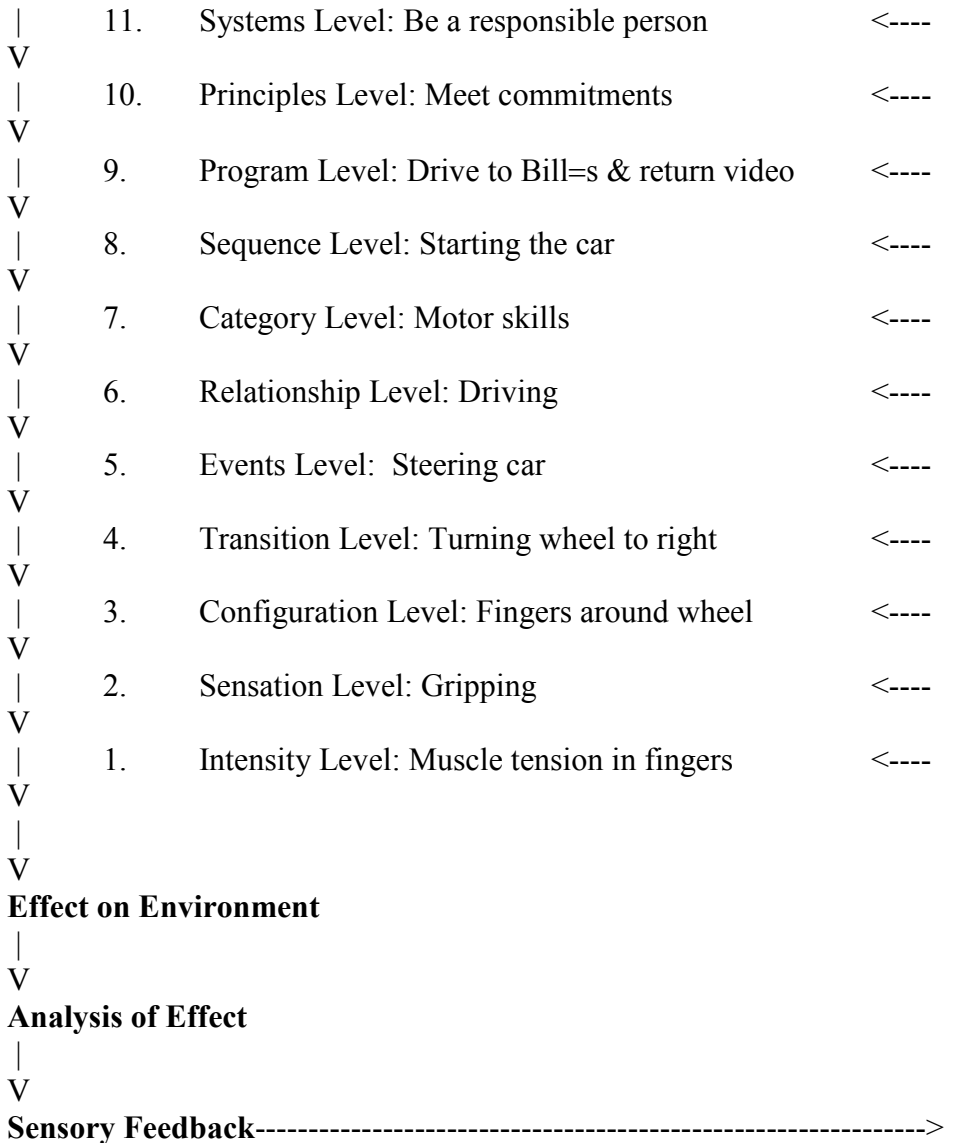


## **Perceptual Control Theory**

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Perceptual Control Theory (PCT) is a systems model for the regulation of actions based on negative feedback loops as used in engineering control theory developed by William T. Powers, 1973. The PCT model of behavior is a radical departure from previous theories about why the observed behavior of individuals occurs. The process of perception plays a central role in this theory. Perceptual processes in PCT can be thought of, in some respects, as being the process that monitors the signals being generated about controlled variables. Most controlled variables reside in the environment, i.e., events in the environment that are important to an individual, but some reside within the organism, i.e., biological variables such as hunger and cognitive variables such as self-image. One is not aware of all perceptual processes, as they take place, nor even most of them. Awareness is usually present only when control of a variable is being organized, when there is a disturbance of a controlled variable that requires a choice between response programs or after a programmed response fails to produce congruence between the reference value for a controlled variable and the perception of that controlled variable. In most cases, a disturbance of a controlled variable automatically initiates a previously developed and successful programmed response and does not require conscious awareness. Perception in the PCT model is hierarchical and includes eleven levels of perception (see Figure below). Higher levels in the hierarchy set reference values for lower levels in the hierarchy. With each step up the hierarchy, the processing time for perceptual input slows down so that processing at the highest level in the hierarchy proceeds at the slowest rate.

**Perceptual hierarchy and feedback loop based on the eleven level PCT model:**



The top three levels are of most immediate interest in this discussion. It is at the Systems Level that reference values are set, not to be confused with *personal values* or standards that come from the Principles Level. Reference values can also be thought of as goals or wants. Reference values may be established in several ways. Reference values may have a biological basis, as in the case of physical needs; a social basis, as in the case of beliefs; and a personal basis, as in personal preferences. At the Principles

Level *standards* are developed to detect discrepancies between *perceptual signals* originating from controlled variables and the reference value or values related to a controlled variable. At the Program Level there is a repertoire of neurologically programmed actions that are available to reduce or eliminate any perceived discrepancy (error signal). Actions, according to PCT, aren't responses caused by environmental stimuli, but are caused by an individual's intent to reduce an error signal and thereby achieve congruence between a goal or reference value and the perception of some related controlled variable. In other words, the actions have a purpose, and the purpose behind the actions resides not in the environment but within the individual. Purpose in PCT becomes an important causal variable in human behavior or actions.

McClelland's PCT conceptualization of social environments, like schools, suggests that classrooms are *social designations*, which refer to commonly shared social environments in our society. Within these shared social environments, coordinated social activities like teaching take place that require collective control of the activities. For effective and efficient collective control of teaching activities, it is necessary that all individuals sharing the environment accept similar reference values (goals and rules) and standards. In educational environments this generally means that students accept the goals and rules (reference values) and standards of the key players (i.e., administrators, teachers, and support staff) in the educational environment.

An approach to socializing students based on PCT is the Responsible Thinking Process (RTP) developed by Ed Ford. RTP is a program that facilitates collective control of instructional activities through helping students to accept and adopt the reference values and standards of school personnel. It is important that students perceive the school

and classroom as having a positive climate and want to be there. Facilitating a desire in students to be in school is important because the RTP program does not employ any contrived extrinsic rewards for school attendance or classroom participation. The reason for this appears to be related to the concept of *cognitive dissonance*. Studies on cognitive dissonance indicate that if people are asked to take a position contrary to their usual attitude about something, there is a greater likelihood that they will identify with the contrary position if they have not received an extrinsic reward for doing so. Thus, when given an extrinsic reward for complying with the goals and standards of a teacher, the effect will only be temporary for most students. When students do not receive an extrinsic reward for compliance, an error signal is generated by the perceived discrepancy between their actions and their goals. One potential outcome of this is to reduce the discrepancy or error signal by adopting the goals and standards of the teacher, i.e., incorporating them into one's self-identity. In short, PCT and RTP probably view extrinsic reward as a disturbance for a teacher's controlled variable, *student socialization*.

### **Suggested Reading**

- Center, D. (1999). Perceptual control theory an alternative perspective (Chapter 10) in Strategies for Social and Emotional Behavior: A Teacher's Guide. Norcross, GA: XanEdu. A text written for EXC 7160 at Georgia State University. Available at: <http://www.davidcenter.com>
- Ford, E. (1997). Discipline for home and school: book one (2nd ed.). Scottsdale, AZ: Brandt Publishing.
- McClelland, K. (1994). Perceptual control and social power. Sociological Perspectives, 37(4), 461-496.
- Powers, W. T. (1998). Making Sense of Behavior: The Meaning of Control. New Canaan, CT: Benchmark Publications.

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