

Attention - Definition and Affecting factors

Introduction

Attention is a complex cognitive function which is essential for human behaviour. It is an important mental process. Many of the mental processes, like imagination, learning and thinking are neither possible nor useful without attention. It is difficult to think about anything unless we concentrate our attention on it. Attention is a part of mental activity.

It was Wilhem Wundt, the father of modern psychology who introduced the study of attention to the field of psychology.

Attention

Attention is defined as the Act or state of applying the mind to something. It is the cognitive process of selectively concentrating on one thing or event by ignoring other things.

Attention can be referred as a selection process. To attend to an external event like sound, image, smell... or internal thoughts we have to maintain a certain level of awareness. When we attend to one stimulus, it is seen that we have removed our attention from other stimuli. Our mind concentrates and selects only one stimulus, which is best suited to it, for paying attention.



It has been noted that we pay more attention to stimuli that are meaningful or emotionally significant. Our motivational states whether we are Hungry or Thirsty- play important roles in attention. Repeated exposure may also increase attention to particular stimuli. Example, Prenatal auditory exposure explains why a four day old infant listens to the mother's voice by turning their head than to voice of other women. On the other hand exposure to constant stimulus can lead to habituation. When we are living in a home near to forest, first the sounds of birds and animals will be making us to attend to it often, but after a period of time we no longer perceive this voice. Our brain is adapted to this constant stimulus by turning it out.

Attention is a process that "encodes language input, keeps it active in working and short-term memory, and retrieves it from long-term memory" (Robinson, 2003, p. 631). Attention refers to focusing and processing information from our surroundings. It involves the cognitive resources to focus on the object. Attention varies from one situation to another.

Nature of Attention

The following are some of the nature of attention:

- Attention is a mental process.
- There can be no attention in the absence of interest.
- The thought of conscious life is impossible in the absence of attention.
- Attention creates readiness for performing a work.
- Attention is a selective process.

Characteristics of attention

- Attention is focusing consciousness on one object. One object is the focus of attention. All other objects are in the margin of attention.
- Attention is always changing. Attention is not a fixed state or power of mind. It is an activity and cannot be centred round any one object for a long time. Even though we may attend to the same object, for some time, Attention is shifted from one aspect of it to another.
- Attention increases the clarity of the object. When we pay our attention to an object we clearly perceive what it is.
- Attention is selective. We may attend to one object in preference to others. We may not draw attention to everything that comes in its way. Those objects which have some special advantages can draw attention and others are ignored, even when we pay attention.
- Attention is a state of preparedness where the muscles and sense organs get ready themselves for taking in information from various stimuli.
- Attention is cognitive, affective and conative. There are mainly three types of mental activity-knowing, feeling and willing. We must attend to a particular thing at first in order to know, feel or act. Attention is common to all these mental activities. The process of attention has all the three aspects of conscious life- knowing, feeling and willing.



- Attention is a psychomotor response that brings stimulation from the object which is in the focus of consciousness. When we listen to a lecture on the platform, we hear only the words of the speaker. We look at the platform and sit on the edge of our seats. There is a motor attitude of tenseness and also sense organ adjustments in retention. In case of visual attention, the eyes are focussed and directed which involve mental as well as motor adjustments.
- To attend to a particular thing means to be conscious of it more keenly and intensely than anything else.

Types of attention

Attention can be classified in different ways based on the stimuli or the conscious or unconscious effort of the person involved in the process of attention. One way of classifying attention is given below.

a) Selective attention

The act of focussing on a particular object for a period of time while simultaneously ignoring irrelevant information that is also occurring is called as selective attention. In this we block out certain features of our environment and focus on one particular feature. This occurs on a daily basis. Even though many things occur in our daily life, we select stimuli which are important to us. The degree to which one can use selective attention varies depending on the person and his ability to focus or concentrate. The distractions in the environment also affect Selective attention. Selective attention prevents us from being flooded with extraneous information. Examples are listening to a conversation in a noisy room, concentrating on the smell of the food than the shows in the television, when we are hungry.

b) Divided attention

This refers to paying attention to two things at a time. Talking over phone and doing cooking at the same time. It is the ability to process two or more stimuli or react to two or more different acts simultaneously. It can be referred to as multi-tasking. Basically, it refers to dividing our attention between two or more tasks. Even though this type of attention is thought of as the ability to focus on two or more stimuli or activities at the same time, it is humanly impossible to concentrate completely on two different tasks simultaneously because usually our brain can only process one task at a time. So we are really not “focused” on one task at a time, instead we are continuously alternating our attention between tasks. That is why it is so difficult and dangerous to text and drive or talk and drive. It is difficult to maintain attention and it also reduces the ability to remember.

To some extent we are able to use divided attention successfully because of muscle memory or habit. It helps us to perform two or more tasks simultaneously such as reading music notes and playing instruments, talking to a person while typing. However, in this situation we are really not focusing on hand positions when playing the instrument or concentrating on the individual acts of typing or driving. We are able to do the task without conscious effort or actually paying attention.

c) Sustained attention

It is the ability to focus on one specific task for a longer period of time without being distracted. i.e. to concentrate on a task, event or feature in our environment for a prolonged period of time. For example, when people are doing painting on a canvas they work with it for many hours or days without any distraction. This work goes on for a longer period. Listening to a lecture, playing video games, reading books are some of the examples of sustained attention. Sustained attention is not always constant. It can be slightly challenging. It can vary from one task to another, moreover we may have a small distraction while doing something for a longer period but the merit is that we can refocus on the same task.

Sustained attention is also related to attention span. It refers to continuously focusing on things happening rather than losing focus. Practice can increase the span of attention. Attention span is our ability to keep our mind focused on something through careful observing or listening. It can be just momentarily

such as turning around after hearing a loud noise, or it may be for a sustained period of time such as playing a video game. Attention span is a measure for how easily distracted a person is, and longer attention spans usually make it easier for people to complete tasks and remain organized. A person's attention span also affects social interactions; some people struggle to remain focused on conversations without becoming distracted.

A person's attention span varies with context and the type of task. Some people are able to concentrate longer on certain kinds of tasks, such as games, reading, or conversations, than they can focus on other types of tasks. Distraction-filled environments can decrease a person's attention span. People generally have shorter attention spans in loud, chaotic environments or when they are emotionally disturbed.



d) Executive attention

Executive attention refers to the attention that we use when we are making steps towards a particular end. It is associated with the planning and working to attain the goal and involves monitoring our progress in the act. It is used to describe one of the main components of a person's working memory. Executive attention is characterized by the ability to effectively block outside distractions while focusing on a single object or task. This could be explained with an example. When children play by constructing a structure out of the different toys or blocks available, they have to attend to the important parts needed for the construction like building connections, colours and complete the structure, at the same time ignoring the irrelevant parts. They plan and execute the job. In this situation, the planned behaviour selectively enhances the attention to a particular aspect and inhibits attention to things that are irrelevant. This type of executive functioning that guides the planned behaviour can be called as executive attention.

e) Alternating attention

One more type of attention can also be there namely alternating attention. In this type, we shift our focus of attention and move between different tasks having different cognitive needs. This involves alternating our attention back and forth between two different tasks that require the use of different areas of our brain. We often use this type of attention in our life. Best example is cooking from reading a recipe from a book or internet. We may use alternating attention in this situation. We read the recipe then, take the ingredients and perform cooking. In between when we have doubt again we read from the book and then cook. Here we are shifting our attention from one task to another and go back and forth.

Types of attention based on the level of Cognitive Regulation

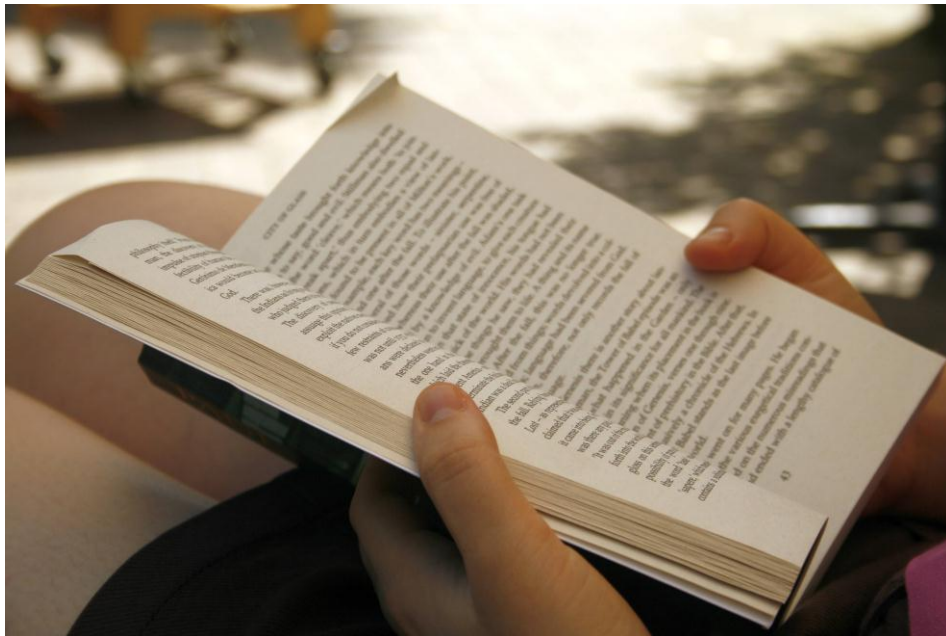
Based on level of cognitive regulation attention is divided into Involuntary, Voluntary, and Habitual attention.

1) Involuntary Attention:

At times the attention is diverted towards some other activity without any conscious effort, may be against the will of the individual. This is known as involuntary attention. For example, even though we may listen to a lecture with all interest, some loud noise outside the room may draw our attention towards it.

2) Voluntary Attention:

When an individual divert his attention towards a particular activity or situation deliberately, may not be diverted spontaneously, but after some struggle, it can be referred to as voluntary attention. For example, while sitting in a class, in order to pass the examination, the students divert their attention towards the lecture even if it is not interesting.



3) Habitual Attention:

In some situations, reaction to a stimulus or attending to a stimulus becomes a habit. So the individual will automatically divert his attention towards that stimulus. For example, a person interested in music will automatically be diverted towards the sound of music even when he is busily engaged in talking to somebody.

Factors affecting attention

There are several factors that can affect attention. Each of these factors can increase or decrease a person's attention to a certain object, person or concept. These could be classified under two broad categories namely external factors and internal factors.

External factors

Factors which are present outside the stimuli or situation refer to external factors. These can also be called as objective factors. This involves: motion, size, intensity, novelty, emotion, personal significance and social cues.

- a) Motion: Adults and children are more likely to pay attention to an object when there is motion involved. (Ormrod, 2008). Example: Children are more drawn to toys and objects that move such as toy cars, moving dolls.
- b) Size: Size has an effect on attention. Objects or text that is larger gain more attention than normal or small objects. At the same time very small objects too draws our attention when compared to normal size. When a dwarf man is seen, people will have a tendency to look at the person.
- c) Intensity: Intense objects attract our attention. Loud sound, bright objects and strong smell draws our attention easily.
- d) Contrast: Anything that is different from its surroundings is contrast. A black dust in white sugar draws more attention
- e) Novelty: New things attract people more. Students pay more attention to a new way of teaching or a new teacher. "Stimuli that are novel or unusual tend to draw people's attention." (Ormrod, 2008, p. 172)
- f) Emotion: Words with strong emotional connections seem to gain more attention than others.
- g) Personal Significance: A person is more likely to pay attention to a person or concept that has a personal significance to them. Example: If a person suffers from a disease, they are more likely to pay attention to a lecture about that disease, because they know how it could affect their lives.
- h) Social cues: "People are more likely to pay attention to things they see others looking at or reacting to (Ormrod, 2008, p. 173)". Example: When we see a crowd of people looking at something we will also try to find out what the group is reacting to, its Human curiosity.

Internal factors

Internal factors are concerned with the individual. Hence it is also called as subjective factors. The factors are:

- a) Interest: People always give more attention to stimuli or situation in which they are interested. Interesting things draws our attention immediately. A Singer may give more attention to songs when he travels instead of the beautiful buildings on the way, whereas an Architect may show more attention towards the Beautiful buildings. Attention and Interest are inter-connected and mutually dependent. They are like two sides of a coin. To pay attention to an object, a person or an activity is to have interest in them. Mc Dougall has very cogently said, "Interest is latent attention and attention is interest in action." The interest of a person plays a key role in determining one's attention. Each of our interests may be regarded as a powerful stimulus to draw our attention to a particular thing, person or an activity.



- b) Desire: People pay attention to things which they desire for. When we go to a shop we give more attention to materials that we desire to buy than to other materials.
- c) Motives: Basic motives are so powerful and are important in drawing attention. A person who is hungry will pay more attention to places where food is available.
- d) Goal: People will be paying attention to activities which will help them to achieve their goal. Students pay more attention to studies before examination as their goal is to pass/ excel in the examination
- e) Past experience: It is also a factor that influences attention. For example, the past experiences with certain persons make us think that they are sincere and we may give attention to their communication than to people who were not sincere to us.

Attention is one of the factors identified as significant for knowledge increase. It allows us to give priority to the unexpected. It also allows us for efficient filtering and exploration of the information,

We use attention to point awareness in two ways. We either see the whole picture directly, or we see it indirectly through the mind. Try it out. Listen to a sound—any sound. If you label it and interpret it, you are giving it attention through the mind, through thoughts. Now just hear it. There is no time-delay between hearing the sound and sensing. It's a sound in awareness. Attention in this case is direct, not through the filters of the mind.

This is the power of attention. Attention is the powerful spotlight of Awareness.

Summary

The importance of the role of attention is recognized not only by psychologists but also by academicians and people involved in knowledge management. Attention is needed to effectively deal with the huge amount of sensory information. The more we have sustained attention; it is likely that we could succeed in our life.