

10 Things I Learned About The Phonological Loop

This is some cognitive psychology content. The phonological loop is a psychological construct.

1. Let me give you an example of when I use this in everyday life. If you've ever been a cashier you know that when you hand bills to someone, you always "call the bill" or name the denomination of the bill. Why do you do that? Again, if you've ever been a cashier then you know that there is nothing worse than someone saying, "Hey! I handed you a larger denomination than I actually handed you!" You can get into arguments, for example, if someone says they handed you a hundred and they just handed you a twenty. You're just kind of out of luck. But if you say the denomination out loud at least you both have heard the actual number called out.

2. What is the phonological loop? It's a few seconds capturing aural information- especially speech- that has both an active and passive component. The passive component is the aural component and the active component is a motor component related to speech production and also to gesturing. So the active, motor component is really interesting here (because it tells us a lot about our mind/body connection). Also, it's interesting to note that there is a sort of passive- or at least seemingly passive- component to the audio side of this (because it is involuntary).

3. This leads us to some interesting thoughts about what is free will? And where does free will come into the thinking process? So, in consciousness, you could say that the phonological loop helps us understand the choice in thinking. That we can choose to actively "play back" this sort of internal audio which *is* thinking.

4. Practical applications of understanding the phonological loop include things like limiting phone numbers to seven digits.

5. Phone numbers are limited to seven digits because the inner audio loop is too short. The idea is that it starts playing back over itself. That's why you can't make phone numbers longer.

6. In general, there are a lot of competing theories in the field of memory research, a lot of competing frameworks. And, in general, academia is plagued by people seeking professional fame more so than trying to actually further the science. A lot of times, this competition among constructs isn't really scientifically productive per se. I'm pulling the phonological loop out of one particular broader framework. I find theorizing about the loop itself to be really useful. A lot of cognitive psychology gets very deep in the weeds. I tend towards pragmatism: if it's too complicated and I can't find a practical application for it, I get frustrated.

7. The phonological loop has a "friend" that it's paired with in the broader framework called the visuospatial sketchpad. As you can imagine, this is the "seeing" counterpart to the aural function of the phonological loop.

8. I like the phonological loop because it's useful when you understand it. For example, go back to the cashier scenario. I'm putting the number into the other person's head and there's kind of nothing they can do about it. When I say something, they hear it. And they can choose not to actively process it but I've gotten in there on the automatic level. So that's the utility. You can see if you want to really force someone to think about something you have to give them the stimuli and then force that second controlled thinking process and make them think about it actively as well.

For example, I could say, "Hey! Okay! It's a 20!" And the guy could still say, "Oh wait, what did you say? 20? Did you say 10?" It's not enough to just access the other person's passive process. But if I say something like "So, twenty is your favorite number, huh?" then I am forcing an active process.

9. Related to the other cognition and memory research that I find useful is the finding that "silent rehearsal" or thinking to oneself silently improves cognitive performance. For example, you can improve memory for things. What are you really doing there? You are working with the phonological loop there.

10. The most interesting question with the phonological loop is the nature of its limits. Do these limits reflect the limits in our own thinking? The phonological loop is able to handle information for these limited bursts of a few seconds. What are the ramifications? What does that mean for what we know about thinking itself? Is there a limit to our thinking placed on us by the phonological loop? I think that's an interesting question.