

All-round Development through Multimedia Project Courses

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Project Concept

By introducing multimedia project courses, students will have more opportunities to strengthen their skills in:

- * Searching, discovering, integrating and organizing knowledge
- * Collaborative skills
- * Communication skills:
 - * Assisting the juniors
 - * Presentations to university and secondary school students

Student Involvement

- ✦ Students in project courses (1-credit junior projects or 4-credit final year projects) with outstanding progress and presentable topics are nominated.
- ✦ Students attended a CELT workshop on multimedia productions.
- ✦ Students are assigned to prepare a multimedia presentation at the popular level.
- ✦ Students give presentations in secondary schools.

Project Topics

Spring-Fall 2003:

Mobile Networks

UV Detective

Life Out There?

Binary Pulsars

18 students, 18 presentations (6 cancelled due to SARS)

Spring 2004:

Nanotechnology

ER Fluids

Mobile Networks

The Science of UV

Wonderful Butterflies

Relativity

X-ray Astronomy

Water Game

12 students, 24 presentations

Animations and Demonstrations

- * [Mobile Networks](#): Leaky bucket as an analogy to call admission control in mobile networks
- * [X-ray Astronomy](#): Evolution of a binary star system
- * [Relativity](#): See next presentation
- * [ER Fluids](#): See video clippings
- * [The Science of UV](#): See video clippings







Demonstration of propagation of gravity waves (Sze Yu Man, C&MA Sun Kei, 9 May 2003)



Yu Sau Yan (C&MA Sun Kein Secondary School, 9 May 2003)

科大生走入中學教科學

理科生不一定要埋頭苦幹做研究，也可以走出實驗室，把所學的東西灌輸下一代。說的是科技大學物理系兩位女學生到一所中學充當科學老師，將研究心得與初中生分享，培養他們對科學的興趣。學生的「上課」表現十分踴躍，頻頻發問，差點把兩位客席老師難倒。

偵測紫外綫獲讚賞

科大物理系二年級生毛加嫻及陳嘉雯早前到基督教宣道會宣基中學擔任客席教師，向大約四百位初中學生講課，題目是「紫外綫偵察器的應用」。兩位「老師」先向同學簡單介紹紫外綫指數、它的影響及研究，同學都全神貫注聆聽。

到發問環節，同學爭相舉手發問，反應踴躍。其中有學生問：「校服可不可以防止紫外綫？」兩位老師不懂如何回答，只好邀請該位同學上台，以紫外綫偵測器測試校服的能力。結果，校服只能擋去三成的紫外綫，台下學生即報以熱烈掌聲，讚揚儀器的偵察能力。

兩位「老師」又展示科大的科研成果——偵測寶實（見小圖）。陳老師先用紫外綫電筒照在玩具熊的感應器上，玩具熊隨即一閃一閃，發出綠色的閃燈，顯示紫外綫指數極高的警告，贏得學生熱烈的掌聲。

研習活動「一舉兩得」

首次「授課」的陳嘉雯笑說，面對這麼多學生的確有點緊張，但也滿意自己的表現。至於第二次參與活動的毛加嫻則指，講課可以用另一角度理解研究，加深認識自己所學的東西。一位中二學生張廣輝表示，



■科大生毛加嫻（右）及陳嘉雯（中）即場測試校服防紫外綫能力。

曾慶威攝

之前並不太明白何謂紫外綫，現在則理解它的特性。他謂，課堂增加了他對科學的興奮，並希望學校日後多舉辦類似「授課」。

這堂課其實是科大物理系的課外研習活動，該系副教授蘇蔭強表示，這類課外研習可灌輸不同的科學概念給中學生，也可讓物理系學生介紹他們的研究，可謂「一舉兩得」。

蘇蔭強又說，日後其他學系會與更多中學合作舉辦類似講座，向中學生展現科學的奧秘。

記者 潘頌權



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Achievements

* University education:

- * Independent thinking skills
- * Communication skills
- * Multimedia production skills
- * Confirmed by a successful admission to Education

* Science education:

- * Updated developments presented to the public

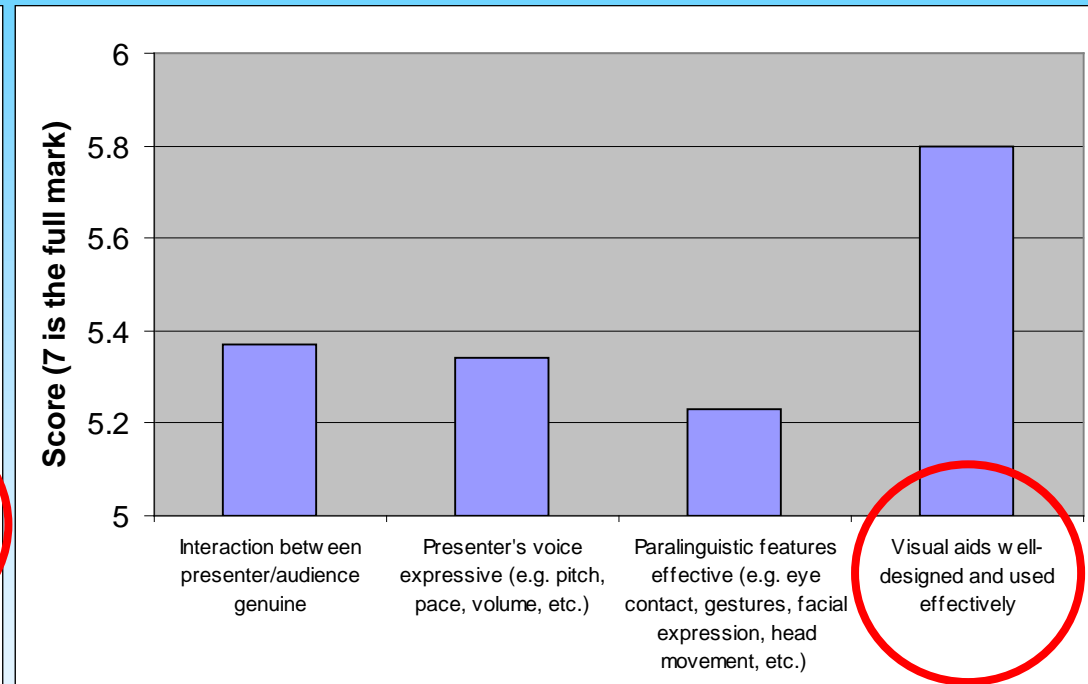
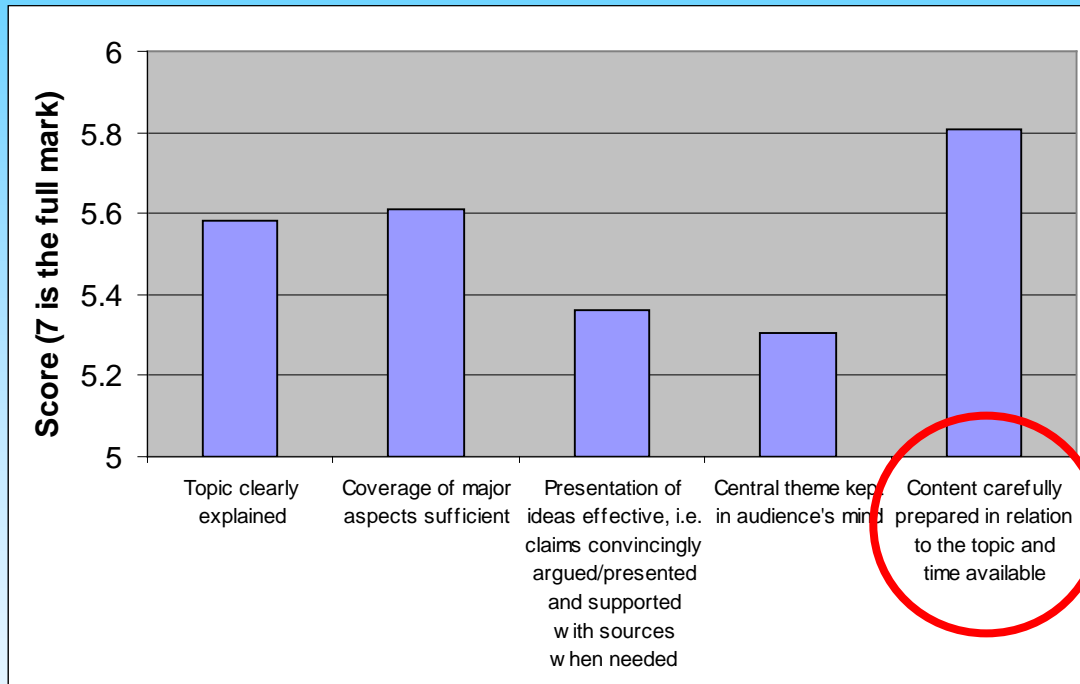
* Secondary School Education:

- * Stimulated students' curiosity in science

Evaluation

✦ Rehearsals

✦ Presentation Assessment Checklists



✦ Early feedback helped to improve later presentations

Evaluation

- ✦ Secondary schools: “inspire their interests”, “fulfill their curiosity”, “impressive animations”, “fluent logic flow”, “easy to follow”, “grab attention”, “encourage participation”, “never a dull moment”
- ✦ Student presenters: “broadened”, “self-confidence”
- ✦ Secondary school students: many follow-up questions

Conclusion

- * Multimedia project courses and popular-level talks are successful in educating students:
 - * Independent thinking skills
 - * Communication skills
 - * Multimedia production skills
- * Benefit both the university and the community
- * Applicable to other fields of studies

- * CELT support acknowledged