachers helped them make the four types of curriculum decisions and improve their knowledge about content, instructional strategies, understand the requirements of the national curriculum using 5 Likert scale (1=very unhelpful; 2=unhelpful; 3=some helpful; 4=helpful; 5=very helpful). I computed a mean score of collaboration for improving teachers' content and pedagogical knowledge. As a result, six variables related to collaboration with peer teachers are included in the study. Specific details about dependent variables are shown in Table 15.

Table 15

Summary of Variables Used in the Second Sub-Study

	Outcome variables	Content to teach	Instructional strategies	Time allocation	Sequence		
		Location (Seoul=0, larg School type (public=0, Coeducation (single ser	ge cities=1, small cities=0, ru private=1) x=0, coeducation=1)	ral areas=3)			
	School factors	School size (number of Private education exper High school entrance e	classes) nditure per student a month xamination (non-exam area=	0, exam area=1)			
SolutionGender (female=0, male=1)Teacher CharacteristicsTeaching experience (number of teaching years)Degree (bachelor's=0, advanced=1)Subject taught (non-test subject=0, test subject=1)Number of grade taught (single grade=0, multiple grades=1)Knowledge about the decentralization of curriculum policyAgreement with the decentralization of curriculum policy							
Indepo	Teacher beliefs	Negative beliefs on curriculum materials Positive beliefs on curriculum materials					
	Teacher knowledge	Content and pedagogic Knowledge about how	al knowledge to utilize curriculum material	ls			
	Collaboration	Collaboration Collaboration for improving teacher knowledge Collaboration for learning how to utilize curriculum materials For deciding content to teach For deciding instructional strategies For deciding time allocation For deciding sequence					

Analysis

Descriptive Statistics

I will present descriptive statistics to address the extent to which teachers perceive their control over the four types of curriculum decision-making and then compare their perceptions between the four types of curriculum decisions: content to teach, instructional strategies, time allocation for units, and sequencing units.

HLM Models

Because the participating teachers were nested within schools, I used a two-level HLM, which allows dealing with the data nested or multilevel data sets with aggregation bias, or misestimation of errors, and the unit of analysis problem (Raudenbush & Bryk, 2002). It is important to note that the HLMs estimated in this study are consistent with the analytical model shown in Figure 2. More details about variables will be provided in HLM modeling.

I begin with an unconditional model, which uses teachers' perception of control over four decision-makings as outcome variables but not include covariates. The purpose of an unconditional model is to estimate the proportion of the variance in the outcome variables at school and teacher levels.

The Second model is a basic model that includes school factors and teacher characteristics as covariates. Since the HLM analysis focuses on estimating associations with teachers' attention to curriculum materials and student contexts, it is important to note that the second model aims at controlling school factors and teacher characteristics.

Third, I estimate teachers' attention to the six factors model, which adjusts for the influences of school factors and teacher characteristics. Teachers' attention to the six factors refer to the degree to which teachers pay attention to curriculum materials (curriculum guides, textbooks,

teachers' guides, and assessments) and student contexts (local contexts and students' needs).

Lastly, the teacher factors model is used to examine how teachers' beliefs about curriculum materials, teacher knowledge, and collaboration with peer teachers influence their perception of curriculum control.

Limitations

This study was conducted by a one-time data collection so that it is not possible to examine the changes in teachers' perception of curriculum control since the decentralization of curriculum policy was implemented. In addition, I collected the data by only surveying teachers, and did not triangulate with other types of data sources (e.g., interview and classroom observation). The survey allows me to gather data on teachers' perception of the degree to which they had curriculum control, but I was not able to triangulate those perceptions against other types of evidence. Finally, the study is limited to middle school teachers and may not generalize to other grade levels.

Results

Descriptive Statistics

Prior to showing descriptive statistics, it is important to note that teachers' curriculum control in the study does not mean their actual control, but their perceived curriculum control. For convenience, when I describe teachers' curriculum control, I am referring to teachers' perceived curriculum control over the set of four areas (content, instructional strategies, time allocation, and sequence). As shown in Table 16, overall the participating teachers perceived "some" or "much" control over curriculum decisions, with only a few who perceived very much control when deciding the four types of curriculum decisions. Specifically, the teachers perceived least control over content (3.07). Approximately 60.8 % of teachers perceived that they had some or

much content control but only 7.7% of teachers perceived that they had "very much" control over content decision. On the other side, the teachers perceived greatest control over instructional strategies (3.69) indicating that approximately 60% of teachers rated their instruction control much or very much. The Cronbach's alpha for the four items is .85, a level considered reliable.

Table 16

		Content	Instructional strategies	Time allocation	Sequence for units
	No	40 (6.6)	12 (2.0)	20 (3.3)	23 (3.8)
ol	Little	141 (23.5)	47 (7.8)	75 (12.5)	93 (15.5)
ontr	Some	200 (33.2)	172 (28.6)	178 (29.6)	201(33.5)
ŭ	Much	174 (29.0)	257 (42.8)	233 (38.7)	210 (34.9)
	Very much	47 (7.7)	113 (18.8)	96 (15.9)	72 (12.0)
Tot	al	602 (100.0)	602 (100.0)	602 (100.0)	602 (100.0)
Mea	an	3.08	3.69	3.51	3.36
SD		1.05	.93	1.01	1.01
Rel	iability	0.854			

Frequency and Descriptive Statistics of Teachers' Perception of Curriculum Control

a. () is percent

Correlations

Prior to examining factors influencing teachers' curriculum control, I examined correlations of teachers' curriculum control with their attention to curriculum materials and student contexts as well as teachers' beliefs about curriculum materials, teacher knowledge, and collaboration with peer teachers. This is a preliminary form of analysis providing an estimate of expected associations and strength of relationships. Correlations were examined by types of curriculum decisions. For example, teachers' perceived control over content was matched with teachers' attention to curriculum materials and student contexts when making content decisions, and with the extent to which collaboration with peer teachers helps them make content decisions.

As shown in Table 17, all variables had significant correlations with teachers' control over content decisions, ranging from -.132 to .198, and most variables were significantly correlated with teachers' control over instruction decision from -.161 to .140, time allocation decision ranging from -.102 to .183, and sequence decision ranging from -.087 to .198.

Generally, teachers' attention to student contexts such as local contexts and students' needs showed higher correlations with teachers' curriculum control. For example, teachers who had higher attention to local contexts and students' needs when deciding sequence were likely to perceive higher control over sequence decision (.109, p < .05 for local contexts and .149, p < .01 for students' needs).

Most factors about teachers' beliefs about curriculum materials (positive and negative), teacher knowledge (content and pedagogical knowledge and knowledge about curriculum use), and collaboration with peer teachers showed significant correlations with teachers' perception of control over the four types of curriculum decision-makings. Negative beliefs about curriculum materials were correlated with teachers' control over curriculum decision-making. For example, teachers who showed stronger negative beliefs about curriculum materials were likely to perceive less control over instruction decisions (.161, p < .01). Teachers' content and pedagogical knowledge had significant correlations with their perception of control over content (.139, p < .01), time allocation (.076, p < .10), and sequence (.139, p < .01). Collaboration with peer teachers showed relatively higher correlations with teachers' curriculum control ranging from .047 to .198 compared to other factors. Among three types of collaboration with peer teachers, the degree to which teachers' perception of control over all types of curriculum decision-makings: content decision (.160, p < .01); instruction decision (.140, p < .05); time allocation

decision (.085, p < .05); and sequence decision (.180, p < .01). More specific details about correlations between teachers' curriculum control and other factors were provided in Appendix E.

Table 17

Correlations between Curriculum Control and Independent Variables

	Content	Instructional strategies	Time allocation	Sequence
Attention to Curriculum guides	.247**	.105*	.062	$.068^{\dagger}$
Attention to Textbooks	032**	.054	.051	.058
Attention to Teachers' guides	.097**	003	025	.056
Attention to Assessments	.075**	.096*	.183**	.003
Attention to Local contexts	.177**	.102*	.108*	.109*
Attention to Student needs	.153**	.083*	.127*	.149**
Negative beliefs on curriculum materials	132**	161**	102*	087*
Positive beliefs on curriculum materials	.061**	.116*	.092*	076 [†]
Content and pedagogical knowledge	.139**	.045	$.076^{\dagger\dagger}$.139**
Teacher knowledge about curriculum use	.016**	030	003	.007
Collaboration for curriculum decision-making	.160**	.140*	.085*	.180**
Collaboration for improving teacher knowledge	.178**	.137*	.155	.198**
Collaboration for curriculum use	.198**	.047	$.075^{\dagger}$.170**

[†] p < .10, * p < .05, ** p < .01

HLM Results

Unconditional Model Results

The unconditional model results (Table 18) indicated that teachers' curriculum control over the four types of curriculum decisions showed very small variances between schools (2.09% for content decision, 1.57% for instruction decision, 3.53% for time allocation decision, and 2.75% for sequence decision). That is, schools did not appear to make a remarkable difference in the extent to which teachers' perceived control over curriculum decisions. On the contrary, most of the variance fell between teachers, suggesting that teacher factors, rather than school factors, might account for differences in perceived control over curriculum decisions.

Table 18

	Content	Instructional strategies	Time allocation	Sequence
Intercept	3.05**	3.62**	3.47**	3.28**
Teacher level				
Variance	1.067	0.880	0.949	1.063
Percent of total	97.91	98.43	96.47	97.25
School level				
Variance	0.023	0.014	0.035	0.030
Percent of total	2.09	1.57	3.53	2.75
Deviance statistic	1267.41	1182.65	1220.77	1267.72
Number of parameters	2	2	2	2

Unconditional Model Results of Teachers' Curriculum Control

** p < .001

School Factors and Teacher Characteristics Model Results

Next, I estimated the school factors and teacher characteristics model. The purpose of this model was to control for aspects of school factors and teacher characteristics that were associated

with teachers' control over curriculum decisions. The results, shown in Table 19, indicated that school factors and teacher characteristics rarely showed associations with teachers' curriculum control. One exception is monthly private education expenditure per student, which showed positive relation with teachers' control over all types of curriculum decisions: content (effect size = .03, p < .10); instruction (effect size = .05, p < .05); time allocation (effect size = .05, p < .05); and sequence (effect size=.05, p < .05). This result suggests that teachers in areas where private education expenditure was higher were likely to perceive higher control over curriculum decisions.

Most of school factors (school location, coeducation, school size, and PEE) were significantly associated with perceived control over instruction decisions. For example, school size had a negative association (effect size = -.03, p < .05) indicating that teachers in larger schools were likely to perceive less control over instruction decision.

Teacher characteristics rarely showed significant associations with control over all types of curriculum decisions. The exception was that the subject taught was significantly associated with teachers' control over content decision (effect size = -.35, p < .05) and sequence decision (effect size = -.42, p < .05) suggesting that teachers teaching test-subjects were likely to perceive less control over content and sequence decisions.

Table 19

Instructional Content strategies Time allocation Sequence 3.66** Intercept 3.28** 3.80** 3.69** Teacher level 0.12 -0.03 Male -0.13 -0.040.00 -0.01 Teaching experience -0.010.00 Advanced degree 0.02 0.10 0.06 -0.03 Test subject -0.35 * -0.14-0.11 -0.42 * Multiple grades 0.16 0.02 0.04 -0.06 Knowledge¹ -0.02 -0.08 0.02 0.07 Agreement² -0.05 -0.09 -0.09 0.01 School Level Location 0.01 0.22 -0.33 Seoul -0.16Large cities 0.12 0.50 t 0.15 0.18 t Small cities 0.20 0.43 0.56 Ť 0.40 t -0.49 Private school -0.02-0.32 -0.16Coeducation -0.13-0.25 -0.24 -0.19Size -0.01 -0.03 * -0.03 -0.03 * PEE³ t 0.05 0.03 * 0.05 0.06 * * -0.13 0.09 -0.27-0.09 Entrance exam Teacher level 0.9479 0.7851 0.83122 0.86814 School level 0.0002 0.0001 0.0200 0.0001 Model summary **Deviance** statistics 1203.87 1122.22 1156.90 1165.77 Number of parameters 18 18 18 18

	Schoo	l Facto	rs and Teacher	• Characteristics	Model	Result
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[†] p < .10, * p < .05, ** p < .01 Note

1) The degree to which teachers know about the decentralization of curriculum policy

2) The degree to which teachers agree with the decentralization of curriculum policy

3) Monthly private education expenditure per student

Attention to the Six Factors Model Results

The next step was to examine the influences of teachers' attention to curriculum materials

and student contexts. As in correlation results, teachers' attention to curriculum materials and

student contexts were examined by the four types of curriculum decision-making.

Table 20 indicated that teachers' attention to the six factors rarely showed significant associations with the extent to which teachers perceived control over curriculum decisions. Teachers' attention to textbooks was not significantly associated with control over any types of curriculum decisions, and attention to assessments had significant association with only control over time allocation (effect size = .22, p < .05) indicating that teachers who paid high attention to assessments were likely to perceive a great deal of control over time allocation.

Teachers' attention to teachers' guides had statistically significant associations with control over instructional strategies (effect size = -.20, p < .10) and time allocation (effect size = -.21, p < .05) suggesting that teachers who paid more attention to teachers' guide were likely to perceive less control over instructional strategies and time allocation.

With regard to teachers' attention to student contexts, attention to local contexts significantly predicted teachers' perceived control over instructional strategies (effect size = .16, p < .10), and attention to students' needs had significant associations with their perceived control over content (effect size = .24, p < .05).

Table 20

Attention to the Six Factors Model Results

	Content	Instructional strategies	Time allocation	Sequence		
Intercept	3.23**	3.62**	3.77**	3.65**		
		Teacher	r Level			
Male	0.07	-0.11	-0.01	-0.06		
Teaching experience	0.00	-0.01	-0.01	-0.01		
Degree	0.02	0.06	-0.05	0.11		
Subject taught	-0.26^{\dagger}	-0.08	-0.02	-0.39*		
Number of grade	0.17	0.01	0.05	-0.01		
Knowledge ¹	0.00	-0.02	-0.06	0.00		
Agreement ²	-0.09	-0.04	0.02	-0.09		
Attention to curriculum guides	0.40	0.16	0.16	-0.01		
Attention to textbooks	-0.12	0.07	-0.04	0.16		
Attention to teachers' guides	-0.04	-0.20^{\dagger}	-0.21**	-0.03		
Attention to Assessments	0.12	0.12	0.22	-0.13		
Attention to local contexts	-0.06	0.16^{\dagger}	0.06	-0.03		
Attention to students' needs	0.24*	-0.07	-0.04	0.10		
	School Level					
Location						
Seoul	0.00	0.21	-0.37	-0.16		
Large cities	0.10	0.49^{\dagger}	0.07	0.18		
Small cities	0.19	0.43^{\dagger}	0.53	0.39		
Private schools	0.00	-0.32	-0.50^{\dagger}	-0.15		
Coeducation	-0.13	-0.24^{\dagger}	-0.25	-0.19		
Size	-0.01	-0.03*	-0.02	-0.03*		
PEE ³	0.03*	0.05*	0.06*	0.05*		
Entrance exam	-0.13	0.09	-0.29^{\dagger}	-0.10		
		Variance C	omponents			
Teacher level	0.8573	0.7533	0.7841	0.8497		
School level	0.0003	0.0001	0.0290	0.0001		
	Model Summary					
Deviance statistics	1160.46	1104.33	1135.5	1156.5		
# of parameters	24	24	24	24		
Deviance change	43.41**	17.89**	21.37**	9.27**		

 $\dagger p < .10, * p < .05, ** p < .01$

Note

1) & 2) The degree to which teachers know about and agree with the decentralization of curriculum policy; 3) Monthly private education expenditure per student

Teacher Factors Model Results

As shown in Table 21, after controlling for school factors, teacher characteristics, and teachers' attention to the six factors, teacher factors such as beliefs about curriculum materials, knowledge, and collaboration with peer teachers were significantly related to teachers' control over curriculum decisions except teacher knowledge about curriculum use and collaboration for making curriculum decisions. It is noteworthy that collaboration with peer teachers for making curriculum decisions did not show any significant associations with teachers' curriculum control while teacher collaboration for other purposes such as increasing knowledge and understanding the national curriculum requirements had significant associations with teachers' control over curriculum decisions. Specifically, collaboration for increasing knowledge had significant associations with teachers' control over sequence (effect size = .20, p < .10) indicating that teachers who were helped to increase their knowledge were likely to perceive more control over instructional strategies and contents.

Teachers' beliefs about curriculum materials also played significant roles in control over instructional strategies (effect size = -.36, p < .01) and time allocation (effect size = -.27, p < .05). These results suggest that the more negative beliefs teachers had, the lower control over instructional strategies and time allocation they perceived. In a similar vein, positive beliefs on curriculum materials also had positive influences on control over instructional strategies (effect size = .42, p < .01) and time allocation (effect size = .34, p < .05) indicating that teachers who had positive beliefs on curriculum materials were likely to perceive high control over instructional strategies.

Teachers content and pedagogical knowledge had significant associations with control over all types of curriculum decisions, which indicated that teachers who had knowledge in general were more likely to perceive control over content (effect size = .26, p < .10), instructional strategies (effect size = .24, p < .05), time allocation (effect size = .25, p < .05), and sequence (effect size = .34, p < .05).

Table 21

Teacher Factors Model Results

	Content	Instructional strategies	Time allocation	Sequence
Intercept	3.28**	3.67**	3.87**	3.67**
-		Teacher level		
Male	0.02	-0.14	-0.02	-0.12
Teaching experience	0.00	-0.01^{\dagger}	-0.01	-0.01
Advanced degree	0.00	0.06	-0.05	0.05
Test subjects	-0.30*	-0.14	-0.07	-0.36
Multiple grades	0.17	0.03	0.02	0.01
Knowledge about the policy	-0.04	-0.07	-0.11	-0.04
Agreement with the policy	-0.09	-0.03	0.03	-0.08
Attention to curriculum guides	0.39**	0.17	0.11	-0.04
Attention to textbooks	-0.16	0.05	-0.03	0.07
Attention to teachers' guides	-0.01	-0.20*	-0.23*	0.01
Attention to assessments	0.08	0.05	0.16^{\dagger}	-0.15^{\dagger}
Attention to local contexts	-0.06	0.21*	0.12	-0.02
Attention to students' needs	0.24*	-0.06	-0.04	0.09
Negative beliefs on curriculum materials	-0.21	-0.36	-0.27*	-0.18
Positive beliefs on curriculum materials	0.20	0.42	0.34*	-0.13
Content and pedagogical knowledge	0.26^{\dagger}	0.24*	0.25*	0.34*
Knowledge about curriculum use	-0.17	-0.14	-0.05	-0.11
Collaboration for improving knowledge	0.14	0.20^{\dagger}	0.15	0.22^{\dagger}
Collaboration for curriculum use	-0.16	-0.33	-0.24*	-0.07
Collaboration for curriculum decision	0.14	0.06	0.04	0.14
		School	level	
Location				
Seoul	0.01	0.22	-0.43	-0.16
Large cities	0.12	0.51	0.02	0.18
Small cities	0.19	0.43	0.51	0.39
Private school	0.00	-0.32	-0.51	-0.15
Coeducation	-0.13	-0.25	-0.27	-0.18
Size	-0.01	-0.03*	-0.02	-0.03*
PEE ⁹	0.03*	0.05**	0.07**	0.05**
Entrance exam	-0.12	0.09	-0.32	-0.08
	0.12	0.07	0.02	0.00
		Variance co	omponents	
Teacher level	0 8197	0.6724	0 7298	0 7938
reacher level	0.0177	0.0727	0.7270	0.7550

Table 21 (cont'd)

School level	0.0001	0.0001	0.0401	0.0001
		Model	summary	
Deviance statistics	1140.894	1055.1	1108.985	1127.04
Number of parameters	31	31	31	31
Deviance change	19.56**	49.20**	26.55**	29.46**

Note

1) The degree to which teachers know about the decentralization of curriculum policy

2) The degree to which teachers agree with the decentralization of curriculum policy

3) Monthly private education expenditure per student

Discussion

The findings of this study reveal that teachers are likely to perceive less control over content than other types of curriculum decision-making such as instruction, time allocation, and sequence decisions. Teachers' attention to curriculum materials and student contexts rarely influence this pattern, while teacher knowledge and collaboration among teachers have significant associations with their perception of curriculum control. This section provides a discussion of the findings in consideration of how the results of the study are consistent or inconsistent with previous studies, and how these results can be interpreted.

Teachers' Perception of Curriculum Control

The findings of this study generally showed that teachers were likely to perceive relatively low curriculum control and they perceive higher control over instruction, time allocation, and sequence than content to teach. This finding was reinforces findings from previous studies reporting that teachers were hesitant to add or delete content in curriculum standards and teachers usually changed sequence or instructional strategies suggested in curriculum standards, but did not frequently change content to teach (Archbald & Porter, 1994; Kim, 2004; Kim, 2005; Seo, 2007).

Two explanations for this finding are possible. First, teachers may not feel any need to

change content to teach so that they are not likely to modify and add or delete content to teach within curriculum standards. For example, the school subject of mathematics has a very linear arrangement of topics so that mathematics teachers have relatively small room to change or alter contents in curriculum standards, whereas social studies teachers can add more contextual knowledge regarding cultural and historical environments around schools (Kim, 2005). Second, it seems also hard for teachers to modify or change content to teach in curriculum standards, which is tightly connected with assessments, and this is supported by the finding of the previous studies (Kim, 2004; Lee & Hong, 2008; Seo, 2007). Teachers agree that they should prepare students for to do well on the assessments, and to this end, they should cover most contents in curriculum standards (usually textbook). Thus, teachers may admit that they cannot change or modify contents in curriculum standards whereas they can have some choices with regard to instructional strategies, time allocation, or sequence.

Attention to Curriculum Materials vs. Curriculum Control

Given that teachers showed highest attention to textbooks for curriculum decision-making, it is interesting to note that teachers' attention to textbooks does not show significant influence on their perception of control over any types of curriculum decisions (Chapter 4). On the other hand, teachers' attention to teachers' guides significantly influenced their control over instructional strategies and time allocation. Considering that textbooks provide content to teach and teachers' guides includes information about how to use textbooks (e.g., how to show contents in textbook), it is natural that teachers who pay attention to teachers' guides may perceive more control over instructional strategies. Interestingly, teachers' attention to assessments rarely influences their perception of curriculum control except control over time allocation. Archbald and Porter (1994) found that teachers perceived their curriculum control harmed when curriculum materials were too specific or course-based testing policy was required. Although curriculum pressure in their study does not exactly refer to teachers' attention to curriculum materials, it can be assumed that teachers' perception of curriculum pressure contradicts with their own responsibilities for curriculum decision-making. In the sense, the results of this study seem very interesting.

Teacher Factors Matter

As the literature review suggested, there are three kinds of teacher factors that are related to perceived control over curriculum decisions, and most teacher factors such as teachers' beliefs about curriculum materials, teacher knowledge, and collaboration with peer teachers showed strong and significant associations with teachers' perception of curriculum control.

It is interesting to note that teachers who have more positive beliefs about curriculum materials are likely to perceive higher curriculum control. Teachers' beliefs about curriculum materials played important roles in teachers' use of curriculum standards, but relationships between teacher beliefs on curriculum materials and their perception of curriculum control have not been examined. It can be assumed that teachers are likely to be dependent on curriculum materials when they think curriculum materials as good sources for curriculum decision-making, and they tend to make curriculum decisions based on their own responsibilities rather than based on contents in curriculum materials. However, this is not the case in this study. This result might be interpreted that Korean teachers do not think that dependence on curriculum materials can harm their curriculum control. In other words, teachers may assume that dependence on curriculum materials and curriculum decision-making on their own do not conflict, but they can have more curriculum control in consideration of contents in curriculum materials

simultaneously.

Teacher knowledge shows a significant association with their perception of curriculum control. That is, teachers with more knowledge for teaching (i.e., content and pedagogical knowledge and knowledge about student learning) help them make curriculum decisions. It is interesting to see that teacher knowledge about how to use curriculum materials does not make a significant difference, and shows negative influences on teachers' curriculum control. In a similar vein, Kim (2005) reported that teachers were not willing to change or modify contents in textbooks because of the lack of content and pedagogical knowledge. These results imply that teacher content and pedagogical knowledge is more useful for teachers to decide how and what to teach than knowledge about how to utilize curriculum materials. That is, in order for teachers make curriculum decisions, they need a broad range of knowledge rather than only knowledge about utilizing curriculum materials.

It is noteworthy that collaboration with peer teachers for making curriculum decisions does not have significant effects on teachers' control over curriculum decisions, and this result is supported by some of previous studies. Shin (2009) argues that teacher collaboration usually helps teachers decide curriculum-related decisions but it might be a barrier (or hurdle) for teachers when they do not have consensus about the goals of collaboration. Seo (2009) also reported the case of one mathematics teachers who preferred to develop unit plans alone rather than collaborating with peer teachers. He had experience in collaborating with other teachers in order to develop unit plans, but did not like to spend much time in administrative works. Teachers in the group in her study, however, reported that their collaboration help them share experiences and knowledge, but in the early state, it was not easy for them to collaborate with each other.
In summary, in order to help teachers have curriculum control, teacher beliefs about curriculum materials, knowledge, and collaboration should be emphasized more than their attention to curriculum materials.

Implications

Previous studies have usually reported how much control over curriculum decisions teacher have, but rarely touched how their attention to curriculum materials and their characteristics influence control over curriculum decisions. In addition, these previous studies have been rarely conducted in the context of Korean education. In the sense, this study provides some implication for policy makers and school educators who intend to encourage teachers to take responsibilities for curriculum decision-making.

How Policy Makers and School Administrators Help Teachers

To appropriately help teachers make curriculum decisions on their own, it is important to understand what kinds of curriculum decisions teacher can make on their own. In the study, teachers perceive less control over content than over instructional strategies, time allocation, and sequence. Teachers regard textbooks as a bible because assessment items come from contents in textbooks, and even after the decentralization of curriculum policy has launched, pressure from various types of assessments are not reduced. It is not very likely to reduce assessment pressure in middle schools in Korea, and for some subjects, it is good to cover all contents in textbook to provide equal learning opportunities for all middle school students nationwide. Thus, when policy makers encourage teachers to have curriculum control, instructional strategies or time allocation should be more emphasized than content.

Given that content and pedagogical knowledge encourages teachers to perceive more curriculum control, and collaboration with peer teachers helps them improve teacher knowledge, teachers should be provided enough learning opportunities to increase their knowledge through collaborating with their peers. As shown in Seo's study (2009), teachers can organize informal group among teachers teaching the same subject matter and from the same or different schools. One teacher in her study complained that administrative works hinders teachers from concentrating on unit development. Policy makers can provide space and time for teachers who want to collaborate with other teachers and school administrators should contribute to teacher collaboration through cutting complicated process for making small groups of teachers for developing unit plans.

Under the context of decentralized curriculum policy, teachers have been provided numerous opportunities to learn what the decentralization of curriculum policy intend, but their knowledge about the policy does not have important influences on teachers' curriculum control. Rather teacher knowledge for classroom teaching plays significant roles in their perception of curriculum control. Policy makers or professional development designers should keep in mind that teachers expect to learn specific and practice-related skills rather than general overview of the curriculum policies. As Sung et al., (2004) point out, Korean teachers do not have enough opportunities to learn about how to develop curriculum plans (e.g., designing tasks or student activities), and they suggest that curriculum specialists at the district level should provide these opportunities. More well-designed and teachers' needs-based PD programs should be provided to help teacher prepare for reconstructing and reorganizing contents in curriculum standards, and this helps teachers have more curriculum control.

CHAPTER 6

TEACHERS' BELIEFS ABOUT CURRICULUM MATERIALS Purpose of the Study

Korean teachers have access to three types of curriculum materials: Curriculum guides for subject matter provide standards and general direction, such as objectives, content, instructional strategies, and assessments for each subject matter; textbooks address all contents that student should learn and are the basis for various assessments; and teachers' guides, which include specific contents and instructional strategies to guide how to teach the contents in the textbooks.

Curriculum guides encourage teachers to take more responsibilities for curriculum decisionmaking whereas textbooks enable teachers to provide only standardized education rather than diverse and student-centered education. Lee and Hong (2008) acknowledged that textbook-based teaching helps teachers save time and effort to prepare for teaching and to teach many students the same content at the same time, but hinders teachers from reflecting on students' individual needs, and so further results in teachers' indifference. The researchers strongly recommended curriculum standards-based teaching because it can motivate teachers to take into account students' individual needs and learning environments in consideration of curriculum standards rather than just sticking to textbook.

One factor influencing teachers' dependence on curriculum materials is teacher belief (or attitude) about curriculum materials. Donnelly and Boone (2007) found that teachers who trust curriculum standards as good sources for teaching were more likely to use curriculum standards. Although many scholars in South Korean have criticized teachers' heavy dependence on curriculum materials, especially textbooks, few studies have systematically examined Korean teachers' beliefs about curriculum materials and how those beliefs influence their use of curriculum materials.

In this sub-study, I examine teachers' beliefs about curriculum materials such as curriculum guides, textbooks, and teachers' guides that Korean middle school teachers usually use when they make curriculum decisions. Since these curriculum materials have different features from one another, I examine teachers' beliefs about each one individually. In addition, I will see how teachers' beliefs about curriculum materials influence their dependence on curriculum materials. Three research questions are developed as follows.

- 1. What are Korean middle school teachers' beliefs about curriculum guides, textbooks, and teachers' guides?
- 2. How are their beliefs on curriculum guides, textbooks, and teachers' guides similar or different?
- 3. How do school factor and teacher background variables influence teachers' beliefs about curriculum guides, textbooks, and teachers' guides?
- 4. How do teacher beliefs on curriculum guides, textbooks, and teachers' guides influence their attention to these curriculum materials respectively?

Methods

This section presents variables used in the study and analysis methods to address research questions.

Variables

Teacher beliefs

Measures of teachers' beliefs consist of 11 items for curriculum guides, textbooks, and teachers' guides respectively. Eleven items include five positive beliefs and six negative beliefs (Table 22). The participating teachers were asked to rate the degree to which they agreed with beliefs using a 5 Likert Scale (1=strongly disagree through 5=strongly agree). The teachers'

statements of negative belief were reverse coded to reflect their degree of positive belief.

Table 22

Teachers' Beliefs about Curriculum Materials

Positive beliefs	Negative beliefs
• Provide a common foundation of knowledge for students	• Limit the depth of coverage with which topics can be covered
• Are helpful for unit-planning	• Are mandated by the government
• Encourage teachers in different school districts to cover the same material	• Encourage breadth instead of depth of understanding
 Align the content from one grade to the next 	• Are too demanding for my students
• Are good matches for my students' abilities	• Put pressure on teachers to get through material
	• Are too specific

School factors and Teacher Characteristics

As in other analyses I included school factors and teacher characteristics as control variables. School factors include school location, school size (number of classes), school type, monthly private education expenditure per student, coeducation, and whether high school entrance examination is mandatory. In South Korea, not all middle school graduates are required to take high school entrance examination. Students in eight provinces and one city are required to, while those in other areas move on to high school without entrance examination. Because high school entrance examination is developed in consideration of the contents in curriculum materials, it can be assumed that teachers who teach in the area of high school entrance examination might experience more pressure to teach within contents in curriculum materials and might, therefore, pay more attention to curriculum materials than their peers in non-exam areas. Teacher background characteristics consist of gender, teaching experience (number of teaching years), highest degree, subjects taught, and the number of grades taught. One of important examinations in schools in Korea is the National Assessment of Student Achievement (NASA). In this study, teachers who teach test-related subjects (language arts, social studies, mathematics, science, and English) for NASA perceive less control than those who teach non test-related subjects (e.g., moral education, physical education).

Teachers' Attention to Curriculum Materials

Teachers' attention to curriculum materials were measured by asking teachers how much attention they give to curriculum materials (curriculum guides, textbooks, and teachers' guides) when making four types of curriculum decisions; 1) content to teach; 2) instructional strategies; 3) time allocation for units; and 4) sequence for units. Each question is answered with a 5 Likert scale (1=no attention through 5=very much attention). That is, for each type of material, there are four measures for teachers' attention, representing four types of teaching decisions (content, instructional strategies, time allocation, and sequence). Since this study focuses on teachers' attention to curriculum materials in general, differences among these types of decisions are less relevant so I computed a mean score for teachers' attention to each curriculum material for the four types of curriculum decisions. Mean scores of teachers' attention to curriculum guide, textbook, and teachers guide were 3.10, 3.89, and 3.44 respectively as shown Table 23. More details about variables used in this study are addressed in Table 24.

Table 23

Decision-making	Curriculum guides		Textbooks		Teachers' guides	
0	Mean	SD	Mean	SD	Mean	SD
Content	3.11	0.708	4.06	0.767	3.46	0.809
Instructional Strategies	3.06	0.675	3.84	0.683	3.45	0.725
Time Allocation	3.11	0.774	3.83	0.694	3.46	0.801
Sequence	3.10	0.829	3.83	0.836	3.39	0.897
Average	3.	10	3.	89	3.	44
Cronbach's Alpha	0.8	331	0.7	72	0.8	808

Descriptive Statistics of Teachers' Attention to Curriculum Materials

Table 24

Summary of Variables Used in the Third Sub-Study

Category	Variables		
	Positive beliefs (1=strongly agree through 5=strongly disagree)		
	Provide a common foundation of knowledge for students.		
	Are helpful for unit-planning.		
	Encourage teachers in different school districts to cover the same		
	material.		
	Align the content from one grade to the next.		
Teacher Beliefs	Are good matches for my students' abilities		
	Negative beliefs (1=strongly disagree through 5=strongly agree)		
	Limit the depth of coverage with which topics can be covered.		
	Are mandated by the government.		
	Encourage breadth instead of depth of understanding.		
	Are too demanding for my students.		
	Put pressure on teachers to get through material.		
	Are too specific.		
Teachers' Attention to	Taythooks (1-no attention through 5-very much attention)		
Curriculum Materials	Textbooks (1=10 attention through 5=very much attention)		
	Location (Secul=0, large cities=1, small cities=0, rural areas=3)		
	School type ($\text{public}(0, \text{private}^{-1})$)		
	Conducation (single sev. 0, conducation 1)		
School Factors	Coeducation (single sex=0, coeducation=1) Schearly in (a, a) (second coeducation=1)		
	School size (number of classes)		
	Monthly private education expenditure per student		
	High school entrance examination (nonexam area=0, exam area=1)		
	Gender (female=0, male=1)		
Taaahar	Teaching experience (number of teaching years)		
Characteristics	Degree (bachelor's=0, advanced=1)		
Characteristics	Subject taught (non-test subject=0, test subject=1)		
	Number of teaching grades (single grade=0, multiple grades=1)		

Analysis

In order to show what beliefs about curriculum materials Korean middle school teachers have and how their beliefs similar or different among curriculum guides, textbooks, teachers' guides, I provide descriptive statistics of teachers' beliefs about curriculum guides, textbooks, and teachers' guides (mean and standard deviation). How school factors and teacher background characteristics influence teachers' beliefs about curriculum materials and how teachers' beliefs about curriculum materials influence their attention to curriculum materials was examined by correlations and Hierarchical Linear Modeling (HLM) (Bryk & Raudenbush, 1992). Since the participating teachers were nested within schools, it is possible to estimate the effects of teacher and school level variables simultaneously.

Results

Descriptive Statistics

As shown in Table 25, the descriptive statistics indicated that teachers generally agreed with positive beliefs more than negative beliefs. Teachers strongly agreed that curriculum materials contributed to alignment across schools (3.66 on average) and grades (3.76 on average). For both beliefs, teachers agreed more strongly when thinking about textbooks (3.72 for alignment across schools and 3.80 for alignment across grades) than when thinking about curriculum guides (3.58 and 3.69 respectively) or teachers' guides (3.70 and 3.78 respectively). In contrast, teachers rarely agreed that curriculum materials were good matches with student abilities (3.03 on average), and the curriculum guides (2.99) were least trusted by teachers with regard to matching student abilities compared to textbooks (3.06) and teachers' guides (3.04).

With respect to the negative beliefs, teachers either somewhat agreed with or were not sure about most negative beliefs. Teachers agreed least that curriculum materials limited the depth of content coverage (2.60 on average), and did not show strong agreement with statements that curriculum materials are too demanding (2.74 on average), too specific (2.75 on average), and put pressure on teachers to cover all materials in curriculum materials (2.78 on average). On the contrary, teachers more strongly agreed that curriculum materials encourage breadth rather than the depth (3.37 on average). Especially, teachers' agreement with this belief was stronger for textbooks (3.50) than for curriculum guides (3.40) and teachers' guides (3.21).

As shown Figure 3, teachers usually held more positive beliefs about textbooks, and least positive beliefs about curriculum guides. Teachers agreed strongly that textbooks encouraged to cover the same materials across schools (3.72) and provided common foundation of knowledge (3.78) compared to curriculum guides (3.58 and 3.55 respectively) and teachers' guides (3.69 and 3.60 respectively). Only the beliefs that curriculum materials were helpful for unit planning showed the highest score for teachers' guides (3.74) compared to textbooks (3.57) and teachers' guides (3.51).

Generally, as shown in Figure 4, teachers' negative beliefs did not show dramatic differences among curriculum guides, textbooks, and teachers' guides, and showed relatively lower scores than positive beliefs indicating that the participating teachers had positive beliefs about curriculum materials. Specifically, teachers believed more strongly that textbooks (3.50) encouraged the breadth than they believed about curriculum guides (3.40) teachers' guides (3.21) or textbooks (2.83) were too specific compared to curriculum guides (2.73) and teachers' guides (2.70). They also believed more strongly that curriculum guides (3.41) were mandated by the government than textbooks (3.38) and teachers' guides (3.29). Teachers also showed highest score for curriculum guides in the belief that curriculum guides (2.70) limited the depth of coverage compared to textbooks (2.60) and teachers' guides (2.52). Frequencies and percentages of teachers who agreed or disagreed with the beliefs are provided in Appendix F.

	Curriculum guides		Textbooks		Teachers' guides		A
	Mean	SD	Mean	SD	Mean	SD	Average
Positive beliefs							
Aligns the content across grades	3.70	0.729	3.80	0.684	3.78	0.676	3.76
Encourages us to cover the same materials across schools	3.58	0.832	3.72	0.762	3.69	0.786	3.66
Provides common foundation of knowledge	3.55	0.804	3.76	0.729	3.60	0.782	3.64
Helpful for unit-planning	3.51	0.84	3.57	0.821	3.74	0.783	3.61
Good match for students' abilities	2.99	0.917	3.06	0.931	3.04	0.934	3.03
Negative beliefs							
Encourages breadth rather than depth	3.40	0.789	3.50	0.871	3.21	0.904	3.37
Mandated by the government	3.41	0.860	3.38	0.917	3.29	0.913	3.36
Too specific	2.78	0.877	2.76	0.877	2.79	0.875	2.77
Pressure on teachers to get through materials	2.73	0.906	2.83	0.945	2.70	0.905	2.75
Too demanding for my students	2.76	0.933	2.82	0.979	2.64	0.887	2.74
Limits the depth of coverage	2.70	0.859	2.60	0.888	2.52	0.835	2.61

Table 25 Descriptive Statistics of Teachers' Beliefs about Curriculum Materials





Figure 3 Comparisons of Positive Beliefs about Curriculum Materials

Figure 4 Comparisons of Negative Beliefs about Curriculum Materials

Factors Influencing Teachers' Beliefs about Curriculum Materials

To understand how school factors and teacher background characteristics were associated with teachers' beliefs about curriculum materials, HLM modeling was used. I created outcome variables as mean scores for 11 teacher beliefs about curriculum guides, textbooks, and teachers' guides respectively (Table 26). The higher score indicates the more positive beliefs about curriculum materials.

Table 26

Descriptive Statistics of Mean Scores of Teachers' Beliefs about the Advantages or Drawbacks of Curriculum Materials

	Ν	Min	Max	Mean	SD	Cronbach's alpha
Curriculum guides	574	1.73	4.73	3.19	.409	0.673
Textbooks	591	1.91	4.82	3.25	.381	0.595
Teachers' guides	591	1.73	5.00	3.18	.408	0.687

As shown in Table 27, a number of school factors and teacher background characteristics showed significant influences on teachers' beliefs about curriculum guides, textbooks, and teachers' guides. With regard to school location, teachers in small cities showed less positive beliefs about curriculum guides (effect size = -.20, p < .10), textbooks (effect size = -.28, p < .05), and teachers' guides (effect size = -.20, p < .10) than those in Seoul, large cities, and rural areas. In addition, school size had significant associations with textbooks (effect size = .01, p < .05) and teachers' guides (effect size = .01, p < .10) indicating that teachers were likely to show less positive beliefs about textbooks and teachers' guides as school size decreased. Private school teachers showed significantly more positive beliefs about teachers' guides (effect size = .17, p < .05) than public school teachers.

Among teacher background variables, teaching experience was significantly associated with teachers' beliefs about curriculum guides (effect size = .01, p < .05) and teachers' guides (effect size = .01, p < .10) suggesting that teachers' beliefs_become more positive as their teaching experience increased. Teachers' degree also showed significant associations with teacher beliefs about textbooks (effect size = -.08, p < .05) and teachers' guides (effect size = -.11, p < .05) indicating that teachers who had advanced degrees were likely to have less positive beliefs about textbooks and teachers' guides. Teachers' belief about textbooks was significantly associated with subject taught (effect size = .13, p < .01) indicating that test subject teachers showed more positive belief about textbooks, but no significance differences were found in teacher beliefs about curriculum guides and teachers' guides.

Gender, whether teaching single or multiple grades, coeducation, private education expenditure, and whether high school entrance examination is mandatory did not show any significant associations with teacher beliefs about any curriculum materials.

Table 27

	Curriculum guides	Textbooks	Teachers' guides
Intercept	-0.20	0.01	-0.02
		Teacher level	
Gender	0.04	-0.01	0.00
Teaching experience	0.01*	0.00	0.01^{\dagger}
Advanced degree	-0.02	-0.08*	-0.11*
Test subject	0.11	0.13**	0.06
Teaching multiple grades	0.12	0.03	-0.05
		School level	
Location			
Seoul	0.01	-0.07	-0.05
Large cities	-0.12	-0.27*	-0.20
Small cities	-0.20^{\dagger}	-0.28*	-0.20^{\dagger}
Private school	0.14	0.18	0.17*
Coeducation	0.07	0.04	0.06
School size	0.01	0.01*	0.01^{\dagger}
Private Education Expenditure	-0.01	-0.01	-0.01
Exam areas	0.05	-0.01	-0.01
		Model Summary	
Deviance Statistics	445.09	364.37	419.49
Number of Parameters	16	16	16

Factors Influencing Teachers' Beliefs about the Value of Curriculum Materials

 † p < .10, * p < .05, ** p < .01

Teachers' Beliefs about Curriculum Materials and Attention to Curriculum Materials

In the HLM model for each type of curriculum material (curriculum guides, textbooks, and teachers' guides), outcome variables were teachers' attention to curriculum materials. Table 28 indicated that school factors and teacher background characteristics were included to control when reporting influences of teachers' beliefs about curriculum materials. In each model, teachers' beliefs about and their attention to each curriculum material were matched. For example, when outcome variable was teachers' attention to textbooks, teacher beliefs about textbooks were included as independent variables.

After controlling for school factors and teacher background characteristics, only a small number of teachers' beliefs about curriculum materials were significantly related to the degree of attention they paid to curriculum materials when making curriculum decisions. With respect to positive beliefs, teachers who had positive beliefs about curriculum guides were likely to pay attention to curriculum guides while teachers' positive beliefs were slightly associated with their attention to textbooks. The belief that curriculum guides provided a common foundation of knowledge showed significant association with teachers' higher attention to curriculum guides (effect size = .22, p < .01), and the belief that curriculum guides were helpful for unit-planning was also significantly associated with their higher attention to curriculum guides (effect size = .12, p < .01). Teachers' negative beliefs rarely showed significant association with their attention to teachers' guides, but exceptionally the belief that teachers' guides encouraged to cover the same materials across schools was significantly associated with teachers' higher attention to teachers' guides (effect size = .12, p < .10). There was not belief about textbooks that showed significant influence on teachers' attention to textbooks.

Teachers' negative beliefs showed a few significant associations with their attention to curriculum materials. Interestingly, teachers paid higher attention to textbooks even if they had more negative beliefs about textbooks. The belief that textbooks limited depth of content coverage was significantly associated with teachers' attention to textbooks (effect size = -.11, p < .05) indicating that teachers who had this belief were likely to pay high attention to textbooks, and the belief that textbooks put pressure on teachers to cover materials was significantly influenced their attention to textbooks (effect size = .-07, p < .10). These results indicated that teachers paid high attention to textbooks when making curriculum decisions even though textbooks had drawbacks. Other than these two beliefs, teachers paid higher attention to

textbooks when scores for their negative beliefs were low, and the belief that textbooks were too specific was significantly associated with their less attention to textbooks (effect size = .13, p < .05).

The results were mixed with regard to negative beliefs. Some of negative beliefs were significantly associated with teachers' higher attention to curriculum guides while the other negative beliefs showed associations with their lower attention to curriculum guides. Significant relationships were shown in the beliefs that curriculum guides limited the depth of coverage (effect size = .10, p < .05) and that teachers' guides were too demanding for students (effect size = .09, p < .10) indicating that teachers who had the former belief showed less attention to curriculum guides, and that teachers who had the latter beliefs showed less attention to teachers' guides.

Table 28

Teachers' Beliefs Influencing Their Attention to Curriculum Materials

	Curriculum guides	Textbooks	Teachers' guides	
Intercept	3.20**	3.97	3.33	
	Teacher Characteristics			
Male	0.10	-0.18	-0.07	
Teaching experience	0.00	0.00	0.01^{\dagger}	
Advanced degree	-0.01	-0.07	0.01	
Test subject	-0.12^{\dagger}	0.04	0.10	
	Teacher Beliefs			
Provide common foundation of knowledge	0.22**	0.05	0.09	
Helpful for unit-planning	0.12**	0.03	0.10	
Encourage to cover the same materials across schools	-0.02	-0.03	0.12^{\dagger}	
Align the content across grades	-0.05	0.06	-0.04	
Good match for students' abilities	0.02	-0.05	0.00	
Limit the depth of coverage	0.10*	-0.11*	0.00	
Mandated by the government	-0.01	0.03	0.05	
Encourage the breadth rather than depth	-0.05	0.06^{\dagger}	-0.06	
Too demanding for my students	0.06	0.07	0.09^{\dagger}	
Pressure on teachers to get through materials	-0.06	-0.07^{\dagger}	-0.02	
Too specific	-0.01	0.13*	-0.03	
-	School Factors			
Location				
Seoul	-0.15	0.09	-0.14	
Large cities	-0.33	-0.01	-0.21	
Small cities	-0.30^{\dagger}	-0.12	-0.13	
Private school	0.37*	0.06	0.23^{\dagger}	
Coeducation	0.14	-0.07	0.14	
School size	0.02^{\dagger}	0.00	0.01	
Private education expenditure	-0.02	0.00	0.01	
Entrance exam	0.00	0.11*	0.07	
	Model Summary			
Deviance	732.69	739.06	854.28	
Number of parameters	26	26	26	

[†]p < .10, * p < .05, ** p < .01

Discussion

This paper examines teachers' beliefs about curriculum materials, what factors associated

with their beliefs about curriculum materials, and how these beliefs influence their attention to curriculum materials. Teachers generally have positive beliefs about curriculum materials, and particularly they have more positive beliefs about textbooks than about curriculum guides and teachers' guides. Teachers agree that textbooks provide students with a common foundation of knowledge, help them align content coverage across schools and grades, and are helpful for curriculum-planning. In Kim's study (2005), teachers teaching language arts, mathematics and English regarded textbooks as valuable resources including proper contents for learning goals. These results enable us to understand why teachers pay a lot of attention to textbooks when they decide content to teach and instructional strategies. Teachers have been criticized_that they showed textbook-based teaching (i.e. teaching_within contents in textbooks, but rarely pay attention to other types of materials and students' needs), which helps them save time and effort to prepare for teaching and teach many students the same content at the same time (Lee & Hong, 2008). The results in the study suggest that teachers also perceive many virtues in their textbooks. The textbooks save them time, plus they are valuable for other reasons.

Teachers show comparatively little agreement with negative beliefs and this result contradicts many general assumptions about curriculum materials. Teachers complain about curriculum materials, especially textbooks. For example, in several studies conducted in Korean education context, teachers pointed out problems of textbook adoption but they rarely talked about the quality of textbook (e.g., whether it includes a common foundation of knowledge).

It is important to note that only a small number of teachers agree that curriculum materials are good matches for student abilities. In the context of decentralized curriculum policy, teachers have been encouraged to consider students' needs, but this has not been the case (see Chapter 4). Teachers' lower attention to students' needs might be explained by the fact that textbooks rarely help teachers consider students' needs because textbooks are not well-matched with student abilities.

This study also reveals factors influencing teachers' beliefs about the value of curriculum materials. Previous studies have usually focused on how teacher beliefs about curriculum materials influenced their use of curriculum materials but rarely touched on how school factors and teacher backgrounds influence their beliefs about curriculum materials. One interesting finding here is that teachers teaching test subjects show more positive beliefs about textbooks, which receive the greatest attention by teachers when making curriculum decisions than those teaching non-test subjects (Chapter 5). Considering that teachers who teach test subjects pay more attention to textbooks than those who teach non-test subjects (Chapter 4), test subject teachers have more time to find out benefits of textbooks than their peers teaching non-test subjects. Teachers who have more teaching experience have more positive beliefs about curriculum materials. In a similar vein, more experienced teachers spend more time to use curriculum materials than young teachers, and that might be why the former showed more positive beliefs about curriculum materials than the latter.

Another interesting finding is that teachers who have advanced degrees have less positive beliefs about textbooks and teachers' guides than those who have bachelor's degree. It might be that teachers who pursued advanced degrees have more knowledge about teaching and learning and so they have more room to pay attention to other types of curriculum materials in addition to curriculum guides, textbooks, and teachers' guides. However, this study does not show a clear relationship between teachers' degree and their knowledge so that further research should examine whether teachers' degree is associated with their knowledge and how teachers' learning during pursuing advanced degrees influence their beliefs about and use of curriculum materials. Maybe they are just more confident that they can make their own decisions.

With respect to school factors, school locations and school size make differences in teachers' beliefs about curriculum materials. Specifically, teachers in small cities are likely to have less positive beliefs about curriculum materials than their peers in other areas. In addition, teachers in larger schools show more positive beliefs about curriculum materials than their peers in small schools. Given that usually large schools are located in Seoul and large cities and small or mid-sized schools are located in small cities and rural areas, these two results seem in the same line. It is hard to see, however, exactly what makes differences in teacher beliefs about curriculum materials between large and small schools. Generally, large schools in Seoul and large cities have more competitive education environment than small schools in small cities and rural areas, but in the study, monthly private education expenditure, which indirectly show the degree of competitiveness in education, do not show significant influence.

The analysis also reveals other interesting points. The degree to which teachers pay attention to curriculum materials is rarely related to their beliefs about the advantages or disadvantages of those curriculum materials, and this result contradicts with Donnelly and Boone (2007), Sosniak and Stodolsky (1993), and Freeman and Porter (1989). These studies report that teachers' use of curriculum standards was explained by positive beliefs about the curriculum standards (i.e., teachers regarded curriculum standards as useful and appropriate for students) and by belief that curriculum standards were mandated by state. I found no significant association between teachers' attention to curriculum materials and their belief that curriculum materials were good matches for students' abilities or were mandated by the government. In case of curriculum guides, teachers paid less attention to curriculum guides even though they understood that curriculum guides are mandated by the government.

In summary, Korean middle school teachers tend to use curriculum materials regardless of their beliefs about curriculum materials. Teachers have slightly different beliefs on curriculum guides and textbooks with teachers' guides suggesting that teachers seem to trust textbooks as a better source for their curriculum planning than curriculum guides and teachers' guides.

Implication

This study allows education policy makers and researchers to understand what attitudes towards curriculum materials Korean middle school teachers have and how to improve curriculum materials to better meet teachers' needs when they use curriculum materials. Teachers perceive that curriculum materials are generally useful when preparing for their teaching, but they rarely agree that curriculum materials are good sources to help teachers meet students' needs. Because curriculum materials include a broad content to be covered by teachers, they feel pressure to cover all contents and student activities in curriculum materials (Kim, 2005), and this may be why teachers rarely agree that curriculum materials are good matches with students' abilities. Thus, participants who join in developing and publishing curriculum materials should develop curriculum materials in consideration of what teachers need to better meet their students' needs.

The decentralization of curriculum policy encourages teachers to be less dependent on textbooks and to increase their attention to curriculum guides, but teachers still seem to depend more on textbooks compared to curriculum guides and teachers' guides regardless of their beliefs about these curriculum materials. In Lee and Hong's study (2008), teachers did not use curriculum guides as often as textbooks because curriculum guides did not provide specific resources for curriculum planning even though they agreed with the idea of curriculum guides-based teaching. For example, policy makers and education researchers help teachers increase

their knowledge. In the second sub-study (Chapter 5), teachers who perceive they have more content and pedagogical knowledge show higher perception of curriculum control, and their knowledge about the decentralization of curriculum policy increase their attention to curriculum materials and student contexts when making curriculum decisions. APPENDICES

Appendix A: Teacher Questionnaire

Background Information

1.	1. Location of School: 🗌 Seoul 🗌 Metropolitan Cities						
	Small cit	ies 🗌 Rural areas					
2.	Type of School: Public / National Public / Nati	onal 🗌 Private					
3	. # of classes in your school:						
5.							
4.	4. Subject matter						
	☐ Language Arts	☐ Mathematics		English			
	—						
		Social Studies		☐ Moral Education			
	Chinese Literature	□ Music		☐ Fine Arts			
	U World Languages	☐ Home economics/	Techno	ology			
	\Box Physical education	Etc					
5	Conder: 🗆 Female 🔅 🔲 Male						
5.							
6.	Grade level you teach in this sch	ool year: $\Box 1 \Box 2$	$\Box 3^3$				

7. Number of students in your classroom:

(If you teach several classes or subject matters, please consider the class you most frequently

³ In Korean education system, 1st to 3rd grades in middle school refer to 7th through 9th grades in the US.

teach)

8. Average achievement level of students in your classroom this year

(If you teach several classes or subject matters, please consider the class you most frequently teach)

- □ Mostly high achieving
- ☐ Mostly average achieving
- □ Mostly low achieving
- ☐ Students at a range of achievement levels
- 9. Your teaching experience as a full time teacher:

_____Years, _____months

10. Please indicate your highest degree(s)

	BA/BS	☐ MA/MS	🗌 Ed. D/Ph. D
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□ Other (Please specify: _____)

11. Which teachers' union are you in?

- ☐ Korean Federation of Teachers' Associations
- □ The Korean Teachers and Education Workers' Union
- ☐ I have not joined any teachers' union
- □ Other (Please specify _____)

12. In your areas, do students have to take high school entrance examination?

☐ Yes ☐ No

13. Please indicate how much you know about the decentralization of curriculum policy

Very Poor	Poor	Adequate	Good	Excellent
0	0	0	0	0

14. Please indicate how much you agree or disagree with the decentralization of curriculum policy.

Strongly disagree	Disagree	Not sure	Agree	Strongly agree
0	0	0	0	0

Teachers' Control over Curriculum Decision Making

1. How much control do you actually have when you do the following activities?

		No control	Little control	Some control	Much control	Very much control
a.	Selecting content to teach	0	0	0	0	0
b.	Selecting instructional strategies	0	0	0	0	0
с.	Allocating time to each unit	0	0	0	0	0
d.	Sequencing units	0	0	0	0	0
e.	Evaluating and grading students	0	0	0	0	0

Curriculum Standards Influencing on Curriculum Decision-Making

2.1 When you decide on <u>the specific content</u> you will teach, how much attention do you pay to each of the following resources?

		No	Little	Some	Much	Very much
a.	Curriculum guides for subject matter	0	0	0	0	0
b.	Textbooks	0	0	0	0	0
c.	Teacher guides	0	0	0	0	0
d.	All assessments administered by your school	0	0	0	0	0
e.	The national assessment of student achievement (only in case)	0	0	0	0	0
f.	High school entrance exam (only for teachers in case)	0	0	0	0	0
g.	Local contexts	0	0	0	0	0
h.	Students' individual needs	0	0	0	0	0

2.2 Have your attention to each resource been increased or decreased by the decentralization of curriculum policy?

		Decreased a lot	Decreased	Not changed	Increased	Increased a lot
a.	Curriculum guides for subject matter	0	0	0	0	0
b.	Textbooks	0	0	0	0	0
c.	Teacher guides	0	0	0	0	0
d.	All assessments administered by school	0	0	0	0	0
e.	The national assessment of student achievement (only in case)	0	0	0	0	0
f.	High school entrance exam (only for teachers in case)	0	0	0	0	0
g.	Local contexts	0	0	0	0	0
h.	Students' individual needs	0	0	0	0	0

	Ţ	No	Little	Some	Much	Very much
a.	Curriculum guides for subject matter	0	0	0	0	0
b.	Textbooks	0	0	0	0	0
c.	Teacher guides	0	0	0	0	0
d.	All assessments administered by your school	0	0	0	0	0
e.	The national assessment of student achievement (only in case)	0	0	0	0	0
f.	High school entrance exam (only for teachers in case)	0	0	0	0	0
g.	Local contexts	0	0	0	0	0
h.	Students' individual needs	0	0	0	0	0

3.1 When you decide <u>instructional strategies</u> you will teach, how much attention do you pay to each of the following resources?

3.2 Have your attention to each resource been increased or decreased by the decentralization of curriculum policy?

		Decreased a lot	Decreased	Not changed	Increased	Increased a lot
a.	Curriculum guides for subject matter	0	0	0	0	0
b.	Textbooks	0	0	0	0	0
c.	Teacher guides	0	0	0	0	0
d.	All assessments administered by school	0	0	0	0	0
e.	The national assessment of student achievement (only in case)	0	0	0	0	0
f.	High school entrance exam (only for teachers in case)	0	0	0	0	0
g.	Local contexts	0	0	0	0	0
h.	Students' individual needs	0	0	0	0	0

	C	No	Little	Some	Much	Very much
a.	Curriculum guides for subject matter	0	0	0	0	0
b.	Textbooks	0	0	0	0	0
c.	Teacher guides	0	0	0	0	0
d.	All assessments administered by your school	0	0	0	0	0
e.	The national assessment of student achievement (only in case)	0	0	0	0	0
f.	High school entrance exam (only for teachers in case)	0	0	0	0	0
g.	Local contexts	0	0	0	0	0
h.	Students' individual needs	0	0	0	0	0

4.1 When you decide <u>time allocation for units</u> you will teach, how much attention do you pay to each of the following resources?

4.2 Have your attention to each resource been increased or decreased by the decentralization of curriculum policy?

	^ ·	Decreased a lot	Decreased	Not changed	Increased	Increased a lot
a.	Curriculum guides for subject matter	0	0	0	0	0
b.	Textbooks	0	0	0	0	0
c.	Teacher guides	0	0	0	0	0
d.	All assessments administered by school	0	0	0	0	0
e.	The national assessment of student achievement (only in case)	0	0	0	0	0
f.	High school entrance exam (only for teachers in case)	0	0	0	0	0
g.	Local contexts	0	0	0	0	0
h.	Students' individual needs	0	0	0	0	0

	No	Little	Some	Much	Very much
a. Curriculum guides for subject matter	0	0	0	0	0
b. Textbooks	0	0	0	0	0
c. Teacher guides	0	0	0	0	0
d. All assessments administered by your school	0	0	0	0	0
e. The national assessment student achievement (on in case)	of ly O	0	0	0	0
f. High school entrance exa (only for teachers in case	am O	0	0	0	0
g. Local contexts	0	0	0	0	0
h. Students' individual need	ds O	0	0	0	0

5.1 When you <u>sequence units</u> you will teach, how much attentions do you pay to each of the following resources?

5.2 Have your attention to each resource been increased or decreased by the decentralization of curriculum policy?

		Decreased a lot	Decreased	Not changed	Increased	Increased a lot
a.	Curriculum guides for subject matter	0	0	0	0	0
b.	Textbooks	0	0	0	0	0
c.	Teacher guides	0	0	0	0	0
d.	All assessments administered by school	0	0	0	0	0
e.	The national assessment of student achievement (only in case)	0	0	0	0	0
f.	High school entrance exam (only for teachers in case)	0	0	0	0	0
g.	Local contexts	0	0	0	0	0
h.	Students' individual needs	0	0	0	0	0

Teacher Factors

Teacher beliefs about the authority of curriculum standards

3. Please indicate how much you agree or disagree with following statements about <u>curriculum</u> <u>guides</u>.

		Strongly disagree	Disagree	Not sure	Agree	Strongly agree
a.	Limit the depth of coverage with which topics can be covered.	0	0	0	0	0
b.	Are mandated by the government.	0	0	0	0	0
c.	Provide a common foundation of knowledge for students.	0	0	0	0	0
d.	Encourage breadth instead of depth of understanding.	Ο	0	Ο	Ο	0
e.	Are too demanding for my students.	0	0	0	0	0
f.	Are helpful for unit-planning.	0	0	0	0	0
g.	Put pressure on teachers to get through material.	0	0	0	0	0
h.	Encourage teachers in different school districts to cover the same material.	0	0	0	0	0
i.	Align the content from one grade to the next.	0	0	0	0	0
j.	Are a good match for my students' abilities.	0	0	0	0	0
k.	Are too specific.	0	0	0	0	0

4. Please indicate how much you agree or disagree with following statements about <u>textbooks</u>.

		Strongly disagree	Disagree	Not sure	Agree	Strongly agree
a.	Limit the depth of coverage with which topics can be covered.	0	0	0	0	0
b.	Are mandated by the government.	0	0	0	0	0
c.	Provide a common foundation of knowledge for students.	0	0	0	0	0
d.	Encourage breadth instead of depth of understanding.	0	0	0	0	0
e.	Are too demanding for my students.	0	0	0	0	0
f.	Are helpful for unit-planning.	0	0	0	0	0

g.	Put pressure on teachers to get through material.	0	0	0	0	0
h.	Encourage teachers in different school districts to cover the same material.	0	0	0	0	0
i.	Align the content from one grade to the next.	0	0	0	0	0
j.	Are a good match for my students' abilities.	0	0	0	0	0
k.	Are too specific.	0	0	0	0	0

5. Please indicate how much you agree or disagree with following statements about <u>teacher</u> <u>guides</u>.

		Strongly disagree	Disagree	Not sure	Agree	Strongly agree
a.	Limit the depth of coverage with which topics can be covered.	0	0	0	0	0
b.	Are mandated by the government.	0	0	0	0	0
c.	Provide a common foundation of knowledge for students.	Ο	Ο	Ο	0	0
d.	Encourage breadth instead of depth of understanding.	Ο	Ο	Ο	0	0
e.	Are too demanding for my students.	0	0	0	0	0
f.	Are helpful for unit-planning.	0	0	0	0	0
g.	Put pressure on teachers to get through material.	0	0	0	0	0
h.	Encourage teachers in different school districts to cover the same material.	0	0	0	0	0
i.	Align the content from one grade to the next.	Ο	Ο	Ο	0	0
j.	Are a good match for my students' abilities.	0	0	0	0	0
k.	Are too specific.	0	0	0	0	0

Teacher knowledge

6. How would you rate your knowledge about each of the following?

		Very Poor	Poor	Adequate	Good	Excellent
a.	Content knowledge on subject matter	0	0	0	0	0
b.	General classroom management	0	0	0	0	0
c.	Knowledge about how students learn subject matter	0	0	0	0	0
d.	Teaching strategies/methods (e.g., cooperative groups)	0	0	0	0	0
e.	Ways of using curriculum standards	0	0	0	0	0

Teacher Collaboration

7. To what extent does collaboration with peer teachers help you when you do following activities?

		Very unhelpful	Unhelpful	Somewhat helpful	Helpful	Very helpful
a.	Select content for curriculum planning	0	0	0	0	0
b.	Select instructional strategies	0	0	0	0	0
с.	Allocate time for each unit	0	0	0	0	0
d.	Decide sequence for units	0	0	0	0	0
e.	Increase understanding and interpretation of what the national curriculum requires teachers to do	0	0	0	0	0
f.	Increase my content knowledge	0	0	0	0	0
g.	Increase my knowledge of instructional strategies	0	0	0	0	0

THANK YOU!!!

Appendix B: Key Features of the Questionnaire

Table 29

Key Features of the Questionnaire

Categories	Subcategories Specific items			
Teachers' perception of curriculum control		Content to teach Instructional strategies Time allocation Sequence Evaluating students		
The extent to which teachers attention to curriculum materials and student contexts	Content to teach Instructional strategies Time allocation Sequence	Curriculum materials Curriculum guides Textbooks Teacher guide Assessments Student contexts Local contexts Student' needs		
Changes in the extent to which teachers pay attention to curriculum materials and student contexts in response to the decentralization of curriculum policy	Content to teach Instructional strategies Time allocation Sequence	Curriculum materials Curriculum guides Textbooks Teacher guide Assessments Student contexts Local contexts Student' needs		
Teachers' beliefs about curriculum materials	Curriculum guides Textbooks Teacher guides	Positive beliefs (8 items) Negative beliefs (7 items)		
Teacher knowledge		Content Instructional strategies Classroom management Student learning Using curriculum standards Modifying curriculum standards		
	When curriculum planning about	Content Instructional strategies Time allocation Sequence		
Teacher collaboration	When increasing knowledge for curriculum planning	Increase understanding of the national curriculum standards Increase content knowledge Increase knowledge of instructional strategies		

Appendix C: Monthly Private Education Expenditure per Middle School Student by Locations

Table 30

Location	PEE		Location	PEE	
	Korean won	US dollar		Korean won	US dollar
Seoul	309,000	291.51	Gangwon	231,000	217.92
Busan	228,000	215.09	Chungbuk	210,000	198.11
Daegu	312,000	294.34	Chungnam	192,000	181.13
Incheon	220,000	207.55	Jeonbuk	200,000	188.68
Gwangju	236,000	222.64	Jeonnam	207,000	195.28
Daejeon	221,000	208.49	Gyoengbuk	210,000	198.11
Ulsan	234,000	220.75	Gyeongnam	232,000	218.87
Gyeonggi	279,000	263.21	Jeju	245,000	231.13
Total	255,000	240.57			

Note: Currency exchange rate July, 14, 2011 was considered.
Appendix D: Bivariate Correlations between Teachers' Attention to Curriculum Materials and Student Contexts

Table 31

Correlations between Local Contexts and Students' Needs

Decision- Making		Content	Instruction	Time allocation	Sequence	Content	Instruction	Time allocation	Sequence
	Factors		Local c	ontexts			Student	s' needs	
Content		1	.614	.635	.552	.516	.369	.385	.382
Instruction	Local	.614	1	.673	.646	.452	.576	.434	.434
Time allocation	contexts	.635	.673	1	.701	.450	.409	.575	.449
Sequence		.552	.646	.701	1	.417	.379	.439	.674
Content		.516	.452	.450	.417	1	.540	.535	.473
Instruction	Students'	.369	.576	.409	.379	.540	1	.615	.506
Time allocation	needs	.385	.434	.575	.439	.535	.615	1	.581
Sequence		.382	.434	.449	.674	.473	.506	.581	1

Decision- Making		Content	Instruction	Time allocation	Sequence	Content	Instruction	Time allocation	Sequence
	Factors		Curriculu	ım guides			Teachers	s' guides	
Content		1	.563	.511	.496	.482	.318	.308	.338
Instruction	Curriculum	.563	1	.572	.529	.342	.462	.302	.323
Time allocation	guides	.511	.572	1	.622	.344	.352	.561	.463
Sequence		.496	.529	.622	1	.335	.345	.410	.621
Content		.482	.342	.344	.335	1	.589	.517	.479
Instruction	Teachers'	.318	.462	.352	.345	.589	1	.573	.538
Time allocation	guides	.308	.302	.561	.410	.517	.573	1	.599
Sequence		.338	.323	.463	.621	.479	.538	.599	1

Correlations between Curriculum Guides and Teachers' Guides

Correlations between Textbooks and Assessments

Decision- Making		Content	Instruction	Time allocation	Sequence	Content	Instruction	Time allocation	Sequence
	Factors		Text	oooks			Assess	sments	
Content		1	.557	.493	.332	.440	.258	.248	.209
Instruction	m (1 1	.557	1	.592	.482	.329	.462	.348	.338
Time allocation	Textbooks	.493	.592	1	.455	.292	.344	.482	.356
Sequence		.332	.482	.455	1	.184	.286	.250	.465
Content		.440	.329	.292	.184	1	.488	.432	.410
Instruction	•	.258	.462	.344	.286	.488	1	.538	.530
Time allocation	Assessments	.248	.348	.482	.250	.432	.538	1	.535
Sequence		.209	.338	.356	.465	.410	.530	.535	1

Appendix E: Bivariate Correlation Matrix for Items Related to Teachers' Curriculum Control

Table 34

Correlations between Teachers' Perceived Control over Content to Teach and Teacher Factors

	CG	Text	TG	AS	LC	SN	NB	PB	KIG	KCU	CCD	CIK	CCU
Content Control	.247**	032**	·.097**	.075**	.177**	.153**	132**	.061**	.139**	.016**	.160**	.178**	.198**
Collaboration for curriculum use (CCU)	.340**	.022**	.158**	.077**	.241**	.180**	.028**	.172**	.270**	.283**	.452**	.619**	
Collaboration for improving knowledge (CIK)	.237**	.131**	.117**	.220**	.123**	.103**	.037**	.165**	.138**	.218**	.517**		
Collaboration for content decision (CCD)	.146**	.105**	.099**	.110**	.129**	.132**	007**	•.148 * *	.146**	.228**			
Teacher knowledge curriculum use (KCU)	.245**	.081**	.249**	.010*	.138**	.121**	.074**	.165**	.609**				
Teacher knowledge in general (KIG)	.166**	.025**	.131**	.107**	.239**	.193**	.065**	.066**					
Positive beliefs (PB)	.146**	.113**	.238**	.055**	015**	.042**	.124**						
Negative beliefs (NB)	.051**	.018**	.059**	.026**	.037**	.037**							
Attention to Students' needs (SN)	.193**	.141**	.166**	.167**	.531**								
Attention to local contexts (LC)	.285**	.138**	.207**	.306**									
Attention to assessments (AS)	.171**	.403**	.220**										
Attention to teachers' guide (TG)	.455**	.443**											
Attention to textbook (Text) Attention to curriculum guide (CG)	.231**												
* n < 05 ** n < 001													

* p < .05 ** p < .001

Correlations between Teachers' Perceived Control over Instructional Strategies and Teacher Factors

	CG	Text	TG	AS	LC	SN	NB	PB	KIG	KCU	CCD	CIK	CCU
Instruction Control	.105*	.054	003	.096*	.102*	.083*	161**	.116*	.045	030	.140*	.137*	.047
Collaboration for curriculum use (CCU)	.325**	.065	.091*	.127*	.202**	.113*	.028	.172**	.270**	.283**	.508**	.619**	
Collaboration for improving knowledge (CIK)	.234**	.163**	.093*	.164**	.041	.099*	.037	.165**	.138*	.218**	.602**		
Collaboration for content decision (CCD)	.172**	.118*	.072	.186**	.080	.132*	.005	.096*	.191**	.191**			
Teacher knowledge curriculum use (KCU)	.242**	.088*	.190**	.137*	.147**	.067	.074	.165**	.609**				
Teacher knowledge in genera (KIG)	¹ .143**	.051	.089*	.197**	.212**	.136*	.065	.066					
Positive beliefs (PB)	.161**	.123*	.223**	.128*	.054	025	.124						
Negative beliefs (NB)	.026	.073	.036	021	.065	.015							
Attention to students' needs (SN)	.194**	.227**	.253**	.340**	.530**								
Attention to local contexts (LC)	.255**	.183**	.221**	.314**									
Attention to assessments (AS).163**	.424**	.322**										
Attention to teachers' guide (TG)	.392**	.538**											
Attention to textbook (Text)	.153**												
Attention to curriculum guide	•												
(CG)													
[†] $p < .10 * p < .05 * p < .001$													

Correlations between Teachers' Perceived Control over Time Allocation and Teacher Factors

	CG	Text	TG	AS	LC	SN	NB	PB	KIG	KCU	CCD	CIK	CCU
Time Control	.062	.051	025	.183**	.108*	.127*	102*	.092*	$.076^{\dagger}$	003	.085*	.155	.075†
Collaboration for curriculum use (CCU)	.278**	.085*	.163**	.117*	.301**	.185**	.028	.172**	.270**	.283**	.418**	.619**	
Collaboration for improving knowledge (CIK)	.200**	.124*	.162**	.168**	.106*	.115*	.037	.165**	.138**	.218**	.377**		
Collaboration for content decision (CCD)	.179**	.097*	.143**	.190**	.238**	.215**	044	.096*	.164**	.130*			
Teacher knowledge curriculum use (KCU)	n.228**	.183**	.232**	.107*	.184**	.184**	$.074^{\dagger}$.165**	.609**				
Teacher knowledge in general (KIG)	.202**	.167**	.158**	.165**	.258**	.209**	.065	.066					
Positive beliefs (PB)	.204**	.143**	.262**	$.080^{\dagger}$	$.074^{\dagger}$.094*	.124*						
Negative beliefs (NB)	.110*	.083*	.116*	023	$.079^{\dagger}$.034							
Attention to Students' needs (SN)	.242**	.205**	.221**	.335**	.601**								
Attention to Local contexts (LC)	.359**	.143**	.211**	.247**									
Attention to assessments (AS)	.164**	.425**	.253**										
Attention to teachers' guide (TG)	.516**	.456**											
Attention to textbook (Text) Attention to curriculum guide (CG)	.237**												
† p < .10 * p < .05 ** p < .001													

Correlations between Teachers' Perceived Control over Sequence and Teacher Factors

	CG	Text	TG	AS	LC	SN	NB	PB	KIG	KCU	CCD	CIK	CCU
Sequence Control	$.068^{\dagger}$.058	.056	.003	.109*	.149**	087*	076^{\dagger}	.139**	.007	.180**	.198**	.170**
Collaboration for curriculum use (CCU)	.288**	.008	.140**	.110*	.249**	.108*	.028	.172**	.270**	.283**	.472**	.619**	
Collaboration for improving knowledge (CIK)	.218**	.145**	.174**	.163**	.027	.041	.037	.165**	.138**	.218**	.468**		
Collaboration for content decision (CCD)	.168**	.081*	.108*	.144**	.146**	.052	.060	.034	.169**	.164**			
Teacher knowledge curriculum use (KCU)	.181**	.058	.139**	.122*	.162**	$.075^{\dagger}$	$.074^{\dagger}$.165**	.609**				
Teacher knowledge in general (KIG)	.174**	.150**	.096*	.192**	.230**	.146**	.065	.066					
Positive beliefs (PB)	.119*	003	.177**	.108*	$.080^{\dagger}$.024	.124*						
Negative beliefs (NB)	.137*	.113*	.149**	.082*	.159**	.086*							
Attention to Students' needs (SN)	.218**	.138**	.159**	.248**	.630**								
Attention to Local contexts (LS)	.314**	.095*	.229**	.332**									
Attention to assessments (AS)	.236**	.416**	.283**										
Attention to teachers' guide (TG)	.591**	.563**											
Attention to textbook (Text)	.360**												
Attention to curriculum guide (CG)	e												

Appendix F: Frequency and Percent of Teachers' Agreement with Beliefs about Curriculum Materials

Table 38

Frequency and Percent of Teachers' Positive Beliefs about Curriculum Materials

	Curr	iculum gui	de	r	Fextbook		Teachers' guide			
	Disagree	Not sure	Agree	Disagree	Not sure	Agree	Disagree	Not sure	Agree	
Provide common foundation of knowledge	96	101	400	62	53	443	83	89	403	
	(15.9)	(16.7)	(66.4)	(10.3)	(8.7)	(73.6)	(13.7)	(14.8)	(67.0)	
Helpful for unit-planning	100	111	388	60	55	449	65	66	431	
	(16.6)	(18.4)	(64.5)	(9.9)	(9.1)	(74.6)	(10.7)	(11.0)	(71.7)	
Encourage to cover the same materials	92	91	418	98	79	399	65	62	419	
across schools	(15.3)	(15.2)	(69.5)	(16.2)	(13.1)	(66.4)	(10.8)	(10.3)	(69.7)	
Align the content across grades	63	84	452	55	46	463	50	62	456	
	(10.5)	(14.0)	(75.1)	(9.1)	(7.6)	(76.9)	(8.2)	(10.3)	(75.8)	
Good match for students' abilities	219	165	214	213	122	252	218	135	230	
	(36.4)	(27.5)	(35.6)	(35.3)	(20.2)	(41.9)	(36.2)	(22.4)	(38.2)	

* () is percent.

	Curr	iculum gui	de	r	Fextbook		Teachers' guide			
	Disagree	Not sure	Agree	Disagree	Not sure	Agree	Disagree	Not sure	Agree	
Limit the depth of coverage	118	179	300	128	100	374	107	100	393	
	(19.7)	(29.8)	(49.8)	(21.3)	(16.6)	(62.1)	(17.8)	(16.6)	(65.3)	
Mandated by the government	358	114	126	363	87	149	331	103	167	
	(59.5)	(18.9)	(21.0)	(60.4)	(14.5)	(24.8)	(55.0)	(17.1)	(27.8)	
Encourage the breadth rather than depth	309	200	88	385	107	110	294	130	176	
	(51.4)	(33.2)	(14.7)	(63.9)	(17.7)	(18.4)	(48.8)	(21.6)	(29.3)	
Pressure on teachers to get through	161	120	321	193	105	303	165	92	344	
materials	(26.8)	(19.9)	(53.3)	(32.0)	(17.5)	(50.3)	(27.5)	(15.3)	(57.2)	
Too demanding for my students	162	134	301	212	67	321	134	122	345	
	(26.9)	(22.2)	(50.0)	(35.2)	(11.1)	(53.4)	(22.3)	(20.3)	(57.3)	
Too specific	147	179	270	154	144	302	157	158	286	
	(24.3)	(29.8)	(44.9)	(25.6)	(23.9)	(50.2)	(26.1)	(26.3)	(47.4)	

Frequency and Percent of Teachers' Negative Beliefs about Curriculum Materials

* () is percent.

REFERENCES

REFERENCES

- Au, W. (2007). High-stakes testing and curricular control: A qualitative synthesis. *Educational Researcher, 36*(5), 258-267.
- Bay, J. M., Reys, B. J., Reys, R. E. (1999). The top 10 elements that must be in place to implement standards-based mathematics curricula. *The Phi Delta Kappan*, 80(7), 503-506.
- Baek, K. (2007). A study on input system of social needs for the national curriculum standards development. *The Journal of Curriculum Studies*, 25(2), 37-62.
- Bryk, A. S., & Raudenbush, S. W. (1992). *Hierarchical linear models: Applications and data analysis methods*. Newbury, CA: Sage.
- Carroll, J. (1963). A model for school learning. Teachers College Record, 64, 723-733.
- Cho, D. (2002). The reconsideration on the meaning and procedure of school-based curriculum: Focused on the professional development and autonomy of a teacher. *The Journal of Curriculum Studies*, 20(3), 23-44.
- Choi, H. (1996). Issues and prospect of school-based curriculum. *The Journal of Curriculum Studies*, 14(1), 78-105.
- Choi, J.-y. (2007). Influences of school contexts, teacher capacity & will, and teachers' learning opportunities on elementary teachers' implementation of performance assessment in social studies. *The Journal of Elementary Education*, 20(3), 349-375.
- Choi, J.-y., & Lee, K.-j. (2009). The relationship between elementary teachers' beliefs and knowledge and their curriculum implementation in terms of depth of implementation: Focusing on implementation of performance assessment in social studies. *The Journal of Curriculum Studies*, 26(1), 103-126.
- Choe, B. (1998). Teachers' participation and role in school-based curriculum development. *The Journal of Korean Teacher Education*, 15(1), 285-303.
- Chung, J. Y. (2008). A study of an autonomous school policy: Rising issues and tasks for success. *The Journal of Educational Administration*, 26(2), 415-435.
- Cohen, D. K. (1989). Teaching practice: Plus ça change. In P. W. Jackson (Ed.), *Contributing to educational change: Perspectives on research and practice* (pp. 27-84). Berkeley, CA: McCutchan.
- Cohen, D. K. (1990). A revolution in one classroom: The case of Mrs. Oublier. *Educational Evaluation and Policy Analysis*, 12(3), 311-329.
- Cohen, D. K., & Hill, H. C. (1998). State policy and classroom performance: Mathematics

reform in California. CPRE Policy Brief (No. RB-23). Philadelphia: Consortium for Policy Research in Education.

- Cohen, D. K., & Hill, H. C. (2001). *Learning policy: When state education reform works*. New Haven, CT: Yale University Press.
- Coburn, C. E. (2001). Collective sensemaking about reading: How teachers mediate reading policy in their professional communities. *Educational Evaluation and Policy Analysis*, 23(2), 145-170.
- Doonelly, L. A., & Boone, W. J. (2007). Biology teachers' attitudes toward and use of Indiana's evolution standards. *Journal of Research in Science Teaching*, 44(2), 236-257.
- Elmore, R. F. (1996). Getting to scale with good educational practice. *Harvard Educational Review*, *66*(1), 1-26.
- Floden, R. E. (2002). The measurement of opportunity to learn. In A. C. Porter & R. E. Floden (Eds.), *Methodological advances in cross-national surveys of educational achievement*, *Board on international comparative studies in education* (pp. 231-264). Washington, DC: National Academy Press.
- Floden, R. E., Porter, A. C., Schmidt, W. H., Freeman, D. J., & Schwille, W. H. (1981). Response to curriculum pressures: A policy-capturing study of teacher decisions about content. *Journal of Educational Psychology*, 73(2), 129-141.
- Freeman, D. J., & Porter, A. C. (1989). Do textbooks dictate the content of mathematics instruction in elementary schools? *American Educational Research Journal*, 26(3), 403-421.
- Freire, P. (2000). Pedagogy and the oppressed. Continuum International Publishing Group.
- Fullan, M. (2007). *The new meaning of educational change* (Fourth ed.). NY: Teachers College Press.
- Gill, M. J., & Hoffman, B. (2009). Shared planning time: A novel context for studying teachers' discourse and beliefs about learning and instruction. *Teachers College Record*, 111(5), 1242-1273.
- Gonzales, P., Williams, T. Jocelyn, L. Kastberg, S., & Brenwald, S. (2009). *Highlights from TIMSS 2007.* (No. NCES 2009-001 REVISED): National Center for Education Statistics.
- Griffin, G. A. (1991). Teacher education and curriculum decision making: The issue of teacher professionalism. In M. F. Klein (Ed.), *The politics of curriculum decision-making: Issues in centralizing the curriculum* (pp. 121-150). Albany: State University of New York Press.
- Hess, F. M., & Petrilli, M. J. (2006). No child left behind. New York: Peter Lang Publishing.

- Hong, H.-J. (2002). Particularization of individual school curriculum at the college-bound high schools in Korea. *The Journal of Curriculum Studies*, 20(3), 119-152.
- Hur, S. (2001). Developing teachers' professionalism for the implementation of curriculum. *The Journal of Korean Teacher Education*, *18*(3), 45-62.
- Jeon, Y. M. (2006). Understanding American teachers' use of teachers' manuals: Two case studies. *The Journal of Korean Teacher Education*, 23(2), 5-24.
- Joo, S. (2002). The change in the teachers' attitude of the development in the school curriculum. *The Journal of Korean Teachers Education*, *19*(3), 235-252.
- OECD (2006). *Teachers matter: Attracting, developing and retaining effective Teachers*. (Kim, E., Park, Y., Han, M., Hong, Y., Paik, S., & Kim, E, Trans). Korean Educational Development Institute, Seoul.
- Kennedy, M. M. (2006). *Inside teaching: How classroom life undermines reform*. Cambridge, MA: Harvard University Press.
- Kennedy, M. M. (2010). Attribution error and the quest for teacher quality. *Educational Researcher, 39*(8), 591-598.
- Kim, B., Chung, I., Seo, J., & Jung, H. (2010). An analysis of the teachers' perception on school autonomy level. *The Journal of Korean Teacher Education*, 27(2), 73-96.
- Kim, J. W. (2004). Education reform policies and classroom teaching in South Korea. *International Studies in Sociology of Education*, *14*(2), 125-146.
- Kim, P.-g. (2004). How are secondary teachers reorganizing content of the textbooks and teachers' guide? *The Journal of Curriculum Studies*, 23(4), 91-130.
- Kim, S. (1997). The nature of 'Curriculum 2000' in consideration of our school curriculum after the rehabilitation *The Journal of Curriculum Studies*, *15*(2), 171-198.
- Kim, S. H. (2010). An analytic study on structure and issues of textbook authorization system in Korea. *Journal of Curriculum Studies*, 28(2), 177-204.
- Kim, Y. (2004). An analysis on the standards operating procedures of school organization in terms of curriculum management: A case of public high school in equalization policy region. The Journal of Curriculum Studies, 22(3), 123-147.
- Knapp, M. S. (2003). Professional development as a policy pathway. *Review of Research in Education*, 27, 109-157.
- Kuhs, T., Porter, A., Floden, R., Freeman, D., Schmidt, W., & Schwille, J. (1985). Differences among teachers in their use of curriculum-embedded tests. *The Elementary School Journal*, 86(2), 141-153.

- Lee, K., & Kim K. (2005). The meaning of curriculum and the teachers' roles focusing on the practical process of curriculum implementation. The Journal of Curriculum Studies, 23(3), 57-80.
- Lee, S. (2009). A study on the curricular autonomy in the history of the general guideline of the national curriculum. *The Journal of Curriculum Studies*, 27(2), 83-112.
- Lee, S. (1997). Curriculum and evaluation. Seoul, Korea: Yangseowon.
- McLauren, P. (1995). Critical pedagogy and predatory culture: Oppositional politics in a postmodern era.
- MEST. (2009). 2009 school curriculum. Seoul, Korea.
- Min, Y. (2008). The limitations and possibilities on expanding the autonomy of school curriculum in Korea: An analysis of the 2007 new national curriculum organization and implementation guidelines. *Research of Student-Centered Subject Matter Education*, 8(2), 1-23.
- Monfils, L. F., Firestone, W. A., Hicks, J. E., Martinez, M. C., Schorr, R. Y., & Camilli, G. (2004). Teaching to the test. In W. Firestone, R. Y., Schorr & L. F. Monfils (Eds.). *The ambiguity of teaching to the test* (pp. 19-36). Mahwah, New Jersey: Lawrence Erlbaum Associates, Inc.
- National Center for Education Statistics. (2005). *The conditions of education 2005 in brief* (Publication No. NCES 2005-095). Washington, DC: U.S. Department of Education.
- NGA, CCSSO, and Achieve (2010). *Benchmarking for success: Ensuring U.S. students receive a world-class education.* Washington DC: National Governors Association.
- Paik, S., Zhang, M., Lundeberg, M. A., Eberhardt, J., Shin, T. S., & Zhang, T., (2011). Supporting science teachers in alignment with state curriculum standards through professional development: Teachers' preparedness, expectations and their fulfillment. *Journal of Science Education and Technology*, 20(4), 422-434.
- Palardy, G.J., & Rumberger, R. W. (2008). Teacher effectiveness in first grade: The importance of background qualifications, attitudes, and instructional practices for student learning. *Educational Evaluation and Policy Analysis*, *30*(2), 111-140.
- Park, C. (2003). A study on the rights for the organization of the curriculum: *The Journal of Curriculum Studies*, 21(1), 98-110.
- Park, K. (2008). A case study on instructional planning process of teachers. *The Journal of Korean Teacher Education*, 25(3), 379-405.
- Park, S.-K. (2008). A beginning discussion on searching for the startingpoint and direction of

curriculum decentralization in Korea. The Journal of Curriculum Studies, 26(2), 87-105.

- Park, S.-w. (2009). Analysis and tasks of the primary teacher preparation education from the perspective of school autonomy policy. *The Journal of Korean Teacher Education*, 26(1), 85-107.
- Porter, A. C., Floden, R., Freeman, D., Schmidt, W., & Schwille, J. (1988). Content determinants in elementary school mathematics. In D. A. Grouws, T. J. Cooney & D. Jones (Eds.), *Perspectives on research on effective mathematics teaching* (pp. 96-113). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Porter, A. C. (1989a). A curriculum out of balance: The case of elementary school mathematics. *Educational Researcher, 18*(5), 9-15.
- Porter, A. C. (1989b). External standards and good teaching: The pros and cons of telling teachers what to do. *Educational Evaluation and Policy Analysis*, 11(4), 343-356.
- Porter, A. C. (1991).Creating a system of school process indicators. *Educational Evaluation and Policy Analysis, 13*(1), 13-29.
- Porter, A. C. (2002). Measuring the content of instruction: Uses in research and practice: *Educational Researcher*, *31*(7), 3-14.
- Porter, A. C., & Smithon, J. L. (2001). Are content standards being implemented in the classroom? A methodology and some tentative answers. In S. H. Fuhrman (Ed.), *From the capitol to the classroom: Standards-based reform in the states* (pp. 60-79). Chicago: The University of Chicago Press.
- Porter, A. C., McMaken, J., Hwang, J., & Yang R. (2011). Common core standards: The new U.S. intended curriculum. *Educational Researcher*, 40(3), 103-116.
- Remillard, J. T. (1999). Curriculum materials in mathematics education reform. A framework for examining teachers' curriculum development. *Curriculum Inquiry*, 29(3), 315-342.
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical Linear Models: Applications and data analysis methods (2nd ed)*. CA, Thousand Oaks: Sage Publications, Inc.
- Population & Social Statistics Bureau (2010). *The 2010 survey of private education expenditure*. Daejeon: Statistics Korea.
- Senger, E. S. (1999). Reflective reform in mathematics: The recursive nature of teacher change. *Educational Studies in Mathematics*, *37*(3), 199-221.
- Seo, K.-H. (2009). Teachers' experiences of reconstructing national curriculum. *Journal of Curriculum Studies*, 27(3), 159-189.

Shavelson, R. McDonnell, L., Oakes, J., & Carey, N. (1987). Indicator systems for monitoring

mathematics and science education. Santa Monica, CA: The RAND corporation.

- Shin, K.-H. (2009). American teachers' autonomy in curriculum and its implications for Korean education. *The Journal of Curriculum Studies*, 27(3), 191-212.
- Shkedi, A. (1998). Can the curriculum guide both emancipate and educate teachers? *Curriculum Inquiry*, 28(2), 209-229.
- Schmidt, W.H., & Buchmann, M. (1983). Six teachers' beliefs and attitudes and their curricular time allocation. *The Elementary School Journal*, 84(2), 162-171.
- Schmidt, W. H., Raizen, S. A., Britton, E. D., Bianchi, L. J., & Wolfe, R. G. (1997). *Many visions, many aims volume 2:A cross-national investigation of curricular intentions in school science*. Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Schmidt, W. H., Houang, R., & Shakrani, S. (2009). *International lessons about national standards*: Thomas B. Fordham Institute.
- Schmidt, W. H., Raizen, S. A., Britton E. D., Bianchi, L. J., & Wolfe, R. G. (1997). Many visions, many aims volume 2: A cross-national investigation of curricular intention in school science. Dordrecht, The Netherlands: Kluwer Academic Publishers.
- Schorr, R. Y., Byglar, S., Razze J. S., Monfils, L. F., & Firestone, W. A. (2004). Teaching mathematics and science. In W. Firestone, R. Y., Schorr & L. F. Monfils (Eds.). *The ambiguity of teaching to the test* (pp. 19-36). Mahwah, New Jersey: Lawrence Erlbaum Associates, Inc. 0
- Schwille, J. R., Porter, A. C., Alford, L., Floden, R. E., Freeman, D. J., Irwin, S., & Schmidt, W. H. (1988). State policy and the control of curriculum decisions. *Educational Policy*, 2(1), 29-50
- Son, J., & Choi, J. (2008). Elementary school teachers' use of mathematics textbook: Cognitive demands and influential factors. *The Journal of Curriculum Studies*, 26(3), 155-189.
- Sosniak, L. A., & Stodolsky, S. S. (1993). Teachers and textbooks: Materials use in four fourthgrade classrooms. *The Elementary School Journal*, *93*(*3*), 249-275.
- Spillane, J. P. (2004). *Standards deviation: How schools misunderstand educational policy*. Cambridge, Mass.: Harvard University Press.
- Spillane, J. P., & Zeuli, J. S. (1999). Reform and teaching: Exploring patterns of practice in the context of national and state mathematics reforms. *Educational Evaluation and Policy Analysis*, 21(1), 1-27.
- Stigler, J., & Hiebert, J. (1999). *The teaching gap: Best ideas from the world's teachers for improving education in the classroom*. New York: The Free Press.

- Sung, B., & Park, S. (2008). Analyzing recognition of teachers and students about the method of entering general high school by school life records. *Journal of Fishing and Marine Science Education*, 20(3), 452-462.
- Swanson, C. B., & Stevenson, D. L. (2002). Standards-based reform in practice: Evidence on state policy and classroom instruction from the NAEP state assessments. *Educational Evaluation and Policy Analysis*, 2002(24), 1-27.
- Tyler, R. W. (1950). *Basic principles of curriculum and instruction*. Chicago: University of Chicago Press.
- Valencia, S. W., Place, N. A., Martin, S. D., & Grossman, P. L. (2006). Curriculum materials for elementary reading: Shackles and scaffolds for four beginning teachers. *The Elementary School Journal*, 107(1), 93-120.
- Weinbaum, E. H., Cole, R. P., Weiss, M. J., & Supovitz, J. A. (2008). Going with the flow: Communication and reform in high school. In J. A. Supovitz & E. H. Weinbaum (Eds), *The implementation gap: Understanding reform in high schools* (pp. 68-102). NY: Teachers College Press.
- Yeom, M., & Ginsburg, M. (2007). Professionalism and the reform of teacher and teacher education in the Republic of Korea & the United States of America. Asia Pacific Education Review, 8(2), 298-310.