**Appendix**

Here is the complete version of paragraph two, illustrating poor order and connection within a paragraph:

Children were presented with two identical glasses of water – one of which is then poured into a shorter but wider container, thereby resulting in the water level appearing less high within that container than the one which remained in the original glass. Pre-operational children (under 7 years of age) performed less well – believing that these superficial changes meant that there were fundamental differences in the volume of water or the number of items – than those who entered (and subsequently mastered) the concrete operational stage (ages 7–12). The conservation task was designed to measure whether children would be able to understand that certain properties remain stable despite superficial changes in appearance. Children were presented with the same number of items (such as coins, sweets or buttons) arranged in two rows, which first occupy the same width and then are adjusted so that one row – which retains the same number of items – is widened (with greater spaces between the items) than the other.

Here are the complete reader’s comments on two samples of writing (Piaget):

The information processing approach argues that younger children fail at this conservation task. *<Just a minute – I thought we would get Piaget’s interpretation of his experiments first before the accounts that critiqued and challenged his interpretations? Also, I would prefer to see named citations rather than vague reference to ‘The information processing approach’.>* They fail because of limited processing capacity. They fail because of biological constraints. There are upper limits to the processing speeds for different ages. They focus on only one aspect. They have limits in working memory. Case (1998). That is why older children are more successful. *<This feels very staccato – the – sentences – are – not – linked. It’s almost like reading Morse code. Why not form sentences that combine these fragments to create more cohesion? Also, the citation (Case, 1998) should be integrated into the writing, for example ‘Case (1998) argues that ...’.>*

Coming back to Piaget, *<This ‘coming back to …’ is usually an indication that the structure should be rearranged. Why not have Piaget’s account for his findings right after his empirical findings are outlined?>* he argues from a constructivist perspective. Younger children cannot complete the conservation task. They are at a different stage of cognitive development. Centration is the problem. *<There are fragmented pieces here again, couldn’t a sentence combine Piaget’s constructivist perspective, younger children’s failure and being at a different stage of cognitive development?>* Younger children only focus on one aspect, they do not take into account the height *and* width of a liquid when comparing volume, for example. As children develop, they are able to perform mental operations on, or transform, the physical stimuli they see and reverse these processes to understand that the volume or number of the item being considered has not changed despite a manipulation of their appearance. *<Some good understanding is present here, though the concept of centration could be linked to the observation that younger children might only focus on one aspect.>*

The way in which the experiment is conducted can affect the results as well. If children are told that the naughty teddy has changed things, then they will answer differently. That proves that the experiment was flawed. Donaldson and McGarrigle (1974) proved this point. *<A good idea is touched on here, although it might be better placed either before or after the development of the contrast between Piaget’s account and that of information-processing theorists. The observations made have potential, but could be put in a much more sophisticated way, avoiding reference to ‘that proves it’ types of claim and linking ideas within and across sentences to avoid a fragmented feel.>* When the ‘naughty teddy’ was introduced and appeared to mix up the physical stimuli being asked about, children were more likely to believe that the volume or numbers were the same. They knew that the teddy had made things look different. They knew that really things were the same. *<It looks like ‘naughty teddy’ has been at work in this paragraph too – someone needs to put the sentences back in the right order! It is probably worth very briefly outlining what Donaldson and McGarrigle did and what they found, and then draw the implications from it. This should be done very succinctly and I would only recommend doing it if it really can be used to directly address the essay question – that is, it needs to have some implications for thinking about constructivist and information-processing accounts for why younger children fail at the conservation task. It probably can be made relevant, but making that connection is a job for the writer, not the reader.>*

Next, information processing argues that social aspects can be important as well. Scaffolding can help (Kail, 2000). *<Besides its brevity, this paragraph appears to be out of order in terms of content. This content should be positioned alongside the coverage of the information-processing approach. In addition to this, any paragraph which starts with ‘next’ conveys a sense of listing rather than linking – your writing needs to show the reader how the points that you refer to relate to each other.>*

Here is sample two, with the reader’s thoughts:

Piaget developed a constructivist account for the findings arising from his conservation experiments. Piaget emphasised *<Starting both sentences with ‘Piaget’ runs the risk of appearing a bit list-like. Something like this would work better: ‘Central to Piaget’s theory was his emphasis on…’.>* the limits in terms of how younger children think about the stimuli that they were presented with – key to this is the concept of *centration* – they are only able to focus on one aspect of the stimuli – for example, just the height (but not the width) of the water in the two containers, or the total width (but not the separating spaces) of the coins laid out in front of them. *<A lot of good understanding is present, but this sentence is on the long side and could be effectively split. One way to do this is to have one sentence referring to and defining ‘centration’ and a second one providing an example of it.>*

For Piaget, pre-operational children (under the age of 7) are at a different stage of development from children who enter the concrete operational stage (7–12). Children at the concrete operational stage are increasingly able to perform mental operations on, or transform, the physical stimuli that they see and to (mentally) reverse these processes. It is, according to Piaget, this cognitive understanding that enables children at the concrete operational stage to realise that the volume or number of the item being considered has not changed despite a manipulation of their appearance. *<This very briefly conveys an understanding of what Piaget found concerning conservation task performance and how Piaget made sense of those findings. In an expanded sample of this writing, it might be expected that there would be more detail given in terms of what Piaget did, what he found and how he interpreted those findings. However, rather than conveying a sense of fragmentation, these sentences cohere to some extent.>*

The information processing approach, by contrast, *<This first clause positions what is to be addressed in this paragraph in relation to what has been addressed in the preceding one – in this case setting it up as a contrast to Piaget’s constructivist approach.>* offers a perspective that emphasises limitations in *processing capacity* – such as working memory and processing speed – as key to understanding why younger children fail at conservation tasks. *<Here there is a nice sense of how the approach that is now being introduced is distinctive from the constructivist approach considered in the previous paragraph.>* Case (1998) argues that it is these processing limitations – partly due to biological constraints regarding processing speeds for younger children – that mean that children are not able to solve the conservation tasks. *<A relevant citation is used to provide a greater level of specificity regarding aspects of the information-processing account. A generic sense of the information-processing approach in the previous sentences is followed here with brief details concerning Case’s specific stance.>* Others adopting an information-processing perspective support the idea of biological constraints yet also note the importance of social factors. Kail (2000), for example, notes that task performance can be improved with external scaffolding as this can help to direct the child’s attention as they attempt to solve tasks that are on the cusp of their ability. <*Here there is a nice contrast in terms of the emphasis of different information processing approaches. Kail (2000) is introduced as emphasising external scaffolding. Note that the sentence before mentioning Kail had to do a quite delicate job of introducing Kail as both aligned with and introducing a different emphasis from the previously cited researcher, Case (1998).>*