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# TEACHER EXPECTATIONS OF CLASSROOM TEACHING PRACTICES IN DEVELOPING AND PRESENTING COURSE INFORMATION IN HONG KONG

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## ABSTRACT

*This paper reports Hong Kong academic staff's current classroom teaching practices as well as their ideal classroom teaching practices in developing and presenting course information in one of the universities of Hong Kong. 122 usable questionnaires were analyzed through Principal Component extraction method and Varimax rotation method. Three common factors were identified as Information Technology Factor, Student Work Factor, and Traditional Teaching Factor for both current and ideal teaching practices in Hong Kong. These three teaching dimensions were used in examining Hong Kong teachers' perception and expectation on their classroom teaching methods.*

*Keywords: multimedia, teacher expectation, classroom teaching practices*

## INTRODUCTION

Educators tend to continue to search for different teaching practices that will contextualize learning and motivate students to learn better and hopefully all these efforts could increase the number of students attaining mastery levels of achievement (Scheidet, 2003). As a matter of fact, students are getting exposed to the use of multimedia and their expectations of classroom teaching practices will tend to vary. Snyder and Vaughan (1998) in their previous study on student expectations on multimedia indicated that students that had used multimedia before would prefer to have such included in their ideals of the optimal classroom teaching practices.

As discussed by other researchers (Kuehn, 1994, Ramarapu, Cites & Overby, 1996, Snyder & Vaughan 1998), programs based on computer-assisted instruction and multimedia tend to be popular in education. The importance of multimedia is used in information presentation and the coordination of all these audio-visual technologies combined to apply in the medium of multimedia (Bruder, 1991, Synder, 1996, Snyder & Vaughan, 1996, Snyder & Vaughan, 1998). Thus, the authors in this study intend to examine Hong Kong teacher expectations of classroom teaching practices in disseminating course information and knowledge to their students in The Hong Kong Polytechnic University.

## DATA COLLECTION

A modified survey questionnaire in Multimedia and Student Expectations by Snyder and Vaughan (1998) was used in this study. The authors used the modified instrument to conduct with our colleagues in six faculties of The Hong Kong Polytechnic University in the academic year of 2000 and 2001. These faculties are Faculty of Applied Science & Textiles, Faculty of Business & Information Systems, Faculty of Communication, Faculty of Construction & Land User, Faculty of Engineering, and Faculty of Health & Social Studies. A total of 1,025 questionnaires were administered. Of the 124 responses received, 122 usable questionnaires were analyzed (38 from the Faculty of Applied Science & Textiles, 25 from Faculty of Communication, 21 from the Faculty of Business & Information System, 14 from Faculty of Engineering, 12 from Faculty of Construction & Land User, and 12 from Faculty of Health & Social Studies).

The survey instrument consisted of 36 questions on the subject of current classroom teaching practice and student ideal classroom teaching practice as well as 6 demographic and general questions. Each question was to be answered with a five-point Likert scale – (5) Extensively, (4) Periodically, (3) Occasionally, (2) Rarely, and (1) None at all. Please refer to the survey questionnaire listed in the Appendix one.

## RESULTS & DISCUSSION

Eighteen variables for current classroom teaching practice by academic staff in The Hong Kong Polytechnic University were recorded and factor analysis was used to explore the common factors among the eighteen variables. The authors

also used the Principal Component extraction method and Varimax rotation method to analyze the data. Results were displayed in Table 1.

Three common factors - Factor One, Factor Two, and Factor Three were identified to be useful in this study in examining teachers' classroom teaching practices in developing and presenting course information in their classes. As a matter of fact, this Information Technology related variables were found to have high factor loadings in Factor One. Those variables about student work were recorded to have high factor loadings in Factor Two. The remaining variables including lecture, handout and transparency were noted to have high factor loading in Factor Three. Indeed, these three common factors were named as Information Technology Resource Factor, Student Work/Activity Factor and Traditional Teaching Factor respectively to be used to examine Hong Kong Academic Staff expectations on their classroom teaching practices in The Hong Kong Polytechnic University.

Another eighteen similar variables were used to characterize the ideal classroom teaching practices by teachers in classes. The same factor analysis as the current classroom teaching practice was applied here in ideal classroom teaching practice. Three common factors could be located and recorded as Information Technology Resource Factor, Student Work/Activity Factor, and Traditional Teaching Factor.

Instead of dealing with 36 variables of both current and ideal classroom teaching practices, only six factors with three components for current classroom teaching practice and three for ideal classroom teaching practice were extracted. Factor scores of all the factors were generated and recorded and were used in subsequent analysis. Please refer to Table 2.

## Table 1: Factor Result of Current Classroom Teaching Practice

**Rotated Component Matrix[a]**

| | Component | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| C Lecture | | | .858 |
| C handouts or outlines | | | .652 |
| C class discussions | | .820 | |
| C in-class exercise | | .615 | |
| C outside classroom assign | | .638 | |
| C group activities | | .856 | |
| C student presentation | | .699 | |
| C projector & transp | | | .709 |
| C video | | .538 | |
| C presentation software | .629 | | |
| C e-mail | .654 | | |
| C computer projects | .793 | | |
| C computer simulations | .658 | | |
| C computer act in class | .737 | | |
| C internet resources | .720 | | |
| C world wide web | .666 | | |
| C teleconferencing | .482 | | |
| C distance learning | | | |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

## Table 2: Factor Result of Ideal Classroom Teaching Practice

**Rotated Component Matrix[a]**

| | Component | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| I Lecture | | | .777 |
| I handouts or outlines | | | .759 |
| I class discussions | | .714 | |
| I in-class exercise | | .633 | |
| I outside classroom assign | | .680 | |
| I group activities | | .798 | |
| I student presentation | | .673 | |
| I projector & transp | | | .770 |
| I video | | .459 | |
| I presentation software | .559 | | |
| I e-mail | .733 | | |
| I computer projects | .792 | | |
| I computer simulations | .800 | | |
| I computer act in class | .803 | | |
| I internet resources | .755 | | |
| I world wide web | .727 | | |
| I teleconferencing | .528 | | -.452 |
| I distance learning | .579 | | |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

The current classroom teaching practices from different faculties were analyzed and compared using one-way analysis of variance (ANOVA). From Table 3, high significant difference of population means of the factor scores on Information Technology Factor (significance = 0.000) and Traditional Teaching Factor (significance = 0.008) was recorded among the six faculties.

A clear picture could be sought in Figure 1 below. Faculty of Engineering had largest median value of Information Technology Factor score (bold line inside the box). The mid fifty percent of cases (the rectangle) was above average (the average factor score is zero). For the remaining five faculties, they were more or less the same in their current Information Technology Factor scores.

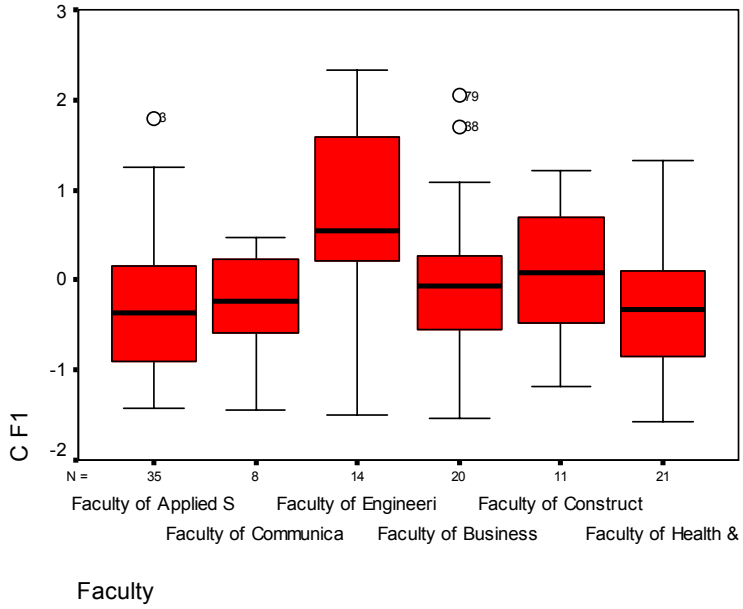
No significant difference in factor score on Student Work Factor could be recorded among all faculties. Nonetheless, Faculty of Communication and Faculty of Health & Social Study had significant low factor score in Traditional Teaching Factor. The other four faculties tended to have similar factor score on this factor. Please see the Table 3 for clarification.

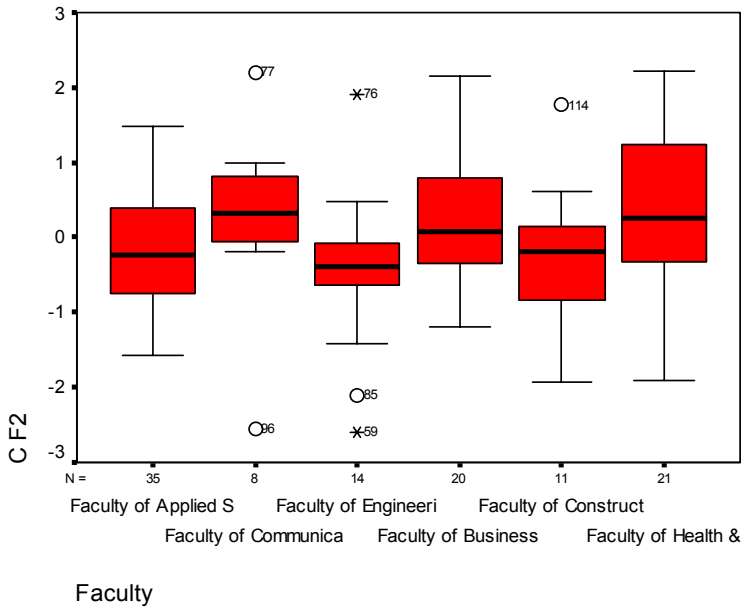
## Table 3: Current Classroom teaching Practice from Different Faculties

**ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| C F1 | Between Groups | 15.710 | 5 | 3.142 | 4.983 | .000 |
| | Within Groups | 64.321 | 102 | .631 | | |
| | Total | 80.031 | 107 | | | |
| C F2 | Between Groups | 8.055 | 5 | 1.611 | 1.759 | .128 |
| | Within Groups | 93.414 | 102 | .916 | | |
| | Total | 101.469 | 107 | | | |
| C F3 | Between Groups | 13.113 | 5 | 2.623 | 3.300 | .008 |
| | Within Groups | 81.070 | 102 | .795 | | |
| | Total | 94.183 | 107 | | | |

Key:
CF1 – IT Resource Factor, CF2 – Student Work Factor, CF3 – Traditional Teaching Factor



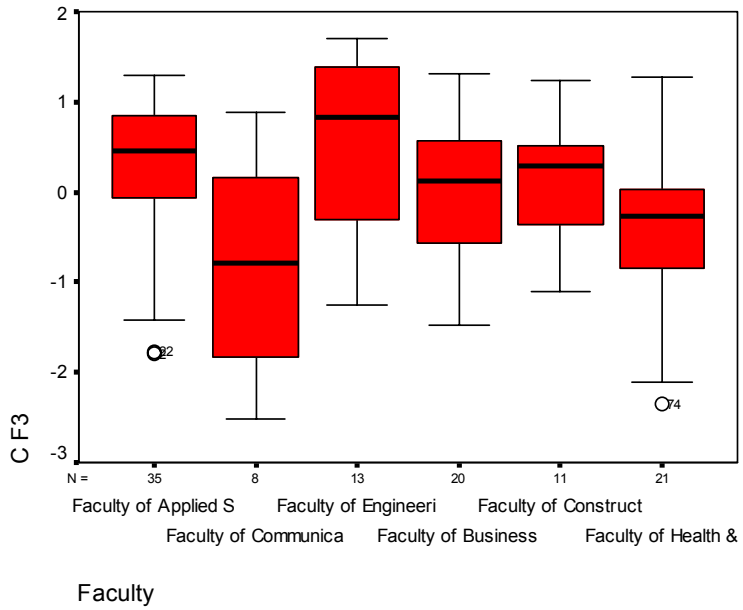




**Figure 1. Factor Score in Six Different Faculties**

**Table 4: Ideal Classroom teaching Practice from Different Faculties**

**ANOVA**

| | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| I F1 | Between Groups | 2.916 | 5 | .583 | .572 | .722 |
| | Within Groups | 106.082 | 104 | 1.020 | | |
| | Total | 108.998 | 109 | | | |
| I F2 | Between Groups | 4.769 | 5 | .954 | .966 | .442 |
| | Within Groups | 102.667 | 104 | .987 | | |
| | Total | 107.437 | 109 | | | |
| I F3 | Between Groups | 12.919 | 5 | 2.584 | 2.766 | .022 |
| | Within Groups | 97.146 | 104 | .934 | | |
| | Total | 110.064 | 109 | | | |

Key:

IF1 – IT Resource Factor, IF2 – Student Work Factor, IF3 – Traditional Teaching Factor

The ideal classroom teaching practices in the six faculties was also studied and analyzed with the same approach. In Table 4, no significant difference in factor scores on Information Technology and Student Work among the six faculties could be recorded. Only the factor of Traditional Teaching in the ideal classroom teaching practice was recorded to have significant difference among all six faculties (sig = 0.022). Similar to the previous case of current classroom teaching practices, Faculty of Communication and Faculty of Health & Social Study preferred to have less traditional teaching in their ideal classroom teaching. Please refer to Table 4 and Figure 2 for further details.

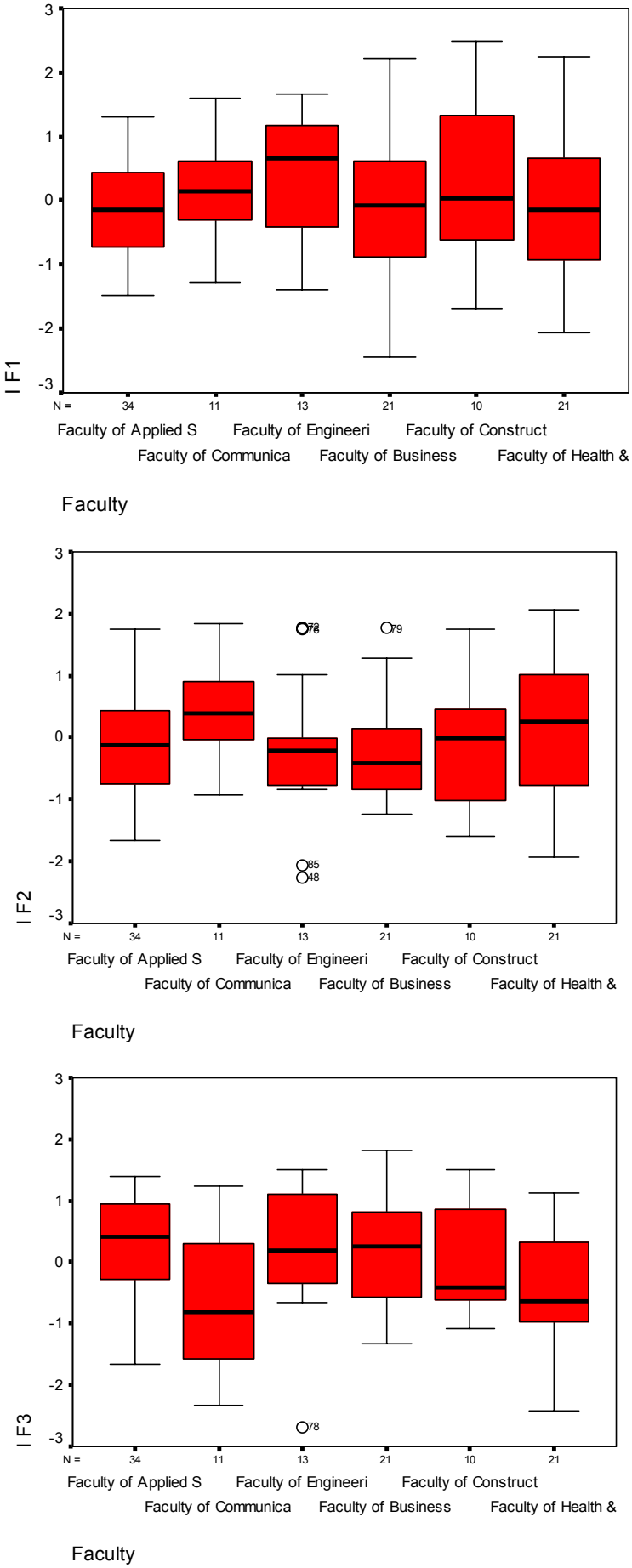



**Figure 2. Factor Score in Six Different Faculties**

## CONCLUSION

The study reported here represents a first major attempt to examine Hong Kong teacher expectations of classroom teaching practices in developing and presenting course information and knowledge in one of the Hong Kong universities. The authors used Principal Component extraction method and Varimax rotation method to analyze the collected data fro the six faculties in the university. Information Technology Factor, Student Work Factor, and Traditional Teaching Factor were identified as three common factors for both current and ideal teaching practices in Hong Kong to be used in examining Hong Kong academic staff expectations on their classroom teaching practices. Members in Faculty of Engineering tended to have more Information Technology factor in their classroom teaching practices while colleagues in Faculty of Communication and Faculty of Health & Social Science had low score in Traditional Teaching.

As this is one of the preliminary studies on the classroom teaching practices in presenting course information to students, future research is needed and expected to expand on how multimedia could impact on the classroom teaching practices and student learning experiences. An extension of this research is to explore more in depth on the issue of how all these new technology combined in multimedia could benefit the teaching and learning in the classroom setting as Townsend & Townsend opted for the six benefits of using multimedia in teaching in 1992.

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## Appendix One – Survey Questionnaire

| | | Extensively (Almost Daily) | Periodically (Once/wk) | Occasionally(6-7 times/qtr) | Rarely (1-2 times/qtr) | None at all |
|---|---|---|---|---|---|---|
| I currently use the following techniques to present my course information: | | | | | | |
| 1. | Lecture | ❑ | ❑ | ❑ | ❑ | ❑ |
| 2. | Written handouts or outlines | ❑ | ❑ | ❑ | ❑ | ❑ |
| 3. | Class discussion | ❑ | ❑ | ❑ | ❑ | ❑ |
| 4. | In-class exercises | ❑ | ❑ | ❑ | ❑ | ❑ |
| 5. | Outside classroom assignments | ❑ | ❑ | ❑ | ❑ | ❑ |
| 6. | Group activities in class | ❑ | ❑ | ❑ | ❑ | ❑ |
| 7. | Student presentations | ❑ | ❑ | ❑ | ❑ | ❑ |
| 8. | Overhead projector and transparencies | ❑ | ❑ | ❑ | ❑ | ❑ |
| 9. | Videos | ❑ | ❑ | ❑ | ❑ | ❑ |
| 10. | Computer presentation software | ❑ | ❑ | ❑ | ❑ | ❑ |
| 11. | Electronic-mail | ❑ | ❑ | ❑ | ❑ | ❑ |
| 12. | Computer projects | ❑ | ❑ | ❑ | ❑ | ❑ |
| 13. | Computer simulations | ❑ | ❑ | ❑ | ❑ | ❑ |
| 14. | Computer activities in class | ❑ | ❑ | ❑ | ❑ | ❑ |
| 15. | Internet Resources | ❑ | ❑ | ❑ | ❑ | ❑ |
| 16. | World Wide Web | ❑ | ❑ | ❑ | ❑ | ❑ |
| 17. | Teleconferencing | ❑ | ❑ | ❑ | ❑ | ❑ |
| 18. | Distance Learning | ❑ | ❑ | ❑ | ❑ | ❑ |

| | Extensively (Almost Daily) | Periodically (Once/wk) | Occasionally(6-7 times/qtr) | Rarely (1-2 times/qtr) | None at all |
|---|---|---|---|---|---|
| In my ideal classroom, I would use the following techniques to present course information: | | | | | |
| 19. Lecture | ❑ | ❑ | ❑ | ❑ | ❑ |
| 20. Written handouts or outlines | ❑ | ❑ | ❑ | ❑ | ❑ |
| 21. Class discussion | ❑ | ❑ | ❑ | ❑ | ❑ |
| 22. In-class exercises | ❑ | ❑ | ❑ | ❑ | ❑ |
| 23. Outside classroom assignments | ❑ | ❑ | ❑ | ❑ | ❑ |
| 24. Group activities in class | ❑ | ❑ | ❑ | ❑ | ❑ |
| 25. Student presentations | ❑ | ❑ | ❑ | ❑ | ❑ |
| 26. Overhead projector and transparencies | ❑ | ❑ | ❑ | ❑ | ❑ |
| 27. Videos | ❑ | ❑ | ❑ | ❑ | ❑ |
| 28. Computer presentation software | ❑ | ❑ | ❑ | ❑ | ❑ |
| 29. Electronic-mail | ❑ | ❑ | ❑ | ❑ | ❑ |
| 30. Computer projects | ❑ | ❑ | ❑ | ❑ | ❑ |
| 31. Computer simulations | ❑ | ❑ | ❑ | ❑ | ❑ |
| 32. Computer activities in class | ❑ | ❑ | ❑ | ❑ | ❑ |
| 33. Internet Resources | ❑ | ❑ | ❑ | ❑ | ❑ |
| 34. World Wide Web | ❑ | ❑ | ❑ | ❑ | ❑ |
| 35. Teleconferencing | ❑ | ❑ | ❑ | ❑ | ❑ |
| 36. Distance Learning | ❑ | ❑ | ❑ | ❑ | ❑ |

1. During the last calendar year, I used a computer an average of

   ❑ 3 hours or less per week ❑ 6 to 10 hours per week

   ❑ 4 to 6 hours per week ❑ more than 10 hrs per week

2. Do you have a computer at home?

   ❑ Yes ❑ No

3. Gender:

   ❑ Male ❑ Female

4. Age:

   ❑ 20 - 29 years old ❑ 40 - 49 years old ❑ 60 - 69 years old

   ❑ 30 - 39 years old ❑ 50 - 59 years old ❑ 70 years or older

5. Please indicate your rank:

   ❑ Assistant Professor ❑ Associate Professor ❑ Professor

   ❑ Assistant Lecturer ❑ Lecturer ❑ Senior Lecturer

   ❑ Principle Lecturer ❑ Assistant Professor II

6. Please indicate the Faculty you teach in:

   ❑ Faculty of Applied Science & Textiles ❑ Faculty of Business & Information Systems

   ❑ Faculty of Communication ❑ Faculty of Construction & Land User

   ❑ Faculty of Engineering ❑ Faculty of Health & Social Studies

Thank you