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# An investigation of California middle-grades teachers' knowledge of early adolescent development

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The University of San Francisco

AN INVESTIGATION OF CALIFORNIA MIDDLE-GRADES TEACHERS'  
KNOWLEDGE OF EARLY ADOLESCENT DEVELOPMENT

A Dissertation Presented

to

The Faculty of the School of Education

Learning and Instruction Department

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Education

by

Melina R. Johnson

San Francisco

December 2010

This dissertation, written under the direction of the candidate's dissertation committee and approved by the members of the committee, has been presented to and accepted by the Faculty of the School of Education in partial fulfillment of the requirements for the degree of Doctor of Education. The content and research methodologies presented in this work represent the work of the candidate alone.

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THE UNIVERSITY OF SAN FRANCISCO  
Dissertation Abstract

An Investigation of California Middle-Grades Teachers'  
Knowledge of Early Adolescent Development

Proponents of specialized middle-grades teacher preparation believe that knowledge of early adolescent development is needed to teach young adolescents; however, preparation programs that focus on young adolescents are rare, particularly in California. Information addressing the extent to which California's middle-grades teachers are knowledgeable about early adolescent development is thus uncertain, as is the manner in which existing knowledge was gained.

The purposes of this study were to describe California middle-grades teachers' perceived and actual levels of knowledge of four areas of early adolescent development (i.e., physical, social, emotional, and cognitive), the manner in which that knowledge was acquired, and to what extent teachers believe such knowledge is essential for teaching students in the middle grades. Furthermore, this study examined differences in teachers' perceived and actual levels of knowledge based on years of experience teaching at the middle-school level, type of credential program completed, the amount of time spent observing or student teaching in a middle-grades classroom before becoming a middle-grades teacher, and the amount of previously completed coursework focused on early adolescent development.

Data were collected from a convenience sample of 143 California middle-grades teachers through their completion of a printed or electronic version of the *California*

*Middle-Grades Educator Questionnaire*, developed for this study. Results indicated that participants primarily perceived their knowledge of early adolescent development to be *proficient*, teachers' actual knowledge tended to be midlevel to high, and many teachers believed their knowledge was acquired primarily through observation or experience in the classroom setting. Nearly all of the teachers believed an understanding of early adolescent development is *essential* or *important* to teaching the middle grades. No statistically significant differences were found to exist between teachers' perceived or actual levels of knowledge of early adolescent development based on the four independent variables. Recommendations were made for providing professional development for current middle-grades teachers to supplement knowledge gained through experience and additional learning opportunities for preservice teachers. Recommendations for future research included the implementation of a more extensive instrument, including teacher interviews, and the exploration of ways in which teachers' knowledge of early adolescent development is realized in the classroom setting.

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## CHAPTER I

### INTRODUCTION TO THE STUDY

#### Statement of the Problem

Proponents of middle-grades teacher preparation believe that, in addition to subject-matter competency, specific skills and knowledge in the area of early adolescent development are needed to teach young adolescents effectively (McEwin, Dickinson, & Hamilton, 2000; McEwin, Dickinson, & Smith, 2003; National Forum to Accelerate Middle Grades Reform, 2003). Young adolescents, ranging from ages 10 to 14 or in grades 5 through 8, are considered unique because of the dramatic changes they experience as they develop physically, socially, intellectually, and emotionally and, therefore, learn differently from other age groups.

Efforts to meet the need for specific middle-grades teacher preparation have resulted in a substantial increase in the number of states offering middle-grades teacher certification since the late 1960s. Currently, 46 states have a middle-grades teaching credential, but only 24 states require it (Gaskill, 2002, 2007). California is a state that does not offer a middle-grades teaching credential. Studying a national sample of middle schools, Petzko (2004) found that over half of the schools employed a majority of teachers with secondary certification, and 30% of the schools employed a majority of teachers with elementary certification. Less than 20% of the middle schools in the national sample employed a majority of teachers with middle-level certification.

Advocates of middle-grades teacher preparation argue that in states in which no middle-grades certification exists, or in which there is an overlapping of grade ranges in certification options (e.g., kindergarten to eighth grade and grades 6 to 12), prospective

middle-grades teachers likely are enrolled in training programs that emphasize elementary education or high-school education, with little or no focus placed on the characteristics and needs of young adolescent learners (McEwin, Dickinson, & Smith, 2004). Participation in a preparation program that does not focus on early adolescence has been shown to result in teachers' limited knowledge of appropriate teaching strategies for the middle grades and varied impressions of middle-grades students' intellectual capabilities (Conklin, 2007, 2009). Teachers prepared in specialized middle-grades programs, as opposed to those prepared in elementary or secondary programs, are more likely to have had coursework or field experiences addressing early adolescent development and appropriate teaching strategies, as well as believe they are prepared adequately to teach young adolescents (Scales & McEwin, 1994, 1996; Stahler, 1996). Furthermore, there is concern that many effective middle-grades teachers who have not received specific middle-grades preparation or certification learn instead by trial and error or over years of experience, possibly doing a disservice to the young adolescents taught by them during that process (McEwin et al., 2004).

Although supporters of middle-grades teacher preparation and overall middle-school reform continue to urge states to require this particular training and universities to offer it (McEwin, Dickinson, & Smith, 2003), California is one of the states in which it is possible to become a middle-grades teacher without studying the developmental characteristics of young adolescents or any other issues specific to the middle grades. There are nearly 2 million middle-grades students in California (California Department of Education, CDE, 2009b), taught by over 50,000 middle-grades teachers, but the California Commission on Teacher Credentialing (CTC) offers neither a middle-grades

credential nor a middle-grades endorsement, and specialized middle-grades preparation programs in the state are rare. To what extent, then, are California's middle-grades teachers knowledgeable about early adolescent development and how did they gain that knowledge? Current research literature on California middle-grades teachers focuses on their content knowledge, specifically in the area of mathematics (Guha, Shields, Tiffany-Morales, Bland, & Campbell, 2008), but their knowledge of young adolescent learners and developmentally appropriate teaching strategies deserves attention as well (Jackson & Davis, 2000; National Middle School Association, NMSA, 2003).

#### Purpose of the Study

The purpose of this study was to describe California middle-grades teachers' perceived levels of knowledge in the areas of early adolescent development and the manner in which that knowledge was acquired. Additionally, this study investigated to what extent California middle-grades teachers believe an understanding of early adolescent development is essential for teaching the middle grades. This study also examined the same middle-grades teachers' actual personal knowledge of early adolescent development. Last, this study identified any differences in teachers' perceived levels of knowledge, as well as differences in actual knowledge, based on years of experience teaching at the middle-school level, type of credential program completed, the amount of time spent observing or student teaching in a middle-grades classroom before becoming a middle-grades teacher, and the amount of previously completed coursework focused on early adolescent development. To address these purposes, descriptive data were collected through questionnaires completed by middle-grades teachers who earned

their initial teaching credentials in California and, at the time of the study, taught grades 5, 6, 7, and 8 in the state.

### Theoretical Rationale

This study was based on the literature by Eccles and Midgley (1989) and their colleagues (Eccles et al., 1993; Roeser, Eccles, & Sameroff, 2000) who proposed that negative changes often associated with early adolescence are due, in part, to an improper fit between the middle-school environment and the developmental needs of young adolescents. Drawing on person-environment fit theory (Hunt, 1975), which suggests that behavior is determined jointly by a person and his or her environment, Eccles and Midgley emphasized a developmental perspective, suggesting that developmental change is determined jointly by a person's developmental stage and his or her environment. They referred to this developmental perspective as stage-environment fit. Eccles et al. described the educational implications of stage-environment fit in this way:

In essence, we are suggesting that it is the fit between the developmental needs of the adolescent and the educational environment that is important. Imagine two trajectories: one a developmental trajectory of early adolescent growth, the other a trajectory of environmental change across the school years. We believe there will be positive motivational consequences when these two trajectories are in synchrony, that is, when the environment is both responsive to the changing needs of the individual and offers the kinds of stimulation that will propel continued positive growth. (p. 92)

A proper fit between young adolescents and their middle-school environment means that the environment meets the developmental needs of the students and facilitates their movement along the developmental continuum.

Examples of poor stage-environment fit described by Eccles et al. (1993) include middle-school classrooms characterized by an emphasis on discipline and teacher control at a time when young adolescents desire greater autonomy, as well as more competition

and public evaluation of work when young adolescents are more self-conscious. Poor stage-environment fit also could be demonstrated in the use of class work that requires lower level cognitive skills at a time when young adolescents are beginning to develop abstract thinking skills. A poor stage-environment fit can increase the risk of young adolescents' negative behaviors (Way, Reddy, & Rhodes, 2007), declines in academic performance, decreased interest in school, increased negative self-perceptions, and low intrinsic motivation, especially for those who already are struggling academically (Eccles, Lord, & Midgley, 1991; Eccles et al.).

In a study of 1,480 middle-school students outside Washington, DC, Roeser et al. (2000) found that adolescents who perceived their middle schools as supporting autonomy, supporting the development of competence in a noncompetitive way, and having caring, respectful teachers showed improvements in academic, emotional, and social functioning. Conversely, adolescents characterized by issues such as poor motivation to learn and poor academic and social behavior reported the most developmentally inappropriate school environments, which included an emphasis on competition and relative ability, less meaningful academic work, little emotional support from teachers, and few opportunities for autonomy. Similarly, in a study of 1,500 young adolescents in Southeastern Michigan (Eccles et al., 1993), students reported an increased desire to participate in classroom decision making, even though there were fewer opportunities to do so as they transitioned from elementary school to middle school.

Teachers play a major role in creating the educational environment. For that reason, staffing middle schools with teachers who are trained specifically to teach young adolescents, that is, teachers who are experts in early adolescent development, is one

recommendation offered by educators to increase the likelihood of proper stage-environment fit within middle schools (Eccles & Roeser, 2009). Middle-grades teachers may not be able to create a developmentally appropriate and responsive environment, as is suggested, without knowledge of early adolescent development; therefore, this study focused on the extent to which teachers perceive themselves to be and are knowledgeable about early adolescence.

### Background and Need

The recognition of early adolescence as a legitimate developmental period began to burgeon in the 1970s (Manning, 2002). The increased acknowledgement of this developmental period, as well as the distinct needs of young adolescents, has led to continuous efforts to refine the educational experience of this age group. In the early 20th century, the traditional 8-year elementary and 4-year high-school pattern of education, with a primary focus on basic skills and vocational training, was modified to include junior high schools; however, during the 1950s and 1960s, debate ensued over whether junior high schools were in fact fulfilling their intended purpose (Manning, 2000). Although the junior high school initially was designed to be a school based on the growth and developmental needs of young adolescents, instead, in most cases, it became a miniature replica of the North American high school, just as its name suggested (George, Stevenson, Thomason, & Beane, 1992). Rather than offering an interdisciplinary curriculum, opportunities for exploration through elective courses, and flexible grouping, junior high schools began to mirror the high school structure. Academic subjects were kept departmentalized, elective programs encouraged specialization rather than exploration, and students were grouped rigidly based on test

scores and prior achievement. Junior high schools also often included the ninth grade, which was influenced heavily by high schools because of its inclusion in high school graduation requirements.

It was clear to some educators that the junior high school had not become the developmentally appropriate educational environment it was intended to be and reform was unlikely (George et al., 1992). This shortcoming of the junior high school prompted the rise of middle schools and the middle-school philosophy (McEwin, Dickinson, & Jenkins, 2003). In the 1980s, developmental researchers became increasingly interested in studying early adolescence (Peterson & Epstein, 1991), and proponents of middle schools increasingly became interested in reforming middle-grades schooling based on that research (Wigfield & Eccles, 1994). One particular area of focus for reform has been the preparation and professional development of middle-grades educators.

The Carnegie Council on Adolescent Development (1989) published *Turning Points*, a national report addressing the education of young adolescents in the United States. In the report, several recommendations were made for meeting the needs of students in middle-grades schools. One such recommendation was that middle-grades teachers should be trained specifically to teach young adolescents. The authors of the report argued that specialized preparation was necessary to ensure that middle-grades teachers were well qualified, willing, and confident in their abilities to teach young adolescents. As a follow-up to the initial report, Jackson and Davis (2000) published *Turning Points 2000: Educating Adolescents in the 21st Century*. Informed by professional practice and systematic research related to the recommendations of the



initial report, the recommendation for specifically trained middle-grades teachers was emphasized again (Jackson & Davis).

There is a general consensus regarding the components of middle-grades teacher training programs (McEwin, Dickinson, & Smith, 2002). In addition to fundamental program components that are appropriate for teachers of all grades levels, programs specializing in middle-grades teacher preparation are urged to include courses and experiences that address middle-grades philosophy and organization, middle-grades curriculum and assessment, two or more middle-grades teaching fields (e.g., language arts and social studies), and early adolescent development (McEwin et al., 2002; NMSA, n.d.). This research study focused on teachers' understanding of the last component, early adolescent development, because of the role it serves as the basis for the ability to design and realize a developmentally appropriate educational experience for middle-grades students.

In *This We Believe: Successful Schools for Young Adolescents* (NMSA, 2003), the NMSA stressed that young adolescents have distinct educational needs, in large part due to their developmental uniqueness and, consequently, middle-grades teachers need to be knowledgeable about their content areas, as well as knowledgeable about the particular attributes of their student population. Specifically, middle-grades educators need to understand the physical, social, emotional, and cognitive development of young adolescents (Brown & Knowles, 2007; Manning, 1994, 2002). In a multisite qualitative case study, Roney (2001) conducted interviews of middle-school principals, teachers, and students to investigate the characteristics of effective teachers of young adolescents and the extent to which preservice preparation programs assisted teachers in becoming

effective middle-grades educators. One of the four major themes that emerged from the study was the need for middle-grades teachers to have an understanding of early adolescent development, as well as a willingness to accept the challenges of this developmental phase and love the students who are experiencing it. McEwin et al. (2000) found similar results in a survey study of National Board Certified middle-level teachers. The respondents believed middle-level teacher preparation programs are important and should have a strong emphasis on learning about early adolescence.

During the period of early adolescence, youth ranging in age from 10 to 14, or in grades 5 through 8, experience major changes in development, perhaps matched only by the development that occurs in utero or during early infancy (Brown & Knowles, 2007; McEwin & Thomason, 1989; Roeser et al., 2000). For example, young adolescents experience marked physical growth and the onset of puberty. They begin to place greater importance on peer relationships, experience a greater depth and breadth of emotions, begin to seek independence, and examine their self-worth. The ability to engage in more abstract thinking also begins to emerge at this time. These areas of development occur at different rates for young adolescents and are interrelated, such that two young adolescents can experience physical growth at different times and speeds and that growth, or lack thereof, may influence their social development (Brown & Knowles; Manning, 1994, 2002; McEwin & Thomason).

Horowitz et al. (2005) described developmental knowledge as foundational knowledge essential for all teachers who aim to be effective in their practice. Teachers need to understand children's normal development, as well as variations within normal development. That understanding allows teachers to design curriculum, develop learning

experiences, and employ classroom-management strategies appropriately, which then can help students progress in their development. Horowitz et al. also emphasized that middle-grades teachers in particular are faced with large variations of student development and, thus, a large variation of needs; yet teachers in the early grades often give more attention to variation in development than do teachers of adolescents.

Advocates of specialized middle-grades education believe that an understanding of early adolescence and the needs associated with this developmental period will help middle-grades educators create schools and classrooms where students feel safe to be themselves and, thus, increase their capacity to learn (Inlay, 2005). The prevalence of inaccurate stereotypes, or misconceptions about the period of early adolescence, has been recognized as a reason for which prospective educators might have misgivings about teaching young adolescents (Radcliffe & Mandeville, 2007), lack the understanding needed for choosing appropriate teaching strategies, or misjudge the cognitive capabilities of their students (Conklin, 2007, 2009). In contrast, accurate knowledge of early adolescence may lead to more positive attitudes toward young adolescents (McEwin, Dickinson, & Smith, 2003; McEwin & Thomason, 1989), and an understanding of this developmental period will aid teachers in designing curriculum and using teaching strategies that are developmentally appropriate (Manning, 2002). Before further research is conducted to examine the extent to which middle-grades teachers can and do create safer learning environments, employ more appropriate pedagogy, or have increased positive attitudes toward their students due to their understanding of early adolescent development, it should be known to what extent teachers actually have that knowledge. Particularly in a state, such as California, that does not require specialized

training programs for middle-school teachers, it cannot be assumed that teachers are experts in the area of early adolescence.

In 1987, commissioned by then State Superintendent of Public Instruction, Bill Honig, the Middle Grade Task Force published *Caught in the Middle: Educational Reform for Young Adolescents in California Public Schools* (California State Department of Education, 1987). The report described the Task Forces' findings and recommendations for reforming middle-grades education in California based on one year of research and public hearings. One of the primary assertions made by the Task Force was that middle-grades teachers needed specialized preparation. Furthermore, it was recommended that such preparation should, in part, focus on early adolescent development.

Over 10 years after the Middle Grade Task Force's report, Kramer, McKibbin, and Dumas (1990) reported on efforts to explore the need for a specialized middle-grades credential in California. Support for specific standards and preparation programs for middle-grades teachers was growing among California's middle-level principals. The California Commission on Teacher Credentialing (CTC) established the Middle Level Advisory Panel to investigate the topic and make recommendations. Members of the panel ultimately did recommend the creation of a middle-level emphasis credential, which included a focus on the developmental characteristics of young adolescents, but it was not deemed that it should be required.

As a follow up to *Caught in the Middle*, the California Department of Education (CDE, 2001) released *Taking Center Stage*, another publication referencing research that recommended staffing middle schools with teachers who are knowledgeable about young

adolescents and have been prepared specifically to teach the middle grades; however, requirements to meet that recommendation still had not been established in the state. Instead, teachers and administrators were urged to make that learning part of their school-based professional development. *Taking Center Stage* was written with an emphasis on standards, assessment, and accountability, perhaps in accord with educators who believed middle-grades teachers will be trained adequately in preparation programs that focus on the essential knowledge needed to teach any grade level. Finally, in 2004, it was reported that only 3 of the 23 California State University (CSU) campuses, which prepared over half of the year's newly credentialed teachers in the state (CSU, 2006), offered credential programs with a middle-level emphasis (EdSource, 2004), demonstrating the rarity of such programs in the state.

Similar to the preparation pathways described in Conklin's (2007, 2009) studies, currently most of California's preparation programs are designed to match the state's two general education credentialing options: the Multiple Subject Teaching Credential and the Single Subject Teaching Credential. The Multiple Subject Teaching Credential allows a person to teach in a kindergarten to 8th grade (K-8) self-contained classroom, such as those generally found in elementary schools. As defined by the CTC (2007b), however, a self-contained classroom may exist in preschool, kindergarten to 12th grade (K-12), or adult education. A Single Subject Teaching Credential allows a person to teach in departmentalized classes, such as those usually found in middle schools and high schools. Like the self-contained class, however, a departmentalized class may exist at any grade level (CTC, 2009), and so the holder of a Single Subject Teaching Credential also technically is authorized to teach any grade level.

Multiple-subject preparation programs often are designed to prepare teachers to teach kindergarten through grade 6 or grade 8, and single-subject preparation programs are designed to prepare teachers for grades 7 through 12. Gaskill (2002) asserted that the practice of overlapping grade ranges in teacher credentialing has “resulted in most middle level teachers being ‘certified’ to teach in the middle grades without being ‘prepared’ to teach in the middle grades” (p. 39). In other words, although programs are designed to address every grade level, the emphasis is often placed on each end of the spectrum, with little to no focus on the middle grades and young adolescents with their unique developmental characteristics. A specific credential is neither available nor required for teaching the middle grades in California, and therefore, the level of knowledge middle-grades teachers possess regarding early adolescent development likely varies, but the extent to which that is true in California is unknown.

In summary, some educators believe the preparation and professional development of middle-grades teachers should be designed more specifically to meet the needs of middle-grades students, that is, young adolescents who are experiencing a variety of developmental changes. An understanding of early adolescent development would allow middle-grades teachers to help create more developmentally appropriate learning environments and experiences for students, as well as help students advance in their development; however, credential programs that focus on teaching young adolescents are rare, particularly in California. More information is needed about the current status of California middle-grades’ teachers knowledge of early adolescent development, as well as the importance current teachers place on such knowledge.

### Research Questions

Four research questions were addressed in this study.

1. To what extent do middle-grades teachers in California perceive themselves to be knowledgeable in the area of early adolescent development?
2. To what extent are middle-grades teachers in California knowledgeable about the developmental period of early adolescence?
3. To what extent do middle-grades teachers in California believe an understanding of early adolescent development is essential to teaching the middle grades?
4. To what extent do teachers' perceived levels of knowledge in and actual knowledge of early adolescent development differ based on years of experience teaching at the middle-school level, the type of certification program completed, the amount of time spent observing or student-teaching in a middle-grades classroom before becoming a middle-grades teacher, and the amount of previously completed coursework focused on early adolescent development?

### Significance of the Problem

More students are enrolled in California's middle grades than in K-12 in Washington, Oregon, and Nevada combined (Snyder, Dillow, & Hoffman, 2009), and there is an anticipated increase of 68,000 middle-grades students between the years 2013 through 2018 (Guha et al., 2008). The mission of the California Department of Education is to meet the comprehensive needs of all students and provide them a quality public education (CDE, 2008a), but, based on students' California Standards Test (CST) scores, the number of students meeting the state's standards decreases in middle school, particularly in English and mathematics (Guha et al.).

Middle-grades education is an important foundation for the learning that takes place in grades 9 through 12 and has become critical especially in California with the implementation of the California High School Exit Exam (CAHSEE). California public-school students must meet their district's graduation requirements, as well as pass the CAHSEE, in order to receive their high-school diplomas (CDE, 2009c). Approximately 46,000 students from the class of 2008, or nearly 10% of the class, did not pass the CAHSEE (Guha et al., 2008). Most of the mathematics standards tested on the CAHSEE are those learned in grades 6, 7, and 8, and the English standards learned in middle school are considered foundational to those tested on the CAHSEE (CDE, 2008b). Middle-grades students are expected to acquire knowledge while in middle school that is essential for graduating from high school; thus, it is important for them to have teachers who are appropriately trained to impart that knowledge.

Becoming an expert in adolescent development is considered an important element of a middle-grades teacher's training (Jackson & Davis, 2000; NMSA, 2003), and that specialized training is considered to be an important piece of the overarching middle-school concept. Some advocates for middle-school education blame any reputed failure of middle schools largely on the insufficient implementation of *all* the tenets of the middle-school concept (Erb, 2000; Lounsbury, 2000). This study is important because identifying to what extent California middle-grades teachers perceive themselves to be and actually are knowledgeable in the area of early adolescent development is the first step in determining whether their levels of expertise in this particular domain should truly be a matter of concern for teacher trainers, policymakers, administrators, and other educators seeking middle-grades teacher preparation reform in the state. Evidence is



needed to support any call for new or expanded training programs and certification requirements, especially if such programs and requirements would take resources from existing programs (Scales & McEwin, 1994) or drastically alter the structure of the certification system. Furthermore, if a deficiency in knowledge was identified through this study, the collection of these descriptive data also aids future research aimed at tracking progress.

#### Definition of Terms

To address the extent to which variations exist in terminology, the following terms have been defined for their use in this study. There may be several definitions for these terms, but those given here were the ones employed in this study.

*Amount of previously completed coursework focused on early adolescent development* refers to the number of days, quarters, or semesters, a middle-grades teacher has spent formally learning about early adolescent development in a workshop or training course prior to participating in this study. In this study, the amount of previously completed coursework was grouped into 7 levels: none, less than one day of a workshop or training course, 1- to 2-day workshop or training course, 3- to 5-day workshop or training course, a portion of a quarter- or semester-long course, one full quarter- or semester-long course, and more than one full quarter- or semester-long course.

*Amount of time spent observing or student teaching in a middle-grades classroom before becoming a middle-grades teacher* refers to the number of hours, days, weeks, months, or years that a person spent observing a middle-grades classroom or student teaching in a middle-grades classroom before he or she completed a credential program and earned a teaching credential. In this study, the amount of time was grouped into 8

levels: none, one week or less, 2 to 3 weeks, 1 to 2 months, 3 to 5 months, 6 to 8 months, one academic year, and more than one academic year.

*Belief that an understanding of early adolescent development is essential to teaching the middle grades* refers to the extent to which a middle-grades teacher believes knowledge of the physical, social, cognitive, and emotional changes that occur for 10- to 14-year-olds is necessary for middle-grades teachers and, in this study, was measured by ratings on a 4-point Likert-type scale ranging from *essential* to *not necessary* and a written response explaining the selected rating.

*Credential program* refers to the type of educational program a teacher completed or will complete in order to earn his or her teaching credential. In this study, three types of credential programs were identified as those available for California teachers through the Commission on Teacher Credentialing (CTC): multiple-subject, single-subject, and education specialist (CTC, 2007a).

*Early adolescence* is the period of physical, social, intellectual, and emotional development of 10- to 14-year-olds, often viewed as the developmental period between childhood and adolescence (Manning, 2009).

*Early adolescent development* refers to all the physical, social, cognitive, and emotional changes that occur daily for 10- to 14-year-olds (Manning, 2002). In this study, teachers' knowledge of early adolescent development was measured by the number of correct responses to 13 multiple-choice items about the characteristics of early adolescent development. Teachers' perceived knowledge of early adolescent development was measured by their responses to four statements using a 4-point Likert scale ranging from *minimal* to *advanced*.

*Knowledge of early adolescent development* refers to the researcher's estimations of teachers' competence in the area of early adolescent development as measured by the number of correct responses to 13 multiple-choice items.

*Middle grades* refers to grades 5, 6, 7, and 8, which can exist in a variety of school organizational patterns such as K-8, K-6, 5-8, 6-8, and 7-8 (CDE, 2009a; Manning, 2002). In this study, the term middle grades is synonymous with the descriptors middle school and middle level.

*Perceived level of knowledge of early adolescent development* refers to a teacher's personal estimation of his or her competence in the areas of adolescents' physical, social, emotional, and cognitive development as indicated by scores on a 4-point rating scale ranging from *minimal* to *advanced*.

*Years of middle-grades teaching experience* are the number of years a teacher has taught grades 5, 6, 7, or 8. In this study, years of experience were grouped into 5 levels: 1 to 2 years, 3 to 5 years, 6 to 10 years, 11 to 20 years, and 21 years or more.

*Young adolescents* are girls and boys ranging in age from 10 to 14, or in grades 5 through 8, who are progressing through the developmental period of early adolescence (Manning, 2009).

### Summary

In this chapter, the main problem, the purpose of the study and its significance, research questions, background information, and a theoretical rationale have been presented, along with definitions of terms that will be used throughout the remaining chapters. California middle-grades teachers are not required to obtain a specific-middle grades credential or complete a specialized program in order to teach the middle grades,

although some educators believe it should be required (McEwin, Dickinson, & Jenkins, 2003). It is unknown to what extent California middle-grades teachers are knowledgeable about the developmental characteristics of young adolescents, an area of knowledge that would inform the creation of the developmentally appropriate educational environments middle schools were originally designed to be (George et al., 1992). The lack of empirical research in this area makes it difficult to know whether California middle-grades teachers' levels of expertise in the area of early adolescent development warrant concern. The purpose of this study was to describe California middle-grades teachers' perceived and actual levels of knowledge of early adolescent development, as well as the manner in which that knowledge was acquired. Furthermore, differences in teachers' levels of knowledge were examined based on years of experience teaching the middle-grades, the type of credential program completed, the amount of time spent observing or student teaching in a middle-grades classroom before becoming a middle-grades teacher, and the amount of previously completed coursework focused on early adolescent development.

In the next chapter, research findings on early adolescent development as an essential area of knowledge for middle-grades teachers, the manner in which that knowledge should be acquired, and the significance of that knowledge is presented. Characteristics of early adolescence also are described.

## CHAPTER II

### REVIEW OF THE LITERATURE

Overall, there is a modicum of research available on the manner in which middle-grades teachers should be prepared, the specific knowledge they should acquire during that preparation process, and how that knowledge impacts their teaching practice. More often than not, published works on the topic are opinion pieces with limited empirical research to support major claims. Wilson, Floden, and Ferrini-Mundy (2002) attempted to summarize existing rigorous empirical research on five key questions concerning teacher preparation. The questions addressed the effects of subject matter preparation, the effects of pedagogical preparation, the effects of student teaching, policies that improve the quality of preservice teacher education, and the components of high-quality alternative certification programs. Wilson et al. found 57 studies on U.S. teacher education that met their criteria and had been published within 20 years of their review. Although their focus was not on the preparation of middle-grades teachers specifically, a conclusion drawn from their review is relevant here: Gaps exist between the claims some teacher educators make and persuasive empirical evidence that supports those claims.

The National Middle School Association's (NMSA) suggestions for middle-grades teacher preparation (NMSA, n.d.) have been used by Australian university educators as a framework for the development of their middle-school teacher preparation programs, but researchers (Pendergast, Whitehead, de Jong, Newhouse-Maiden, & Bahr, 2007) pointed out a similar lack of evidence to support middle-school initiatives in Australia. The present study aimed to identify to what extent California middle-grades teachers perceive themselves to be and actually are knowledgeable in the area of early

adolescent development. This investigation is a first step in helping teacher trainers, policymakers, administrators, and other educators decide if concerns and suggested reform regarding the preparation of California's middle-grades teachers are warranted.

The following review of the literature describes research findings on early adolescent development as an area of knowledge for middle-grades teachers, the manner in which that knowledge should be acquired, and the reason why it is believed to be essential knowledge for middle-school teachers. Last, characteristics of early adolescence are described.

#### Educators' Views of the Need to Understand Early Adolescent Development

McEwin, Dickinson, and Hamilton (2000) conducted a survey study of National Board Certified teachers to explore their perspectives about middle-level teacher preparation, in particular whether they believed it was important and desirable. Seventy-three of the first 81 National Board Certified Early Adolescence/Generalist teachers responded to the survey. At the time of the survey, 41% of the teachers taught in middle schools, 30% taught in elementary schools, and 29% taught in schools with other grade-level configurations. The most commonly taught grades were 6, 7, and 8. Fourteen percent of the teachers taught in rural settings, whereas 86% of the teachers were split equally between urban and suburban settings. All 73 of the respondents had at least 4 years of overall teaching experience, with 55% of them having 15 years or more, and they all had middle-level teaching experience. Twenty-five percent of them had taught 15 or more years at the middle level. Seventy-seven percent of the teachers had experience teaching grades other than those in the middle level. Only 4% of the respondents had completed a specialized middle-level teacher preparation program and

obtained their initial teaching license specifically for the middle grades. Most earned their initial teaching license in elementary (49%) or secondary education (27%), whereas 20% earned a teaching license that combined either elementary and middle-level education, or middle- and high-school education. The remaining 4% earned a license specific to the middle grades and completed specialized middle-level preparation programs.

The researchers (McEwin et al., 2000) found that the respondents believed middle-level teacher preparation programs are important and should have a strong emphasis on learning about early adolescence. All 73 of the respondents expressed the belief that there are “important ideas, principles, and understandings that an effective middle level teacher needs to know” (p. 212). Participants were asked to list three examples of those ideas, principles, and understandings. Middle-school field experiences, effective teaching strategies, and middle-grades curriculum knowledge were listed; however, the most common responses related to the importance of learning about early adolescence. Perhaps it could be expected to find that teachers who have earned national certification with an emphasis on early adolescence hold such beliefs, but Green et al. (2008), Roney (2001), and Thistle and O’Connor (1992) found similar results sampling from different populations.

Amid concern that the current emphasis on standards-based reform, paired with state and federal mandates, has shifted attention away from middle-grades teacher preparation and practices that address the developmental needs of young adolescents, Green et al. (2008) sought to investigate the influences of the No Child Left Behind Act of 2001 on Oregon middle-school teachers’ views of the purpose and nature of their

work, as well as their views on curriculum, instruction, and assessment practices. There were 160 core-subject (i.e., mathematics, science, social studies, and English or language arts) middle-grades teachers from 13 Oregon schools who participated in the study. Twenty-one percent of the teachers had 5 or fewer years of middle-grades teaching experience, 20% had 6 to 10 years of experience in the middle grades, and the remaining 59% had more than 10 years of experience teaching the middle grades. Participants completed a 45-item survey that was developed to collect teachers' background information and explore their beliefs about content and academic preparation, organization and curriculum, and the influences of educational reform efforts. The multiple-choice, Likert-scale, and open-response items resulted in the collection of both quantitative and qualitative data. The results of the study regarding teachers' beliefs about the influences of NCLB will not be discussed here; however, results pertaining to teachers' views of the nature and purpose of their work are relevant to this study. Teachers were asked to rate the importance of nine topics as *essential*, *important*, *nice but not necessary*, or *not necessary* for middle-level teachers. The understanding of early adolescent developmental characteristics and needs was rated as either *essential* or *important* by 92% of the teachers. Specifically, 55% rated it as *essential*, second only to the ability to connect positively with middle-level students, which was rated as *essential* by 89% of the teachers.

Conducting a multisite qualitative study, Roney (2001) interviewed middle-school principals, teachers, and students in the Northeastern United States to investigate characteristics of effective teachers of young adolescents and the manner in which preservice preparation programs assist teachers in becoming effective middle-grades



educators. Four principals, 16 teachers, and 12 students participated in the study. One of the four themes that emerged from the study was “understanding the transitions of the young adolescent” (p. 82), specifically, the need for middle-grades teachers to have an understanding of early adolescent development, as well as a willingness to accept the challenges of this developmental phase and love the students who are experiencing it. Participants further suggested that this understanding and acceptance of young adolescents requires the teacher to be adaptive, flexible, and familiar with a variety of teaching strategies. Participants of the study also expressed a lack of preparation in their own teacher programs in regard to learning about and dealing with the development of young adolescents.

In the 1990s, a period during which literature on middle-grades teacher preparation was published more frequently than it has been in the 2000s, Thistle and O’Connor (1992) conducted a survey study of 24 principals and 48 middle-grades teachers from Kern County, California, to investigate their attitudes toward middle-grades certification. Participants were asked to indicate whether they *strongly agreed*, *agreed*, *disagreed*, or *strongly disagreed* with, or had *no opinion* about 22 statements related to middle-grades certification and teacher preparation. Although less than half of the teachers were willing to say specific middle-grades teacher certification should be required, 43 of the 48 teachers *agreed* or *strongly agreed* that middle-grades teacher preparation should include coursework that addresses the physical, intellectual, social, and emotional development of young adolescents. Twenty-three of the 24 principals also *agreed* or *strongly agreed* with the inclusion of coursework on early adolescent development.

The research results of McEwin et al. (2000), Green et al. (2008), Roney (2001), and Thistle and O'Conner (1992) suggest that educators support the proposition that middle-grades teachers should be knowledgeable about the development of young adolescents. Understanding where students are developmentally is foundational knowledge that is essential to knowing how to design and implement appropriate learning experiences (Horowitz et al., 2005). This belief is now further reflected in a set of learning standards for preservice middle-grades teachers. The National Middle School Association's (NMSA) Performance Based-Standards for Initial Middle Level Teacher Preparation, which were approved by the National Council for Accreditation of Teacher Education (NCATE), begins its list of seven major standards with a standard focused on early adolescent development (NMSA, n.d.). Details regarding the knowledge middle-level teacher candidates should possess are listed.

Middle level teacher candidates:

1. Understand the major concepts, principles, and theories of young adolescent development—intellectual, physical, social, emotional, and moral.
2. Understand the range of individual differences of all young adolescents and the implications of these differences for teaching and learning.
3. Know a variety of teaching/learning strategies that take into consideration and capitalize upon the developmental characteristics of all young adolescents.
4. Understand the implications of young adolescent development for school organization and components of successful middle level programs and schools.
5. Understand issues of young adolescent health and sexuality.
6. Understand interrelationships among the characteristics and needs of all young adolescents.
7. Understand the development of all young adolescents occurs in the context of classrooms, families, peer groups, communities, and society.
8. Are knowledgeable about how the media portrays young adolescents and comprehend the implications of these portraits. (pp. 3-4)

The first item on the list addresses the foundational knowledge of early-adolescent development. The seven remaining areas of understanding stem from that foundational

knowledge. Furthermore, many of the six remaining standards assume mastery of that same foundational knowledge of early adolescent development.

In addition to investigating the extent to which middle-grades teachers are knowledgeable about early adolescent development and the manner in which that knowledge was acquired, a purpose of this study was to examine the extent to which California middle-grades teachers believe an understanding of early adolescent development is essential for teaching the middle grades and thus extend the research in this area. McEwin et al. (2000) sampled only National Board Certified Early Adolescence/Generalist teachers, whereas this study sampled from middle-grades teachers who primarily did not have any type of certification with an emphasis on early adolescence. Moreover, Green et al. (2008) focused on Oregon teachers, whereas this study focused on California teachers and included a larger sample from different geographic locations within California than the sample surveyed by Thistle and O'Connor (1992).

#### Acquiring an Understanding of Early Adolescent Development

McEwin, Dickinson, and Smith (2003) argued that middle-grades teachers who learn about early-adolescent development understand that the negative stereotypes often associated with young adolescents are inaccurate and, instead, working with this age group can be a rewarding experience. Furthermore, they asserted that expertise in the area of early adolescent development is attained through formal study and direct work with young adolescents.

Radcliffe and Madeville (2007) conducted a study to investigate what preservice middle-school, preservice high-school, and practicing middle-school teachers found

appealing or discouraging about teaching students in the middle grades. Thirty-five preservice middle-school teachers, 32 preservice high-school teachers, and 43 experienced middle-school teachers completed a questionnaire with 18 Likert-type items and five open-ended questions. Based on responses from the open-ended questions, student developmental issues ranked fifth in the top 10 reasons teachers did not want to teach in the middle school. Hormone and puberty issues ranked eighth, and students' emotional state ranked tenth. It is unknown if the teachers' perceptions of young adolescents or their understanding of early adolescent development was accurate. Although differences between preservice and experienced teachers were not reported for this particular finding, some of the experienced middle-grades teachers described their own initial inaccurate perceptions of young adolescents and how those perceptions changed over time.

In a pilot study that supported the argument made by McEwin, Dickinson, and Smith (2003), Conklin (2007) interviewed six preservice teachers enrolled in undergraduate teacher education programs at one large public university in the Midwest. The specific programs were the elementary-education program, which prepared teachers to teach multiple subjects (including social studies) to students in grades three to eight, and a secondary education program, which prepared teachers to teach social studies to students in grades 6 to 12. Based on this design, upon completion of their respective programs, both sets of teachers should have been prepared to teach social studies at the middle level. With that in mind, Conklin interviewed three preservice teachers from each preparation pathway, all enrolled in social studies methods courses, for the purpose of understanding how the different pathways related to their conceptions of instructional

strategies for teaching social studies at the middle-level and middle-grades students' intellectual capabilities in regard to social studies.

In each hour-long interview, Conklin (2007) asked the participants to discuss their backgrounds, knowledge, ideas, and experiences in relation to social studies and middle-school students. Conklin also interviewed the two instructors of the social studies methods courses and collected copies of the course syllabi. After coding the data, Conklin reported that preservice teachers from both preparation pathways learned similar student-centered, constructivist approaches to teaching social studies, but they were unclear as to which strategies would be more appropriate for middle-school students. Furthermore, the preservice teachers from the secondary-education program had lower expectations of middle-school students' intellectual capabilities than did the teachers from the elementary-education program. Conklin noted that this difference could have been attributed to instructor influence; however, that influence was deemed unintentional because the methods courses were not designed to cover early adolescent development or issues related to young adolescents. Conklin concluded that without that specific knowledge taught through formal instruction or through a facilitated manner, preservice teachers were left to develop their own, possibly inaccurate interpretations of middle-school students' intellectual capabilities, thereby making them inadequately prepared to teach young adolescents.

Still looking at the different pathways that lead to middle-school teaching, Conklin (2009) again studied two groups of preservice teachers enrolled in the university's five-semester elementary-education program and the four-semester secondary social studies education program. During their fourth semester, while students

from both programs were taking the social studies methods course, Conklin selected three preservice teachers from each pathway for in-depth study. The participants were chosen as representatives of their cohorts in regard to gender, their expectations for middle-grades students' intellectual capabilities as reported at the beginning of the semester, and other demographic data. Each participant was interviewed three times and observed in their middle-grades field placement twice during the semester. The social studies methods course instructors and education program directors also were interviewed, as well as the participants' cooperating teachers and university supervisors. Additionally, documents, such as course syllabi, assignments, and class activities, were collected.

Similar to the pilot study conducted one year prior (Conklin, 2007), Conklin (2009) reported that participants from both pathways learned a range of instructional strategies for teaching social studies, particularly strategies that promoted higher-order thinking, but teachers from the two pathways thought differently about the appropriateness of those strategies for middle-grades students. Many of the secondary-school preservice teachers believed the strategies were too sophisticated for middle-grades students, whereas the elementary-school preservice teachers thought the intellectually challenging work could be accomplished by middle-school students if students were provided proper support. Conklin identified the elementary-education program's methods instructor's explicit emphasis placed on high expectations for young students and intellectually challenging all learners as a key factor in shaping the thinking of the preservice teachers in the elementary-education program. It also was beneficial for preservice teachers to witness high-order thinking from the students in their field placements.

At the beginning of the semester, 22 preservice teachers in the elementary-education program and 17 preservice teachers in the secondary-education program completed a survey. One particular question on the survey asked what type of assessment the teachers would use to assess seventh-grade students' understanding of the qualifications for becoming a U.S. president. Participants could choose from a basic-level cognitive assessment that required students to summarize information, a midlevel cognitive assessment that required students to analyze and compare information, and a high-level cognitive assessment that required students to evaluate information. A majority (73%) of the teachers in the elementary-education program chose the midlevel cognitive assessment as appropriate for the seventh-grade students, whereas 23% of the teachers chose the high-level assessment and 5% chose the basic-level assessment. At the end of the semester, however, the majority of the teachers (55%) chose the high-level assessment, 45% chose the midlevel assessment, and none of the elementary-education teachers chose the basic-level assessment.

Conversely, the responses from the preservice teachers in the secondary-education program showed an increase in the selection of the basic-level assessment and a decrease in the selection of the high-level assessment. At the beginning of the semester, 64% of the teachers in the secondary-education program chose the midlevel assessment, 29% chose the high-level assessment, and 7% chose the basic-level assessment. At the end of the semester, 63% still chose the midlevel assessment, but more teachers (19%) chose the basic-level assessment and fewer teachers (19%) chose the high-level assessment. Conklin (2009) attributed these results to the fact that the possibility of high-order thinking from students in all grade levels was not emphasized in the secondary-education

methods course. In addition, some of the secondary-education preservice teachers' views matched those of the cooperating teachers in their field placements. Conklin noted that these findings do not prove that one particular preparation pathway is better than the other, but rather the explicit teaching of the capabilities of middle-school students, among other important concepts, can play an important role in middle-grades teacher education.

A study by Shepherd (1996) also relates to the assertion made by McEwin, Dickinson, and Smith (2003) that expertise in the area of early adolescent development should be attained, partly, through formal study. Shepherd attempted to examine the changes in middle-grades teachers' knowledge and perceptions of young adolescent characteristics and developmentally responsive practices after specific staff-development training. Participants in the study were 31 middle-grades teachers employed at a middle school in rural California. The school recently had been restructured to address concerns in the community about student safety and academic achievement in the middle grades. The restructuring included new schedules, interdisciplinary instructional teams, and the hiring of staff members who supported the school's new vision. Sixty-eight percent of the participants had less than 5 years of teaching experience.

Shepherd (1996) developed an instrument to measure the participants' knowledge of young adolescent characteristics, developmentally responsive middle-school practices, and the purpose of middle school. Participants responded to 45 statements by indicating their level of agreement on a 4-point Likert scale, ranging from *strongly disagree* to *strongly agree*. After the initial survey, participants received a 2-day training that addressed the survey's topics. Shepherd reported slight increases in means of some of the postsurvey items, 5 of them with a statistically significant difference at .10 level, perhaps



indicating a greater understanding of early adolescent development and young adolescents' characteristics after the training; however, Shepherd did not indicate which items should have increased appropriately, as some of the statements were meant to address myths about young adolescents and middle school. Furthermore, only 24 of the 31 participants completed the postsurvey and participants' individual scores on the presurvey were not matched to their individual scores on the postsurvey. Shepherd also reported a difference between teachers with less than 5 years of teaching experience and teachers with more than 5 years of experience. The teachers with less experience had, in some instances, a more accurate understanding of young adolescents' needs, perhaps due to the fact that middle-grades education was a prominent issue during their preparation programs, resulting in the increased potential of exposure to current research and literature on the topic. Differences that favored the teachers with more teaching experience were attributed to the greater amount of time they had spent in a middle-grades classroom. Although there were limitations to this study in regard to the collection of data, the results mildly suggest that an understanding of young adolescents can be taught through formal training. A study by Stahler (1996) further addressed this point.

Stahler (1996) made a comparison between groups when she studied 34 middle-grades student teachers; some prepared in a middle-school teacher education program and others in an elementary- (Kindergarten to grade 9) or secondary-school (grade 9 to grade 12) teacher education program. Based on results from a 12-question survey completed by student teachers both before and after their student teaching experience, Stahler reported that the student teachers prepared specifically to teach at the middle level believed they

were more knowledgeable about young adolescents, middle-level curriculum and instruction, and middle-level literature and research. For each of the 12 questions, participants responded to statements by indicating whether they *strongly agreed*, *agreed*, *disagreed*, or *strongly disagreed*. In response to the statement, “I understand young adolescents” (p. 4), 25% of the student teachers from the elementary- and secondary-school preparation programs *strongly agreed*, whereas as 79% of the student teachers from the middle-school preparation program *strongly agreed*. Moreover, the student teachers with specialized preparation indicated they were better prepared to teach at the middle level, had a more positive attitude toward teaching at the middle level, and showed a stronger commitment to teaching at the middle level in the future. The two groups were closer in agreement in regard to whether teachers should be prepared specifically to teach the middle grades, with 85% of the student teachers from the elementary- and secondary-school preparation programs responding that they either *agreed* or *strongly agreed* and with 100% of the student teachers from the middle-school program responding that they *strongly agreed*. In part, the purpose of this study was to describe the manner in which California middle-grades teachers’ knowledge of early adolescent development was acquired, be it through formal training as suggested by Conklin (2007, 2009), Shepherd (1996), and Stahler (1996), or otherwise.

In summary, in addition to the belief that knowledge of early adolescent development is important for middle-grades teachers, there is research (Conklin 2007, 2009; Radcliffe & Madeville, 2007; Shepherd, 1996) to support that lack of such knowledge may lead to inaccurate perceptions of young adolescents and their capabilities. Teachers can, however, come to understand young adolescents through

focused formal training. This study investigated California middle-grades teachers' perceived and actual levels of knowledge of early adolescent development, as well as the manner in which that knowledge was acquired: whether by explicit instruction or other means. This study also investigated differences between teachers' perceived and actual levels of knowledge based on the type of certification program completed and years of experience teaching the middle grades, as differences in these areas were suggested by Conklin (2007, 2009), Stahler (1996), and Shepherd (1996).

### Characteristics of Early Adolescent Development

Development during early adolescence is marked by dramatic changes, but the belief that it is strictly a period of turmoil is antiquated (Peterson & Epstein, 1991; Wigfield, Byrnes, & Eccles, 2006), particularly if adults are familiar with what to expect during this developmental phase and support young adolescents as they move through it. Equipped with the knowledge of developmental characteristics, adults can help young adolescents with their questions and concerns and create environments that support positive, healthy development. This section on the characteristics of early adolescent development, a topic of great depth and detail, provides an overview of what is suggested middle-grades teachers, the focus of this study, should know about their student population.

During early adolescence, because of the activation of hormones, youth experience growth spurts and the development of primary and secondary sex characteristics (Eccles & Wigfield, 1997; Wigfield et al., 2006). The growth spurt includes an increase in body size and weight, as well as skeletal and structural changes, all occurring in a relatively short time frame (Manning, 2009), at nearly double the rate of

growth in childhood, and unlike the patterns of growth experienced in childhood (Bukatko, 2008). Skeletal changes are often uneven, for example a young adolescent's feet may grow before he or she grows taller (Brown & Knowles, 2007), which may result in feelings of awkwardness or clumsiness (Manning, 2002). The timing of puberty also is different for girls and boys, which can be apparent in a middle-grades classroom.

Although male and female students may be the same chronological age, they are often at different points in their physical development. Students are aware of these differences, which may affect their attitudes toward each other (Brown & Knowles) and their self-esteem (Manning & Bucher, 2009).

Due to their physical development, young adolescents' dietary needs also begin to change. Proper nutrition and a sufficient amount of calories are essential to healthy development. Moreover, young adolescents may feel restless, tired, or uncomfortable, and sitting for extended periods of time can be difficult (Manning & Bucher, 2009). With the start of puberty also comes an increased level of testosterone for males and estrogen for females, resulting in a variety of new feelings, including an increased sexual awareness (Brown & Knowles, 2007). At this time, young adolescents begin to establish and examine their sexual identities (Manning & Bucher). The increase in hormones during early adolescence, as well as the other physical, social, and cognitive changes young adolescents are experiencing, often prompt a variety of emotions (Brown & Knowles). Mood swings are common, as is a decline in self-esteem (Bukatko, 2008), and young adolescents may need to learn strategies that can help them deal with rapidly changing emotions.

In regard to social development, young adolescents' intense focus on social interactions with peers, social acceptance, and appearance becomes prominent during early adolescence (Wigfield et al., 2006). As young adolescents try to define themselves or develop personal identities, they still seek approval and acceptance from others. In contrast, youth in late adolescence begin to judge or evaluate themselves rather than look to others for approval and have a better understanding of their own strengths and weaknesses (Bukatko, 2008). Young adolescents rely on friendships to establish a sense of identity, build interpersonal skills, and fulfill intimacy needs, such as the need to share personal thoughts and experiences (Manning & Bucher, 2009; Wigfield et al.). Whereas young children have more same-gender peers, young adolescents begin to cultivate friendships, and even romantic relationships, with peers of the opposite gender (Manning & Bucher). Furthermore, gender roles and stereotypes learned in childhood tend to become more flexible in early adolescence but intensify in late adolescence (Bukatko, 2008).

Young adolescents begin to distance themselves from parents because they desire more autonomy; however, parent involvement is still important (Wigfield et al., 2006). Parents still influence young adolescents' educational, moral, political, and spiritual views, whereas peers have more influence over issues such as music, clothing styles, and extracurricular activities (Eccles & Wigfield, 1997). In fact, positive relationships with adults, both parents and teachers, remain important in the lives of young adolescents. Adults should continue to provide young adolescents with structure, guidance, support, stability, and a sense of security as they learn to manage new levels of independence (Brown & Knowles, 2007; Manning & Bucher, 2009).

The brain also is changing during early adolescence, including the reorganization of synaptic connections, possibly resulting in more efficient information processing (Wigfield et al., 2006). Young adolescents typically are able to think concretely. During this developmental phase, their abilities to think abstractly, consider the hypothetical, and think about multiple dimensions of a problem at one time are increasing. In addition, young adolescents are developing the ability to self-reflect and reflect on complicated problems (Eccles & Wigfield, 1997; Wigfield et al.). In regard to domain-specific knowledge, it is believed that children's forms of knowledge, or information structures including declarative, procedural, and conceptual knowledge, modestly increase during early adolescence (Wigfield et al.). These changes do not occur rapidly, but rather cognitive development can be supported by middle-grades educators who offer opportunities for students to practice all of these new ways of thinking with appropriate support (Brown & Knowles, 2007). On the contrary, the prefrontal cortex of the brain is far from mature during early adolescence, so young adolescents may have difficulty with organization, decision making, weighing consequences, and planning for the future (Brown & Knowles).

Although the physical, emotional, social, and cognitive developmental characteristics of early adolescence were described somewhat separately here, they are interconnected. Furthermore, individual differences exist among young adolescents; they cannot all be expected to have identical developmental experiences. Last, these developmental changes occur in the context of young adolescents' families, peer groups, and neighborhoods, as well as their cultural, racial, and religious communities, and the larger society (Manning & Bucher, 2009). Middle-grades educators must be aware of

these various influences, including their own, in that the school is part of the neighborhood or local community. If middle-grades teachers are to help create classrooms and school environments that developmentally are appropriate and responsive, it is believed that the foundation of knowledge presented here is where they should begin (Manning & Bucher).

### Stage-environment Fit Theory

Stage-environment fit theory is the theory that some of the negative changes experienced by young adolescents are, in large part, the result of school environments that do not meet their developmental needs (Eccles & Roeser, 2009). A developmentally appropriate environment would facilitate young adolescents' growth along the developmental continuum, whereas a developmentally inappropriate environment would create a poor stage-environment fit, perhaps leading to declines in motivation, interest, engagement, and performance in school. Eccles and Midgley (1989) first proposed this theory of stage-environment fit as a response to researchers who suggested that the negative changes seen in young adolescents were due to the transition from elementary to middle school. Eccles and Midgley argued that it was the actual environment, not simply the transition into it, that affected young adolescents.

Eccles and Midgley (1989) conducted a review of studies that focused on young adolescent's negative changes associated with the transition to junior high school, as well as studies that focused on classroom environment changes associated with the transition to junior high school. With respect to negative changes associated with transition, Eccles and Midgley reported that the findings were inconsistent and that those inconsistencies were perhaps due to the failure to identify exactly what it was about the transition that

was detrimental for students. They suggested that, instead, changes in the classroom and school environments from elementary school to junior high school likely contributed to young adolescents' negative attitudes toward school and declining achievement in school. Those changes in the environment included an increase in teacher control, fewer decision-making opportunities for students, a decrease in affective relationships between teachers and students, more whole-group rather than small-group or individualized instruction, ability-grouped classrooms, and decreasing cognitive demands paired with lower grades. Based on what is known about early adolescent development, all of these practices are contrary to young adolescents' needs.

The results of a study by Way, Reddy, and Rhodes (2007) support the conclusions made by Eccles and Midgley (1989) about young adolescents' responses to a developmentally mismatched middle-school environment. The purpose of the study by Way et al. was to examine trajectories of change in middle-grades students' perceptions of school climate and the effects of that change on changes in their psychological and behavioral adjustment. Way et al. analyzed a data set from the Illinois Center for Prevention Research. Data were collected from 2,860 students in 30 schools during sixth, seventh, and eighth grade. For their study, only data were used from the 1,451 students (from 22 schools) who completed the survey all 3 years. The majority of the participants were European American (91%) but were nearly equal in regard to gender (54% female and 46% male). Twenty percent of the sample was identified as having low socioeconomic status. Participants' psychological and behavioral adjustment, also referred to as their well being, was assessed by how often they reported a problem behavior and self-reported ratings of their self-esteem and depressive symptom levels.



School climate was assessed by student's perceived levels of teacher support, peer support, opportunities for autonomy, and clarity and consistency in school rules.

Means showed a decline in positive perceptions of school climate over the course of 3 years. Assessed on a 5-point scale, the mean for perceived teacher support decreased from 3.27 in sixth grade to 2.85 in eighth grade. Similarly, perceived peer support dropped from a mean of 3.34 to 3.26, perceived opportunities for autonomy decreased from a mean of 2.34 to 2.10, and perceived clarity and consistency in school rules dropped from a mean of 3.45 to 3.16. These declines occurred across gender and socioeconomic status. Students' levels of well being also declined over the 3 years as indicated by increased levels of behavior problems and depressive symptoms and a decrease in self-esteem. Way et al. (2007) also used cross-domain growth modeling to analyze the associations between rates of change in students' perceptions of each of the four dimensions of school climate and rates of change for each of the dimensions of psychological and behavioral adjustment. Each model of change resulted in statistically significant positive associations with small (around .30) to medium (.50 and above) effect sizes. Admitting that their sample was limited in regard to the inclusion of students of diverse ethnicities and socioeconomic status, Way et al. concluded that young adolescents' experiences of the middle-school environment during the years of middle school, rather than just their transition into it, may play an important role in students' well being.

Middle-grades teachers must be aware of their students' developmental characteristics if they are to help create developmentally appropriate school environments. The purpose of this study was to examine to what extent California

middle-grades teachers are aware of their students' developmental characteristics in light of the fact that a middle-grades emphasis in study or a specific middle-grades teaching credential is not required by the state in order to become a middle-grades teacher.

### Summary

In this chapter, a review of the literature on early adolescent development as an essential area of knowledge for middle-grades teachers has been presented. Researchers have found that many educators believe middle-grades teachers should have an understanding of early adolescence (Green et al., 2008; McEwin et al., 2000; Roney, 2001; Thistle & O'Conner, 1992). Moreover, the lack of knowledge regarding the developmental characteristics of young adolescents may lead to teacher misconceptions about this age group (Conklin, 2007; 2009; Radcliffe & Madeville, 2007); however, an understanding of the physical, social, cognitive, and emotional developmental characteristics of young adolescents can be established through explicit training (Conklin, 2009; Shepherd, 1996; Stahler, 1996), which is recommended so middle-grades teachers can help create developmentally appropriate and responsive classroom environments. Research suggests that young adolescents who are not in developmentally appropriate educational environments show more negative attitudes toward school (Way et al., 2007) and declines in achievement (Eccles & Midgley, 1989).

For over 20 years, some educators in California have shown support for the specialized preparation of middle-grades teachers (California State Department of Education, 1987; Kramer, McKibbin, & Dumas, 1990) including a focus on early adolescent development, but the state has yet to establish such requirements. There is no empirical research to support whether this should be an area of concern for California

middle schools, so this study aimed to help fill that research gap by investigating to what extent California middle-grades teachers perceive themselves to be and actually are knowledgeable in the area of early adolescent development, as well as the extent to which they believe an understanding of early adolescent development is essential for teaching the middle grades. In the next chapter, the methodology for this study is presented.

### CHAPTER III

#### METHODOLOGY

The lack of required training for middle-grades teachers, including curriculum focused on early adolescent development, continues to be a concern for proponents of specialized middle-grades teacher preparation and certification (McEwin, Dickinson, & Jenkins, 2003). Teachers in California are among those who are not required to obtain a specific middle-grades credential in order to teach at the middle-school level and, thus, the extent to which California's middle-grades teachers are knowledgeable about early adolescent development and how existing knowledge was gained is uncertain. The purpose of this study was to describe California middle-grades teachers' perceived levels of knowledge in the area of early adolescent development, in addition to their actual level of knowledge, and the manner in which that knowledge was acquired. Furthermore, this study investigated to what extent California middle-grades teachers believe an understanding of early adolescent development is essential for teaching students in the middle grades. Last, this study identified any differences in teachers' perceived levels of knowledge, as well as differences in actual knowledge, based on years of experience teaching at the middle-school level, type of credential program completed, the amount of time spent observing or student teaching in a middle-grades classroom before becoming a middle-grades teacher, and the amount of previously completed coursework focused on early adolescent development.

This chapter includes descriptions of the study's design and variables, sample, instrumentation, procedures, data analysis, and limitations. Information regarding a pilot study also is provided.

### Design and Variables

This investigation was a descriptive study of California middle-grades teachers' knowledge of early adolescent development. Data were collected through participants' completion of a printed or electronic questionnaire developed specifically for this study. The independent variables were teachers' years of experience teaching at the middle-school level, type of credential program completed, the amount of time spent observing or student teaching in a middle-grades classroom before becoming a middle-grades teacher, and the amount of previously completed coursework focused on early adolescent development. The years of middle-grades teaching experience variable had 5 levels: 1 to 2 years, 3 to 5 years, 6 to 10 years, 11 to 20 years, and 21 years or more. The second variable, type of credential program completed, had 3 levels: multiple-subject, single-subject, and education specialist. The variable of the amount of time spent observing or student-teaching in a middle-grades classroom before becoming a middle-grades teacher had 8 levels: none, one week or less, 2 to 3 weeks, 1 to 2 months, 3 to 5 months, 6 to 8 months, one academic year, and more than one academic year. The final independent variable, the amount of previously completed coursework focused on early adolescent development, had 7 levels: none, less than one day of a workshop or training course, 1- to 2-day workshop or training course, 3- to 5-day workshop or training course, a portion of a quarter- or semester-long course, one full quarter- or semester-long course, and more than one full quarter- or semester-long course.

The dependent variables, as addressed in the third section of the questionnaire, were California middle-grades teachers' perceived levels of knowledge in the area of early adolescent development, their actual levels of knowledge of early adolescent

development, and the degree to which they believe an understanding of early adolescent development is essential to teaching the middle grades. A teacher's perceived levels of knowledge in respect to adolescents' physical, social, emotional, and cognitive development referred to his or her personal estimation of knowledge and were indicated by scores on a 4-point rating scale ranging from *minimal* to *advanced*. Teachers' actual knowledge of early adolescent development referred to the researcher's estimations of teachers' knowledge and was measured by the number of correct responses to 13 multiple-choice items. The degree to which a teacher believes an understanding of early adolescent development is essential to teaching the middle grades was indicated by a rating on a 4-point rating scale ranging from *essential* to *not necessary* and a written response explaining the selected rating.

### Sample

Convenience and snowball sampling was used for this study. The participants were 41 teachers from one middle school in Northern California, 59 California middle-grades teachers in attendance at the 2010 California League of Middle Schools (CLMS) Annual Conference held in Sacramento, California, and 75 California middle-grades teachers who completed the questionnaire online. Collecting data from conference attendees and through online questionnaires allowed for the possibility of including participants from a wider geographical range within the state. Responses from five completed questionnaires were not used in the data analysis for this study because the participants were not teaching grades 5, 6, 7, or 8 at the time of data collection. Responses from one questionnaire were not used because the teacher did not indicate whether she held a California teaching credential. Responses from another 26

questionnaires were not used because the teachers indicated they did not complete their initial teaching credential programs in California. The elimination of the aforementioned responses resulted in a final sample of 143 California middle-grades teachers, including 30 teachers from the participating middle-school, 52 teachers from the CLMS conference, and 61 teachers who responded online. Participants' responses were analyzed using chi-square tests in order to determine whether responses collected from the three locations were similar. No statistically significant differences were found in regard to participants' demographics, perceived and actual levels of knowledge of early adolescent development, the methods through which participants believed their knowledge was acquired, or the importance they placed on knowledge of early adolescent development for middle-grades teachers. Because no statistically significant differences were found, data from each of the three groups were combined and used to address the research questions of this study.

A majority of the participants were teachers from counties located in California's Bay Area, followed by counties located on the Southern California coast and in the Central Valley (see Table 1). Approximately half of the participants taught multiple grade levels including grades 6 and 7, grades 6 and 8, grades 7 and 8, and a combination of three or more grade levels within grades 5 through 8. The schools in which the teachers taught had varying grade-level configurations, however, a majority of the teachers taught in schools with a 6th- through 8th-grade configuration.

The sample was fairly representative of the overall population of California teachers in regard to gender, ethnicity, years of service, level of education, and type of credential held. California teachers are primarily female (72%), European American

Table 1

## Frequencies and Percentages of Participant Demographics

Characteristic	<i>f</i>	%
<b>Geographic Location</b>		
<i>San Francisco Bay Area</i>	82	57.3
<i>Central Valley North</i>	6	4.2
<i>Central Valley South</i>	11	7.7
<i>Coastal North</i>	4	2.8
<i>Mountain North</i>	1	0.7
<i>Mountain South</i>	5	3.5
<i>Southern California Coast</i>	27	18.9
<i>Southern California Inland</i>	1	0.7
<i>Multiple responses or no response</i>	6	4.2
<b>Grade Level(s) Taught</b>		
<i>5th</i>	14	9.8
<i>6th</i>	20	14.0
<i>7th</i>	21	14.7
<i>8th</i>	15	10.5
<i>6th and 7th</i>	17	11.9
<i>6th and 8th</i>	2	1.4
<i>7th and 8th</i>	36	25.2
<i>Three grade levels or more</i>	18	12.6
<b>Schools' Grade-level Configuration</b>		
<i>K-8</i>	9	6.3
<i>4-8</i>	1	0.7
<i>5-8</i>	31	21.7
<i>6-8</i>	81	56.6
<i>7-8</i>	16	11.2
<i>K-12, 6-12, 7-12, or other</i>	5	3.5
<b>Gender</b>		
<i>Female</i>	111	77.6
<i>Male</i>	26	18.2
<i>No response</i>	6	4.2
<b>Ethnicity</b>		
<i>African American</i>	2	1.4
<i>Asian</i>	4	2.8
<i>Hispanic or Latino</i>	7	4.9
<i>European American</i>	114	79.7
<i>Multiple responses</i>	9	6.3
<i>No response</i>	7	4.9

continued on the next page



Table 1 continued

Characteristic	<i>f</i>	%
<b>Years of Service</b>		
<i>1 to 2 years</i>	11	7.7
<i>3 to 5 years</i>	15	10.5
<i>6 to 10 years</i>	36	25.2
<i>11 to 20 years</i>	55	38.5
<i>21 years or more</i>	26	18.2
<b>Years of Middle-Grades Teaching Experience*</b>		
<i>1 to 2 years</i>	15	10.8
<i>3 to 5 years</i>	20	14.4
<i>6 to 10 years</i>	37	26.6
<i>11 to 20 years</i>	51	36.7
<i>21 years or more</i>	16	11.5
<b>Education Level</b>		
<i>BA</i>	4	2.8
<i>BA + 30 units or more</i>	64	44.8
<i>MA</i>	25	17.5
<i>MA + 30 units or more</i>	40	28.0
<i>Doctorate</i>	4	2.8
<i>No response</i>	6	4.2
<b>Credential</b>		
<i>Preliminary</i>	11	7.7
<i>Full/Clear</i>	123	86.0
<i>University intern</i>	4	2.8
<i>Student teacher</i>	3	2.1
<i>Life</i>	1	0.7
<i>No response</i>	1	0.7
<b>Credential Type*</b>		
<i>Multiple-Subject</i>	60	43.2
<i>Single-Subject</i>	41	29.5
<i>Education Specialist</i>	5	3.6
<i>Multiple-Subject &amp; Education Specialist</i>	12	8.6
<i>Multiple-Subject &amp; Single-Subject</i>	19	13.7
<i>Single-Subject &amp; Education Specialist</i>	2	1.4
<b>Credential Program with Middle-level Emphasis</b>		
<i>Yes</i>	26	18.2
<i>No</i>	116	81.1
<i>No response</i>	1	0.7

continued on the next page

Table 1 continued

Characteristic	<i>f</i>	%
Observation or Student-Teaching Time*		
<i>None</i>	29	20.9
<i>1 week or less</i>	15	10.8
<i>2 to 3 weeks</i>	13	9.4
<i>1 to 2 months</i>	12	8.6
<i>3 to 5 months</i>	35	25.2
<i>6 to 8 months</i>	14	10.1
<i>1 academic year</i>	15	10.8
<i>More than 1 academic year</i>	6	4.3
Previously Completed Coursework*		
<i>None</i>	23	16.5
<i>Less than 1 day of a workshop or training course</i>	6	4.3
<i>1- to 2-day workshop or training course</i>	10	7.2
<i>3- to 5-day workshop or training course</i>	10	7.2
<i>A portion of a quarter- or semester-long course</i>	26	18.7
<i>1 full quarter- or semester-long course</i>	20	14.4
<i>More than 1 full quarter- or semester-long course</i>	44	31.7

Note: *n* = 143, \**n* = 139

(70%), have an average of 13 years of service, hold a bachelors degree plus 30 or more additional course credits (47%), and have a full teaching credential (96%; California Department of Education, 2009a). The participants in this study were primarily female and European American (see Table 1). More of the participants had 11 to 20 years of service, followed by 6 to 10 years of service. The same was true for their years of experience teaching the middle grades specifically. A majority of the participants held a bachelors degree plus 30 or more additional course credits and had a full or clear teaching credential.

More than twice as many of the participants earned a multiple-subject teaching credential than those who earned a single-subject credential (see Table 1), and most of the participants did not complete a credential program with a middle-level emphasis. Approximately half of the participants spent 3 to 5 months or longer observing or student

teaching in a middle-grades classroom before becoming a middle-grades teacher, whereas over 20% of the participants had no such experience. Similarly, before participating in this study, well over half of the participants completed a portion of a quarter- or semester-long course, or more, focused on early adolescent development, whereas approximately one third of the remaining participants completed no such coursework.

#### Protection of Human Subjects

The American Psychological Association's (APA) guidelines for the protection of human subjects were followed during this study (APA, 2002). Approval to conduct this study was obtained from the Institutional Review Board at the University of San Francisco. There were no known risks to participating in this study. The benefit for participants was the potential opportunity to impact the training or professional development of other middle-grades teachers in a way that ultimately benefits students. Participants from the conference received a raffle ticket and were entered to win one of thirty \$5 gift cards to Starbucks, Barnes & Noble, and Borders. Participants who completed the survey at the participating middle school or submitted the electronic version received no compensation.

Participants were informed of their right to participate voluntarily. Participants received written disclosure of the purpose of the study and descriptions of the procedures and the instrument (see Appendix B). Completion of the questionnaires served as indication of the participants' informed consent. The anonymity of participants was maintained in the analysis and reporting of data. Data were kept in a secure location during the duration of the study and remained on file for a reasonable period of time after the study was completed.

## Instrumentation

The California Middle-Grades Educator Questionnaire (CMGEQ; see Appendix A) was developed by the researcher specifically for this study. The questionnaire was designed to collect descriptive data concerning California middle-grades teachers' teaching experience, preparation experience, and perceived and actual knowledge of early adolescent development. The questionnaire was divided into four sections and printed as a 5.5- by 8.5-inch booklet on plain white paper. The electronic version was created using the Google™ Docs forms feature.

The first section of the CMGEQ included five questions related to teaching experience, including a question used to identify participants as current middle-grades teachers. Participants also indicated the grade-level configuration of their schools and years of overall teaching. The fourth question in this section was used to measure an independent variable (years of experience teaching the middle grades).

Section two of the CMGEQ included seven questions addressing teacher-preparation experience. Three of the questions were used to determine whether data from each participant should have been included for analysis in this study. Participants needed to have completed or be enrolled in a teacher preparation program in California and earned or be in the process of earning a California teaching credential at the time of the study. Two questions in this section were used to identify the type of California credential earned and the final two questions measured two of the independent variables (amount of time spent observing or student teaching in the middle grades before becoming a middle-grades teacher and amount of previously completed coursework focused on early adolescent development).

The third section of the CMGEQ included four questions designed to assess teachers' perceived levels of knowledge regarding early adolescent development, one question designed to identify how that knowledge was acquired, 13 multiple-choice questions designed to assess teachers' actual knowledge of early adolescent development, and one item to measure the extent to which teachers believe that knowledge is essential for teaching the middle grades. The four items about perceived levels of knowledge were responded to using a 4-point rating scale that represented a range from *minimal* to *advanced*. Participants' provided a response for each area of early adolescent development (i.e., physical, social, emotional, and cognitive). Based on responses from the entire sample, excluding one participant who did not provide a response for all four areas of development ( $n = 142$ ), Cronbach's coefficient alpha for the rating scale was .91. For the question regarding methods of knowledge acquisition, participants were asked to rank order a list of items. The items described ways through which a person might have learned about early adolescence, including experiences outside of the classroom setting (Radcliffe & Mandeville, 2007). The multiple-choice questions designed to assess teachers' actual knowledge included information from current literature on early adolescent development as summarized by Manning (2002) and Bukatko (2008). Based on the entire sample ( $n = 143$ ) Cronbach's coefficient alpha for the 13 multiple-choice questions was .45. The final portion of this section addressed the degree to which California middle-grades teachers believe an understanding of early adolescent development is essential to teaching the middle grades. Participants responded using a 4-point rating scale ranging from *essential* to *not necessary*, similar to a survey item used

by Green et al. (2008). An open-ended response item also was included in order to allow participants to explain the reasoning for their response on the rating scale.

Last, the fourth section of the questionnaire included four demographic questions addressing gender, ethnicity, education level, and geographic area of employment within California. The demographic categories chosen for this study were similar to those used to report staffing data by the California Department of Education (2009a), all of which were used to identify the extent to which the participants in this study were representative of teachers across the state. A pilot study was conducted to determine the final format of the questionnaire, investigate whether the questions and procedures were clear to participants, and establish construct validity.

#### Pilot Test

A pilot study was conducted with 23 California middle-grades teachers in order to learn whether the directions and questions on the instrument were comprehensible to participants, as well as attain a more accurate approximation of the amount of time it would take participants to complete the instrument. After completing the questionnaire, the pilot study participants discussed, as a group, their reactions to the instrument with the researcher.

The participants were teachers from two middle schools within one Northern California school district. Both schools had the same seventh- through eighth-grade configuration. At the time of the pilot study, nearly half of the teachers taught both seventh and eighth grade, with the remaining participants split almost evenly between each of the two grade levels (see Table 2). The teachers were primarily female and European American. Over half of the teachers had 6 years of teaching experience or

Table 2

## Frequencies and Percentages of Pilot Study Participant Demographics

Characteristic	<i>f</i>	%
Grade Level(s) Taught		
<i>7th</i>	7	30.4
<i>8th</i>	5	21.7
<i>7th and 8th</i>	11	47.8
Gender		
<i>Female</i>	16	69.6
<i>Male</i>	7	30.4
Ethnicity		
<i>African American</i>	1	4.3
<i>Asian</i>	1	4.3
<i>Filipino</i>	1	4.3
<i>Hispanic or Latino</i>	2	8.7
<i>European American</i>	17	73.9
<i>Multiple responses</i>	1	4.3
Years of Service		
<i>1 to 2 years</i>	1	4.3
<i>3 to 5 years</i>	3	13.0
<i>6 to 10 years</i>	6	26.1
<i>11 to 20 years</i>	9	39.1
<i>21 years or more</i>	4	17.4
Education Level		
<i>BA + 30 units or more</i>	10	43.5
<i>MA</i>	5	21.7
<i>MA + 30 unites or more</i>	8	34.8

Note: *n* = 23

more. The minimum level of education within the group was a bachelor's degree plus 30 or more additional course credits, whereas the highest level of education within the group was a master's degree plus 30 or more additional course credits. All of the teachers had a full or clear teaching credential.

The teachers from each middle school met as a group in a classroom at their respective school sites, spending approximately one hour to complete the questionnaire

and share their feedback. A different version of the questionnaire was administered at each middle school. At the first middle school, 14 teachers were given the questionnaire with 13 multiple-choice questions designed to assess their actual knowledge of early adolescent development. At the second middle school, 9 teachers were given a questionnaire with four open-ended questions, through which they were prompted to list at least three characteristics of young adolescents' physical, social, emotional, and cognitive development respectively. Participants were given unlimited time to complete the questionnaire. When each participant finished, the amount of time it took him or her to complete the questionnaire was recorded, and a final average was later calculated.

After the questionnaire was completed by each participant within the group, the questionnaires were collected, participants received clean copies, and then both the format and the written text of the questionnaire were discussed. Starting with the cover page of the questionnaire booklet and proceeding through each section systematically, participants were asked to verbally share their feedback. If there were no comments or questions of clarity, participants said "clear," and the group moved on to the next question or set of directions. Comments were recorded by the researcher and taken into account during the revising of the questionnaire. Minor changes were made in the wording of directions and several of the questions in order to increase clarity for future use of the instrument. Responses to the open-ended questions that prompted teachers to list characteristics of young adolescents' physical, social, emotional, and cognitive development were vague or did not specifically address the prompt, which led to the exclusive use of the 13 multiple-choice questions in the final version of the questionnaire.



## Procedures

Data were collected for this study in February and March 2010. The CMGEQ was distributed to California middle-grades teachers in attendance at the 2010 CLMS Annual Conference held in Sacramento, California. The conference was a 3-day event, during which a variety of workshops were offered for the professional development of middle-grades teachers. Exhibits and registration for the conference were located in one large room. With permission from the Executive Director of CLMS, the researcher was seated at table located near the main entrance of the room for 2 days, 5 hours each day, during which the exhibit hall was open to conference attendees. At the table, questionnaires were available for any teachers who stopped and volunteered to complete the instrument. Along with the questionnaire, teachers received a letter informing them of the study's purpose, their rights as participants, and directions for completing and returning the questionnaire (see Appendix B). Most participants completed their questionnaires at the table and immediately submitted them to the researcher. Approximately 10 teachers completed their questionnaires elsewhere and returned them to the researcher at a later time during the conference. To encourage participation, teachers received a raffle ticket upon completion of the questionnaire. A total of thirty \$5 gift cards from Starbucks, Barnes & Noble, and Borders Books were distributed as prizes throughout the 2-day period. Teachers were asked to include their electronic mail (email) addresses on the raffle tickets if they were willing to receive an electronic version of the questionnaire and forward it to their colleagues.

Twenty-three participants from the CLMS conference provided their email addresses, and thus received an electronic version of the questionnaire and a note

requesting they forward the instrument to their colleagues (see Appendix C).

Furthermore, eight teachers known by the researcher were sent an electronic version of the instrument and asked to forward it as well (see Appendix C). The emails also included a link to the questionnaire and a letter to participants explaining their rights and the purpose of the study. The electronic version of the CMGEQ was a form created using Google™ Docs, and it included the same questions, in the same order, as the paper version of the instrument. The electronic version of the questionnaire was made available online for 15 days.

After receiving permission from the school's principal, teachers from the participating middle school received, completed, and submitted the survey instrument at the beginning of a regularly scheduled staff meeting. Participants from the middle school also received a letter informing them of the study's purpose, their rights as participants, and directions for completing the questionnaire (see Appendix B). There was no time limit for completing the instrument, but most teachers completed it within 10 to 15 minutes.

### Data Analysis

Four research questions were addressed in this study.

1. To what extent do middle-grades teachers in California perceive themselves to be knowledgeable in the area of early adolescent development?
2. To what extent are middle-grades teachers in California knowledgeable about the developmental period of early adolescence?
3. To what extent do middle-grades teachers in California believe an understanding of early adolescent development is essential to teaching the middle grades?

4. To what extent do teachers' perceived levels of knowledge in and actual knowledge of early adolescent development differ based on years of experience teaching at the middle-school level, the type of certification program completed, the amount of time spent observing or student-teaching in a middle-grades classroom before becoming a middle-grades teacher, and the amount of previously completed coursework focused on early adolescent development?

In order to answer these research questions, the data were analyzed and reported using descriptive statistics, including frequencies, percentages, means, and standard deviations.

To address the first three research questions, frequencies and percentages were calculated. Means, standard deviations, and modes also were reported when appropriate. To address the third research question, qualitative analysis also was needed to analyze the open-ended item responses. Responses were hand-analyzed using a process described by Creswell (2005), which included a preliminary exploratory analysis of the qualitative data, coding the data, and collapsing the codes into broader themes. A second reader was asked to analyze a random sample of the data in order to validate the resulting themes. The second reader was a middle-grades teacher with 12 years of middle-grades teaching experience and a doctoral candidate. After the themes had been established, the second reader was asked to identify which themes best corresponded with a random selection of 20 of the participants' responses. There was 60% agreement between the researcher and the second reader. Disagreements were discussed until an agreement was reached and the themes were further clarified.

The fourth research question included the following independent variables: (a) years of experience teaching at the middle school level, (b) type of certification program

completed, (c) amount of time spent observing or student-teaching in a middle-grades classroom before becoming a middle-grades teacher, and (d) amount of previously completed coursework focused on early adolescent development. Data collected for each independent variable were analyzed for frequency and percentages. Additionally, a one-way analysis of variance was used to analyze the relationships among each independent variable and two of the dependent variables (teachers' perceived and actual knowledge of early adolescent development).

## CHAPTER IV

### RESULTS

The purpose of this study was to describe California middle-grades teachers' perceived and actual levels of knowledge in the area of early adolescent development and the manner in which that knowledge was acquired, as well as investigate to what extent those same teachers believe an understanding of early adolescent development is essential for teaching students in the middle grades. Differences in teachers' perceived levels of knowledge, as well as differences in actual knowledge, based on years of teaching experience at the middle-school level, type of credential program completed, the amount of time spent observing or student teaching in a middle-grades classroom before becoming a middle-grades teacher, and the amount of previously completed coursework focused on early adolescent development also were identified.

The instrument used in this study was distributed at the 2010 California League of Middle Schools (CLMS) Annual Conference, at one middle school in Northern California, and online via electronic mail (email). The total number of respondents included in the data analysis was 143. In this chapter, findings are presented as they relate to each of the four research questions sought to be answered through this study, followed by several additional findings.

#### Research Question 1

*To what extent do middle-grades teachers in California perceive themselves to be knowledgeable in the area of early adolescent development?*

For this study, a teacher's perceived level of knowledge referred to his or her personal estimation of competence in respect to adolescents' physical, social, emotional,

and cognitive development. Perceived levels of knowledge were indicated by ratings on a 4-point scale. On the scale, 1 signified a rating of *minimal*, 2 signified a rating of *basic*, 3 signified a rating of *proficient*, and 4 signified a rating of *advanced*. Participants rated their levels of knowledge for each independent area of early adolescent development (i.e., physical, social, emotional, and cognitive). Frequencies and percentages were calculated for the ratings of each of the four areas of knowledge. In addition, each participant's responses to the four items were summed for an overall rating on a scale of 4 to 16.

Approximately half of the participants perceived their knowledge level to be *proficient* in all four areas of early adolescent development (see Table 3; see Figure 1). Social development was the area in which most participants (59.4%) perceived their knowledge level to be proficient, whereas emotional development was the area in which the least number of participants (53.8%) perceived their knowledge level to be proficient. The sums of participants' ratings also reflected an average response of *proficient* (see Table 4). Specifically, 74 participants (52.1%) had an overall rating between 12 and 14. The remaining half of the participants were split primarily between *basic* and *advanced*, with slightly more participants perceiving their knowledge level to be *advanced* in each of the four areas.

Table 3

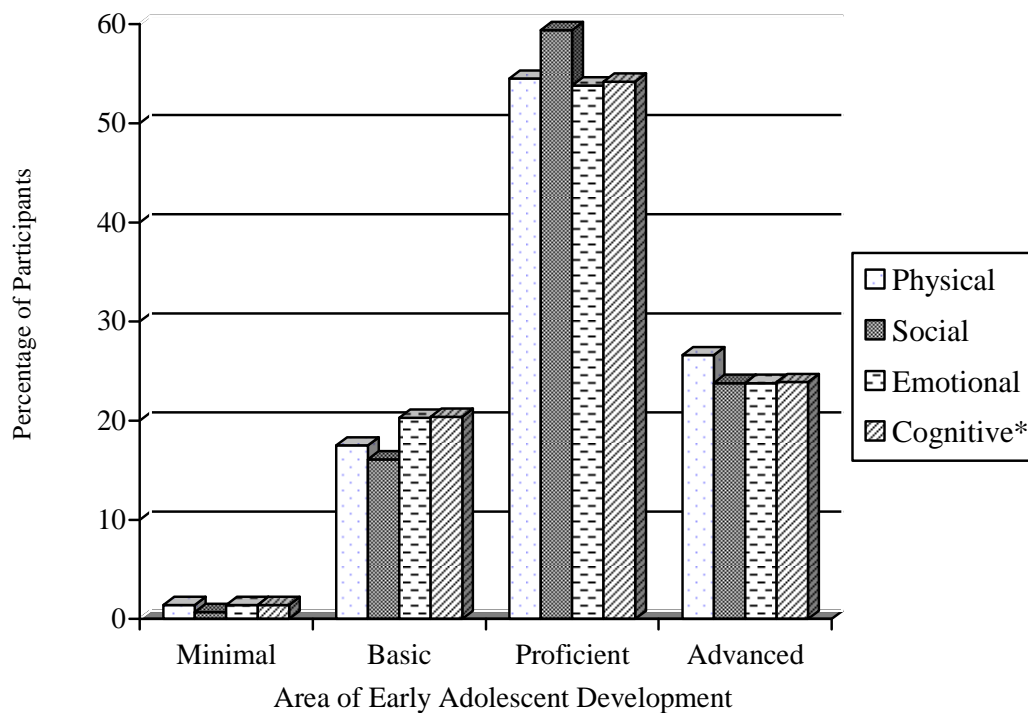
Frequencies and Percentage of Middle-Grades Teachers' Perceived Levels of Knowledge of Early Adolescent Development

Area of Perceived Knowledge	<i>Minimal</i>		<i>Basic</i>		<i>Proficient</i>		<i>Advanced</i>		Mean	Standard Deviation
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%		
Physical	2	1.4	25	17.5	78	54.5	38	26.6	3.06	.70
Social	1	0.7	23	16.1	85	59.4	34	23.8	3.06	.65
Emotional	2	1.4	29	20.3	77	53.8	34	23.8	3.01	.69
Cognitive*	2	1.4	29	20.4	77	54.2	34	23.9	3.01	.71

Note:  $n = 143$ ,  $*n = 142$

Figure 1

## Teachers' Perceived Levels of Knowledge of Early Adolescent Development



Note:  $n = 143$ ,  $n^* = 142$

Table 4

## Frequencies and Percentages of Perceived Levels of Knowledge Rating Sums

Perceived Sum	$f$	%
4	1	0.7
5	1	0.7
8	14	9.9
9	5	3.5
10	8	5.6
11	12	8.5
12	49	34.5
13	15	10.6
14	10	7.0
15	8	5.6
16	19	13.4

Note:  $n = 142$ ;  $M = 12.15$ ,  $SD = 2.46$

Teachers also responded to one question on the instrument designed to identify how their perceived knowledge was acquired. Participants were asked to rank order a list of items that described ways through which a person might have learned about early adolescence, including formal study, independent study, observing or working with young adolescents in the school or classroom setting, observing or working with young adolescents in settings other than the school or classroom, and their own experience as a young adolescent. In the ranking, 1 was used to mean *most likely* and 5 to mean *least likely*. Frequencies and percentages were calculated to determine the most common response for each item.

The acquisition of knowledge through observing or working with young adolescents in the school or classroom setting was ranked first, or *most likely*, by nearly half of the participants, and ranked second by many of the remaining participants (see Table 5, see Figure 2). The acquisition of knowledge through observing or working with young adolescents in settings other than the school or classroom (e.g., youth groups, athletic teams, or one's own children) was ranked second most often, followed closely by rankings of first and third. Many of the participants ranked the acquisition of knowledge through one's own experience as a young adolescent as third, followed closely by rankings of fourth and fifth. Finally, formal study (e.g., professional study or university coursework) and independent study, such as reading done to satisfy personal curiosity or interest, were both most often ranked as the fourth or fifth, and *least likely*, method through which knowledge of early adolescent development was acquired.



Table 5

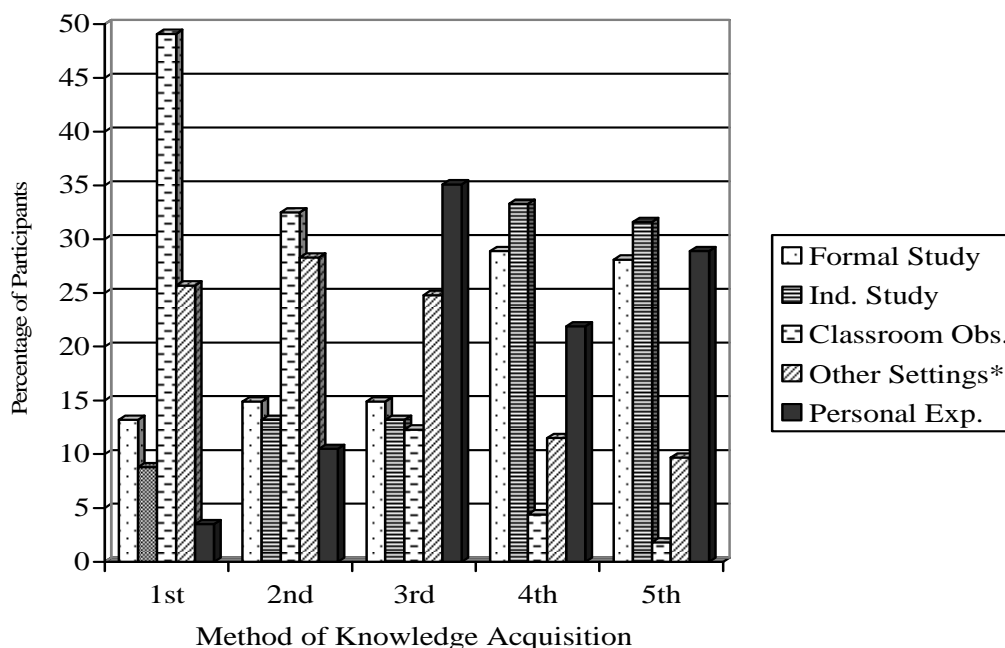
## Frequencies and Percentages of Ranked Methods of Knowledge Acquisition

Method of Acquisition	1st		2nd		3rd		4th		5th		Mode
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	
Formal Study	15	13.2	17	14.9	17	14.9	33	28.9	32	28.1	4
Independent Study	10	8.8	15	13.2	15	13.2	38	33.3	36	31.6	4
Observing or Working in Classroom Setting	56	49.1	37	32.5	14	12.3	5	4.4	2	1.8	1
Observing or Working in Other Settings*	29	25.7	32	28.3	28	24.8	13	11.5	11	9.7	2
Personal Experience	4	3.5	12	10.5	40	35.1	25	21.9	33	28.9	3

Note:  $n = 114$ ,  $*n = 113$ ; 1st = *most likely*, 5th = *least likely*

Figure 2

## Ranked Methods of Knowledge Acquisition



Note:  $n = 114$ ,  $n^* = 113$ ; 1st = *most likely*, 5th = *least likely*

## Research Question 2

*To what extent are middle-grades teachers in California knowledgeable about the developmental period of early adolescence?*

For this study, knowledge of early adolescent development referred to the researcher's estimations of teachers' competence in the area of early adolescent development as measured by the number of correct responses to 13 multiple-choice items. The questions designed to assess teachers' knowledge included information from current literature on early adolescent development (Bukatko, 2008; Manning, 2002). Participants' responses were coded 1 for correct or 0 for incorrect. If a participant did not choose a response, or chose more than one response for a particular multiple-choice question, then it was coded as incorrect. A sum of correct responses was calculated for each respondent, resulting in a score within the possible range of 0 to 13.

The majority of participants responded correctly to either 10 or 11 of the multiple-choice questions (see Table 6). The second largest group responded correctly to either 8 or 9 of the multiple-choice questions. None of the respondents correctly answered fewer than 5 of the questions, resulting in an actual range of scores from 5 to 13.

Table 6

Frequencies and Percentages of Teachers' Knowledge of Early Adolescent Development

Number of Correct Responses	<i>f</i>	%
5	1	0.7
6	8	5.6
7	11	7.7
8	15	10.5
9	24	16.8
10	35	24.5
11	31	21.7
12	13	9.1
13	5	3.5

Note:  $n = 143$ ;  $M = 9.64$ ;  $SD = 1.77$

Nearly all of the participants responded correctly to multiple-choice questions 1, 7, and 10. For question 1, 90.2% of participants correctly described the physical growth

of young adolescents as typically occurring *2 years earlier for girls than it does for boys*. For question 7, 91.6% of participants correctly answered that during adolescence, the ability to self-reflect *begins to emerge*. For question 10, 95.8% of participants correctly answered that, *during early adolescence, peers become increasingly important and have tremendous influence on young adolescents' behavior and appearance*.

The majority of incorrect responses were given for multiple-choice questions 2, 6, and 11 (see Table 7; see Appendix A). Question 2 addressed the behavioral and social consequences of early physical and sexual maturity for boys. Participants were asked to identify whether the consequences tend to be positive, negative, or minimal, with positive being the correct response. Conversely, a majority of the participants correctly answered question 3, identifying that the consequences of early physical and sexual maturity tend to be negative for girls. Question 6 addressed the emotional development of young adolescents. Participants were asked whether early adolescence tends to be *a period of great turmoil and extreme moodiness; a period marked by more positive than negative emotional experiences*; or the correct response, *a period marked by positive emotional growth, but also more negative emotional experiences than children of other ages*. Question 11 asked participants to describe young adolescents' ability to think concretely as developed, beginning to emerge, or to be developed at a later stage, with the correct response being that, typically, it *has developed*. Participants did, however, most often correctly describe young adolescents' ability to think abstractly and engage in hypothetical reasoning as *beginning to emerge*.

## Research Question 3

*To what extent do middle-grades teachers in California believe an understanding of early adolescent development is essential to teaching the middle grades?*

The degree to which California middle-grades teachers believe an understanding of early adolescent development is essential to teaching the middle grades was measured using a 4-point Likert scale. On the scale, 1 was used to mean *essential*, 2 was used to

Table 7

## Frequencies and Percentages of Multiple-Choice Question Responses

Multiple-Choice Question	Correct		Incorrect	
	<i>f</i>	%	<i>f</i>	%
1. The physical growth of young adolescents typically occurs _____.	129	90.2	14	9.8
2. For boys, early physical and sexual maturity tends to _____.	29	20.3	114	79.7
3. For girls, early physical and sexual maturity tends to _____.	100	69.9	43	30.1
4. Sexual maturity, or puberty, is initiated by _____.	116	81.1	27	18.9
5. The onset of puberty also is associated with _____.	127	88.8	16	11.2
6. In regard to emotional development, early adolescence tends to be _____.	56	39.2	87	60.8
7. During early adolescence, the ability to self-reflect _____.	131	91.6	12	8.4
8. During early adolescence, children's feelings of self-worth have a tendency to _____.	125	87.4	18	12.6
9. In what way does the relationship between a young adolescent and his or her parents tend to change?	127	88.8	16	11.2
10. During early adolescence, peers become _____.	137	95.8	6	4.2
11. By the time a child reaches early adolescence, typically his or her ability to think concretely _____.	68	47.6	75	52.4
12. By the time a child reaches early adolescence, typically his or her ability to think abstractly and engage in hypothetical reasoning _____.	122	85.3	21	14.7
13. By the time a child reaches early adolescence, typically his or her ability to make reasoned ethical and moral choices _____.	111	77.6	32	22.4

Note:  $n = 143$

mean *important*, 3 was used to mean *helpful, but not necessary*, and 4 was used to mean *not necessary*. A majority of the participants responded that an understanding of early adolescent development is *essential* to teaching the middle grades, followed by those who responded that such an understanding is *important* (see Table 8). Participants who provided multiple responses, such as *essential* and *important*, were not included in the calculation.

Table 8

## Frequencies and Percentages of Ratings of Importance

Degree of Importance	<i>f</i>	%
<i>Essential</i>	90	64.3
<i>Important</i>	46	32.9
<i>Helpful, but not necessary</i>	3	2.1
<i>Not necessary</i>	1	0.7

Note:  $n = 140$ ;  $M = 1.39$ ,  $SD = .57$ ; 1 = *essential*, 4 = *not necessary*

An open-ended response item also was included on the instrument to allow participants to explain the reasoning for their response to the importance of understanding early adolescent development to teaching the middle grades. Of the 143 participants, 98 provided a response to the open-ended item (see Appendix D). Responses were hand-analyzed beginning with a preliminary exploratory analysis of the qualitative data. Data were then read again and coded, and finally, the codes were collapsed into broader themes (Creswell, 2005). Six themes emerged from the participants' responses to the open-ended questionnaire item: (a) Effective Pedagogy, (b) Supporting Development, (c) Teacher-student Relationships, (d) Classroom Environment, (e) Maintaining Perspective, and (f) Meaningful Curriculum.

### *Effective Pedagogy*

Twenty-eight of the respondents referred to effective lesson planning and delivery or appropriate instructional methods as another reason for understanding early adolescent development. Teachers wrote that understanding students' development helped them to know what would engage their students, what their students might be capable of cognitively, and how content should be delivered to increase understanding. For example, one teacher wrote, "Teachers who understand t[h]e characteristics of earl[y] adolescen[t] development understand why students act the way they do while at school and also how they learn. It can help when planning lessons and how to deliver or present the lesson."

Similarly, another teacher wrote, "You cannot teach in a style that does not take in to account where these young people are in their development." Much emphasis was placed on choosing appropriate methods to deliver instruction or present information.

### *Supporting Development*

Another theme that emerged from 24 of the participants' responses was the importance of understanding early adolescent development for the purpose of being able to support such development. Teachers' expressed that knowledge of development would better enable them to recognize students' current stages of development, as well as typical characteristics of development, and thus support students in further development. One participant wrote, "I believe that [it] is imperative for educators of middle-school children to have a general understanding early adolescent development in order to meet and help the changes one goes through at this age, whether female or male."

Another teacher expressed that without knowledge of early adolescent development, teachers of middle-grades students might make decisions that are damaging to students' developmental process. "If educators do not understand adolescents' developmental needs, they can make educational decisions that may prove ineffective, frustrating, and detrimental to students' academic, emotional, and social development."

#### *Teacher-Student Relationships*

Nineteen of the respondents also referenced positive relationships with students as a reason for understanding early adolescent development. With more knowledge of students' development, teachers expressed that they would be more capable of building relationships with their students. Developmental knowledge would make them more compassionate and empathetic toward their students, and help ease connections with students. One teacher wrote that "This knowledge can also help the teacher build bridges of communication between themselves and their students."

Another teacher wrote, "If a teacher is not aware of the dramatic changes that students are going through at this age it will be very difficult for them to teach and connect with the students." Teachers also expressed the benefits that might come from connecting with students, such as the opportunity for students to have positive interactions with adults and increase students' responsiveness to receiving instruction. For example, one participant wrote, "Being able to understand a middle-grade student will fully allow a teacher to not only teach them essential academics, but be a caring [and] nurturing person in that teen's life," and another wrote, "The better I understand my students, the better I can connect with them, and the better the bond formed, the better I can be an educator."

### *Classroom Environment*

Eleven teachers expressed that knowledge of early adolescent development is *essential or important* for middle-grades teachers because it informs their decisions concerning how to establish and maintain a developmentally appropriate classroom environment. Also referred to by respondents as classroom management, the creation and preservation of a particular classroom environment included the overall mood of the environment, such as tolerant or cooperative, as well as the policies and procedures that help to create the environment, such as discipline plans and homework policies. One participant elaborated on this by writing the following

Kids this age are literally having their brain[s] rewired. So when they do something stupid they really do not know why they did it. Having a better understanding of this would help [educators] develop better school wide discipline and better classroom policies about test retakes and homework retakes. At this age, even a good kid can have a really bad day or week, and the policies need to account for that. Second chances are so important at this age.

Another participant wrote, “It also doesn’t hurt to understand their special uniqueness when working on behavior in the classroom.” Other respondents expressed similar thoughts regarding the importance of understanding students’ developmental characteristics as it relates to better managing student behavior while in the classroom.

### *Maintaining Perspective*

Ten teachers expressed that knowledge of early adolescent development is *essential or important* for middle-grades teachers because having that knowledge aids teachers in maintaining perspective. Teachers explained that without accurate knowledge of development, middle-grades teachers might be frustrated by or impatient with the behavior of young adolescents. For example, one teacher wrote that “We may save...many teachers from occupational burnout.” Other teachers wrote, “Without an



understanding of the developmental stages, adolescents may actually appear to be insane,” and “This information will also help you to maintain effectiveness in keeping you[r] own sense of perspective.”

### *Meaningful Curriculum*

Last, six teachers noted the influence that knowledge of early adolescent development should have on designing curriculum.

The students are not concerned (for the most part) [about] their academic success at this age, although they understand the consequences of their study skills. At this developmental stage, the students are more concerned with their changing bodies, emotions, and sense of individuality. Teachers need to take these changes into account when teaching because it affects their teaching and the curriculum.

Another teacher wrote, “Knowing what your students are going through allows you to meet them where they are, provide relevant experiences for them, and further their education on their level.”

As a final example, a teacher articulated similar ideas by writing the following

If we understand what is happening to them physically/emotionally, we will have a better understanding of how to get them engaged, use meaningful content, and be able to help them maintain motivation. They will feel more connected because they feel understood and that [they] are learning relevant content.

Primarily, teachers expressed that curriculum should be relevant and meaningful in regard to the physical, social, emotional, and cognitive changes young adolescents experience, that is, students should be able to relate to the content of their studies.

### Research Question 4

*To what extent do teachers' perceived levels of knowledge in and actual knowledge of early adolescent development differ based on years of experience teaching at the middle-school level, the type of certification program completed, the amount of time spent observing or student-teaching in a middle-grades classroom before becoming*

*a middle-grades teacher, and the amount of previously completed coursework focused on early adolescent development?*

There were four independent variables used in this study. Only participants who provided a response for all of the items on the questionnaire corresponding to these independent variables were used in the analysis for this particular research question ( $n = 139$ ). The first independent variable was teachers' years of experience teaching at the middle school level, which was defined as the number of years a teacher has taught grades 5, 6, 7, or 8. In this study, years of experience were grouped into five levels: 1 to 2 years, 3 to 5 years, 6 to 10 years, 11 to 20 years, and 21 years or more. Over half of the participants had been teaching the middle grades for 6 years or more (see Table 1 in chapter III).

The second independent variable was type of certification, or credential program completed, which was defined as the type of educational program a teacher completed or was in the process of completing in order to earn his or her teaching credential. In this study, three types of credential programs were identified as available for California teachers through the Commission on Teacher Credentialing (CTC): multiple-subject, single-subject, and education specialist (CTC, 2007a). A majority of the participants earned, or were in the process of earning, a multiple-subject teaching credential, followed by the single-subject credential, and a small percentage who earned an education specialist credential (see Table 1). Another small percentage of the participants had multiple credentials. Because of the small number of teachers who earned an education specialist credential, teachers who reported having more than one credential, including the educational specialist, were collapsed into the educational specialist category for the

purposes of analyzing data for this research question. Teachers who earned both multiple-subject and single-subject credentials remained a separate category.

The third independent variable was the amount of time spent observing or student-teaching in a middle-grades classroom before becoming a middle-grades teacher. This referred to the number of hours, days, weeks, months, or years that a person spent observing a middle-grades classroom or student teaching in a middle-grades classroom before he or she completed a credential program and earned a teaching credential. For this study, the amount of time was grouped into eight levels: none, one week or less, 2 to 3 weeks, 1 to 2 months, 3 to 5 months, 6 to 8 months, one academic year, and more than one academic year. Because of the small number of participants reporting within each group (see Table 1), amount of time was collapsed into 6 levels: none, one week or less, 2 to 8 weeks, 3 to 5 months, 6 to 8 months, and one academic year or more.

The fourth and final independent variable was the amount of previously completed coursework focused on early adolescent development, meaning the number of days, quarters, or semesters, a middle-grades teacher spent formally learning about early adolescent development in a workshop or training course prior to participating in this study. For this study, the amount of previously completed coursework was grouped into seven levels: none, less than one day of a workshop or training course, 1- to 2-day workshop or training course, 3- to 5-day workshop or training course, a portion of a quarter- or semester-long course, one full quarter- or semester-long course, and more than one full quarter- or semester-long course. Nearly half of the participants previously completed coursework equivalent to a portion of a quarter- or semester-long course or more (see Table 1). Due to the small number of participants reporting in other levels, the

amount of previously completed coursework was collapsed into five levels for further data analysis: none, 3- to 5-day workshop or training course or less, a portion of a quarter- or semester-long course, one full quarter- or semester-long course, and more than one full quarter- or semester-long course.

A teacher's perceived level of knowledge referred to his or her personal estimation of competence in respect to adolescents' physical, social, emotional, and cognitive development. Perceived levels of knowledge were indicated by scores on a 4-point rating scale, with 1 signifying a rating of *minimal*, 2 signifying a rating of *basic*, 3 signifying a rating of *proficient*, and 4 signifying a rating of *advanced*. Each participant's responses to the four items indicating perceived level of knowledge, one for each area of early adolescent development (i.e., physical, social, emotional, and cognitive), were summed for an overall rating on a scale of 4 to 16.

Four assumptions must be met for a one-way analysis of variance. The random sample assumption was not met, as a convenience sample was used in this study, so the results cannot be generalized. The independence of observations assumption was met as participants completed the instrument independently. The sample size for each variable is not large enough to know if the normal distribution assumption was met, but this becomes irrelevant as data analyses for this research question were not statistically significant. Last, for the equal population variance assumption, the Levene's test was performed with no statistical significance, so the assumption was considered to be met.

A one-way analysis of variance was calculated to investigate whether differences existed among teachers' perceived levels of knowledge based on each of the four aforementioned independent variables. Means and standard deviations for each analysis

also were calculated (see Table 9). Differences in teachers' perceived levels of knowledge were not statistically significant across years of middle-grades teaching experience,  $F(4, 134) = .72$ , certification type,  $F(3, 135) = .61$ , amount of time spent observing or student-teaching in a middle-grades classroom,  $F(5, 133) = .62$ , or amount of previously completed coursework,  $F(4, 134) = 2.86$ .

Table 9

Means and Standard Deviations of Teachers' Perceived Levels of Knowledge by Years of Middle-Grades Teaching Experience, Type of Certification, Observation or Student-Teaching Time, and Previously Completed Coursework

Variable	<i>n</i>	Mean	Standard Deviation
<b>Years of Middle-Grades Teaching Experience</b>			
<i>1 to 2 years</i>	15	11.53	2.53
<i>3 to 5 years</i>	20	12.00	1.97
<i>6 to 10 years</i>	37	12.35	2.42
<i>11 to 20 years</i>	51	11.96	2.62
<i>21 years or more</i>	16	12.88	2.73
<b>Credential Type</b>			
<i>Multiple-Subject</i>	60	12.25	2.44
<i>Single-Subject</i>	41	12.27	3.04
<i>Educational Specialist</i>	19	11.42	1.74
<i>Multiple-Subject and Single-Subject</i>	19	12.16	1.80
<b>Observation or Student Teaching Time</b>			
<i>None</i>	29	12.21	2.90
<i>1 week or less</i>	15	11.33	1.84
<i>2 to 8 weeks</i>	25	12.68	1.87
<i>3 to 5 months</i>	35	11.91	2.12
<i>6 to 8 months</i>	14	12.21	2.64
<i>1 academic year or more</i>	21	12.24	3.30
<b>Previously Completed Coursework</b>			
<i>None</i>	23	12.17	2.76
<i>3- to 5-day workshop or training course or less</i>	26	12.08	2.65
<i>A portion of a quarter- or semester-long course</i>	26	11.81	2.00
<i>1 full quarter- or semester-long course</i>	20	10.80	2.63
<i>More than 1 full quarter- or semester-long course</i>	44	12.93	2.19

Note:  $n = 139$

Effect size, specifically Cohen's *d*, was computed with respect to the difference between the highest and lowest means within each variable. Differences in years of middle-grades teaching experience resulted in a medium effect size of .54. Differences in certification type resulted in a small effect size of .34. Differences in the amount of time spent observing or student-teaching in a middle-grades classroom resulted in a medium effect size of .54. Last, differences in the amount of previously completed coursework resulted in a large effect size of .88.

A teacher's actual knowledge of early adolescent development referred to the researcher's estimation of the teacher's competence in the area of early adolescent development as measured by the number of correct responses to 13 multiple-choice items. Participants' responses were coded 1 for correct or 0 for incorrect, with a possible sum of correct responses ranging from 0 to 13.

A one-way analysis of variance also was calculated to investigate whether differences existed among teachers' actual levels of knowledge of early adolescent development based on years of middle-grades teaching experience, certification type, amount of time spent observing or student-teaching in a middle-grades classroom, or amount of previously completed coursework. Means and standard deviations for each analysis also were calculated (see Table 10). No statistically significant differences were found among teachers' levels of knowledge across years of middle-grades teaching experience,  $F(4, 134) = 1.23$ , certification type,  $F(3, 135) = 1.48$ , amount of time spent observing or student-teaching in a middle-grades classroom,  $F(5, 133) = .32$ , or amount of previously completed coursework,  $F(4, 134) = 1.80$ .

Effect size again was computed with respect to the difference between the highest and lowest means within each variable. Differences in years of middle-grades teaching experience resulted in a medium effect size of  $-.56$ . Differences in certification type resulted in a small effect size of  $.47$ . Differences in the amount of time spent observing or student-teaching in a middle-grades classroom resulted in a small effect size of  $.41$ , and differences in the amount of previously completed coursework resulted in a medium effect size of  $-.56$ .

#### Additional Findings

In addition to asking participants if they completed, or were in the process of completing a credential program within California, as well as the type of credential program (i.e., multiple-subject, single-subject, or educational specialist), participants were asked if they completed, or were in the process of completing a program with a middle-level emphasis. Most of the participants never were enrolled in a credential program with a middle-level emphasis (see Table 11). Furthermore, a one-way analysis of variance was calculated to investigate whether differences existed among teachers' perceived levels of knowledge or actual levels of knowledge based on whether they were enrolled in a credential program with a middle-level emphasis. Means were calculated as well (see Table 12). No statistically significant differences were found among teachers' perceived levels of knowledge,  $F(4,134) = .51$ ,  $d = .11$ , or actual levels of knowledge of early adolescent development,  $F(4, 134) = .57$ ,  $d = -.24$ , based on enrollment in a credential program with a middle-level emphasis.

A one-way analysis of variance also was calculated to learn if a relationship existed between teachers' actual knowledge of early adolescent development and

teachers' perceived levels of knowledge. Means and standard deviations also were calculated during the analysis (see Table 13). Teachers' knowledge of early adolescent development was found to increase as teachers' perceived levels of knowledge increased, but differences were not statistically significant,  $F(10, 131) = 2.10$ ,  $d = 1.05$ .

Table 10

Means and Standard Deviations of Teachers' Knowledge of Early Adolescent Development by Years of Middle-Grades Teaching Experience, Type of Certification, Observation or Student-Teaching Time, and Previously Completed Coursework

Variable	<i>n</i>	Mean	Standard Deviation
<b>Years of Middle-Grades Teaching Experience</b>			
<i>1 to 2 years</i>	15	9.40	1.45
<i>3 to 5 years</i>	20	9.35	2.30
<i>6 to 10 years</i>	37	10.05	1.53
<i>11 to 20 years</i>	51	9.80	1.73
<i>21 years or more</i>	16	9.06	1.91
<b>Credential Type</b>			
<i>Multiple-Subject</i>	60	9.88	1.60
<i>Single-Subject</i>	41	9.22	1.93
<i>Educational Specialist</i>	19	9.63	2.09
<i>Multiple-Subject and Single-Subject</i>	19	10.05	1.51
<b>Observation or Student Teaching Time</b>			
<i>None</i>	29	9.79	1.70
<i>1 week or less</i>	15	9.33	2.16
<i>2 to 8 weeks</i>	25	9.76	1.76
<i>3 to 5 months</i>	35	9.57	1.65
<i>6 to 8 months</i>	14	10.07	1.73
<i>1 academic year or more</i>	21	9.57	1.96
<b>Previously Completed Coursework</b>			
<i>None</i>	23	10.04	1.69
<i>3- to 5-day workshop or training course or less</i>	26	9.88	1.68
<i>A portion of a quarter- or semester-long course</i>	26	10.12	1.73
<i>1 full quarter- or semester-long course</i>	20	9.60	1.82
<i>More than 1 full quarter- or semester-long course</i>	44	9.14	1.81

Note:  $n = 139$



Finally, a one-way analysis of variance was calculated to investigate whether a relationship existed between participants' perceived levels of knowledge in each of the four areas of development (i.e., physical, social, emotional, and cognitive) and teachers'

Table 11

Frequencies and Percentages of Teachers Enrolled in Credential Programs with a Middle-level Emphasis

Middle-level Emphasis	<i>f</i>	%
Yes	26	18.3
No	116	81.7

Note: *n* = 142

Table 12

Means and Standard Deviations of Teachers' Perceived Levels of Knowledge and Knowledge of Early Adolescent Development by Enrollment in a Credential Program with a Middle-Level Emphasis

Middle-Level Emphasis	<i>n</i>	Mean	Standard Deviation
Perceived Level of Knowledge			
<i>Yes</i>	26	12.35	2.28
<i>No</i>	115	12.07	2.49
Knowledge of Early Adolescent Development			
<i>Yes</i>	26	9.27	1.76
<i>No</i>	115	9.70	1.76

Note: *n* = 141

Table 13

Means and Standard Deviations of Teachers' Actual Knowledge of Early Adolescent Development by Perceived Levels of Knowledge

Perceived Level of Knowledge	<i>n</i>	Mean	Standard Deviation
<i>Low (4-8)</i>	16	8.31	1.85
<i>Medium (9-12)</i>	74	9.61	1.73
<i>High (13-16)</i>	52	10.10	1.64

Note: *n* = 142

knowledge of each area of development as demonstrated by scores on corresponding multiple-choice items. On the questionnaire, multiple-choice items 1 through 5 addressed young adolescents' physical development. Multiple-choice items 6 through 8 addressed young adolescents' emotional development. Multiple-choice items 9 and 10 addressed young adolescents' social development, and items 11 through 13 addressed their cognitive development. Although means of actual knowledge tended to increase slightly as teachers' perceived levels of knowledge increased (see Table 14), no statistically significant differences were found; physical development,  $F(3, 138) = 0.66$ ,  $d = 0.34$ ; social development,  $F(3, 138) = 3.10$ ,  $d = 0.61$ ; emotional development,  $F(3, 138) = 1.95$ ,  $d = 0.36$ ; cognitive development,  $F(3, 138) = 4.81$ ,  $d = 0.69$ .

Table 14

Means and Standard Deviations of Teachers' Knowledge of Areas of Early Adolescent Development by Teachers' Perceived Levels of Knowledge

Perceived Knowledge	<i>n</i>	Knowledge Mean	Standard Deviation
<b>Physical Development</b>			
<i>Minimal or Basic</i>	27	3.30	.99
<i>Proficient</i>	77	3.52	.97
<i>Advanced</i>	38	3.63	.97
<b>Social Development</b>			
<i>Minimal or Basic</i>	24	1.67	.56
<i>Proficient</i>	84	1.87	.34
<i>Advanced</i>	34	1.91	.38
<b>Emotional Development</b>			
<i>Minimal or Basic</i>	29	2.07	.70
<i>Proficient</i>	80	2.28	.59
<i>Advanced</i>	33	2.06	.61
<b>Cognitive Development</b>			
<i>Minimal or Basic</i>	31	1.77	.84
<i>Proficient</i>	77	2.16	.78
<i>Advanced</i>	34	2.29	.68

Note:  $n = 142$

## Summary

In this chapter, the findings for each of the present study's research questions, as well as additional findings were presented. In summary, this sample of California middle-grades teachers primarily perceived their levels of knowledge to be *proficient* in the area of early adolescent development. Half of the participants who did not perceive their levels of knowledge to be *proficient* were split between *basic* and *advanced*. The majority of teachers' actual knowledge of early adolescent development was midlevel to high. Nearly all of the teachers believed an understanding of early adolescent development is *essential* or *important* to teaching the middle grades. Last, although slight differences in means existed, no statistically significant differences were found to exist between teachers' perceived levels of knowledge in and actual levels of knowledge of early adolescent development based on years of experience teaching at the middle-school level, the type of certification program completed, the amount of time spent observing or student-teaching in a middle-grades classroom before becoming a middle-grades teacher, and the amount of previously completed coursework focused on early adolescent development.

## CHAPTER V

### SUMMARY, LIMITATIONS, DISCUSSION OF FINDINGS, IMPLICATIONS OF FINDINGS, AND SUGGESTIONS FOR FUTURE RESEARCH

This descriptive study examined California middle-grades teachers' perceived and actual levels of knowledge in the area of early adolescent development. This study also examined differences in perceived and actual levels of knowledge based on years of experience teaching at the middle-school level, type of credential program completed, the amount of time spent observing or student-teaching in a middle-grades classroom before becoming a middle-grades teacher, and the amount of previously completed coursework focused on early adolescent development. Additionally, this study examined the manner in which teachers' knowledge of early adolescent development was acquired and to what extent California middle-grades teachers believe an understanding of early adolescent development is essential for teaching the middle grades.

Participants completed a 35-item instrument, the California Middle-Grades Educator Questionnaire (CMGEQ; see Appendix A), consisting of 19 response items and 16 demographic items. Data from the 143 participants were analyzed using descriptive statistics and by comparing means of teachers' perceived and actual levels of knowledge considering the aforementioned factors. This chapter includes a discussion of the study's limitations, as well as its findings as they relate to each research question, implications of the findings, and suggestions for future research.

#### Summary of Results

The current study measured California middle-grades teachers' perceived and actual levels of knowledge of four areas of early adolescent development (i.e., physical, social, emotional, and cognitive). Results from the study revealed that California

teachers primarily perceive their knowledge levels to be *proficient* in regard to each area of development. Teachers' actual levels of knowledge were typically midlevel to high-level and nearly all of the teachers expressed the belief that knowledge of early adolescent development is *essential* or *important* to teaching the middle grades. The results revealed little to no difference in teachers' perceived or actual levels of knowledge based on the type of certification program completed, the amount of time spent observing or student-teaching in a middle-grades classroom before becoming a middle-grades teacher, or the amount of previously completed coursework focused on early adolescent development. The most notable differences in teachers' perceived or actual levels of knowledge were based on teachers' years of experience teaching at the middle-school level; however, any differences found among the variables contained no statistical significance.

#### Limitations

Because 36% of the participants were part of a convenience sample obtained at the California League of Middle Schools (CLMS) Annual Conference, the sample may not be representative of the population of California teachers. Middle-grades teachers who attend the conference may be more knowledgeable about early adolescent development because of their participation in this conference and similar professional development opportunities. If participants are CLMS members, they also may be more familiar with the developmental characteristics of young adolescents than teachers who are not members of the organization, which is dedicated to improving the knowledge of middle-grades educators.

In regard to the CMGEQ, a small number of items were included on the instrument in consideration of the limited time participants would likely invest in completing the instrument while attending a conference or school-site staff meeting. Multiple-choice items rather than open-ended response items were used in the instrument to assess teachers' knowledge of early adolescent development because of the vague responses provided by participants to open-ended response items during the pilot study. The use of multiple-choice items could have prompted participants to provide answers that they might not have generated independently and the limited number of items may not have addressed adequately the breadth of existing information on the topic of early adolescent development.

Furthermore, self-reported data, such as data collected through the questionnaire designed for this study, may not always be accurate. Participants may respond in a way they believe the researcher would prefer or in a way that reflects more positively on them. Additional inaccuracies could be caused by difficulty in recalling past experiences. Finally, the independent variables used in this study are categorical rather than continuous, creating less variation among responses in relation to the dependent variable.

### Discussion of Findings

Four research questions were addressed in this study. The CMGEQ was developed by the researcher specifically to investigate those research questions.

#### *Research Question 1*

The first research question addressed to what extent middle-grades teachers in California perceive themselves to be knowledgeable in the area of early adolescent development. The CMGEQ included four items to which participants responded using a

4-point rating scale that represented a range from *minimal* to *advanced*. Participants provided a response for each of the four levels of early adolescent development (i.e., physical, emotional, social, and cognitive). The majority of teachers perceived their knowledge levels to be *proficient*, with the next largest groups identifying themselves as *advanced* and *basic*, respectively, in all four areas of early adolescent development. Teachers who completed a credential program with a middle-level emphasis had slightly higher levels of perceived knowledge than teachers who did not complete such a program, although the results were not statistically significant. These findings are consistent with research by Stahler (1996), who found that student teachers prepared specifically to teach the middle-grades believed they were more knowledgeable about young adolescents than teachers who were not prepared specifically to teach the middle grades. In the present study, teachers recognized, however, that any knowledge they did have was likely acquired through experience, rather than formal or independent study.

Most teachers believed they acquired their knowledge of early adolescent development primarily through observing or working with young adolescents both inside and outside of the classroom and also through their own experiences as young adolescents. Purposed study, whether formal or independent, was the least likely method of knowledge acquisition. This finding was supported by the findings that less than 20% of the participating teachers completed a credential program with a middle-level emphasis and that over 70% of the teachers had 6 or more years of middle-grades teaching experience; however, this finding was inconsistent with the finding that over half of the participants reported completing a portion of a quarter- or semester-long course or more focused on early adolescent development. Although teachers completed a

considerable amount of coursework, the indication that they acquired their knowledge primarily through experience suggests that teachers perhaps place more value on, or remember more clearly, that which they learn through experience than what they learn through formal study.

### *Research Question 2*

The second research question asked to what extent middle-grades teachers in California are knowledgeable about the developmental period of early adolescence. Teachers' actual knowledge, as measured by their responses to 13 multiple-choice items on the CMGEQ, was typically midlevel to high-level. On the instrument, five of the items prompted participants to complete statements regarding young adolescents' physical development. Three of the items included statements regarding young adolescents' emotional development, two regarding social development, and three regarding cognitive development. Nearly half of the teachers answered 10 or 11 of the questions correctly. The majority of the remaining participants answered between 7 and 9 questions correctly. Also, paradoxically, teachers who completed a credential program with a middle-level emphasis had a slightly lower level of knowledge of early adolescent development than teachers who did not complete such a program.

The three multiple-choice items producing the most incorrect responses addressed the impact of early physical development on boys, young adolescents' emotional development, and young adolescents' cognitive development. Whereas teachers seemed to have an accurate understanding of young adolescents' social development, the specific items with high frequencies of incorrect responses may indicate a lack of knowledge regarding the developmental differences between genders, as well as misconceptions



about young adolescents' emotional and cognitive development; however, again, the limited number of items through which this knowledge was assessed is acknowledged. An example of one such stereotypical belief was described by Hines and Paulson (2006), who noted that teachers typically view adolescence as a period of turmoil and emotional moodiness, an idea that is often used to characterize adolescence, but current research suggests is a misconception. Hines and Paulson suggested that teachers held these misconceptions because of their exposure to diverse groups of adolescents and that teachers' acceptance of stereotypic views were strengthened over the years by exposure to adolescents who perpetuated stereotypes.

### *Research Question 3*

The third research question addressed to what extent middle-grades teachers in California believe an understanding of early adolescent development is essential to teaching students in the middle grades. Nearly all of the participants indicated that they believe an understanding of early adolescent development is *essential* or *important* to teaching the middle grades. This finding is consistent with previous research by McEwin, Dickinson, and Hamilton (2000), Roney (2001), and Thistle and O'Connor (1992), who found that middle-grades teachers typically believe a middle-level teacher preparation program should emphasize learning about early adolescence.

Through interviews conducted by Roney (2001), middle-school principals, teachers, and students, expressed the belief that middle-grades teachers should have an understanding of early adolescent development. McEwin et al. (2000) asked the participants of their study if there were "important ideas, principles, or understandings that an effective middle level teacher needs to know" (McEwin et al., p. 212). All 73 of

the participants responded yes to that question, and when asked to list three examples of such ideas, principles, or understandings, the most common responses referred to a thorough understanding of early adolescent development and effective teaching strategies. In the study conducted by Thistle and O'Connor (1992), nearly all of the participants *agreed* or *strongly agreed* that the development of middle-grades children should be a topic included as part of a middle-grades teacher preparation program.

The finding of this study also is consistent with research by Green et al. (2008) who reported that nearly all of the middle-grades teachers surveyed in their study rated an understanding of early adolescent developmental characteristics and needs as *essential* or *important*. The item on the CMGEQ designed for the present study to measure the extent to which teachers believe that knowledge of early adolescent development is essential for teaching the middle grades was modeled after the item used by Green et al. that asked participants to rate the importance of such knowledge as *essential*, *important*, *nice but not necessary*, or *not necessary*. Participants of this study used the ratings of *essential*, *important*, *helpful but not necessary*, and *not necessary*, as noted, with a similar finding.

In the present study, teachers believed knowledge of early adolescent development would help middle-grades teachers create and maintain developmentally appropriate classroom environments, implement appropriate and effective pedagogy, design meaningful curriculum, build positive relationships with students, support students' developmental growth, and maintain a positive perspective when working with young adolescents. These motives are mirrored by those of other educators who stress the need for teachers' to understand child development (Horowitz et al., 2005). Horowitz et al. expressed that need in this way

Teachers need to understand children's development and how it influences, and is influenced by their learning. A foundation of knowledge about child development is essential for planning curriculum; designing, sequencing, and pacing activities; diagnosing student learning needs; organizing the classroom; and teaching social and academic skills...When student development is the focus of teaching decisions, teachers plan in light of their students' needs and to support their progression along several developmental pathways—physical, social, emotional, cognitive, linguistic, and psychological. (pp. 88, 92).

Ultimately, the reasons for understanding early adolescent development as expressed by the participants in this study reflect a desire to create an overall learning environment that is developmentally appropriate for and responsive to young adolescents. Stage-environment theory suggests such an environment would decrease the negative changes experienced by young adolescents within that environment (Eccles & Midgley, 1989; Eccles & Roeser, 2009).

#### *Research Question 4*

The fourth research question focused on the extent to which teachers' perceived levels of knowledge in and actual knowledge of early adolescent development differ based on years of experience teaching at the middle-school level, the type of certification program completed, the amount of time spent observing or student-teaching in a middle-grades classroom before becoming a middle-grades teacher, and the amount of previously completed coursework focused on early adolescent development. Teachers' perceived levels of knowledge tended to increase slightly with more years of middle-grades teaching experience, with a medium effect size, but the results were not statistically significant. There were no particular patterns of difference in perceived levels of knowledge with regard to the amount of time spent observing or student teaching in a middle-grades classroom before becoming a middle-grades teacher or with regard to the amount of previously completed coursework focused on early adolescent development;

however, the effect size was large between teachers who had completed a full quarter or semester worth of coursework and those who had completed more coursework. Teachers with multiple-subject and single-subject credentials tended to have higher levels of perceived knowledge than those with the educational specialist credential, but the results were not statistically significant and the effect size was small.

Teachers' actual knowledge of early adolescent development was minimally higher for teachers with 6 to 10 years of middle-grades teaching experience, for teachers with both a multiple-subject and single-subject credential, and for teachers who spent 6 to 8 months observing or student teaching in a middle-grades classroom before becoming a middle-grades teacher; the results, however, were not statistically significant and the effect sizes were small to medium. Similar to findings by Conklin (2007, 2009), these results do not indicate that one particular credential program, or preparation pathway, is better than another considering the certification of middle-grades teachers. Furthermore, there is still concern that although teachers may acquire knowledge through experience, that knowledge might be inaccurate, and precise knowledge could have been acquired in a more efficient way at the start of teachers' careers (McEwin, Dickinson, & Smith, 2004).

Last, teachers' knowledge of early adolescent development tended to be slightly higher for teachers who previously completed either no coursework or, oppositely, a portion of a quarter- or semester-long course focused on early adolescent development, but the results were not statistically significant. Overall and with respect to each specific area of development (i.e., physical, social, emotional, and cognitive), increases in teachers' actual knowledge of early adolescent development corresponded with increases

in teachers' perceived levels of knowledge; differences, however, were not statistically significant. This finding suggests that teachers accurately reflected on their personal levels of knowledge.

### Implications of Findings

Although the findings of this study do not have major implications for California credential programs, the findings of this study can inform decisions made by school district and school-site administrators concerning the professional development of California's middle-grades teachers. Teachers with experience were found to have slightly higher perceptions of knowledge, as well as slightly higher levels of actual knowledge, yet misconceptions about young adolescents existed. Through professional development activities, teachers' knowledge acquired through experience could be examined, supplemented and, if necessary, corrected. Because teachers reported most likely acquiring their knowledge of early adolescent development through experience, the ability to relate formal study to experiences in the classroom could be an effective learning opportunity for teachers. Moreover, for the reason that misconceptions tended to be associated with young adolescents' emotional and cognitive development, efforts to increase teachers' knowledge should be focused on those areas. The emotional and cognitive changes young adolescents' experience are less outwardly obvious than the physical and social changes they experience, and teachers may have a more difficult time forming an accurate understanding of those developmental changes through experience alone.

Furthermore, this and other research (Green et al., 2008; McEwin et al., 2000; Thistle & O'Connor, 1992) has shown that middle-grades teachers believe an

understanding of early adolescent development is important to teaching the middle grades. If teachers believe such knowledge is important, presumably they would be open to receiving more information in this content area. In professional development situations, teachers also could discuss and plan the ways in which their understanding of early adolescent development is reflected in decisions concerning the formation and preservation of a developmentally appropriate middle-grades classroom.

The tendency to show increased knowledge with increased years of middle-grades teaching experience does inform one minor implication for California credential programs. Student-teaching and observation opportunities in middle-grades classrooms should be made available to preservice teachers while they are enrolled in their credential programs. Such opportunities would allow preservice teachers to gain experience while receiving support, as well as compare their experiences to knowledge gained through coursework before becoming independent, fully credentialed teachers. Additionally, coursework that does address early adolescent development should, like the recommended professional development for middle-grades teachers, focus on areas that are less obvious through observation and should offer more than a general overview. Specifically, teachers could benefit from a more comprehensive understanding of young adolescents' emotional and cognitive development, as well as an understanding of existing differences between girls and boys.

#### Suggestions for Future Research

This study examined California middle-grades teachers' perceived and actual levels of knowledge of early adolescent development. Future research that extends this investigation by using a more in-depth and reliable measurement of actual knowledge is

recommended. For the manner in which the instrument was administered in this study, a brief 13-item multiple-choice assessment was appropriate. A future study with participants who are willing to spend more time with the instrument could include an assessment of knowledge with additional items and perhaps include open-ended response items or interviews, as well as the multiple-choice items. Because differences in teachers' levels of perceived and actual knowledge often corresponded positively with years of experience teaching the middle-grades, it also is recommended that years of experience be measured on a continuous rather than categorical scale.

Furthermore, comparisons could be made between the knowledge levels of preservice or beginning middle-grades teachers prepared in California and preservice or middle-grades teachers prepared in a state that does require a middle-grades credential. Within California, comparisons could be made between the knowledge levels of preservice or beginning middle-grades teachers prepared in a program with a middle-level emphasis and those prepared in a multiple- or single-subject program with no middle-level emphasis.

Last, findings of this study suggest that California middle-grades teachers perceive their knowledge of early adolescent development to be *proficient* and that California middle-grades teachers generally are knowledgeable about early adolescent development. Future studies that examine the extent to which and the manner in which knowledge of early adolescent development manifests itself in the classroom are recommended. Teachers were of the opinion that knowledge of early adolescent development was central to aiding middle-grades teachers in the creation and maintenance of a developmentally appropriate and responsive classroom, and such

knowledge would be reflected in pedagogy, curriculum, relationships with students, support of students' development, teachers' perspectives, and the classroom environment. These opinions could be examined further through research using observations and in-depth interviews documenting ways in which teachers' knowledge of early adolescent development is apparent in their actions and decisions and in the classroom environment.

### Summary

In this chapter, a summary and discussion of this study's findings were presented, along with the implications of those findings, limitations of the study, and suggestions for future research. After examining a sample of California middle-grades teachers' perceived and actual knowledge of early adolescent development, the manner in which teachers acquired that knowledge, and the importance they place on that knowledge, suggestions were made for providing focused supplemental professional development for current middle-grades teachers, as well as more in-depth study of early adolescent development and student-teaching or observation opportunities in the middle-grades for preservice teachers. Future research can extend this investigation by implementing a more extensive instrument, interviewing teachers, and identifying ways in which middle-grades teachers' knowledge of early adolescent development becomes apparent in the classroom setting.



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APPENDIXES

APPENDIX A

CALIFORNIA MIDDLE-GRADES EDUCATOR QUESTIONNAIRE



**CALIFORNIA MIDDLE-GRADES EDUCATOR  
QUESTIONNAIRE**

**Please complete the first two sections of the questionnaire by marking the appropriate box with an X, or filling in the correct information.**

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**SECTION I:**

**1. How many years have you been teaching, including this academic year?**

- 1 to 2 years
- 3 to 5 years
- 6 to 10 years
- 11 to 20 years
- 21 years or more

**2. What grade(s) do you currently teach? (mark all that apply)**

- 5
- 6
- 7
- 8
- Other – Please specify: \_\_\_\_\_

**3. What is the grade-level configuration of the school at which you currently teach?**

- K-8
- 4-8
- 5-8
- 6-8
- 7-8
- 7-9
- 6-12
- 7-12
- Other – Please specify: \_\_\_\_\_

**4. How many years have you taught grades 5, 6, 7, or 8, including this academic year?**

- 1 to 2 years
- 3 to 5 years
- 6 to 10 years
- 11 to 20 years
- 21 years or more

**5. What type of teaching credential do you currently hold?**

- Preliminary
- Full/Clear
- University Intern
- District Intern
- Emergency Permit
- Other - Please specify: \_\_\_\_\_

**Continue to the next page**

**SECTION II:****1. Do you have a California teaching credential?**

- Yes (If yes, skip to question 3.)
- No (If no, proceed to question 2.)

**2. Are you currently working toward earning your California teaching credential?**

- Yes
- No

**3. What type of teaching credential program did or will you complete? (mark all that apply)**

- Multiple-subject
- Single Subject - Please specify subject: \_\_\_\_\_
- Education Specialist

**4. Did you or will you complete your initial credential program in California?**

- Yes
- No

**5. Did you complete or are you currently enrolled in a credential program with a middle-level emphasis?**

- Yes
- No

**6. How much time did you (or will you) spend observing in a middle-grades classroom and/or student teaching grades 5, 6, 7, or 8 before actually becoming a middle-grades teacher or intern?**

- None
- 1 week or less
- 2 to 3 weeks
- 1 to 2 months
- 3 to 5 months
- 6 to 8 months
- 1 academic year
- More than 1 academic year

**7. With a focus solely on early adolescent development (the development of youth ages 10-14), how much coursework and/or professional development have you completed? (Give your best estimate)**

- None
- Less than 1 day of a workshop or training course
- 1 to 2 day workshop or training course
- 3 to 5 day workshop or training course
- A portion of a quarter- or semester-long course
- 1 full quarter- or semester-long course
- More than 1 full quarter- or semester-long course

**Continue to the next page**

### SECTION III:

**Part I: Please rate your level of knowledge for each area of early adolescent development using the following scale.**

**1 = Minimal                      2 = Basic                      3 = Proficient                      4 = Advanced**

**1. My knowledge of the characteristics of young adolescents' *physical* development is...**

1                                      2                                      3                                      4

**2. My knowledge of the characteristics of young adolescents' *social* development is...**

1                                      2                                      3                                      4

**3. My knowledge of the characteristics of young adolescents' *emotional* development is...**

1                                      2                                      3                                      4

**4. My knowledge of the characteristics of young adolescents' *cognitive* development is...**

1                                      2                                      3                                      4

**Part II: Please complete the following statement by rank ordering the possible answers.**

**Use 1 to mean most likely and 5 to mean least likely.**

**1. The level of knowledge I do possess about early adolescent development was likely acquired, in rank order, through...**

\_\_\_\_\_ Formal study (e.g., professional development or university coursework)

\_\_\_\_\_ Independent study (e.g., reading done to satisfy personal curiosity or interest)

\_\_\_\_\_ Observing or working with young adolescents in the school or classroom setting

\_\_\_\_\_ Observing or working with young adolescents in settings other than the school or classroom (e.g., youth groups, athletic teams, or your own children)

\_\_\_\_\_ My own experience as a young adolescent

**Continue to the next page**

**Part III: Complete each of the following statements/questions by selecting the response that makes it true. Indicate your selection of a response by marking the corresponding box with an X.**

- 1. The physical growth of young adolescents typically occurs \_\_\_\_\_.**
  - 2 years earlier for boys than it does for girls
  - 2 years earlier for girls than it does for boys
  - At approximately the same age for both boys and girls
  
- 2. For boys, early physical and sexual maturity tends to \_\_\_\_\_.**
  - Have positive behavioral and social consequences
  - Have negative behavioral and social consequences
  - Have little to no behavioral or social consequences
  
- 3. For girls, early physical and sexual maturity tends to \_\_\_\_\_.**
  - Have positive behavioral and social consequences
  - Have negative behavioral and social consequences
  - Have little to no behavioral or social consequences
  
- 4. Sexual maturity, or puberty, is initiated by \_\_\_\_\_.**
  - The physical growth that occurs during early adolescence
  - The brain and the release of various hormones in the body
  - Menstruation for girls and spermarche for boys
  
- 5. The onset of puberty also is associated with \_\_\_\_\_.**
  - A need for more sleep as well as a tendency to go to bed later and wake up later
  - A need for more sleep as well as a tendency to go to bed earlier and wake up earlier
  - A need for less sleep as well as a tendency to go to bed later and wake up earlier
  - A need for less sleep as well as a tendency to go to bed earlier and wake up earlier
  
- 6. In regard to emotional development, early adolescence tends to be \_\_\_\_\_.**
  - A period of great turmoil and extreme moodiness
  - A period marked by positive emotional growth, but also more negative emotional experiences than children of other ages
  - A period marked by more positive than negative emotional experiences
  
- 7. During early adolescence, the ability to self-reflect \_\_\_\_\_.**
  - Begins to decrease
  - Begins to emerge
  - Is fully established

**Continue to the next page**

**8. During early adolescence, children's feelings of self-worth have a tendency to**

\_\_\_\_\_.

- Decrease
- Increase
- Stabilize

**9. In what way does the relationship between a young adolescent and his or her parents tend to change?**

- The young adolescent begins to share more personal information with parents, their relationship becomes more positive, and parents are needed for social and emotional support.
- The young adolescent becomes quite rebellious, is unlikely to share personal information with parents, and no longer relies on parents for social or emotional support.
- The young adolescent has some clashes with parents and begins to share less personal information, but parents are needed for social and emotional support.

**10. During early adolescence, peers become \_\_\_\_\_**

- Increasingly important and have tremendous influence on young adolescents' behavior and appearance
- Less important and have little influence on young adolescents' behavior and appearance
- Increasingly important, but have little influence on young adolescents' behavior and appearance

**11. By the time a child reaches early adolescence, typically his or her ability to think concretely \_\_\_\_\_.**

- Has developed
- Is beginning to emerge
- Has not yet emerged and will not during this developmental phase.

**12. By the time a child reaches early adolescence, typically his or her ability to think abstractly and engage in hypothetical reasoning \_\_\_\_\_.**

- Has developed
- Is beginning to emerge
- Has not yet emerged and will not during this developmental phase.

**13. By the time a child reaches early adolescence, typically his or her ability to make reasoned ethical and moral choices \_\_\_\_\_.**

- Has developed
- Is beginning to emerge
- Has not yet emerged and will not during this developmental phase.

**Continue to the next page**

**Part IV: Please rate the importance of middle-grades teachers' understanding of the characteristics of early adolescent development by circling the number that corresponds with your opinion.**

**1. For middle-grades teachers, an understanding of the characteristics of early adolescent development is...**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
<b>Essential</b>	<b>Important</b>	<b>Helpful, but not necessary</b>	<b>Not necessary</b>

**Please briefly explain your response circled above.**

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#### **SECTION IV:**

**Please complete this last section of the questionnaire by checking the appropriate box.**

**1. Gender**

- Female  
 Male

**2. Ethnicity (mark all that apply)**

- African American  
 America Indian or Alaska Native  
 Asian  
 Filipino  
 Hispanic or Latino  
 Pacific Islander  
 White (not Hispanic)

**Continue to the next page**

**3. Education Level (select highest obtained)**

- Bachelor's Degree
- Bachelor's Degree plus 30 or more additional units
- Master's Degree
- Master's Degree plus 30 or more additional units
- Doctorate

**4. In which geographical area of California do you currently teach?**

- Bay Area (Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties)
- Central Coast (Monterey, San Benito, San Luis Obispo, Santa Barbara, and Santa Cruz Counties)
- Central Valley North (Butte, Colusa, Glenn, Placer, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba Counties)
- Central Valley South (Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare Counties)
- Coastal North (Del Norte, Humboldt, Lake, and Mendocino Counties)
- Mountain North (Lassen, Modoc, Nevada, Plumas, Sierra, Siskiyou, and Trinity Counties)
- Mountain South (Alpine, Amador, Calaveras, El Dorado, Inyo, Mariposa, Mono, and Tuolumne Counties)
- Southern California Coast (Los Angeles, Orange, San Diego, and Ventura Counties)
- Southern California Inland (Imperial, Riverside, and San Bernardino Counties)

**End of questionnaire**

**Thank you for your participation.**

APPENDIX B  
LETTERS TO PARTICIPANTS



February 26, 2010

Dear CLMS Annual Conference Attendees:

If you are currently a middle-grades teacher in California and earned your initial teaching credential in California, you are invited to participate in a study concerning the preparation and professional development of California's middle-grades teachers.

I am a graduate student in the doctoral program at the University of San Francisco and also a middle-grades teacher from the Bay Area. The attached questionnaire is part of the research I am conducting for my doctoral dissertation.

Participation in this study is voluntary. **If you decide to participate, you will complete the attached questionnaire, which will take approximately 10 minutes.** There are no known risks to participating in this study. All questionnaires are to be completed anonymously. Please do not include your name or any other identifying information on the questionnaire.

The benefit of participating in this study is the potential positive contribution you can make to the design of preparation or professional development programs for California's middle-grades teachers in a way that ultimately benefits students. **To thank you for your participation, upon completion of the questionnaire, you will receive a raffle ticket and be entered to win one of 30 \$5 gift cards to Starbucks, Barnes & Noble, and Borders. You do not need to be present to win. Please return your completed questionnaire to the designated table before noon on Sunday, February 28th.**

Specific directions for completing the questionnaire are printed inside. If you have questions or concerns about this study, please contact me at (XXX) XXX-XXXX. If needed, you also may contact the University of San Francisco's Institutional Review Board for the Protection of Human Subjects (IRBPHS), which is concerned with protection of volunteers in research projects, by calling (415) 422-6091 and leaving a voicemail message, by e-mailing IRBPHS@usfca.edu, or by writing to the IRBPHS, Department of Psychology, University of San Francisco, 2130 Fulton Street, San Francisco, CA 94117-1080.

Your completion of the questionnaire indicates that you have read the above information, agree to its terms, and are giving your consent to participate in this study. Thank you for your time.

Sincerely,

Melina R. Johnson  
Graduate Student  
University of San Francisco  
School of Education  
Department of Learning and Instruction

Date

Dear Teachers:

Thank you for participating in this study on California middle-grades teachers' knowledge of early adolescent development. This research is part of my doctoral studies in the School of Education at the University of San Francisco.

Participation in this study is voluntary. Completing the questionnaire will take approximately 10 minutes. There are no known risks to participating in this study. If you choose to discontinue participation, you may do so at any time without penalty. Your responses on the questionnaire will remain anonymous and are in no way associated with evaluations of your job performance.

To participate, please follow the directions written throughout the questionnaire. Your completion of the questionnaire will serve as your written consent to participate in this study. If you have questions or concerns about this study, please contact me at (XXX) XXX-XXXX. You also may contact the University of San Francisco's Institutional Review Board for the Protection of Human Subjects (IRBPHS), which is concerned with protection of volunteers in research projects, by calling (415) 422-6091 and leaving a voicemail message, by e-mailing [IRBPHS@usfca.edu](mailto:IRBPHS@usfca.edu), or by writing to the IRBPHS, Department of Psychology, University of San Francisco, 2130 Fulton Street, San Francisco, CA 94117-1080.

Sincerely,

Melina R. Johnson  
Graduate Student  
University of San Francisco  
School of Education  
Department of Learning and Instruction

APPENDIX C  
ELECTRONIC QUESTIONNAIRE EMAILS

Hello,

Thank you for filling out the questionnaire for my dissertation research and/or stopping by my table to chat while you were at the CLMS Annual conference last month. You are receiving this e-mail because you expressed a willingness to pass on an electronic version of this survey to your colleagues. A link to the survey, as well as a brief letter to participants is printed below.

**The survey will be available until March 31, 2010.**

I appreciate your help in forwarding this to other California middle-grades teachers!

Thank you,  
Melina Johnson

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I've invited you to fill out the form **California Middle-Grades Educator Questionnaire**. To fill it out, visit: <http://spreadsheets.google.com/viewform?formkey=dEYtQW4xWHphSGJyWVINDnZHtTtVEE6MA>

Dear Teachers:

Thank you for participating in this study on California middle-grades teachers' knowledge of early adolescent development. This research is part of my doctoral studies in the School of Education at the University of San Francisco.

Participation in this study is voluntary. Completing the questionnaire will take approximately 10 minutes. There are no known risks to participating in this study. If you choose to discontinue participation, you may do so at any time without penalty. Your responses on the questionnaire will remain anonymous and are in no way associated with evaluations of your job performance.

To participate, please follow the directions written throughout the questionnaire. Your completion of the questionnaire will serve as your written consent to participate in this study. If you have questions or concerns about this study, please contact me at XXX@XXX. You also may contact the University of San Francisco's Institutional Review Board for the Protection of Human Subjects (IRBPHS), which is concerned with protection of volunteers in research projects, by calling (415) 422-6091 and leaving a voicemail message, by e-mailing [IRBPHS@usfca.edu](mailto:IRBPHS@usfca.edu), or by writing to the IRBPHS, Department of Psychology, University of San Francisco, 2130 Fulton Street, San Francisco, CA 94117-1080.

Sincerely,

Melina R. Johnson  
Graduate Student  
University of San Francisco  
School of Education  
Department of Learning and Instruction

Hello (Name),

Printed below is a link to the questionnaire for my dissertation research, as well as a brief letter to participants. I would appreciate it if you could forward this to any middle school teachers you know.

**The survey will be available until March 31, 2010.**

Thank you!  
-Melina

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I've invited you to fill out the form **California Middle-Grades Educator Questionnaire**. To fill it out, visit:  
<http://spreadsheets.google.com/viewform?formkey=dEYtQW4xWHphSGJyWVINdnZHTTItVEE6MA>

Dear Teachers:

Thank you for participating in this study on California middle-grades teachers' knowledge of early adolescent development. This research is part of my doctoral studies in the School of Education at the University of San Francisco.

Participation in this study is voluntary. Completing the questionnaire will take approximately 10 minutes. There are no known risks to participating in this study. If you choose to discontinue participation, you may do so at any time without penalty. Your responses on the questionnaire will remain anonymous and are in no way associated with evaluations of your job performance.

To participate, please follow the directions written throughout the questionnaire. Your completion of the questionnaire will serve as your written consent to participate in this study. If you have questions or concerns about this study, please contact me at XXX@XXX. You also may contact the University of San Francisco's Institutional Review Board for the Protection of Human Subjects (IRBPHS), which is concerned with protection of volunteers in research projects, by calling (415) 422-6091 and leaving a voicemail message, by e-mailing [IRBPHS@usfca.edu](mailto:IRBPHS@usfca.edu), or by writing to the IRBPHS, Department of Psychology, University of San Francisco, 2130 Fulton Street, San Francisco, CA 94117-1080.

Sincerely,

Melina R. Johnson  
Graduate Student  
University of San Francisco  
School of Education  
Department of Learning and Instruction

APPENDIX D  
RESPONSES TO OPEN-ENDED QUESTIONNAIRE ITEM

Listed below are the responses provided by participants to the open-ended question in Section III, Part IV, of the California Middle-Grades Educator Questionnaire. Each response is listed under the rating the respective participant gave to the importance of understanding the characteristics of early adolescent development for middle-grades teachers. Responses were transcribed verbatim, without grammatical or spelling corrections.

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*Essential*

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You need to know your students and what they are experiencing to be an effective teacher and plan lessons that meet their needs.

In order for teachers to be effective they need to know the needs of their students. There is always something more going on than we can visibly see. Knowing your students is the most important thing for a teacher

To understand your student and what they are going through is essential in effective teaching.

Can't do the job w/o it can't be empathetic and compassionate and patient w/o it

How can we teach those who we don't understand?

Although I may not know as much as I thought (!) - understanding the young adolescent is critical for relating to my students as well as planning lessons for them

Understanding their development will help us as teachers understand the "emotional roller coaster" the students come to us on.

It is important to understand your student's behaviors and cognitive ability to be able to create a curriculum that will be most effective. It is also importance for classroom management and to form relationships with students.

I don't feel we focus enough.

Teachers must understand the characteristics to better understand students mental & physical state to be able to teach a student. You cannot teach in a style that does not take in to account where these young people are in their development.

It allows the teacher to better understand emotional outbursts/motivations and to approach learning strategies based on cognitive developmental stages

Knowing what will engage them

You need to know your audience when teaching, especially middle school levels.

Being able to understand a middle-grade student will fully allow a teacher to not only teach them essential academics, but be a caring & nurturing person in that teens' life.

If we understand what is happening to them phy/emo. we will have a better understanding of how to get them engaged, use meaningful content, and be able to help them maintain motivation. They will feel more connected because they feel understood and that are learning relevant content.

The better I understand my students, the better I can connect with them, and the better the bond formed, the better I can be an educator.

Teachers need to know what students are going through so we can better help them.

Middle school is about building relationships with students. It is the key to their performance. If a teacher understands their development they are more likely to be able to build those relationships.

They need to know how to provide adequate help for the students, engage & make curriculum real for them. They need to understand how much outside forces influences them & their decisions & choices.

...Because it helps the teacher structure the classroom environment and instruction accordingly.

If you don't understand the characteristics of early adolescents you can get frustrated with their behavior.

I was shocked that the district placed me in a mid-year middle school position. I later learned that a 6th grade teacher who was also displaced from that same school was placed in a kinder position which my entire 13 yrs. experience was kinder & 1st grade. It was not my choice, but in many ways, its been a blessing.

You need to be able to understand and deal with these spontaneous moments as they arise or you will be nuts!

We need to know what they can learn so we can give them the information they are expected to know in a way that they can receive it.

So many hormones emerging coupled with higher expectation in school & more social



peer issues. It's essential so that teachers understand what other things are effecting kids development & performance

I am just starting to work with kids grade 6-8 and need to learn more. As a veteran teacher I find this new challenge exciting and am beginning by asking teachers who have more of this age experience as well as attending conferences and independent reading

Certainly—we need to understand our kids, to understand how to engage, nurture, reinforce, etc—

Knowing what your students are going through allows you to meet them where they are, provide relevant experiences for them & further their education on their level

Kids at this age are so different from day to day that if a teacher is unaware of their development then assumptions made about them will be so wrong. Particularly students' motivations may be very different from what a teacher assumes.

To meet the needs of this age—you have to meet them where they are—and that is all over the place—and all in the same classroom.

The brains of adolescents are not fully developed & won't be for many years to come. They often have trouble w/ abstractions, reasoned choices, & long-term planning; teachers need to understand this to respond appropriately and provide the support & environment necessary for learning.

Because these students are at an impressionable age, it's important to be able to recognize where they are developmentally, and this should dictate how the teacher designs lessons, interaction, group assignments, etc....

The students are not concerned, (for the most part) on their academic success at this age, although they understand the consequences of their study skills. At this developmental stage, the students are more concerned with their changing bodies, emotions, and sense of individuality. Teachers need to take these changes into account when teaching because it affects their teaching and their curriculum

Enables teacher to set realistic expectations based on students' developmental level

I could use more knowledge in adolescent development. I believe that our program at HSU lacked those components. As educators we can benefit the population we work with if we fully understand what is developmentally appropriate.

This is my 20th year of teaching and over the years I've learned that my 8th graders go through some of the same "cycles" throughout the year. Currently we're in that "mature, knowledgeable" phase—right were their a delight!—But soon they're off to high school...

Middle-grades teachers need to understand the characteristics of early adolescent development. Students tend to want to push boundaries and do not always have the tools to deal with the changes they are being confronted with. A teacher has to recognize that building a tolerant and cooperative classroom takes many repetitions to be successful. Very important because it plays a huge role in teaching, behavior, discipline and classroom management.

Helps -teaching  
-reaching out to students

Understanding their development with help with classroom management and instructional/learning strategies.

I realize that I don't know as much as I should, but raising my own kids has helped a great deal.

After answering the questions it becomes obvious that it is important to understand adolescent development when teaching students of this age.

I chose to mark 1 because, of course, it helps to understand the characteristics of early adolescent development when working with this age group!

To understand how a student thinks is very important in their academic success but I am also interested in knowing the whole person and I believe that developing that interpersonal relationship is a key to their success in middle school

It's the nature of the beast so to speak—you need to understand them in order to teach them.

It is important for middle school teachers to understand what students are experiencing & what they are able to do because at this age how students are perceived by their peers directly affects their success. If they are set up to fail they will shut down.

I believe it is important/essential to know what pre-teens & teens are going through so you can respond appropriately.

Kids this age are literally having their brain rewired. So when they do something stupid they really do not now why they did it. Having a better understanding of this would help develop better school wide discipline and better classroom policies about test retakes and homework retakes. At this age, even a good kid can have really can a bad day or week, and the policies need to account for that. Second chances are so important at this age.

If a teacher is not aware of the dramatic changes that students are going through at this age it will be very difficult for them to teach and connect with the students.

In order for teachers to work with students, it is essential to understand what they struggle with physically, intellectually, emotionally and ethically. Adolescents are between two different worlds--childhood and adulthood. It is the most awkward time of their lives. They know it all, yet lack the experience which gives them such knowledge, and they make choices based on this "in-between" knowledge. During my first year of teaching middle school, I realized that my success in teaching these kids relied on my knowledge of who they were and a little more experience working with them than I had given it. To the teacher who responds "Not necessary", I say this person does not teach middle school students, literally or successfully.

If educators do not understand adolescents' developmental needs, they can make educational decisions that may prove ineffective, frustrating, and detrimental to students' academic, emotional, and social development.

If a teacher doesn't understand the child, they misread some of the "disturbing" facial expressions and body language that occurs regularly

This my first year as a middle school teacher, having taught 5th grade for 13 years. Through this survey, I am reminded of the importance of going back to study this time in kids' lives to better understand my students. I DO believe this understanding is essential, and cannot believe that I've let myself focus solely on curricular concerns as I've made this transition to middle school! Thank you.

You need to understand where the student is coming from.

The more you know about a student, the easier it is to relate to that student

In order to assist students and parents through this complex and yet exciting period of development in the middle school child, it is essential to understand the various complexities and issues that the student will undergo.

Knowing the stages of cognitive, emotional, social, and physical development is essential to building relationships with our students where they presently are in the developmental stages and helping stage them for positive growth experiences in the later stages.

We need to understand where the child is coming from in order to find ways to reach him or her with what we want him/her to learn and direct the child towards his/her future.

It's too easy to make misunderstand some of the actions/behaviors of adolescents; therefore, the more knowledge a teacher has, I believe, helps them to understand and successfully connect with his/her students. It also doesn't hurt to understand their special uniqueness when working on behavior in the classroom and designing lessons which will speak to their needs.

For teachers to reach their students in an effective manner, they need to understand what their students are capable of and what motivates and demoralizes them. An

understanding of where the students are physically, socially and cognitively in their development enables the teacher to plan lessons that are appropriate and relevant to their students. This knowledge can also help the teacher build bridges of communication between themselves and their students.

To be an effective middle school teacher, this knowledge is absolutely essential.

It's imperative to understand the development of whatever age group you're teaching, but most especially adolescents because there is so much going on physically, emotionally, and intellectually at this age.

Because of the multitude of physical, psychological, and social issues going on in early adolescence, it is imperative that the adults around them, especially teachers, appreciate what is going on in their lives.

To effectively lead, motivate, and connect with adolescents, adults need to understand them and to keep their unique physical, social, and emotional needs in mind. Our expectations of students should match what they are capable of doing. Without understanding why some teens act the way they do, working with them would be very frustrating.

It helps you help the students with their physical emotional challenges.

If you are going to have an impact on the adolescent, it is a valuable asset to understand the emotional and physical changes that occur. This information will also help you to maintain effectiveness in keeping your own sense of perspective.

I believe it is extremely important for educators to understand adolescent development as it is such an important factor in learning.

A middle school teacher will not survive or communicate their learning if that teacher does not have some understanding of early adolescent development. The more understanding, the more likely the teaching will be effective.

It is essential because that way it will be easy for the teacher to deal with middle grade students.

Recognizing and responding to the developmental needs of early adolescent students is essential if you are going to even hope to reach and teach them. If you don't, you will forever be frustrated and blaming the kids for not "getting it together" when their backpacks are a mess, they're falling asleep in class, they stand up and pummel the kid who took their pencil instead of asking for it back, or they seem to not be able to pay attention. You can't "cure" adolescence but if you understand it you can help the kids learn whilst in the throes of it . . . and help them develop the skills they will need to succeed despite it. You also have to really like them, or find a different level to teach-- they need honest, trusting relationships with adults as much as they need the content you are delivering.

Without an understanding of the developmental stages, adolescents may actually appear to be insane.

When most people ask what grade level I teach and I respond middle school, the typical response is that we're crazy. Students in middle school are just hitting that point where puberty is kicking into high gear, emotions are all over the place, and they are experiencing different social situations and pressures. Students at this age tend to fluctuate between wanting to spend time adults, yet wanting nothing to do with them for fear of looking "uncool" in front of their peers. Having an understanding of the characteristics of adolescent development for a middle school teacher is important in that it helps us to understand how to present material, how to effectively discipline students, and how to support them during this difficult transitional period. Is it important? Yes. Is it essential? No. There are great teachers who have the ability to develop meaningful relationships with their students without having a broad knowledge of child development.

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*Important*

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Unless we understand them holistically—physical, emotional, social psychological we won't be able to impact their understanding

Without the understanding, an appreciation of the physical, emotional, and social adjustments that the middle schoolers are going through, a teach will not be able to reach the students or manage the class.

An understanding is important and often essential in order to be able to relate to students.

Knowing where the pressures lie & where a student is in terms of thinking can help teachers plan appropriate activities.

need to “get” kids to work w/ them

They will always keep learning

I think its helpful & valuable information, but not essential as a good teacher, in tune with his/her students, can gain a bunch of expertise through building relationships

What is most important is a respect of a students' growth, change, emotion, and attitudes during adolescence. They are children in adult bodies.

Can determine if behavior is typical for age level...

It's important to understand what kids can understand in terms of abstract concepts. You get a feel for this as you gain teaching experience, but it would be helpful training for

student teachers. It's also important so that the teacher can be more accepting of middle schoolers' behavior.

Children can learn from a T.V., a computer or any other object giving information including a teacher. However, teaching is more than telling facts.

Teachers need to understand the characteristics so we can recognize abnormal behavior vs normal behavior for that age group.

To effectively reach middle grade students, teachers need to understand the adolescent's state of mind both intellectually and socially  
I taught intermediate school for 13 years, high school for 1, and am now an intermediate school counselor. Taking this survey was a valuable experience for me!  
Good, thought-provoking questions...  
thanks

It is helpful and I feel important to know what is going on in your students, emotionally, socially and developmentally. However, I also have a subject matter to teach them and have to keep my academics at the forefront of my lesson plans.

It would be a good idea to understand the way a child thinks and what his capabilities are if you are going to set realistic goals and attempt to teach him anything.

Having an understanding of how a early adolescent child develops will help a teacher identify, and work with, potential difficulties they are having in the classroom, or outside of the classroom, due to emotional, logical, and physical development.  
Understanding the various factors affecting your students is beneficial so that you work not only with the academic needs of the student but also the emotional needs.

Teachers who understand te characteristics of earl adolescen development understand why students act the way they do while at school and also how they learn. It can help when planning lessons and how to deliver or present the lesson.

I believe that is imperative for educator's of middle-school children to have a general undertanding of early adolescent development in order to meet and help the changes one goes through at this age, whether female or male.

You must understand how to read the moods of students and react appropriately so as to maintain a good relationship with trust, respect and understanding

Whenever I tell people that I am a middle-school teacher, they respond with wide-eyed concern or reflect on their own adolescent experiences. It is a special time in your life where you are trying to bridge the gap between childhood and young adulthood. My students struggle to define themselves as individuals and as part of a group/community. Being a good middle school teacher means going beyond just teaching the standards. We must also help nurture students as they are learning who they are and who they want to

become. Without an understanding of the physical and emotional development they are going through, we cannot do this.

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*Helpful, but not necessary*

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It is helpful but our main job is to educate them in academic areas. I feel having had my own children has helped me understand adolescents more.

I feel that as teachers we are expected to teach the standards and teach the material that is on the state tests. Those scores reflect on the district and the administrators. The size of our classes and the number of student contacts do not allow much room for personal connections or time to try and understand students behaviors. We need to get through the curriculum and that is it. It was not this way when I began teaching, but that is how it is for me now.

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*Essential and Important*

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I believe that most recognize the development knowledge is important, but if we recognize and act as if the knowledge is essential, we may save many adolescents from self destruction and many teachers from occupational burnout.

Somewhere in the middle because I believe one can still be a quality teacher with a basic understanding of human kind. I believe knowledge of one's subject matter is essential.