

## DIFFERENCES IN LEARNING STYLES WITHIN A CULTURALLY DIVERSE STUDENT BODY

David Lohmann, Hawaii Pacific University  
1188 Fort Street, Honolulu, Hawaii 96813 (800-544-1157)

### ABSTRACT

The learning styles of 386 students were assessed and the styles of the 277 international students compared to those of the 109 Americans. The learning styles of American and international students differ considerably when compared using three well known learning models. Implications and recommendations are made for teaching within a culturally diverse student body.

### INTRODUCTION

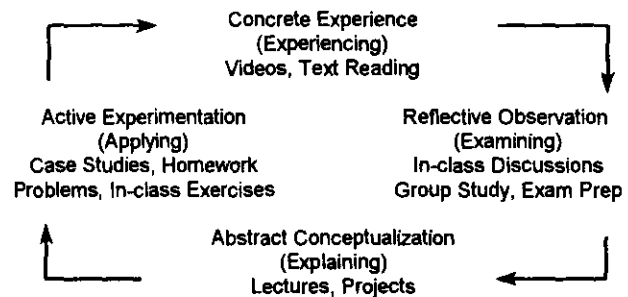
International students are attending American business schools in increasing numbers. With them comes a refreshing impetus to internationalize the Marketing curriculum as well as new experiences for American students. They also bring challenges. Information commonly held by Americans, such as the Tylonol experience, draws blank stares. Cases interwoven with American life ways, such as the classic Edwater Marina, pose unique problems for students raised in cultures with little leisure for the middle class. With time and sensitivity these problems are overcome. Marketing professors incorporate cultural appreciation and analysis of cultural differences into their syllabi. Exposure to American ways leads to increased understanding of the American marketing context. Yet differences remain between the education experienced by American students and by International students. Professors familiar with the multicultural classroom know they are teaching to different sets of learners.

Three models were used to assess learning styles. These were Bloom's taxonomy of educational objectives (Bloom 1956), the Kolb learning model (Kolb, 1976), and a commonly used communications flow process model. The levels of knowledge in Bloom's taxonomy are shown in Figure 1, together with the types of learning techniques associated with each. The Kolb Model is shown in Figure 2. Learning techniques are placed consistent with Ronchetto, Buckles, Barath and Perry (1992). The Communications Process Model used is shown in Figure 3 below. These three models have all appeared in the Marketing Education literature. See Dickenson (1991), Ronchetto (1992), and Pride and Ferrell (1991), respectively.

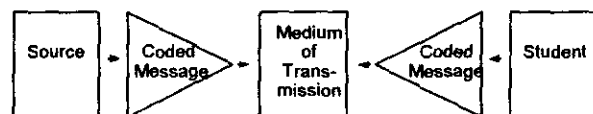
**FIGURE 1**  
**BLOOM'S TAXONOMY OF LEVELS OF KNOWLEDGE**

Levels of Knowledge	Learning Techniques
Synthesis, Evaluation and Judgement	—
Analysis of Relationships	Exercises
Application of Abstractions	Case Studies, Projects and Homework
Translations, Interpretations and Extrapolations	Lectures, Discussion
Knowledge of Ways and Means of Dealing with Specifics	Exam Preparation Text Reading
Knowledge of Terminology and Facts	Memorization, Videos

**FIGURE 2**  
**KOLB LEARNING STYLES**



**FIGURE 3**  
**THE COMMUNICATIONS PROCESS**



### BACKGROUND

The international student faces unique challenges. These can include language barriers and unfamiliarity with American higher education practices such as classroom participation and frequent tests (Selvadurai, 1991-1992). Research has shown the relationship among demographic variables and performance (Hanson and

Swann, 1993), and that high-performance minority students favor certain learning techniques (Kerr, 1992). Nagasawa and Espinosa report that Asian Americans behave in distinctively different ways as college students which may enhance their academic success, but may hinder their acquisition of needed social skills (1992).

Students vary in what they believe learning to be. Some hold that learning is the accumulation of facts; these wish for simple, unambiguous knowledge. Others stress understanding. Students also believe that learning is accomplished in different ways. According to Schommer, these differing perceptions are influenced by family structure, rule conformity and encouragement toward independence (1993). All of these vary as a function of culture. What are the implications of these cultural differences in learning style for the classroom teacher?

### METHODOLOGY

A survey was administered to 386 upper division and graduate students at a multicultural university. The survey captured attitudinal data on learning techniques. Two hundred and ninety-one of the respondents voluntarily provided student I.D. numbers which permitted linking of university registration background and academic performance to the attitudinal measures. The data were collected during the 1993-1994 academic year.

The first section of the questionnaire was composed of 13 statements that students rated on a five-point Likert scale. These tapped student attitudes at various points in the three learning models mentioned above. The second section gathered information on learning activity and included a self-evaluation of learning success. The third section contained three forced ranking/choice exercises on the amount of time spent on various academic tasks and their value as sources of knowledge and information. The last section included demographic information, prior academic experience and self-reported performance measures such as cumulative GPA.

### RESPONDENT PROFILE

#### Population Characteristics

The respondent population was composed of 386 university students enrolled in bachelors and masters degree programs. One hundred and nine were U.S. citizens (US). The 277 students of other nationalities (Int) were from Hong Kong (62), Malaysia (48), Singapore (36), Taiwan (28), Indonesia (24), Japan (12), Thailand (12), Korea (6), and the Philippines (2). The average entering TOEFL score was 569 and ranged from 450 to 900. Seventy percent were the sons or

daughters of business executives or government officials. Genders were equally represented. The average age was 26 and the average work experience was 5.44 years.

### Study Habits and Sources of Knowledge

Respondents reported an average of 7.51 hours a week studying and preparing for one class. Study and preparation time was spent as follows:

Writing case analyses	22	%
Reading cases	17	
Exam preparation	14	
Reading text material	13	
Doing projects and working in groups	10	
Doing homework problems	8	
Other	3	
Out of Class	87	%
In-class time	13	%
Total	100	%

The best to the least valuable sources of knowledge and information were rank ordered and the percentage of knowledge and information gained by source was estimated by the respondents. The results are shown in Table 1.

**TABLE 1  
LEARNING SOURCE VALUE**

Rank Avg.	Activity	Avg. % of Knowledge Gained From Source	US	Int	F	Sig
1	Lectures	25	29.10	23.50	6.22	.0130
2	Case readings	10	9.50	10.00	-	n.s.
3	Case analyses	13	11.10	13.20	-	n.s.
4	Text readings	12	13.10	11.80	-	n.s.
5	In-class discussions	7	5.70	7.20	-	n.s.
6	Homework problems	5	6.00	5.50	-	n.s.
7	In-class exercises	6	6.80	6.20	-	n.s.
8	Projects	6	6.10	5.40	-	n.s.
9	Group study	4	3.70	3.80	-	n.s.
10	Exam preparation	7	4.45	7.68	11.62	.0007
11	Videotapes	5	3.90	5.70	4.63	.0320

Students report that they expend only 13% of their time in class activity, yet report that 38% of the knowledge and information are gained from this activity. In-class activity may be a culminating event where students reap the reward of preparation.

### RESULTS

The American and international students were compared using crosstabs  $\chi^2$  tests and differences between means F tests. Factor analysis and discriminant analysis were used to collapse the variables and to test the supposition that there are fundamental differences between the two groups. A comparison between the Americans (US) and international students (Int) of study and preparation time is shown in Table 2.

**TABLE 2**  
**STUDY AND PREPARATION TIME**

Activity	% of Time Spent		F	Sig
	US	Int		
Reading cases	14.9	17.5	-	n.s.
Writing cases	25.6	20.0	9.7	.0020
Reading text	15.3	12.2	6.0	.0145
Group study	.9	2.5	10.1	.0016
Projects	9.4	7.0	-	n.s.
Homework	5.7	8.6	-	n.s.
Studying for exams	10.3	15.8	17.3	.0000
In-class time	12.7	12.9	-	n.s.
Other	5.2	3.5	-	n.s.

The international students are spending their time on the traditional lower-level activities on the Bloom taxonomy, whereas the American students are devoting more time to the analytical work of case analysis. In addition, the international students require greater time to comprehend the case readings.

International students judged their memorization skills to be better than their analytical skills. Americans believed the opposite ( $\chi^2 = 17.2, 4, .001, n = 386$ ). International students had less confidence in their ability to understand lecture material ( $\chi^2 = 30.7, 4, .0000, n = 386$ ) and in their ability to arrange the course material into an organized outline ( $\chi^2 = 10.55, 4, .03207, n = 386$ ). Not surprisingly, the international students strongly believed that better English ability would significantly enhance their academic performance ( $\chi^2 = 99.0, 5, .00000, n = 386$ ).

There was no significant difference between the two groups in the students' confidence in their ability to master the course material. The international students were not as confident in their ability to participate in a discussion about the major course topics, however, ( $\chi^2 = 14.75, 5, .01146, n = 386$ ) or in their ability to apply the material learned in the course to actual business situations ( $\chi^2 = 9.69, 5, .04590, n = 386$ ). There was no difference between the groups in their enthusiasm for learning more about the topics covered in the course, nor was there a difference between the groups on the number of study hours devoted to the course.

There was no difference in average class performance (US - 88.92%, Int - 88.90%), or in average self-reported GPA. There was a strong correlation between the students' confidence in their higher order learning skills and their performance ( $r = .2897, p = .000, n = 245$ ) and there was a significant relationship between it and actual GPA ( $r = .1500, p = .017, n = 251$ ). There was a significant negative correlation between lower order learning skills and performance ( $r = -.1458, p = .022, n = 245$ ). Similarly there was a negative correlation

between lower order learning skills and actual GPA ( $r = -.1329, p = .033, n = 251$ ). Lecture comprehension was predictive of performance ( $r = .2335, p = .000, n = 254$ ).

Stepwise discriminant analysis yielded consistent results. The two groups are different on the amount of time they spend studying in groups (Int more, US less), doing homework problems (Int more, US less), and studying for exams (Int more, US less). They also differ on the importance they place on project work (US more, Int less) ( $\chi^2 = 25.878, 5, .0001, n = 97$ ). Cluster analysis using these variables correctly classified 70.60% of the students.

Factor analysis of the Likert scales yield three factors. One of these describes higher order analytical reasoning skills, another describes understanding and motivation, and the third the ability to understand the material. When used as dependent variables to discriminate between the two student groups, 90.4% of the international students were correctly classified, and 44% of the American students were correctly classified for an overall correct classification rate of 77.96%.

#### DISCUSSION AND RECOMMENDATIONS

The three models provide insights into the differences in fundamental learning processes between the two groups. The locus of the international students on the Bloom taxonomy of levels of knowledge is at the levels which emphasize specificity and the accumulation of knowledge, whereas the locus for American students is at greater levels of abstraction. In the Kolb model, international students appear to use reflective observation and abstract conceptualization to a greater extent than American students who appear to emphasize active experimentation and concrete experiences.

The communications process model also shows substantive differences between the two groups. The international students, comprehending far less of the lecture material they highly value, substitute other sources they can eventually understand through time and effort. These include homework, additional reading and exam preparation. They also use alternative methods of transmission by more extensive group study. Without the requisite skills to comprehend more sophisticated reasoning concepts due to a lack of English proficiency, the international student increases his or her efforts on the more comfortable skills of memorization, exam preparation and compliance with specific homework instructions from the teacher. They may find comfort from the stress of lack of comprehension in group study. They may hope that these will be acceptable substitutes to make up for their

difficulty in handling the complexities, subtleties, and ambiguities of case analyses.

There is little question that international students will continue to highly value an American university degree. According to this study, the credential is very important to these students. But they also value the opportunity to obtain the skills necessary for a successful business career. What can American business schools provide these students? English comprehension difficulties limit them to the lower orders of intellectual abstraction of the concepts and the ideas presented to them. If these were presented in their native language, no doubt they could master them as American students do in their native tongue. Given in English, however, they may only be getting the credential and not the higher knowledge skills required to succeed in their careers. Their overall academic performance on a par with American students can be attributed to their ability to substitute certain academic skills for others, a student evaluation system that measures performance on a broad range of intellectual tasks, and sheer hard work.

At its worst, a multinational class degenerates into a group of talkative Americans hotly debating an issue embedded in the American culture, while uncomprehending international students desperately try to hear the instructor interject something they can put in their notebooks and memorize. At its best, it becomes a platform for mutual respect and understanding and source of advancement for everyone's set of meaningful skills and abilities. What should the teacher do?

1. Recognize the English language limitation and make adjustments. Use the written word more rather than less. Allow tape recorders; provide lecture outlines.
2. Allow greater cycle time between assignments to permit the international student to substitute hard work for English skills.
3. Set the stage for a case discussion by explaining its cultural context. Alternatively, try to take any classic case, e.g., Wall Drug, out of its American context. It is an enlightening experience.
4. Practice thinking in the cultures and languages of the students. Ideas which may sound rudimentary when expressed in simple English may, in fact, be complex and sophisticated when put in the student's cultural context.
5. Stretch the abstract reasoning skills of the international students by providing a wide variety of in-class challenges that can be done in the relative safety of groups.

Lastly, recognize the tremendous asset that these international students represent. Properly integrated into the American business classroom, they can be the windows through which everyone in that classroom can fully appreciate the global village in which we live.

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