Questions from the first half of the feedback slides

1. What is the difference between task-intrinsic, and task-extrinsic feedback? Give an example of each.

Task intrinsic is just sensory feedback. That which is available as you do the task, with no-one else’s help. Task-extrinsic is extra, or added information (by another person, a camera, a video, a tape recorder, and so on).

2. What is the difference between knowledge of performance and knowledge of results? Again, give an example of each.

KR – outcome information. KP – process information

3. Give an example of a situation in which feedback would be essential for learning.

When you can’t access information crucial for learning with your own senses.

4. Why is it that feedback that may enhance learning might be better if it were withheld, according to the slide suggesting that “sometimes it may enhance learning)?

There’s a couple of things potentially worth mentioning here. One is perhaps more obvious than the other. The “obvious” bit is that there’s a lot of information that can be given, and giving it all at once can cause “paralysis by analysis” – too much information, causing cognitive overload. But there’s another more subtle problem. Any feedback you provide is trying to guide a person to the correct biomechanical solution to the task. As such, you are trying to get them to shake off their current way of moving and move towards another way of moving that is ultimately more optimal. But any information you provide has the potential to result in the person constraining their degrees of freedom in an artificial and not-what-you-intended manner – that is, in trying to deliberately do what you asked with the limb(s) you mentioned, they don’t at all do what you ask with all the other limbs – the basic organization of the limbs relative to each other breaks down.

5. What performance and retention findings gave rise to the guidance hypothesis (when comparing a 100% feedback group to, say, a 20% feedback group)?

The 100% feedback group does better when practicing the skill than the 20% feedback group, but less well when learning is assessed using a retention test.

Questions from the second half of the feedback slides

1. What is the purpose of the small and simple paradigm?

Following from slide 8, the general idea is to keep tasks simple so that they can be learned in a small amount of practice. And then we can examine how learning is influenced by feedback by seeing what happens when we either block it out or provide it over the course of learning.

2. What does it mean to say that feedback is prescriptive?

Just that it provides information that is not already available that has the potential to correct current movement errors.
3. So, why does bandwidth feedback work so well, do you think?

See next question!

4. And in case you didn’t get it in the last question...What is blocking and what are maladaptive short term corrections?

Blocking – non-bandwidth procedures prevent people from attending to sensory [intrinsic] feedback after performance (they attend to the extrinsic feedback instead). Bandwidth procedures avoid this by allowing people to focus on the feeling, and most importantly this occurs when the person has been quite successful.

MSTC – non-bandwidth procedures ask performers to correct all errors. But some errors are very small – so small in fact that they represent just random fluctuations about the target. If the performer were to try to correct these, the likely result would be a larger error in the opposite direction. Bandwidth procedures avoid this by classifying small errors as “correct”, allowing the person to develop some consistency in response.

5. How does the Lee & Carnahan experiment demonstrate that the bandwidth feedback effect is more than just a relative frequency effect?

I’ll explain in class – basically, because both bandwidth and yoked groups had the same relative frequency, but different learning outcomes.


First, with KR, bandwidth approaches seem to make no difference – KR is no more effective at 10% BW than at 0% BW (differences are not significant). Also, it is consistently less effective than the other type of feedback (all differences are significant).

Second, these bandwidth approach does elicit better retention, provided the feedback type is transitional information (this is not so for KR). The 10% BW condition elicits better retention than either the 5% BW or 0% BW conditions, but only for the transitional feedback groups, not the KR groups.

7. Summarize the findings from Wulf & Shea, 1999.

Here greater feedback frequencies result in better performance and learning. In the previous experiment (Smith, Taylor, Withers) smaller feedback frequencies (at least for the transitional type of feedback) elicited better learning.

8. What might the Wulf, McConnel, Gartner & Schwartz, (2002) paper offer by way of explaining the difference between the results of the two papers referred to in q6 and q7?

The guidance hypothesis is only supported when feedback enforces an internal focus of attention. When the focus is external, results contradict the guidance hypothesis.

9. Is the only difference between the 2 sets of cues offered in the Wulf, et al. (2002) really just a change in focus of attention?
The cues do differ in this respect, but not only this (think of the oath...is this difference “the truth, the whole truth, and nothing but the truth”...here it would not be the whole truth).

The cues also differ in that only the external cues use metaphor (pendulum-like) and kinesthetic imagery (stroke the ball). So it could also be these aspects that bring about the differences.