

考試科目	專業英文	所別	1611 教育學系	考試時間	2 月 25 日(六) 第二節
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1. For the following passage:

- (1) Please translate the passage to Chinese (25 points);
- (2) In English, please pick one of the following seven research areas and explain one learning theory related to the selected research area. (25 points).

What is perhaps currently most striking is the variety of research approaches and techniques that have been developed and ways in which evidence from many different branches of science are beginning to converge. The story we can now tell about learning is far richer than ever before, and it promises to evolve dramatically in the next generation. For example:

1. Research from cognitive psychology has increased understanding of the nature of competent performance and the principles of knowledge organization that underlie people's abilities to solve problems in a wide variety of areas, including mathematics, science, literature, social studies, and history.
2. Developmental researchers have shown that young children understand a great deal about basic principles of biology and physical causality, about number, narrative, and personal intent, and that these capabilities make it possible to create innovative curricula that introduce important concepts for advanced reasoning at early ages.
3. Research on learning and transfer has uncovered important principles for structuring learning experiences that enable people to use what they have learned in new settings.
4. Work in social psychology, cognitive psychology, and anthropology is making clear that all learning takes place in settings that have particular sets of cultural and social norms and expectations and that these settings influence learning and transfer in powerful ways.
5. Neuroscience is beginning to provide evidence for many principles of learning that have emerged from laboratory research, and it is showing how learning changes the physical structure of the brain and, with it, the functional organization of the brain.
6. Collaborative studies of the design and evaluation of learning environments, among cognitive and developmental psychologists and educators, are yielding new knowledge about the nature of learning and teaching as it takes place in a variety of settings. In addition, researchers are discovering ways to learn from the "wisdom of practice" that comes from successful teachers who can share their expertise.
7. Emerging technologies are leading to the development of many new opportunities to guide and enhance learning that were unimagined even a few years ago.

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試題隨卷繳交

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2. For the following passage:

- (1) Please translate the passage to English (25 points);
- (2) In English, please describe a learning environment that demonstrates the five principles mentioned in the passage (25 points).

活動理論(activity theory)認為在人類活動中，主體並非直接改變客體，而是透過以物質或心理形式出現之中介工具達成。物質形式的中介工具包括各種軟體與硬體工具；心理形式的中介工具包括語言與符號等工具。在活動理論的架構中，除了主體、客體與中介工具外，社群係指主體進行活動所處的群體，社群中的成員透過分工共同完成活動中的任務，而規範界定了此社群之運作模式。

活動理論當中主要有五項原則：(1) 指向客體：任何操作與行動，都是為了將客體轉換為預期成果。(2) 具有等級結構：活動結構有三層次，從最基本的操作來組成行動，繼而串連為活動；(3) 內化與外化：活動分為內化和外化兩個層面，外在的活動可能內化到主體當中，而內在活動與感知可以形塑外在工具；(4) 中介：在活動中，主體運用社群中各式中介工具延伸能力，以期將客體狀態轉換為目標狀態。(5) 發展：活動中各元素在活動過程中互相影響，並造成整體活動系統的轉變。