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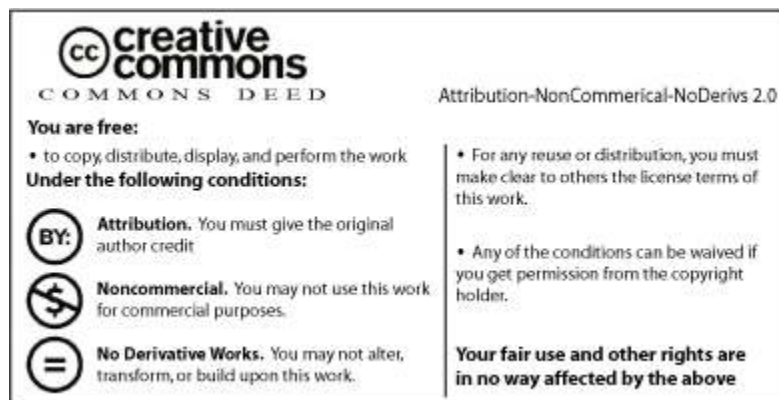
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**Theories of Learning:
Behaviorism**

Transcription of Audio Segment



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Stanton Wortham: When you think about learning then one of the things you need to think about is that we have several layers of action and beliefs that are relevant to learning things and how it is that we go about designing learning? They are the actual practices that we do when we try to help somebody learn and we teach them, we educate them and we do that in various ways, and those practices contain assumptions about what it is we think learning is? So, when you educate somebody in a classroom or in a conversation or giving them some sort of blocks and letting them go try to learn something that you are assuming things about what it is that learning is because this is an appropriate sort of forum to help someone learn. Those sets of beliefs what I want to talk about today is about how the beliefs that are implicit usually in the practices of learning that you engage in rest on even deeper beliefs, they rest on more basic accounts of what learning is or what it is that learning is overall. What appropriate theory would be for making sense of what learning is? And those conceptions of learning actually rest on conceptions of human nature, they rest on conceptions of what people are like because our accounts of how people learn are based on our accounts of what people are like, and there are very different views of what people are fundamentally like and those different views connect to different theories of learning and it makes a difference I think, what it is that you think learning is about because when you go about building a practice of learning you are tacitly or explicitly building on these theories about learning and about human nature. When you build on those sorts of theories, it's both a liability because if you don't understand which theories you are taking for granted, you are sometimes doing things you don't want to be doing but it's also an opportunity because if you understand what theories, your practices of learning are based on, then you can also adjust them because you can think about, maybe I have the wrong theory, maybe I'd like to change what it is that I'm doing, based on a number of theory, a different theory, one that I find more plausible which would then yield a different practice of learning.

So, for today, I wanted to go over those basic conceptions. The first thing that I wanted to do was just review several basic accounts of what learning is that underline most of the practices that we engage in, in educational institutions and corporations and other sorts of organizations when we try to help people learn and after going over those, what I wanted to do was raise some basic questions because it turns out that these fundamental conceptions of learning are not fully compatible with each other that they involve different assumptions about what learning is and what human nature is and it seems as if you can't hold two of them at the same time, that's what it looks like at first.

So, I want to bring us to the point of struggling with these questions in the sense that if you take them seriously, it's hard to maintain two of these three positions not to mention all three at once but at the same time, all three are quite appealing, they all seem reasonable and I think that we take them for granted at different times and different places. So, I want to struggle with that a little bit and then I want to talk a little bit with you guys about how these conceptions of learning apply to workplace learning situations, things that you have experienced or that you have heard about those experience saying that take for granted various of these assumptions.

Finally, I want to see if I can encourage you all to develop your own accounts of what it is that your own personal approach to learning would be whether you think one of the other of these accounts is really the right one to go with or whether you think there is some way to combine them and if so, what that combination would look like?

So, that's the road map of what it is that we are up to, and now here is an account of the different approaches to learning that I want to go through. You could cut this terrain in many ways that there are various different theories of what learning is like and we could have chosen different basic approaches, but I'm just using three, the Behaviorist, the Cognitivist, and the Sociocultural, which are basic accounts that

crop up in many places. They summarize a more complicated domain, but for our purposes here, they are used like heuristics to try to make sense.

Behaviorism, as you probably know, has to do with identifying learning objectives and reinforcing in the kinds of behavior that you want. So, learning for behaviorism involves shaping the learner's behavior to get the outcome that the teacher or the educator wants to have happen and providing reinforcements so that the person does it again or punishments so that the person doesn't do it again if they are doing the wrong things.

Cognitivism has to do with people's own internal representations. The notion is that, that people have views of the world and those views of the world are built as concepts or theories or accounts or something that are inside their heads and when they make sense of the world they build new representations and those representations are crucial in order to help someone learn. Learning is essentially helping someone build new representations and the teacher in that case has a little bit less control because the behaviorist teacher can shape behavior through reinforcement, but a cognitivist teacher, he can't insert something into someone's head. So, it involves a little more indirect ways of trying to teach.

Then finally, there's a position I'm calling Sociocultural which has to do not just with individuals. The notion is that learning is something that takes place across systems that include individuals but they also include other people and they include objects and tools of various sorts, special layout of task settings and so forth and sociocultural approach is to learn and shift the focus from an individual learner to a larger system that's involved in the learning, and in some ways, they can be quite radical, but that's the third approach that I've decided to organize the remarks on today.

So, what I'd like to do is, I would like to just go through each of those. I'd like to give a brief review of each of those approaches to learning,

talk a little bit about how it would underlie different educational approaches, different approaches to helping people learn in corporations and in other settings, and then after doing that, I want to ask some questions about how it is that these things seem to make fundamentally different kinds of assumptions.

So, to start with Behaviorism that Behaviorism assumes that the learning process involves an organism and an environment. So, organisms, all of us, according to behaviorist approaches, as well as animals find ourselves in different environments and those environments have variable conditions in them. So, different things are happening out there in the world whether that world be a classroom or whether it be walking across the street or whatever kind of environment we find ourselves in, and the way that we learn is that our behavior varies, sometimes we vary it deliberately and sometimes it happens by accident and when we vary our behavior, different things happen.

So, the classic studies with pigeons in boxes pecking disks for food that they would light the disk up and if it was green and the pigeon pecked it, food would come out and if it was red and the pigeon pecked it, it would get a shock or nothing would come out. So, with the pigeon within an environment and that was meant to be a very simple representation of all of our lives that we find ourselves in an environment we do something in response to the environment and something happens, sometimes something good, sometimes something bad, sometimes nothing and then learning is the process of changing our behavior so that we get more good stuff and less bad stuff. That's what learning is fundamentally about for the behaviorists. So, the environment if you have an educator involved, the educator can actually deliberately shape behavior in order to get desired outcomes more quickly. Presumably, a person overtime would figure something out on his or her own but according to the behaviorists, informal education is about helping to shape people's behavior quickly to get the outcomes that you want, to get them to behave in ways that would be maximally effective. So, if that's a

typical school, it's learning certain kinds of content, it's an organization, it's learning certain sorts of behaviors and approaches that you want them to be able to do so that they can do their job better and from the behaviorist's point of view, the behavior is selected by the environment. It's important to see that for behaviorism the individual organism doesn't control the ultimate outcomes because the outcomes are shaped by the environment.

It's wrong to think that the organism is passive or the learner is passive, sometimes people mistake. B. F. Skinner's behaviorism as being an account of a passive learner, and that's really not so because you can see the pigeons in the box were doing stuff and if the pigeon didn't do anything, if it just sat there, no learning will take place, the pigeon has control over what it does and when it does it initially. So, the pigeon is active and the learner is active. The learner is doing various things but the educator is shaping those behaviors. So, the educator tries to set up an environment to get the learner to do something right in the direction the educator wants. The educator has to have a goal in mind. The educator has no idea where he or she wants the learner to go; it's no good because there's just sort of random moving around in terms of doing different things.

The educator has to have a plan, a target and the educator has to take what a learner does and shape it. So, with the pigeons, B. F. Skinner taught pigeons to play Ping Pong, really and he taught them to play Ping Pong by virtue of first he reinforced things that were very small steps in the direction of being able to play Ping Pong, but by shaping overtime, so at first, it just had to lift it's wing up and it got something for it but after a while, it wouldn't any longer get anything in order to just lift it's wing up. It had to do the next step in the process and so forth and so on.

So, this is how education takes place as the educator identifies a goal, shapes behavior at first and little steps toward the goal and later on more complex behaviors are required in order to get the reinforcement and eventually the

person or pigeon does what you want and then you go on to the next task, you go on to the next skill.

So, in the academic world Behaviorism has a bad name. Behaviorism is not easy and so people don't talk about it much anymore. In the corporate world, behaviorism is still okay that people still think reinforcements, rewards and punishments are reasonable but whatever world you're working in, behaviorism somewhat has a ring to it, or taste to it, there is this notion that it's a little bit old, that was a long time ago and in terms of academic theories, the hegemony of behaviors ended over 40 years ago now.

The behaviorism in theory although it maybe on the outs, in practice it is alive and well. And it's alive and well not just out in the world but in academia as well. We are giving people grades; we are smiling and nodding our heads when people give good answers in tests. We do all sorts of things to reinforce our students and we are shaping their behaviors to try to do what we want them to do, and so, reinforcement is pervasive and many organizations, institutions are built on the reinforcement. Legal institutions are built on various sorts of rewards and punishments. Parenting is built on many kinds of rewards and punishment. So, rewards and punishments although you may hear sometimes that they are out, they are not really out. They are everywhere and behaviorism seems to work. If you have control over reasonable rewards and reinforcements, you seem to be able to get the kinds of behaviors that you want in many circumstances because people respond to reinforcements. They like to get rewards and they don't like to get punished and so you can often shape what it is that they are going to do.

Behaviorism is similar. It belongs to a family of theories that natural selection is another member of this family where what you have is an apparently intelligent behavior that's generated by an unintelligent mechanism. So, we think of ourselves as being smart in the sense that I'm thinking of all sorts of great stuff

to do. So, when I go back to my office, I'm going to be able to have all these great plans about the new things I'm going to accomplish and the new book I'm going to write and so forth and so on. According to behaviorists, I'm really kidding myself because the reason why I exhibit intelligent behavior is because the environment has shaped my reactions. Humans are very complex. We exhibit very complex behaviors and what that means is, we're very attuned to new answers of the context of the environment and we know the right kind of thing to do in the right kind of context because we have done it a lot before and or we've seen somebody else do it and so, all my complicated self-congratulation about how intelligent I am really is nothing more than just my recognizing that in fact I've observed a lot of context. I have generated various interesting responses in different contexts, I've seen which ones have worked and now I have an idea about how this reaction is going to be even better than that other reaction. It's not at all some 'De Novo' genius idea that's popped into my head, it's the outcome of a very long process of the environment reinforcing certain things showing that they work and showing that other things don't work.

Behaviorism is like various other theories, for instance, the theory of Natural Selection in assuming that apparently intelligent behavior can be explained by an unintelligent mechanism and so with natural selection we have various organisms doing stuff in the environment based on their genetic capacities and the ones that are successfully adapted to the environment, succeed, they reproduce, and they have children with the same traits and the ones that aren't, die off and it looks over a long period of time as if somebody must have designed the whole system but from the perspective of the theory of natural selection, nobody designed the whole system. It's just the adaptation of organisms to an environment or the lack of adaptation leave them to die off when they are not fit and to survive when they are fit, and therefore, in the end you look as everybody is perfectly adapted, when in fact,

that was just a product of long periods of time in this natural selection system.

Behaviorism works the same way that an organism exhibits various kinds of behaviors and you can think about it as natural selection of behaviors. The organism exhibits various behaviors in this context and the ones that are productive, continue because they get reinforced and the ones that are unproductive, get punished or have no response, and so the organism doesn't bother to do them anymore, and given that kind of behavior overtime, it looks as if the organism is really smart, because it walks into a context and it does exactly the right thing to get food or to get attention or whatever it is that it's getting and it's not that the organism is really, really smart. It's that overtime the environment has shaped the behavior; has reinforced things that are appropriate, punished things that are inappropriate and overtime the organism ends up doing things that look as if they are perfectly adapted to that particular context. Complicated organisms like humans are capable of doing that across context so they try things in new context but they saw it work in another context. So, they look as if they are extremely intelligent, but again, it's just the environment efficiently shaping the behavior of the organism. So that similarity between the theory of Natural Selection and the theory of Behaviorism is an important one. There are other theories; economic theories have the same character. In economics, the account goes that people do stuff because it meets their needs or their wants. People do things because they get something for it and as an interesting similarity across these kinds of theories.

So, when we look at the account of human nature that's underlying the theory of behaviorism, we see that humans are conceived not to have freewill. B. F. Skinner wrote a famous book called '*Beyond Freedom and Dignity*' and '*Beyond Freedom and Dignity*' was an argument that we humans think we are really very important. We think we are very intelligent, we think that we determine our own fates because we get to decide what to do and

then we get to go do it, and his point was that he understands why people like to think that about themselves but in fact, the truth is we are just like animals, that the environment shapes our behavior for very complicated animals, so we have complicated behaviors but it's still the same basic principle. The environment shapes the behavior so the pigeon does what it does in order to get food and whatever else the pigeon needs to survive and whatever the pigeon finds pleasurable.

Humans are exactly the same way. Much more complicated repertory of behaviors, more complicated set of things we find reinforcing, but it's fundamentally the same mechanism.

So, according to Behaviorism people really have no free will and Skinner was deliberately intending to puncture our sense of superiority. We as humans feel that we are qualitatively different from animals, we feel that we are some sort of special species, but from his point of view, we are not. We are just complicated animals and there really is no qualitative difference between us and them. You will actually find him talking about it in the history of scientific advance humans used to think that the earth was the center of the universe and we found out that wasn't true and we had some trouble accepting that. People got killed because they thought that at various points many centuries ago, but eventually we got over it and we used to think that the universe was designed with humans at the pinnacle and God created us to be the top of the heap forever perfect and now the theory of evolution tells us that that's just not true, that in fact we are just accidentally evolved as the species who at the moment is able to ruin things for everybody else, but we are not necessarily the pinnacle, because this is just one point in evolution and it could change overtime.

So, Skinner deliberately puts his theory in that history of scientists who said humans weren't perfect, weren't the center of the universe, weren't peak of evolution got pilloried for saying those things but it turns out they were right and I'm doing the same thing. Humans think that we

are much, much better than animals. We are qualitatively different. We are intelligent and they just respond to reinforcements: wrong. We are just like they are and he sort of enjoyed that kind of dig at people and their sense of things.

Another important aspect of Behaviorism and its conception of human nature is that people are basically selfish. So, the reason why organisms do stuff is because they get stuff for themselves and that's what life is about. Life is the constant pursuit of the dissatisfaction of wants. We want stuff, now humans want different things, we want to be able to pay attention to us, we want food, we want pleasure, but life is about satisfying wants and what people do is they do stuff to get wants satisfied. So, humans are selfish and we're instrumental. Our goal is always to get stuff that makes us feel good, stuff that we want and it may make us feel good for somebody else to feel good too. So, sometimes we do stuff to make other people feel good but that's still doing stuff to make us feel good because other people feeling good makes us feel good, and so that approach to human nature is relatively common. Again, Evolutionary Biology has the same notion that remember the book, '*The Selfish Gene*' the notion is that from a genetic point of view, the genes are out to propagate themselves, the organism wants its offspring to survive and that might not be nice from an ethical point of view but it's just life, that the reason we are here is because our ancestors survived and other things died off and that's good, from our point of view because we are still here. So, it seems from an ethical point of view not appropriate, but from the point of view of Behaviorism and Evolutionary Biology that's just the way it is.

This also fits with economic views which say that people are essentially out to get more stuff for themselves and you can explain people's behavior because they are out to get stuff for themselves and so from this point of view you get ethical theories that say stuff like greed is good because if people all pursue their own needs then we end up with the best possible system. Behaviorism fits in with that tradition.

Now, this does sound unappealing if you put it in extreme terms saying that people are basically selfish but it's a very powerful and widespread vision that when you talk to people and people say things like, well, it's just business and when it's business we have to do what's best for the business. I have had many relatives who say this to me, there is a distinction in between when you are talking to family, it's a family and when all of a sudden there is money involved, it's no longer a family. That you have to expect that people are going to do what's in their self-interest and if you don't, you're just naive, that's just an unreasonable things we expect out of people.

So, many of us in a lot of context think that people are basically selfish and they are going to do what's in their interest and for the rest of us to get all bent out of shape out of that is first of all fooling ourselves that we are not the same because in fact we are the same, and it's also just being unreasonable because that's the way nature is, that's the way human nature is. We are out to satisfy needs.

So, Behaviorism rests upon that kind of a conception of human nature not alone economics, evolutionary biology and other ways of thinking about people come to the same conclusion. That's Behaviorism.

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