Developmental Stages: Since human development follows reasonably predictable patterns, an understanding of developmental stages helps teachers know what to expect of students at different ages. This knowledge is essential for planning age appropriate instruction and recognizing those students whose development is delayed or disordered (Rothstein, 1990). For the purposes of this document, only developmental characteristics of preschool/kindergarten, primary, intermediate, middle/junior high school, and high school students will be described. Unless otherwise referenced, all information below was drawn from Rothstein (1990) and Faw and Belkin (1989).

Preschool and Kindergarten-Age Students (3 to 6): Physical development of preschool and kindergarten-age children is relatively rapid. In general, their large muscle coordination is more advanced than their fine-motor development, and handedness may not be established until age six. Children of this age tend to manifest high levels of physical activity and need periodic rest periods. They often express emotions openly, both physically and verbally, and often show jealousy, particularly in regard to teacher attention. At this age level, play is the most frequent form of social interaction, and typically takes the form of **associative play** (unorganized play with other children) or **cooperative play** (organized play involving rules and assigned roles). Preschool and kindergarten-age children enjoy being dramatic, and often imitate behavior and roles drawn from television. Their **language skills** are developing rapidly, and though they are still making grammatical and articulation errors, their vocabulary at age five consists of over 2000 words. **Intellectually**, these children are typically still in Piaget's **preoperational stage**, thus their thinking is often illogical and tends to be dominated by such characteristics as **centration** (the inability to attend to multiple aspects of a situation) **animism** (attributing animate qualities to inanimate objects), **egocentrism** (seeing and understanding situations and events only from their own perspective), and **transduction** (linking specific situations and events regardless of whether there is a causal relationship).

Primary-Grade Students (Age 6 to 10): Children within this age range **share several characteristics and needs with preschool and kindergarten children** in that their large motor skills continue to be more advanced than their fine-motor coordination. They still demonstrate a high level of physical activity and, thus, continue to need rest periods and a variety of learning activities that emphasize active learning. Socially, they tend to have best friends as well as selective enemies. Their **play is primarily cooperative**, though they still have difficulty resolving rules disputes. They tend to be eager to learn but **need praise** for their efforts as they may be easily offended by criticism or lack of attention. Their **language skills** continue to develop rapidly, and the average six-year old has mastered nearly all the basic rules of grammar and has a vocabulary of more than 2500 words. Girls have typically mastered all speech sounds by the age of seven and boys by the age of eight. Intellectually, primary-grade children generally remain eager to learn and are often in a transition from **preoperational to concrete operational** thought (the characteristics of concrete operational thinking are described below).

Intermediate-Grade Students (ages 10-12): The most important aspects of physical development during this stage are the **growth spurt and the onset of puberty**. The **growth spurt** (a short, but rapid period of physical growth that occurs immediately before the onset of puberty) typically occurs at about age 11 for girls and 13 for boys. Thus, girls are often taller and heavier than boys during this stage which may result in embarrassment. **Puberty** (physical changes that mark the onset of sexual maturity), which occurs at about age 12 for girls and 14 in boys, and the biological changes it brings about may result in an increase in sexual concerns and curiosity. Socially, the **peer group and peer conformity** become increasingly important as social cliques begin to form. Intellectually, children of this age have generally moved into Piaget's stage of **concrete operations,** and therefore, their thinking is likely to demonstrate **socio-centrism** (the ability to understand that others may have a different point of view) **conservation** (understanding that objects remain the same even though their appearance may have changed), **reversibility** (the ability to return to the beginning of an intellectual operation), **classification** (the grouping and categorization of similar objects), and **limited logical thinking** (the ability to draw logical inferences, but only about concrete objects and situations). All of these intellectual skills are essential for effective academic learning.

Middle/Jr. High School Students (ages 12-14): As is the case during the intermediate grades, physical development during junior high school is marked by the **onset of puberty** and its associated physical changes. These changes include the development of breasts, widening of the hips, and the onset of menstruation in females. For males, these changes include deepening of the voice, replacement of fat with muscle, and the appearance of facial hair. In addition to the gender-based maturational differences described above, there are also non-gender-based individual differences in the onset of the growth spurt and puberty. **Early and late maturation** have been the subject of much research with mixed results. Though some studies have found advantages such as improved self-confidence for early maturers, other studies have not found early

maturation to be an advantage. Therefore, the impact of early and late maturation is difficult to determine. Social, emotional, and intellectual characteristics of adolescence are described below.

High School Students (ages 14-18): The high school years are an important transitional period in which students move from adolescence to young adulthood. An important part of this transition is the achievement of a **personal identity** that results in a clear sense of self. The adolescent's peer group often plays an important part in identity development by providing emotional support and opportunities to experiment with various roles and behaviors. According to Craig and Kermis (1995), friendships are especially important during this period, and adolescents typically choose friends with similar interests and values. Intellectually, adolescence marks the **transition from concrete operational to formal operational thought**. Though not all adolescents make this transition during the high school years, those who do become capable of thinking abstractly, which allows them to hypothesize, systematically explore all logical solutions to a problem, reason by metaphor and analogy, understand proportionality, and think realistically about the future. As Craig and Kermis (1995) noted, one interesting result of adolescent intellectual development is a phenomenon known as adolescent egocentrism. This is characterized by the belief that the adolescent is continually being watched by others **(imaginary audience**) as well as a feeling of being special and invulnerable (**personal fable**). Though the adolescent years have traditionally been described in terms of emotional turmoil and increased rebelliousness, as noted by Craig and Kermis (1995), these descriptions are not characteristic of all adolescents. This developmental period can, however, be difficult for some students with problems such as delinquency, pregnancy, substance abuse, eating disorders, and depression being relatively common. Suicide and attempted suicide are particularly important concerns (Dacey and Travers, 1991).

In concluding this section on student development, it is crucial to remember that the above information describes **typical or average development**. The development of any individual may vary greatly from the above descriptions, and this variation is often not a cause for alarm.

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