

- 一、杜威主張課程與教學設計「應該引導學生們透過熟悉的、每天應用的各種物品來學習科學的教材。他更主張應以實際活動為起點，以「科學知識」為終結。他說：應該使學生們透過熟悉的、每天應用的各種物品來學習科學的教材，並初步掌握科學教材中的種種事實和定律，這是一條正確的教育原則。教師有利用現時經驗的責任，以便通過吸取種種事實和定律，可以把學習者引向有科學體系的經驗。教育必須引導學習者在構成科學的最後組織中取得完全相同的事實和原理，否則，學習者就不可能理解當前的各種社會勢力。

試舉某一科的教學實例說明：「實際活動」或各種活動課程「如何」達到『以實際活動為起點，以「科學知識」為終結』？（25 分）

- 二、當前的教育心理理論強調學習者能主動求知且建構意義，此建構取向教學常應用合作學習（cooperative learning）。請說明應用合作學習的理論基礎？教學時如何應用合作學習方能促進學生成為自主學習者？（25 分）

- 三、「個別差異」（individual difference）是影響學生學習與教師有效教學的重要因素，請說明個差異的概念與理論基礎？舉例說明如何有效因應學生的個別差異進行教學？（25 分）

- 四、Education is a key measure for self-realization and the hope construction for sustained national development. Taiwan has always paid much attention to education, and all circles of the society have been looking forward to 12-year compulsory education for more than 20 years. Thus, launching 12-year compulsory education is a crucial step taken by the Executive Yuan and the ministry to turn words into action, with the following projected benefits:

1. Through aiding disadvantaged students in paying tuition, the gap in the burden of tuition between disadvantaged and non-disadvantaged students is narrowed, providing each child with equal educational opportunities;
2. Allowing children to be admitted into local quality senior high and vocational schools, easing the pressure posed by seeking further education, providing good education with good schools and cultivating distinguished individuals with good education;
3. Through encouraging parents to participate in education, the efforts made by parents, teachers and schools are combined to ensure the children's career guidance and study assistance, bringing falling-behind children up to speed;
4. Using good teachers to make use of good curriculum and using good curriculum to implement good education in order to raise national competitiveness.

Regarding 12-year compulsory education, do you have doubts, concerns, or suggestions for the implementation of this essential educational policy in Taiwan?（25 分）