**Written Text & Spoken Word Do Not Mix**

**Psychology**

**Dichotic Listening:**
When trying to listen to two simultaneous speakers, we can listen to and understand only one at a time - attempts to listen to both results in neither being understood.

*Note: This principle is also applicable to written text.*

Similarly, when trying to read and listen to a speaker, we can attend to and understand only one at a time - attempts to understand both results in neither being understood.

**Education**

**The Redundancy Principle:**
Students presented with either auditory or written forms of material often demonstrate more rapid and more accurate learning than those presented with both forms of material.

*Note: This principle indicates the importance of focusing on one mode of presentation to enhance learning.*

Students presented with a text-based teaching aid (PowerPoint) during an oral lecture often display a reduction in information retention and impaired exam performance.

**Neuroscience**

**This brain is READING WORDS**

**This brain is LISTENING TO WORDS**

Listening to and reading words relies largely on the same neural structures. This is why attempting to do both simultaneously is a difficult (often impossible) feat.

**Classroom Applications**

When utilizing PowerPoint, the chalkboard, or hand-outs during an oral lecture/lesson, avoid the inclusion of text as much as possible.

When designing a self-guided computer-based lecture/lesson, avoid including both oral and textual instructions (chose one or the other).

When distributing text-based hand-outs or lecture notes to students, try to do so at the end of the lecture/lesson (to avoid attempted reading during the oral presentation).

**Ideas and Future Questions...**

There is evidence that writing utilizes similar neural structures as reading and listening to oral speech. How might this impact note-taking during a lecture/lesson?