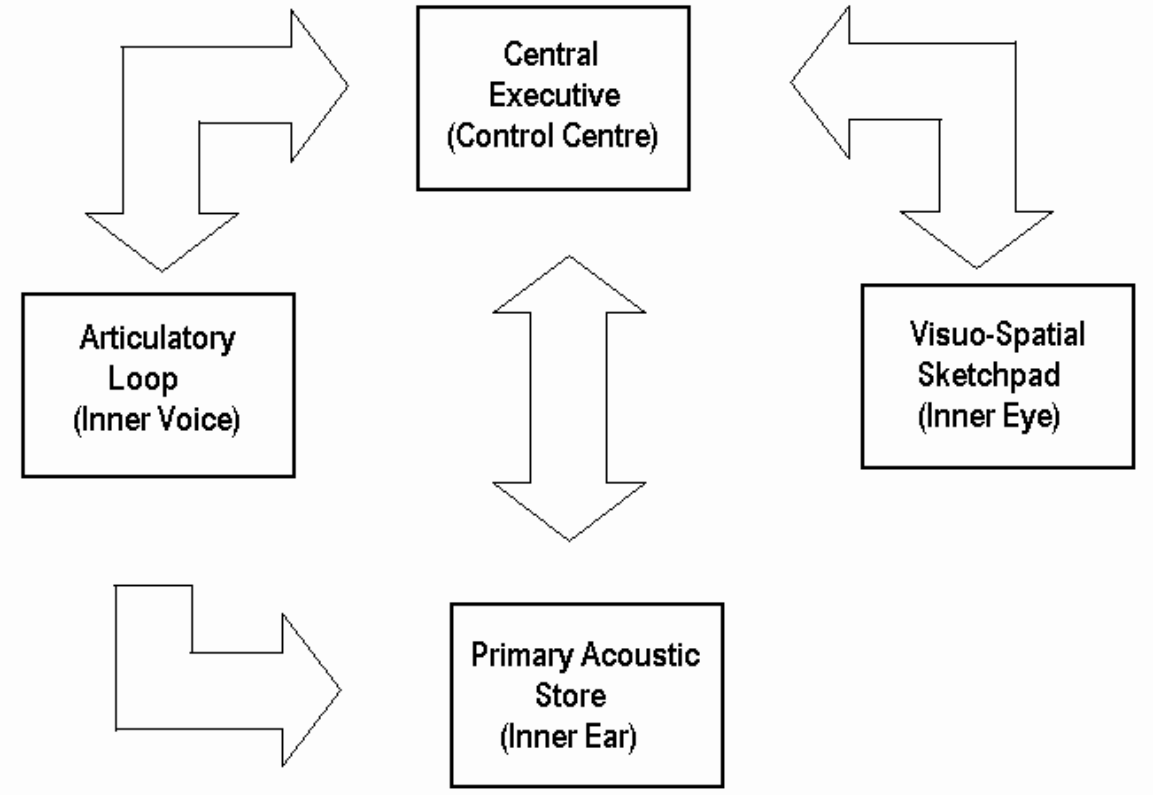
Describe and discuss the working model of memory.

The term memory is defined as the faculty of remembering. Many psychologists have suggested models into the way our memory works. A model is a representation on a smaller scale of how our brain registers the information so we can remember memories, general knowledge, the things we learn etc… that are important in life.



The model above is called the working memory model, it was suggested by Baddeley and Hitch in 1976. It shows the different processes of short-term memory. At the top of this model it shows the central executive (control centre) this is involved in all tasks which require attention. It has a limited capacity and can only store information briefly. It can process any information from any sensory modality, with any type of coding, and can send processing resources to any other of the components throughout this model. The Visuo-spatial scratchpad deals with the visual and/or spatial material, and information is represented as visual features such as size, shape and colour within our memory. It is only linked to the central executive. The Articulatory loop is a verbal rehearsal component which is used to hold the words which we are preparing to speak out loud. It deals with the articulation of our verbal material. The information is represented as it would be spoken. It is only connected with the central executive and the primary acoustic store. The primary acoustic store deals with what we hear (auditory information). It is linked with the articulatory loop as the information which is spoken to us can enter directly to put memory, or indirectly through the articulatory loop. Information is represented as sounds, such as pitch and amplitude. This memory store is also attached to the central executive.

Evidence which supports the working memory model is that it has given insight into the internal workings of short-term memory, but it also gives a conceptual guide for investigating the role of STM in tasks requiring attention. Research has investigated many areas of STM in subjects such as problem solving and other language tasks, such as reading. Investigations of articulatory suppressions in reading tasks have given mixed results, for example; suppression sometimes affects performance a lot, but at other times less so. A Psychologist names Levy conducted a study in 1978 to investigate the effects of articulatory suppression of participants' comprehension of written material, she found that articulatory suppression did not affect participants' ability to remember the general idea or meaning of a sentence, but it did affect their ability to remember the precise wording of these sentences. So it would appear that the articulatory-loop is not essential for the extraction of meaning in reading, but is involved in word for word recall. Evidence would also suggest that we often resort to the articulatory-loop when the central executive becomes overloaded. Although the articulatory-loop is very useful at preserving the order in which verbal items are processed in word for word recall, although articulation is not an essential part of the reading process. The articulatory-loop is a back up system which can be used if reading becomes difficult. If reading is straightforward, visual information may be used directly without the use of the articulatory-loop.

Critical evidence on the working model of memory is that the central executive, which is the component in which we know the least amount of information is in fact the most important part of this model. It has a limited capacity, but no psychologists have yet been able to discover what this limit is. Richardson (1984) argues that there are problems in specifying the precise functions of the central executive, he also points out that the term 'central executive' is in itself vague, and can be used to describe any kind of results. So it is difficult to falsify the model. Another psychologist named Baddeley (1981) argues that one research task is to identify as many specific processing mechanisms as possible, which is also the same when talking about the primary acoustic store and break down the central executive even more. If this argument is accepted then the central executive is the area of STM which has not yet been explained fully.

There are many strengths to this working model of memory, some of these being that the working model of memory is concerned with both active processing and the brief storage of information. Therefore it is relevant to such activities as mental arithmetic, verbal reasoning and comprehension as well as other short-term memory tasks such as remembering phone numbers. The working memory model also views verbal rehearsal as an optional process occurring within the articulatory-loop. It also provides a useful framework for investigating the role of STM in tasks involving attention, such as problem solving and reading.

Also along with the strengths of the working model of memory, many weaknesses have also been given, some of these being; the component in which least in known about is the most important (the central executive) Also the exact capacity of this component is not known and there are problems in specifying the exact functions of this component. A weakness which has been suggested that involves the whole of the working memory model is that any one component is likely to be involved in a wide variety of tasks and not just a main function. It also does not take into account the changes that can be made within the STM through time or practise of information. The research carried out to prove this model was not taken into consideration of the environment in which it was being carried out, so it is not ecologically valid. It also failed to include or explain how information passes into long-term memory.

The working memory model is an advance over the multi-store model of memory, which was suggested by Atkinson and Shiffrin in 1968. It accounts for many research findings which cannot be

explained by the multi-store model. The working memory model also views verbal rehearsal as an optional process occurring within the articulatory-loop, this is much more realistic than the multi-store model in which verbal rehearsal is of central importance. From the research carried out to propose the working memory model, the results showed that there are different ways of dealing with different forms of information. Also the multi-store model of memory is too basic for the subject in which it is dealing with, in that memory is a very complex thing, and can not be explained by three simple boxes, but there must be more to it. That is why the working model of memory was produced. Although this also cannot explain the full extent of out memory.

Based on the evidence which I have collected and provided throughout this essay, the working model of memory provides the basic categories and components to which our memory uses to use and store information, but it is also to basic to describe memory in full and there is definitely room for improvement. In that all of the weaknesses need to be modified and the central executive needs to be explained and proved more fully for this theory to be believable.