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### Week 2- Essay

#### Ch.3

Q.5: In Piaget's theory, the fourth and final stage of cognitive development is the formal operational stage. Adolescents can think more abstractly, realistically, and logically in this stage. They can consider ways to solve problems systematically and scientifically. But, not all adolescents are fully formal operational at the same time.

In early formal operational thought, adolescents almost lack a grasp of reality and the real world. Their hypothetical is the thought that is unconstrained, too subjective, and too idealistic. In late formal operational thought, adolescents' intellectual balance is restored as adolescents test their reasoning against reality through accommodation.

For example, when youth consider their life plan, they probably understand that they will have to move from their parent's house into their own. But they don't think about reality in early formal operational thought, and they might think of living in midtown in Manhattan. In late formal operational thought, they might think to look for the room share in Queens instead of midtown in Manhattan.

Thinking of my past, I wanted to be a pianist when I was young. But I did not understand how to get there. I did not know about the cost of continuing the piano lessons, how many times I have to take contests or auditions, and how many people can have a chance to be successful professionals. But later age, my piano teacher explained what I had to do to become a professional pianist. And I could imagine how hard it is; I need to have a better teacher than her, how much it costs, and how many times I have to audition to get one agreement. When I saw the reality, I gave up on becoming a professional pianist, and I decided to go to college to study business because my early thought was too unrealistic.

Q.7: Piaget's theory deals with cognitive development in universal stages. Piaget theorized that humans develop through four cognitive stages, sensorimotor, preoperational, concrete operational, and formal operational stages. In Piaget's theory, human cognition is qualitatively different in one stage compared with another because each stage related to age consists of distinct ways of thinking. In his theory, children construct knowledge by transforming, organizing, and reorganizing previous knowledge.

On the other hand, for Vygotsky, there are no such stages. Vygotsky's theory, therefore, can not be generalized when constructing knowledge through social interaction because each culture is different. He emphasized sociocultural context strongly, and language plays a powerful role in shaping thought. In his theory, children construct knowledge through social interaction.

Piaget's theory is a more masterful concept in the field of developmental psychology, and it continued to be studied by neo-Piagetians. Critics pointed out that Vygotsky's theory was not specific enough in changes, such as age-related changes and socioemotional changes, in cognitive development.

Personally, I was interested in Vygotsky's theory because I raised my son in Japan and the US, and I saw the big environmental differences in both countries. But I like both theories, Piaget's and Vygotsky's, for teaching is that teachers or educators serve as facilitators and guides rather than as directors. When I came to the school in NYC, it was the largest difference point between Japan and the US. I was very surprised when my son's teacher said, "I am like his personal trainer in the gym, not his boss or director." In Japan, teachers have to follow the guidance of the national educational system and do not care about students' personalities. I think it is one of the differences between collectivist and individualistic countries.

Q.11: Creativity is another aspect of human intelligence. Although most creative adolescents are quite intelligent, the reverse is not necessarily true because all highly intelligent adolescents are not highly creative. The textbook mentioned the concern about adolescents' creative thinking decline in the US because of convenient technology. So, teachers need to help students become more creative.

Incorporating creativity into the curriculum improves both creative thinking skills and content learning. When students are challenged to view a subject from different perspectives, it leads to deeper learning. For example, teachers can make students engage with brainstorming techniques to come up with as many ideas as possible. Or teachers can take students to environments, such as locations or exercises, that stimulate creativity. Sometimes teachers introduce videos of creative people, or schools invite creative people as guest speakers. All those would stimulate creativity in students.

Unfortunately, curricula in Japanese schools are far behind in American. Japan has an examination system, and students are educated to memorize the same answers only for the test. This system is an education that erases the creativity of Japanese youth. Therefore, many highly creative Japanese have to move overseas to universities and research institutes.

Q.14: Innate ability can not be tested when cultural bias exists in intelligence testing. For example, if a student living in an undeveloped country could not go to school and had to work as a child, the student would exercise different intellectual functions than in a developed country. A good example is one of the former Japanese prime ministers, Kakuei Tanaka, who was poor when he was a child and could not study at school. His final education was in elementary school. Another example is one of the former Sumo champions Masaru Hanada, who became a successful businessman after he retired from Sumo wrestling. His final education was in junior high school. Suppose those people's intelligence tests were low. In that case, cultural bias may be the reason; it may stem from complete ignorance of the necessary functions they had to carry out.

A culture-fair test is designed to be as free of those cultural biases as possible and not to be influenced by verbal ability, cultural climate, or educational level so that no one culture has an advantage over another.