Guidelines (READ CAREFULLY)

- Word-process, and double-space all answers, use a spellchecker, & proof read.
- You are required to work on this assignment on your own. If I suspect plagiarism, I will seek appropriate punishment for the individual or individuals responsible.
- Each answer should be brief, but should provide enough detail to answer the question.
- You will be graded on both content and presentation - mostly on content, but if your English is so poor that your meaning is obscured, then I cannot take responsibility for finding meaning in your words that they don’t already possess.
- Emailed submissions will not be accepted

DEADLINE: Day of final

1. Abilities and learning (30 points)
In the material on chapter 3, we read about the notion of inherent genius, and considered material on one’s apparent potential for success at movements. Summarize the argument presented in the last few slides of the abilities slide set, and/or the argument presented in the supplementary slides, detailing how the findings of abilities research could emerge without abilities being inherent traits.

2. Motor Control – Dynamic pattern theory (40 points)
Each of figures 1 and 2 below shows movement coordination under changing velocities. There are some similarities in principle between the pattern of findings shown in figure 2 and one of the movement patterns shown in figure 1.

a. Compare and contrast the two sets of findings, in terms of the relationship between order parameters, control parameters, energy efficiency, stability, and critical fluctuation.  
b. What does the first diagram suggest about the second in terms of why the transition from walking to running took place?  
c. And finally, hysteresis might be evident in each of these tasks if one were to examine the movements when slowing down as well. Explain why we see hysteresis, in terms of complex systems behavior.

Figure 1: Co-ordination and stability of finger movements during increasing movement velocities (From Kelso & Scholz, 1985)
3. Demonstration, verbal cues, and learning (30 points).

Explain with reference to the paper by Wilson & Knoblich (2005), and to the slides on chapter 14, and to the dual coding model of Annett (1996), why demonstrations, verbal cues using metaphor and simile, and external focus of attention might all permit better learning than a technical description of a skill.