

GENERAL INSTRUCTION FOR THE EXAM

Written Exam Perceptual-Motor Learning

Dr. J. van der Kamp

Wednesday, 18th December 2013

1. On EACH response sheet, write your NAME and STUDENT NUMBER
2. The exam consists of 9 questions, some of which consist of two sub-questions. Read the questions carefully. Notice, you will often be asked to provide an explanation of why you gave the answer you did, don't forget!
3. Answer the questions as clearly and concisely ('beknopt') as possible. Only answer the question, irrelevant digressions may lead to a subtraction of points.
4. For each question, the number of points that will be awarded for a correct answer is given between brackets.
5. The exam starts at 8.45 am and ends at 11.30 am.
6. The exam hall cannot be left before 9.15 am.
7. The answers will be provided on Blackboard after the exam.
8. Good luck!!

John

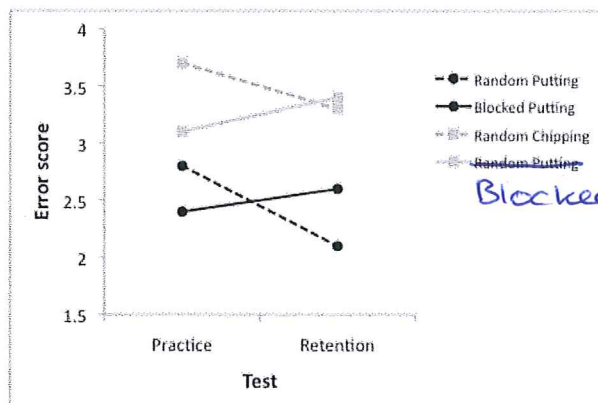
PS. Enjoy your holidays, but do not forget to submit your Essay!

See next page

Question 1

Schmidt's (1975) schema-theory proposes the 'variability of practice' hypothesis.

- Describe what the variability of practice hypothesis predicts. (5)
- Explain how the variability of practice hypothesis follows from Schmidt's schema-theory. (5)

Question 2 . 1

Blocked chipping

The figure shows the performance (i.e., error score) during practice and retention for participants learning two golf tasks, namely putting and chipping. One group of participants (called Blocked) practiced the two tasks in separate blocks; they first made 100 putting trials followed by 100 chipping trials. For the second group (called Random) practice of putting and chipping was randomized in blocks of 10 trials; 10 putting trials, followed by 10 chipping trials, 10 putting trials, 10 chipping trials, 10 putting trials and so on. The results for practice depicted in the figure represent the final 10 practice trials for both tasks. During the retention test, the participants performed 10 putting and chipping trials.

- How is the pattern of results shown in the figure usually referred to? (5)
- Based on this pattern of results, what would you conclude regarding Schmidt's variability of practice hypothesis? (5)

Question 2 . 2

Central in Gibson's (1979) ecological approach to perception and action (or direct perception approach) is the concept of information.

- Describe Gibson's concept of information (i.e., how does ecological psychology define information)? (5)
- Why does Gibson's concept of information allow for an anti-representational theory? (5)

Question 3

$$A_{\text{hand}} = c_1 \left(\frac{c_2 O - X_{\text{hand}}}{(\dot{\phi}/\phi - \dot{\rho}/\rho)^{-1}} - V_{\text{hand}} \right)$$

The ecological approach to perception and action distinguishes three processes of learning in relation to the control law. The equation shows the control law for catching laterally passing balls according to Jacobs and Michaels (2006) (A_{hand} , V_{hand} and X_{hand} denote the acceleration,

velocity and position of the hand respectively; O denotes the optic variable; c_1 and c_2 are constants, and the denominator that combines ϕ and ρ stands for time to contact). Name two of the three process of learning that are distinguished by the ecological approach, and describe them briefly by referring to the control law proposed by Jacobs and Michaels. **(10)**

Question 4

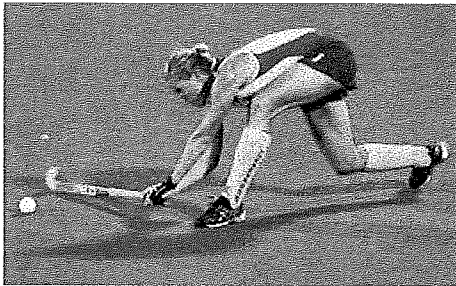
Based on Milner and Goodale's (1995, 2008) two-visual system theory, Van der Kamp, Rivas, van Doorn and Savelsbergh (2008) argue that visual anticipation cannot be assessed in a valid manner using video clips (as in the occlusion paradigm), because this method fails to involve the dorsal system. Describe how the study of Dicks, Davids and Button (2010), which examined the visual anticipation of soccer goalkeepers in a penalty kick, provides empirical support for this argument. **(10)**

[In fact, there are two studies by Dicks and colleagues published in 2010. Both provide empirical support for the argument by Van der Kamp et al. (2008), and hence, a correct description of either of these studies suffices as an answer.]

Question 5

An ongoing debate in observational learning is about the characteristics of the model that demonstrates the to-be-learned action. According to the common-coding approach (Prinz, 1997), who would be the most effective model for learning, and why? **(10)**

Question 6



A field-hockey trainer hesitates about the nature of the instruction she would give for performing a drag flick ('sleppush' in Dutch, see figure) penalty corner. She can either direct the players' attention to the incoming ball, the positioning of their feet, the way the stick is moved toward the ball or to the opponent's goalkeeper. According to the common-coding approach, to which of these aspects can the trainer best direct attention for learning to perform the drag flick. Explain your answer. **(10)**

Question 7

Many children with cerebral palsy not only have motor impairments (i.e., problems related to coordination and control of their movements) but also many visual and cognitive problems. More specifically, one frequent problem that occurs is poor functioning of working memory. Within the field of perceptual motor learning, several forms or methods of learning are distinguished, among others, i) learning with an internal focus of attention, ii) learning with an external focus of attention, iii) explicit learning, and iv) implicit learning. What form or method of learning would you use to improve ball-throwing skills of children with cerebral

palsy? Explain why, and in doing so, also explain why you do not choose the other methods. **(10)**

Question 8

Within his control-based learning theory (COBALT), Willingham (1999) distinguishes three control *principles* (NB! *not* the control processes).

- a. Name these three principles. **(5)**
- b. Provide an example of two of these principles based upon the two-visual systems model of Milner and Goodale (2008) **(5)**

Question 9

According to Masters (e.g., Zhu, Poolton, Wilson, Maxwell & Masters, 2011), explicit learning enhances the likelihood that choking (i.e., performance breakdown) under pressure occurs as compared to implicit learning.

- a. According to Masters, what process is responsible for choking under pressure? Name and describe this process. **(5)**
- b. Name and describe two methods for implicit learning that reduce the likelihood that choking under pressure occurs. **(5)**