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| **Learning Table 4: The Working Memory Model** | | | | | |
| The WMM replaces the concept of a unitary STM. It proposes a multi-component, flexible system concerned with active processing. | | | | | |
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| **The Central Executive**  The function of the central executive is to direct attention to particular tasks, determining at any time how ‘resources’ are allocated to tasks. The resources are the three slave systems. Data arrives in from the senses or from LTM. The central executive has a **very limited capacity**; in other words it can’t attend to too many things at once. | **The Phonological Loop**  The **capacity of this loop is believed to be two seconds worth of what you can say**. The phonological loop deals with auditory information (**coding is acoustic**) and preserves the order of information. Baddeley (1986) further subdivided this loop into:   * + The Phonological Store – hold the words you hear, like an inner ear.   + The articulatory control system – used for words that are heard or seen, these words are silently repeated (looped) like maintenance rehearsal. Also known as the inner voice. | | **The Visuo – Spatial Sketchpad**  The VSS stores visual and/or spatial information when required. For example, if you are asked to work out how many windows there are on your house you would visualise it. It has a **limited capacity of about 3 to 4 objects**. It is subdivided into:   * The visual cache which stores visual data * The inner scribe which records the arrangement of objects in the visual field. | | **Episodic Buffer**  Baddeley (2000) added this slave system because he realised the model needed a general store. The phonological loop and visuo-spatial sketchpad deal with processing temporary storage and specific kinds of information. The central executive has no storage capacity; so there was nowhere to hold information that relates to both visual and acoustic information. The episodic buffer is an extra storage system that has, in common with all working memory units, **limited capacity of four chunks**. The episodic buffer integrates information from the central executive, the phonological loop, the visuo-spatial sketchpad and from long term memory. |
| **Evaluation of the WMM (AO3)** | | | | | |
| **Clinical Evidence**  P: One strength of the WMM is that there is clinical evidence to support it.  E: For example Shallice and Warrington’s (1970) case study of patient KF who suffered brain damage shows that KF had poor STM ability for verbal info but could process visual info normally presented visually i.e. he could recall letters and digits but had difficulty with sounds.  E: This supports the existence of a separate visual and acoustic memory store as it suggests that the phonological loop had been damaged but that other areas of his memory remained intact.  L: As a result we the credibility of the WMM is increased. | | **Support for Dual-Task Performance**  P: One strength of the WMM and the suggestion of a dual-task performance is that there is supportive empirical evidence.  E: For example, Baddeley et al. (1975) showed that PPs had more difficulty doing two visual tasks (e.g. tracking a light and describing the letter F) than doing both a visual and verbal task at the same time.  E: This is a strength because it suggests that both visual tasks are competing for the same slave system whereas when doing a verbal and visual task simultaneously, there is no competition. This means there must be a separate slave system (the VSS) that processes visual input.  L: Therefore the credibility of the WMM as a model of memory is increased. | | **Lack of Clarity over the Central Executive**  P: One issue with the WMM is that cognitive psychologists suggest that the central executive is unsatisfactory and doesn’t really explain anything.  E: For example, Baddeley (2003) himself recognised that “the CE is the most important but the least understood component of the working memory” suggesting even he doesn’t know that much about it and its existence.  E: This is an issue because if we don’t know about it, how can we assume we know its role. The central executive needs to be more clearly specified than just being simply ‘attention’. Some psychologists suggest that it may consist of separate components itself.  L: As a result, the most important aspect of the model hasn’t been explained fully which reduces credibility of the WMM overall. | |