

Selective attention essay sample

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Selective attention is very important in our daily lives, but we are often unaware of how it really works. Therefore, it is worthy to explore its characteristics and functions, ways to control it and investigation methods.

Selective attention, also known as focused attention, mainly controls our awareness of particular categories or entities in our environment. When it is involved, we focus entirely on one stimulus and ignore others (Elizabeth, 2006). For instance, when we are working hard on an essay, even if external noises are present, we would not be aware of them. Selective attention can be explained by some components of the brains sensory system being more sensitive to detect particular categories of stimuli. For example, if a person is looking for changes in shapes, colours or movements of objects, there is increased activity in the portions of his visual cortex devoted to the analysis of shapes, colours or movements (Martin, et al., 2007). Different mechanisms serve to filter out irrelevant information and make us more responsive to particular stimuli. Ultimately, selective attention would sort out the information that should reach Short Term Memory and finally manipulate what is stored in Long-Term Memory (Elizabeth, 2005).

We can control selective attention automatically while hearing a loud noise, through instructions when we look in a specific direction or demands of a particular task like driving we are especially aware of other road users, pedestrians and road signs (Martin, et al., 2007).

One main reason selective attention is useful is that it acts as a gatekeeper that helps control the flow of information to brain mechanisms responsible

for conscious processing of information, which have limited capacity (Broadbent, 1958; Martin, et al., 2007).

Among the various ways to investigate selective attention, audition and vision are the most extensively researched senses. Lets begin with selective auditory attention. The dichotic listening task devised by Cherry (1953) was the first experiment to test selective attention. Participants were asked to listen to one out of two messages presented at the same time, one to each ear. Cherry placed headphones on his participants and presented recordings of different spoken messages to each ear. Ultimately, participants were asked to shadow the message presented to one ear, repeating back as quickly and accurately as possible what the voice was saying (Eysenck, 2005). Results revealed that subjects were only able to notice the physical aspects (e. g. gender) of speakers for the non-shadowed message but couldnt recognize the semantic aspects of it regardless of how many times the non-shadowed message was repeated (Cherry, 1953). This was an evidence for Broadbents Filter Theory, which assumed that attended information was selected early in the system with reference to its physical characteristics (Broadbent, 1958).

Moreover, the cocktail-party phenomenon was named by Cherry (1953) to describe the situation when people differentiate one voice from another. For instance, people would try to listen to the person opposite to them and ignore the cross-conversation of the other people near their left and right (Martin, et. al, 2007).

In addition, Posner et al. (1980) developed a cueing paradigm to demonstrate the role of attention in selectively transferring visual information into verbal short-term memory. Participants were asked to watch a video display screen manipulated by a computer as a small mark in the centre of the screen served as a fixation point for the participants gaze. They were shown a warning stimulus near the fixation point followed by a target stimulus, which was a letter displayed to either the left or the right of the fixation point.

The warning stimulus was composed of either an arrow pointing left or right or simply a plus sign. Arrows presented served as cues for participants to expect the letter to occur either to the right or to the left. The plus sign contained no spatial information and was therefore a neutral stimulus. As soon as the letter was detected, participants had to press a button. The results of the study revealed that selective attention could influence the detection of visual stimuli. If a stimulus occurred the way people expected it, it was perceived more quickly. On the contrary, a stimulus would be perceived more slowly if it occurred where we did not expect it (Posner et al., 1980).

Concerning selective visual attention, LaBerge (1983) devised an experiment to test the Zoom Lens Theory, which proposed that visual attention was like the beam of a spotlight adjustable to cover a large area in little detail or small focused area in greater detail (Heijden, 1992). LaBerge presented words with 5 letters requiring participants to either identify the middle letter, requiring a narrow attentional beam or identify the whole word, where a broad attentional beam was needed. A stimulus probe was <https://assignbuster.com/selective-attention-essay-sample/>

presented randomly in the place where one out of the five letters was located. Ultimately, it was found that the probe was more quickly found in the word than the letter identification task (LaBerge, 1983).

Furthermore, Treisman proposed that all basic features of a scene were processed rapidly in a parallel, automatic and pre-attentive way (Elizabeth, 2006). When more basic features were integrated, they would be processed more slowly in a serial and automatic manner, requiring conscious focus. To test the theory, Treisman & Gelade (1980) asked participants to visually search from a growing number of surrounding distracter items for either a single feature target item like a particular letter, or an integrated target item containing a combination of a particular letter and shape or even more features. Treisman & Gelade (1980) found that single feature items were spotted equally well which was unaffected by the number of distracter items, indicating parallel processing. On the contrary, integrated items were harder to detect with more distracter items, suggesting serial processing (Treisman & Gelade, 1980).

What exactly happened to unattended stimuli and whether selection occurs early or late are still unclear. Thus, it is desirable for more research on these areas to be conducted in the future to advance knowledge on selective attention (Elizabeth, 2006; Pashler, 1998).

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