[Introduction]

[Summary]  
In response to Sweden’s education system changes to prioritize traditional teaching methods, Jarden Cooney Horvath, in his article, “The Neuroscience of Learning: Why Traditional Methods Work Best”, published in 2024, argues that traditional teaching methods are more effective than digital teaching methods. Horvath connects Sweden’s neuroscientific research with five main reasons to argue his stance. These reasons include the necessity for empathy to be present for effective learning, the importance of a solid knowledge base to have a creative presence in any task, the consequence of multitasking and the importance of undivided attention, the significance of spatial memory cues triggered by physical books rather than digital mediums of text, and the effectiveness of flashcards to facilitate strong memorization. The article ends with an explanation that digital tools have a place in education, but that the brain has specific processes that only traditional learning methods can effectively work with.

* necessity for empathy to be present for effective learning
* the importance of a solid knowledge base to have a creative presence in any task
* the consequence of multitasking and the importance of undivided attention
* the significance of spatial memory cues triggered by physical books rather than digital mediums of text
* the effectiveness of flashcards to facilitate strong memorization

[Response]

**Reasoning**

Horvath starts his first argument by mentioning the necessity for empathy to be present for effective learning. He lays out a clear discrepancy on the effectiveness of learning between human-to-human interactions and artificial intelligence-to-human interactions that Horvath sufficiently highlights. The main support, being that “it is now clear that oxytocin release can be triggered via purely psychological means” (Horvath, 2024), provides a segway into the specifics. The hormone oxytocin involved in the neural coupling phenomenon creates an impossible retort for the opposing argument as a digital tool will never have the biological requirements to produce the oxytocin. The point ends with the consequences of the lack of empathy in online learning programs causing “85 percent of tuition-free students and over 50 percent of fee-paying students” (Horvath, 2024) to never finish. The impossibility for digital tools to replicate empathy creates an irrefutable point toward the superiority of traditional teaching methods.   
  
Horvath continues with the importance of a solid knowledge base to have a creative presence in any task. He successfully challenges digital tools, such as AI, by explaining the necessity for memorization and learning. While AI can provide information quickly, Horvath explains that “Information is largely unusable until it is deeply encoded and organized within a person’s prior knowledge structures” (Horvath, 2024). He finishes the point with traditional learning methods being able to encode memories and solidify understanding to creatively solve issues.

To combat the dangers of digital tools in regards to the success of learning, Horvath discusses the consequences of multitasking and the importance of undivided attention. Horvath highlights a key function that the lateral prefrontal cortex does which provides excellent support against the use of digital tools while learning. He states, “Jumping between tasks […] incurs three significant costs” (Horvath, 2024) which are time, accuracy, and memory. He furthers by stating, “Multitasking is one of the worst things human beings can do for learning and memory” (Horvath, 2024). Due to the nature of technological devices giving easy access to distracting activities, allowing for the flipping between tasks, creates a clear example of how worse digital tools are for learning.

Additionally, Horvath uses books to exemplify the significance of spatial memory cues triggered by physical books rather than digital mediums of text. First, he leads us into an understanding of how the hippocampus works to encode “the spatial layout […] and our physical relationship” (Horvath, 2024) with objects. This gets connected to how spatial layout is essential to forming new memories. He then gives his strong example that we can relate to: “You may have noticed that after reading from physical media, you can typically recall that a particular passage of interest is ‘about halfway through the book on the bottom, right-hand page’”. (Horvath, 2024) As spatial memory is something we all have experienced as humans, this validates his argument for traditional learning tools, in this case physical books. Horvath increases the strength of his argument by revealing how digital tools cannot trigger a spatial cue to recall a memory because of the nature of digitized content being impermanent. This creates a clear contrast between the effectiveness of traditional tools and digital tools in his favour.

[Conclusion]

The arguments Horvath presented were strong **AND HIS ARGUMENTS WERE STRONGER THAN THE OPPOSING** but could have been stronger had there been more mention of the opposition.

[References]

Jared Cooney Horvath Ph.D., M.Ed. [Psychology Today]. (2024, July 2). 5 Ways to Help Your Brain Learn Better.