

本試題是否可以使用計算機：可使用，不可使用（請命題老師勾選）

1. (25 points) Please briefly describe the top-down and bottom-up theories of perception.
2. (25 points) What is working memory? Is it different from short-term memory? Please illustrate two experiments to explain these two concepts respectively.
3. (25 points) It is the era of multi-tasking. You listen to music while you are doing your homework. You talk to your cell phone while you are walking or driving. According to the theories of selective attention and divided attention, do you think we should pass a law to prohibit people from talking to the cell phone while driving? Please justify your answer.
4. (25 points) One study was conducted for examining the relationship between working memory and category learning. According to their working memory spans, the participants were separated to two groups (high WM and low WM). Both groups were asked to learn two types of categories: RB and II. For learning the RB category, only one dimension is needed to attend to, like "If color is red, respond A; otherwise B". However, three dimensions are needed to attend for learning the II category. We normally think that a 1-dimensional rule is easier than a 3-dimensional rule to learn and some psychologists even think that the 1-dimensional rule is more easily to verbalize than a 3-dimensional one. The results are shown in the figure below. The vertical axis indicates how many trials the participants needed to get to the accuracy criterion. The more trials, the worse the learning performance is. All pair-wise comparisons between the means are significant. Please draw your conclusion based on the data and provide reasonable explanations according to the theories you have learned.

