**PSY 499 Module 4b AVP Transcript**

**Title: Gestalt and Cognitive Psychology: Some Important Considerations**

**Title Slide**

**Narrator:** The intention of this presentation is to outline some of the basics of the Gestalt movement.

**Slide 2**

**Slide Title:** Gestalt Psychology

**Slide Content**

* “Gestalt” means whole, configuration, pattern
  + Gestalt psychologists examined our tendency to perceive separate pieces of information as integrated wholes
* Opposed the Wundtian process of seeking basic mental elements and then breaking down conscious experience into these basic elements
  + Felt instead that the entire experience was what mattered (the whole is more than the sum of the parts)
* Focused on perception and how it influences thinking and problem-solving

**Narrator:** Let’s begin with Gestalt psychology. “Gestalt” means whole, configuration, or pattern. Naturally, Gestalt psychologists examined our tendency to perceive separate pieces of information as integrated wholes. The Gestalt movement in Germany took hold about the same time that Behaviorism was taking hold in the United States, and both were a reaction against the predominant Wundtian psychology of the time. Both had serious issues about the use of introspection in psychology, but introspection itself wasn’t really the motivation behind the respective rises of Behaviorism and Gestalt per se. For the Behaviorists, it was the study of consciousness and mental processes that was the issue. The Gestaltists, however, opposed the Wundtian process of seeking basic mental elements and then breaking down conscious experience into these basic elements. They felt instead that the entire experience was what mattered, and felt that the whole is more than the sum of the parts. Remember that I mentioned top-down processing when we discussed Kant? Yes – Gestalt psychologists understood that we bring knowledge to each and every experience and use that experience to perceive and understand.

Where the Behaviorists focused on the relationship between behavior and reinforcement, the Gestaltists focused on perception and how it influences thinking and problem solving. They strongly disagreed with the Behaviorists about the value of the conscious experience as something worth studying, but both felt that the traditional research methods and statistics were woefully insufficient to understand human nature. One big difference was that where the Behaviorists tended to take a more conservative tack (some, for example, discarding mental processes entirely as not directly measurable), the Gestaltists tended to be more open-minded about believing that which cannot be proven immediately. This was both a strength and a weakness for them. It helped them to take psychology in directions it hadn’t previously gone, and taking back the notion of the organism as an active participant in its environment was critical at the time. However, their willingness to make inferences beyond what the current data could empirically demonstrate opened the door to a lot of criticism.

**Slide 3**

**Slide Title:** Gestalt Psychology

**Slide Content**

* Max Wertheimer founded Gestalt movement along with Wolfgang Kohler and Kurt Koffka
* Beginning with illusions of motion, showed that sensation and perception are different things

**Narrator:** Max Wertheimer founded the Gestalt movement along with Wolfgang Kohler and Kurt Koffka. Wertheimer demonstrated the phi phenomenon, which involves the illusion of movement. It’s basically movement we see when two stationary objects are presented in succession at different places.

The phi phenomenon helped to clearly demonstrate that sensation and perception are different things. They are different things because of the mind adds structure and meaning to incoming sensations in order to create perceptions. Hence we have the Gestalt rules of perception, along with the critical notion of top-down processing and active perceptual organization by the organism.

A big part of the drive of Wertheimer and Kohler was the same: They felt that psychology was becoming essentially meaningless and irrelevant to the human condition given the restrictions placed on it by the prevailing methods and assumptions. To them, all meaning and vitality was lost due to the assumption that research must be atomistic and reductionist. That is, the assumptions of Wundt’s experimental psychology and Titchener’s structuralism. Remember that the functionalist approach of people like William James and G. Stanley Hall had arisen for very much the same reasons.

**Slide 4**

**Slide Title:** Gestalt Psychology

**Slide Content**

* Outlined a series of rules that the mind uses to interpret sensations into perceptions
  + Proximity
  + Continuation
  + Similarity
  + *Prägnanz*
  + Closure
  + Constancy (size and shape)

**Narrator:** The Gestaltists showed that our perception is rule-based. Rule-based thinking is critically important in psychology and to psychological functioning in the person, whether we are aware of the rules or not.

First, recall Freud’s psychodynamic theory and his notion of the motivated unconscious (which you’ll learn considerably more about in the next module). His notion that people employ unconscious defense mechanisms in order to maintain healthy ego functioning is to mental health what a Gestaltist saying that the mind has innate tendencies to perceive things in certain ways is to perception.

Second, our development of mathematics, logic, language, music, and other formal systems of symbolic manipulation and abstraction rely directly upon rule-based thinking, whether we are aware of all or just some of the rules. Formal and explicit rule-based thinking also makes things like culture and society possible, because it makes us able to follow cultural norms and societal laws, as well as develop relatively complicated systems of ethics.

Third, rule-based thinking helps us in mastering our environment. Remember that you are being bombarded with a great number of stimuli at any given moment that are completely irrelevant. Your brain makes the decision to filter out these stimuli because they are not critical to your functioning, and being aware of them all would lead to information overload. Or consider the issue of classification. A child learns to classify things into groups from an early age (imagine a mother pointing out a cow to a young child, then pointing out a horse). Working out the series of schemas about people, places, and things, and the mental models for how things work, is directly dependent upon rule-based thinking that can be modified as needed. Without rule-based thinking, the process of accommodation that occurs when we modify our schemas would not be possible.

Fourth, all animals intuitively look for cause and effect relationships to a great extent in understanding their environment. See the work of George Kelly for a more thorough explanation of this. Both volumes of his *Psychology of Personal Constructs* are available for public use at the Internet archives. Without rule-based thinking, cause and effect inferences would not be possible. Without cause-effect inferences, we’d be unable to make some of the most basic assumptions. For example, how do you know that the sun will rise tomorrow just because it rose today? How do you know that if you do your best friend a favor, he or she will do you a favor when you really need it? There comes the point in every person’s life where they go beyond simple *associative* thinking, moving to a more rule-based thinking. Sometimes it’s codified culturally (in the case of reciprocation, for instance, it’s the Golden Rule) and sometimes it’s not. Regardless, we tend to assume that if A comes before B, B always comes after A, and there are no other explanations, A causes B.

Finally, the ***Gestaltists*** showed that perception itself was rule based. The **brain** tends to use certain rules like Proximity, Continuation, Similarity, Closure, and Constancy in making decisions about what the **mind** will experience. To a great extent, the rules that are followed are not learned. That’s probably why knowing how certain visual illusions work doesn’t make you stop seeing them. Visual illusions essentially take advantage of the way that the perceptual system works to make you see that which does not exist. This isn’t the only attempt to manipulate the rule-based system to limit effective thought (see, for example, high-pressure sales techniques and those who use superstition to manipulate others). In 1987, David Funder made a very good point about the errors that can be caused by artificial stimuli in his Psychological Bulletin article when he wrote that:

“An error is a judgment of an experimental stimulus that departs from a model of the judgment process. If this model is normative, then the error can be said to represent an incorrect judgment. A mistake, by contrast, is an incorrect judgment of a real-world stimulus and therefore more difficult to determine. Although errors can be highly informative about the process of judgment in general, they are not necessarily relevant to the content or accuracy of particular judgments, because errors in a laboratory may not be mistakes with respect to a broader, more realistic frame of reference and the processes that produce such errors might lead to correct decisions and adaptive outcomes in real life.”

That is to say, the errors demonstrated in the laboratory may not generalize to become actual mistakes in the real-world, where the rule-based system within us tends to follow the way that the real-world actually works. Think about it: the rules have evolved within us because they’ve been good approximations of how the world works at least since the Neolithic period. Funder may have written about social judgments, but the distinction is illuminating in a number of contexts.

**Slide 5**

**Slide Title:** Gestalt Psychology

**Slide Content**

* Kohler did a number of experiments with apes and found they had an “Ah Ha!” experience when problem-solving not directly dependent upon reward

**Narrator:** Wolfgang Kohler was probably one of the more interesting characters in Gestalt Psychology. Within the module, I’ve used his work to help explain some of the Gestaltist’s position. Kohler was working in the Canary Islands at one of the Prussian Academy of Science’s primate research facilities when World War One Began. He was marooned in the Canary Islands with nine chimpanzees that were kept in a large outdoor pen. He also had at his disposal a variety of objects including poles, sticks, and boxes with which the apes could play or experiment as they saw fit. He created a series of different problems for the chimps to solve. All of the problems had one thing in common: They involved obtaining food that was not directly accessible. The basic point was that Kohler’s apes more often than not had to take an indirect route to solve the problem.

He found that they had an “Ah Ha!” experience when problem solving (he called it “insight”). He observed “the appearance of a complete solution with reference to the whole layout of the problem.” This is obviously quite different than the simple trial-and-error learning of the behaviorist school. This excerpt from Kohler’s 1925 book *the Mentality of Apes* is very instructive of the problems Gestaltists had with the behavioral model of learning. Kohler wrote:

“Thorndike tested large numbers of dogs and cats in order to see what there is in the wonder-stories that are told about these domestic pets. The result was very unfavourable to the animals, and Thorndike came to the conclusion that, so far from ‘reasoning,’ they do not even associate images with perception, as humans do, but remain limited chiefly to the experiential linking of mere ‘impulses’ with perceptions. This investigation did what was necessary in a negative way at the time, but, as is now being shown (also in America), it went a little too far. The tests were based upon those animal stories, and consequently were made so difficult that the result was bound to fall out badly; under the influence of the animals’ failures in these tests, Thorndike then drew generalizations about their capacities, which do not follow from those difficult experiments. However stupid a dog may seem compared to a chimpanzee, we suggest that in such simple cases as have just been described, a closer investigation would be desirable.

Regarding their principle, I must make a further objection to Thorndike’s experiments. They were designed as intelligence tests of the same type as our own (insight or not?), and ought therefore, to have conformed to the same general conditions, and, above all, to have been arranged so as to be completely visible to the animals. For if essential portions of the experimental apparatus cannot be seen by the animals, how can they use their intelligence faculties in tackling the situation? It is somewhat astonishing to find that (in Thorndike’s experiment) cats and dogs were frequently placed in cages containing the extreme end only of one or the other mechanism, or allowing a view of ropes or other parts of the mechanism, but from which a survey over the whole arrangement was not possible. The task for the animal was to let itself out of the cage by pulling or pressing the accessible part of the mechanism; then—the cage door would open of itself. Thorndike also gives an account of experiments in which the animals were let out of their cages if they scratched or licked themselves. He contrasts these experiments with those involving the employment of any mechanical contrivance, as the former apparently imply no direct connection between cause and effect; but the causation is far from apparent even in the mechanistic experiments.”

Of course, the Gestaltists weren’t the only ones to have problems with the simple trial-and-error learning of the Behaviorists. The evolutionary psychologists would argue that certain cognitive and behavioral tendencies are highly heritable. Noam Chomksy, probably the most influential linguist of the 20th century, wrote a couple of scathing criticisms of BF Skinner’s books *Verbal Behavior* and *Beyond Freedom and Dignity*. They are readily available with a simple Google search for those of you who want to significantly increase your understanding of the case against Behaviorism. Use the search terms Noam Chomsky Skinner and they should both be available on the first results page.

**Slide 6**

**Slide Title:** Time to Test Your Own Ability to Solve Problems Indirectly

**Slide Content**

A 200 pound man has two sons. Each of his sons weighs 100 pounds. All three of them need to cross a river with a very swift current. Their tiny rowboat has a maximum capacity of 200 pounds without sinking and causing its occupants to drown. None of them can swim. How do they cross the river?

**Narrator:** This presentation ends with a problem that tests your ability to solve problems indirectly. Basically, this is a problem that may require you to temporarily break away from the tendency to think in a direct linear fashion. The solution will be provided on the next slide, so don’t advance until you have a solution of your own in mind or until you are convinced that you are stumped.

Here’s the problem:

A 200 pound man has two sons. Each of his sons weighs 100 pounds. All three of them need to cross a river with a very swift current. Their tiny rowboat has a maximum capacity of 200 pounds without sinking and causing its occupants to drown. None of them can swim. How do they cross the river?

**Slide 7**

**Slide Title:** Solution

**Slide Content**

* The two sons cross the river together first.
* One of the sons returns to the other side where their father waits.
* The father crosses over, and the other son returns to the original side where his brother waits.
* Both sons then cross over to the other side to join their father.

**Narrator:** The solution is relatively simple. The two sons cross the river together first. Then, one of the sons returns to the other side where they’re father waits. The son gets out and the father crosses over alone. The other son returns to the original side where his brother waits. Both sons then cross over to the other side to join their father.

Finally, in frustration they curse loudly and sink the boat in their anger. Later, they buy another boat with a higher weight capacity and dad loses a significant amount of weight learning to swim. Well, maybe not that last part, but you get the gist of it!

**Slide 8**

End of presentation