The working memory model (analysis and application)

Which components of WM are used in the following situations?

1. Remembering a new telephone number, a PIN number, web address or a vehicle registration number while we are trying to find a pen and paper to write it down or to use it in some other way;

2. Following spoken directions such as 'Go straight over at the roundabout, take the second left and the building is on the right opposite the church';

3. Calculating how much the bill will be at the supermarket checkout for the items we have in our basket;

4. Remembering the unfamiliar foreign name of a person who has just been introduced to you for long enough to enable you to introduce them to someone else.

(Source: Gathercole & Alloway, 2007)

WM runs into problems when two tasks compete for the same component. Which components of working memory are involved in these situations? Is a processing conflict likely to occur that will affect performance of one or more of the tasks?

Siobhan is trying to learn a poem for her English exam. She is listening to orchestral music while she does so.

Cara is also trying to learn the poem, for the same exam. Cara is listening to rap while she does so.

Mairead is playing Tetris on her phone when her younger sister asks her the answer to the sum 30 + 7. A while later her sister comes back and asks her the answer to 48 x 23.