

## 國立台灣科技大學九十九學年度碩士班招生試題

系所組別：數位學習與教育研究所碩士班

科目：學習理論與學習心理學

說明：

1. 本測驗總分 100 分，每大題或小題均已註明所占分數。
2. 請在答案本上註明題號，並依題號序（一至四）作答；各題內若有數小題，也需依小題號序作答。

- 一、何謂電腦化適性測驗(computerized adaptive test or computerized tailored test) (7分)? 現有大型著名測驗中有哪些測驗是真正的電腦化適性測驗(3分)? 請說明建置電腦化適性測驗需應用到的測驗理論、程序以及內容要項(15分)?
- 二、因應數位科技的發展，將數位科技融入教學已是重要的教育政策之一。試論述數位科技融入教學之意涵(5分)，從建構主義之觀點探討其理論基礎(10分)，並任舉三種建構主義之教學策略在數位科技融入教學之應用(10分)。
- 三、近年來，網路科技的發展日新月異，相關軟硬體技術在數位學習研究上的應用也愈來愈受到重視，關於網路科技的發展和程式設計的基本概念，請簡要回答下列問題(25分):
  - 1.請問 WEB 1.0 和 WEB 2.0 有何差異?請舉例(5分)。
  - 2.請問下列哪些軟體或工具可以用來編輯網頁內容: Word, PhotoShop, FrontPage, Dreamweaver, HTML, FTP(5分)?
  - 3.請問 iPhone 的使用介面的最大特色為何(5分)?
  - 4.請問 2D 動畫和 3D 動畫的差別是什麼(5分)?
  - 5.請先仔細閱讀下列程式，請問此程式執行結束時的輸出內容為何(5分)?

```
int counter = 1;
int sum = 0;
int number;
ifstream inFile;
while (counter <= 4)
{
    inFile >> number;
    sum = sum + number;
    counter ++;
}
cout << "Sum is " << sum << endl;
```

(假設資料檔內容是 10 20 30 40 10 20 30 40)



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## 四、Please carefully read the following passage and answer the questions below:

“Children who fare poorly in school are burdened with more than the frustration and humiliation of their failure. Often they are not treated as well by their teachers and peers-not just as learners, but as people. Many children who fail in school have consistently negative interactions with their teachers. They are frequently in trouble-for not completing assignments or not paying attention, or for goofing off or acting out. Often they deserve being sanctioned, but the classroom becomes a very unpleasant place for children who have mostly conflict and discipline-related interactions with their teachers.

Contributing to some poor achieving students' distress are peers, who can be very cruel. The negative peer relationships occur partly because poor achievers also often become troublemakers. Peers sometimes exclude low-achievers from play and birthday parties, resist being placed in work groups with them, and make fun of their academic problems. It is not surprising that many students' perception of themselves as being academically incompetent evolves into a perception of themselves as being unworthy human beings.

Only recently have researchers begun to examine the effect a student's relationships with teachers and peers have on motivation. Self-determination theorists coined the term relatedness-the need to feel securely connected to people in the social context and "... to experience oneself as worthy and capable of love and respect" (Connell & Wellborn, 1991, p.51). They claim that relatedness is a basic human need, along with feelings of competence and self-determination (Connell & Wellborn, 1991; Ryan & Deci, 2000; Ryan & La Guardia, in press). People do not function effectively in environments in which the need for relatedness, as well as feelings of competence and self-determination, is not met.

McCombs (1994) similarly includes social support as one of three critical components in her model of motivation (along with "will" and "skill"). She describes social support as a "..... culture of trust, respect, caring, concern, and a sense of community with others...." That provides opportunities for "..... individual choice, expression of self-determination and agency, and freedom to fail or take risks" (p.54).

Wentzel (1997) examined students' perspective on the qualities of good relationships with their teacher. She asked middle-school students: "How do you know when a teacher care about you?" Common responses, shown in Table 9.3, suggest that attentiveness to students as human beings is important. One noteworthy finding is that students considered teachers' instructional behaviors in assessing how much their teachers cared about them. Their responses suggest that teachers can convey that they care by making serious efforts to promote learning and by holding students to



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appropriately high standards.

Boys are at greater risk of developing negative relationships with teachers than are girls. Studies consistently show that teachers rate relationships with boys as less close than they rate relationships with girls (Howes, Philipsen, & Peisner-Feinberg, 2000; Ramey, Lanzi, Philips, & Ramey, 1998), and girls report closer relationships with teachers (Valeski & Stipek, 2001). It is likely that the more distant and conflictual relationships with boys are related to boys' higher levels of disruptive behavior. But negative relationships also exacerbate the misbehavior as well as undermine learning, creating a downward spiral that is difficult to escape." (Adapted from Stipek, D., 2002, Motivation to Learn: Integrating Theory and Practice, p. 151-152)

1. Please summarize the passage and point out the important arguments stated(10分). 請簡述以上文章之大綱並提出其重要之論點
2. After reading the passage, what kind of inferences and conclusions can you make (10分)? 在讀完以上短文後，你可否提出任何結論或推論？
3. If you are the researcher, what are the suggestions you might give to teachers? 如果你是這位研究者（根據以上短文之論述），對於教師們你會提出何種建議(5分)?

