

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

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ABSTRACT

This paper reports Hong Kong student expectations of their lecturers' 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. 622 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 to be used in examining Hong Kong Students' perception and expectation on classroom teaching methods.

Keywords: multimedia, student expectation, classroom teaching practices

INTRODUCTION

As students are getting exposed to the use of multimedia, 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, this study intends to examine Hong Kong students' expectation of classroom teaching practices in disseminating course information and knowledge in one of the Hong Kong universities.

DATA COLLECTION

A modified survey questionnaire in Multimedia and Student Expectations by Snyder and Vaughan (1998) was used in this study. It was conducted with undergraduate degree as well as postgraduate students who enrolled in two faculties in The Hong Kong Polytechnic University in 2000. A total of 722 questionnaires were administered. Of the responses received, 662 usable questionnaires (440 from the Faculty of Applied Science & Textiles, 222 from the Faculty of Business & Information System) were analyzed.

The survey questionnaire 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 see the survey questionnaire in the Appendix one.

RESULTS & DISCUSSION

There are eighteen variables for both current classroom teaching practice as well as ideal classroom teaching practice. The authors used the Principal Component extraction method and Varimax rotation method to analyze the data. Results were illustrated in the Table 1 – Table 1a and Table 1b.

Table 1: Result of Student Survey Data – Factor Analysis

Table 1a: Current Classroom Teaching Practice

Rotated Component Matrix^a

	Component		
	1	2	3
C Lecture			.672
C Written handouts or outlines			.639
C Class discussion		.699	
C In-class exercises		.665	
C Outside classroom assignments		.666	
C Group activities in class		.742	
C Student presentations		.684	
C Overhead projector and transparencies			.674
C Videos	.572		
C Computer presentation software	.590		
C Electronic-mail	.720		
C Computer projects	.768		
C Computer simulations	.781		
C Computer activities in class	.770		
C Internet Resources	.793		
C World Wide Web	.803		
C Teleconferencing	.756		
C Distance Learning	.629		

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

a. Rotation converged in 5 iterations.

Table 1b: Ideal Classroom Teaching Practice

Rotated Component Matrix^a

	Component		
	1	2	3
I Lecture			.760
I Written handouts or outlines			.728
I Class discussion		.780	
I In-class exercises		.761	
I Outside classroom assignments		.708	
I Group activities in class		.788	
I Student presentation		.678	
I Overhead projector and transparencies			.664
I Videos	.522		
I Computer presentation software	.662		
I Electronic-mail	.769		
I Computer projects	.797		
I Computer simulations	.796		
I Computer activities in class	.806		
I Internet Resources	.793		
I World Wide Web	.804		
I Teleconferencing	.749		
I Distance Learning	.633		

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

a. Rotation converged in 5 iterations.

Three common factors were identified for both current and ideal teaching practices. Factor One is considered to be information technology (IT) related variables with high factor loadings. Variables with high factor loadings on student work are regarded as Factor Two. Remaining variables such as lecture, handout and transparency with high factor loading are regarded as Factor Three. These three common factors were named as Information Technology (IT) Factor (Factor One), Student Work Factor or Student Activity Factor (Factor Two), and Traditional Teaching Factor (Factor Three) respectively. Indeed, these three factors represent the three teaching dimensions which were used in this study to examine Hong Kong students' perception or expectation on classroom teaching practices in one of the universities of Hong Kong.

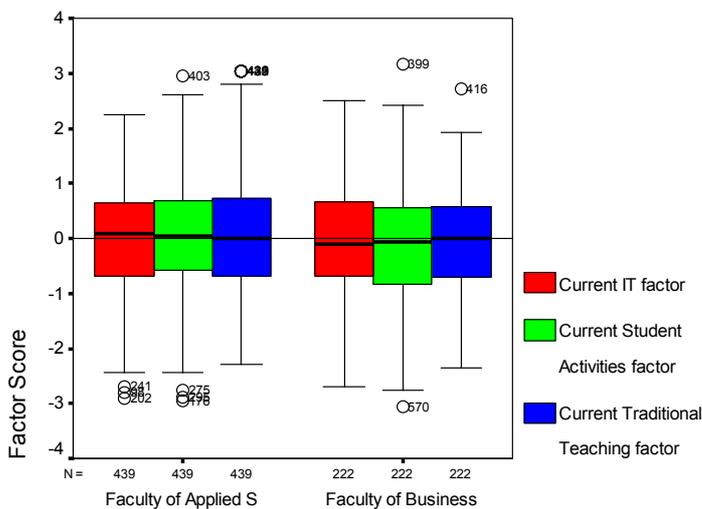
The authors thought there would be different perceptions in the teaching practices by students in different faculties between business and science. Nonetheless, differences in the perception of classroom teaching practices between students in two different faculties - the Faculty of Applied Science and Textile (FAST) and the Faculty of Business and Information System (FBIS) were found to be insignificant. The FAST has only a slightly higher factor score in the Factor One - IT Factor. Please see Table 2, Figures 1a and 1 b for further details.

Table 2 Analysis on Students' Perception from Different Faculty - ANOVA

ANOVA (Between Faculties)

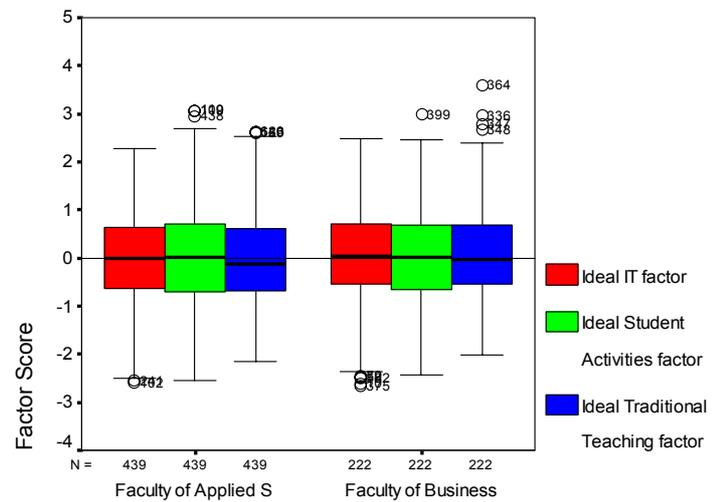
		Sum of Squares	df	Mean Square	F	Sig.
Current IT factor	Between Groups	.263	1	.263	.261	.610
	Within Groups	663.175	659	1.006		
	Total	663.438	660			
Current Student Act. factor	Between Groups	5.363	1	5.363	5.408	.020
	Within Groups	653.590	659	.992		
	Total	658.953	660			
Current Trad. Teaching factor	Between Groups	.924	1	.924	.954	.329
	Within Groups	638.708	659	.969		
	Total	639.632	660			
Ideal IT factor	Between Groups	.587	1	.587	.577	.448
	Within Groups	669.997	659	1.017		
	Total	670.585	660			
Ideal Student Act. factor	Between Groups	.123	1	.123	.126	.723
	Within Groups	646.053	659	.980		
	Total	646.177	660			
Ideal Trad. Teaching factor	Between Groups	.525	1	.525	.541	.462
	Within Groups	639.099	659	.970		
	Total	639.624	660			

Figure 1a: Faculties Analysis based on Current Classroom teaching practices – Box Plot



Faculties:

Figure 1b: Faculties Analysis based on Ideal Classroom teaching Practices – Box Plot

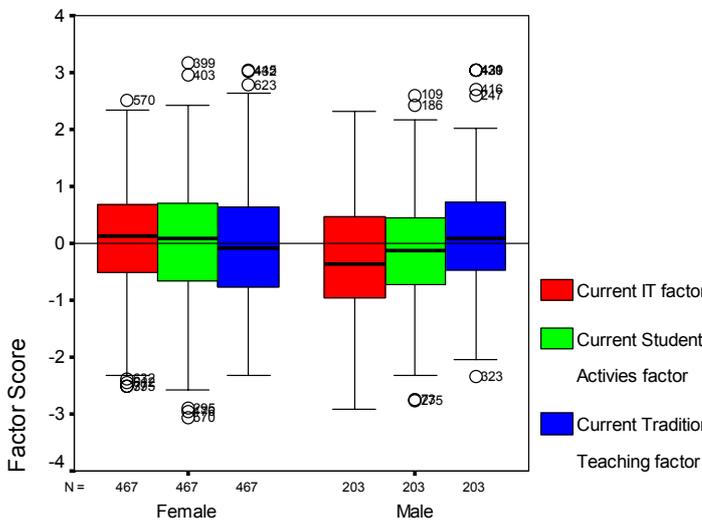


Faculties:

Table 3: Students Analysis on Gender - ANOVA

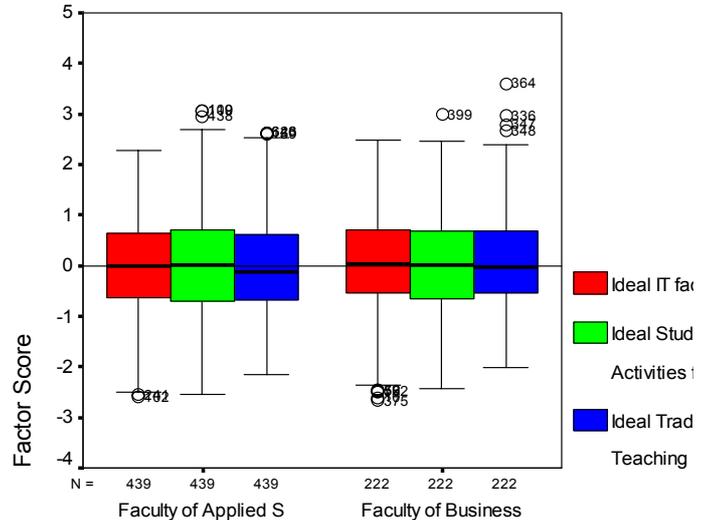
		Sum of Squares	df	Mean Square	F	Sig.
Current IT factor	Between Groups	19.297	1	19.297	19.859	.000
	Within Groups	649.075	668	.972		
	Total	668.371	669			
Current Student Act. factor	Between Groups	5.007	1	5.007	5.007	.026
	Within Groups	668.112	668	1.000		
	Total	673.119	669			
Current Trad. Teaching factor	Between Groups	5.328	1	5.328	5.542	.019
	Within Groups	642.194	668	.961		
	Total	647.522	669			
Ideal IT factor	Between Groups	17.821	1	17.821	17.989	.000
	Within Groups	661.766	668	.991		
	Total	679.587	669			
Ideal Student Act. factor	Between Groups	10.189	1	10.189	10.324	.001
	Within Groups	659.290	668	.987		
	Total	669.479	669			
Ideal Trad. Teaching factor	Between Groups	11.477	1	11.477	12.104	.001
	Within Groups	633.381	668	.948		
	Total	644.857	669			

Figure 2a: Male & Female Students Analysis Based On Classroom teaching practices – Box Plot



Gender:

Figure 2b: & Female Students Analysis Based On Classroom teaching Practices – Box Plot



When comparing the view of Hong Kong students from different gender, both male and female students on average are quite different in their perception on current teaching practices in developing and presenting course information in the Hong Kong Polytechnic University. Female

students tend to think that they are getting more Information Technology teaching (Factor One) in their classes while male students disagreed that the IT elements in current teaching practices in classes was frequently used. Please refer to Table 3.

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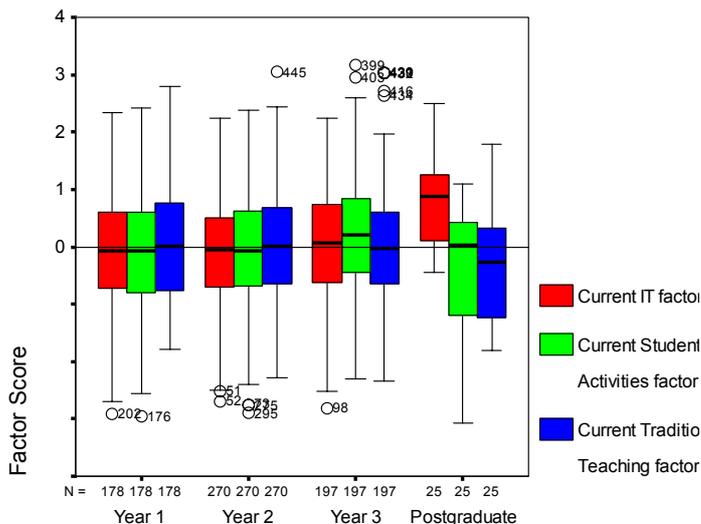
In fact, male students prefer Traditional Teaching (Factor Three) to Information Technology Teaching (Factor One). This can be observed from the fact that the average IT factor scores of the male

students in ideal classroom are significantly lower than those of the female students. Please refer to Figure 2a and 2b.

Table 4: Students Classification - ANOVA

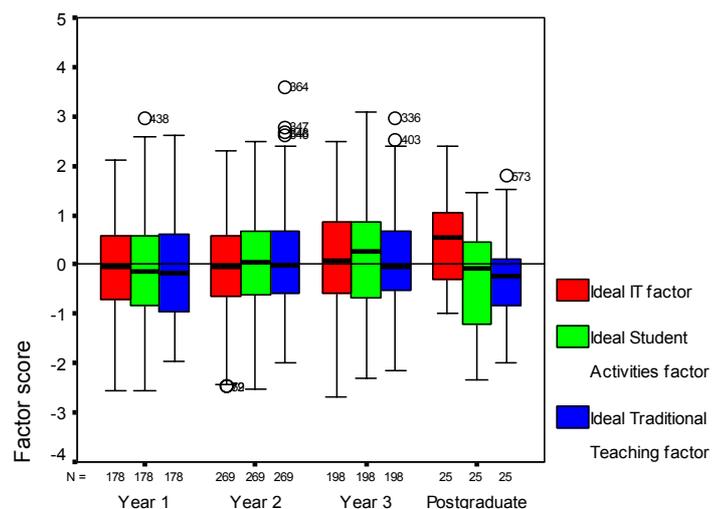
		ANOVA (Among different levels of study)				
		Sum of Squares	df	Mean Square	F	Sig.
Current IT factor	Between Groups	20.839	3	6.946	7.130	.000
	Within Groups	648.819	666	.974		
	Total	669.659	669			
Current Student Act. factor	Between Groups	13.979	3	4.660	4.708	.003
	Within Groups	659.146	666	.990		
	Total	673.125	669			
Current Trad. Teaching factor	Between Groups	2.360	3	.787	.810	.489
	Within Groups	646.746	666	.971		
	Total	649.106	669			
Ideal IT factor	Between Groups	10.016	3	3.339	3.324	.019
	Within Groups	668.852	666	1.004		
	Total	678.868	669			
Ideal Student Act. factor	Between Groups	15.072	3	5.024	5.119	.002
	Within Groups	653.677	666	.981		
	Total	668.749	669			
Ideal Trad. Teaching factor	Between Groups	2.919	3	.973	1.007	.389
	Within Groups	643.363	666	.966		
	Total	646.282	669			

Figure 3a: Students Classification Based On Current Classroom Practice – Box Plot



Classification:

Figure 3b: Students Classification Based On Ideal Classroom Practice – Box Plot



Classification:

The IT factor score (Factor One) and Traditional teaching factor score (Factor Three) are quite similar in the undergraduate students category. Only the average Student Activities factor score (Factor Two) in the category of year three student is significantly higher than those of year one and year 2. As for Postgraduate students, they prefer more IT teaching to traditional teaching. Please refer to Table 4, Figure 3a and Figure 3b.

CONCLUSION

The study reported here represents a first major attempt to examine Hong Kong student expectations of classroom teaching practices in developing and presenting course information and knowledge in Hong Kong tertiary educational institution. Most of the users taught in the business policy and marketing areas. The authors used Principal Component extraction method and Varimax rotation method to analyze the collected data. 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 students' perception and expectation on classroom teaching methods. An extension of this research is to explore more in depth on the issues 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 sic benefits of using multimedia in teaching in 1992.

REFERENCES

- Bruder, I. (1991) "Guide to Multimedia: How It Changes the Way We Teach and Learn?" *Electronic Learning*, September 22-26.
- Ramarapu, N., Cites, T., & Overby, J. (1996) "Multimedia in the Year 2000: How Will It Affect Our Life?" *Developments in Business Simulation & Experiential Learning*, Vol. 23, 175-176.
- Snyder, S.J. (1996) "Multimedia in the Workplace: Who is Really Using it and Where is it Headed?" *Developments in Business Simulation & Experiential Learning*, Vol. 23, 152-156.
- Snyder, S.J. & Vaughner, M.J. (1996) "Multimedia & Learning: Where is the connection?" *Developments in Business Simulation & Experiential Learning*, Vol. 23, 179-180.
- Snyder, S.J. & Vaughner, M.J. (1998) "Multimedia and Student Expectation." *Developments in Business Simulation & Experiential Learning*, Vol. 25, 179-186.

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Appendix One – Survey Questionnaire

Exensively (Almost Daily)
 Periodically (Once/Wk)
 Occasionally (6-7 times/yr)
 Rarely (1-2 times/yr)
 None at all

I anticipate professors/lecturers in our university will use the following techniques to present course information:

1. Lecture	<input type="checkbox"/>				
2. Written handouts or outlines	<input type="checkbox"/>				
3. Class discussion	<input type="checkbox"/>				
4. In-class exercises	<input type="checkbox"/>				
5. Outside classroom assignments	<input type="checkbox"/>				
6. Group activities in class	<input type="checkbox"/>				
7. Student presentations	<input type="checkbox"/>				
8. Overhead projector and transparencies	<input type="checkbox"/>				
9. Videos	<input type="checkbox"/>				
10. Computer presentation software	<input type="checkbox"/>				
11. Electronic-mail	<input type="checkbox"/>				
12. Computer projects	<input type="checkbox"/>				
13. Computer simulations	<input type="checkbox"/>				
14. Computer activities in class	<input type="checkbox"/>				
15. Internet Resources	<input type="checkbox"/>				
16. World Wide Web	<input type="checkbox"/>				
17. Teleconferencing	<input type="checkbox"/>				
18. Distance Learning	<input type="checkbox"/>				

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Exensively (Almost Daily)
 Periodically (Once/Week)
 Occasionally (6-7 times/yr)
 Rarely (1-2 times/yr)
 None at all

In my ideal classroom, professors/lecturers would use the following techniques to present course information:

19. Lecture	<input type="checkbox"/>				
20. Written handouts or outlines	<input type="checkbox"/>				
21. Class discussion	<input type="checkbox"/>				
22. In-class exercises	<input type="checkbox"/>				
23. Outside classroom assignments	<input type="checkbox"/>				
24. Group activities in class	<input type="checkbox"/>				
25. Student presentations	<input type="checkbox"/>				
26. Overhead projector and transparencies	<input type="checkbox"/>				
27. Videos	<input type="checkbox"/>				
28. Computer presentation software	<input type="checkbox"/>				
29. Electronic-mail	<input type="checkbox"/>				
30. Computer projects	<input type="checkbox"/>				
31. Computer simulations	<input type="checkbox"/>				
32. Computer activities in class	<input type="checkbox"/>				
33. Internet Resources	<input type="checkbox"/>				
34. World Wide Web	<input type="checkbox"/>				
35. Teleconferencing	<input type="checkbox"/>				
36. Distance Learning	<input type="checkbox"/>				

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37. 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
38. Do you have a computer at home?
- Yes No
39. Gender:
- Male Female
40. Age:
- 17 years old and younger 21 - 23 years old 30 years old and older
- 18 - 20 years old 24 - 29 years
41. Faculties:
- Faculty of Communication Faculty of Construction & Land User
- Faculty of Applied Science & Textiles Faculty of Business & Information Systems
- Faculty of Engineering
42. Classification:
- Year 1 Year 3
- Year 2 Postgraduate

Thank you