IMPACT OF LARGE SECTIONS ON AFFECTIVE LEARNING

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ABSTRACT

Financial and other resource constraints have caused many institutions to teach principles of marketing in large sections. Affective learning is associated with interest in the subject matter, and ultimate selection of a major. This paper describes the results of a study aimed at addressing this, and other affective learning issues. Based on the results of the study, recommendations are made to enhance the affective learning in large sections.

INTRODUCTION

Funding and resource limitations have forced business programs to handle demand for introductory courses in large mass-lecture settings. These factors, combined with the concerns of the business community regarding the quality and content of business education, require that the issue of large classes be reevaluated.

The question for many institutions is, given that large mass-lecture sections are necessary, how can these sections be taught in a manner that increases student interest in the subject area? Also of interest is the issue of how large lecture introductory sections might influence the probability that the students will choose the subject for their major area of study.

CLASS SIZE LITERATURE

Initial research into the effects of class size, conducted by Edmonson and Mulder [1924] found little difference, based on exam scores, in performance for large and small classes. Since that initial work, continuing research has produced mixed results for performance and learning in large vs. small classes. McKeachie [1980] provides a thorough review of this literature.

More recently, Guseman [1985] conducted research to test the influence of class size on the types of learning which occurs; low level cognition (knowledge of concepts), high level cognition (ability to apply concepts) and affective learning (attitudinal change). The results showed that class size did not influence the amount of low level cognitive learning, with equivocal results for high level cognitive learning.

A significant result of the Guseman [1985] study showed that affective learning, as measured by the amount of attitude change, was greater for the smaller section. Interest in the course had declined for the large class, while it had increased for the small class. A greater percentage of students in the smaller class switched to marketing as their major field of study. Guseman concluded that based on the percentage of students changing to a marketing major, schools may be sacrificing long-term increases in marketing majors for short-term efficiency in the utilization of resources when implementing large mass-lecture sections in introductory courses.

Although there does not appear to be unequivocal support for differences in cognitive learning between large and small classes, the differences in affective learning and the probability of choosing a major is of significant interest. One possible explanation for the differences in affective learning is the theory the students stereotype classes on the basis of large versus small classes [King 1983].

King [1983] investigated the differences in beliefs regarding a list of twenty potential outcomes or returns associated with and introductory management course. The students were asked to state their belief that each outcome would be superior in a large or small class. The results suggested that stereotyping on the basis of class size may affect students' expectations about the class from the beginning. An inaccurate set of expectations may influence a student's overall evaluation of the course.

Past research suggests a number of other factors which may influence students' final declaration of a major. These factors include: personal interest in the subject matter; job opportunities and perceived relevance of the subject area [Kerin, Harvey and Rothe

1978]; course interest; long-term earning potential; job image and job orientation [Willenborg, Pitts and Lewinson 1978]; specific course offerings; perceptions of faculty and specific career opportunities [Gaertner, Terpening and Pitts 1982].

Gaertner et al [1982] expanded these factors to include personal factors that might influence students' evaluation of an area of study. The researchers concluded that academic factors, such as workload, quality of the faculty and career perceptions, were of the greatest importance in the evaluation and choice of a major area of study. For marketing, career relevance and quality of the faculty had the greatest impact on the student's attitude toward a marketing major. Attitude, in turn, had the largest influence on the choice of a major.

THE STUDY

Previous research into the effects of class size, attitudes toward individual courses and selection of a major, indicates that introductory classes may have a substantial impact on the probability of a student choosing a major area of study. Based primarily on the work of Guseman [1985] and King [1983], this study was designed to test the impact of general expectations regarding large sections, and the effects of expectations and affective learning during the course on the final course evaluation and probability of a marketing major.

Large section experiences and expectations where measured with questions regarding the number of large section classes taken, and the students' affective responses to these courses. Affective responses measured included: large sections as a learning experience; visual display of material during lecture portion; level of anxiety experienced relative to small sections; and the students' overall rating of their best and worst large section courses. These items provided a summary of general expectations regarding large section courses based on the students' past experience. Affective learning during the course was felt to be a function of these past experiences, and of course specific expectations and outcomes. Consequently, students' were asked in the pre- and post-test to evaluate general feelings toward the course.

Research Design and Preliminary Analysis

The study was conducted in two large sections of the introductory course in marketing. Both sections were taught by the same instructor, using the same instructional techniques, on the same days of the week. The first section, Section 1, had an enrolment of 198, while the second section, Section 3, had an enrolment of 150. The questionnaire was administered as a pre-test during the first class period, and a post-test during the final class period. Student identification numbers were optional, as required by University regulations. Section 1 produced 114 usable responses to the pretest and 137 response to the post-test. Section 3 provided 85 responses to the pre-test and 76 responses to the post-test.

The initial analysis determined the frequencies and means for responses to each question. Table 1 shows the mean results for the sections 1 and 3 combined. The mean scores were based on an average of 198 responses for the pre-test and 209 responses for the post-test. On a combined basis, 79.6% of the respondents were enroled in the business school. The probability of a student choosing each major area of study was evaluated on a 10-point scale, ranging from 0 to 1 in .1 increments. Low probabilities associated with each major suggest that the students were very uncertain regarding their choice of major during their first semester of the business program.

TABLE 1
PRE- AND POST- TEST MEANS

Variable	Pre-Test Mean	Post-Test Mean
# Large Classes	6.705	6.962
Evaluation of Large Classes		
Learning Experience (1-7)	4.025	4.232
Visual Material (1-7)	4.332	4.679
Anxiety: Large vs Small (1-7)	5.520	5.756
Rating Best Large Class (1-7)	7.454	7.637
Extend Looking Forward to Course (1-7)	5.432	5.075
Evaluation of Large vs. Small Classes (1-7)	3.426	3.871
Anxiety: This Course (1-7)	3.472	2.406
Interest in Course (1-7)	5.372	5.064
Importance to Career	5.040	4.910
Rating of Course (1-7)	7.188	7.213
Probability of Major (.1-1.0)		
Marketing	.2492	.2885
Accounting	.2233	.2759
Finance	.2233	.2814
Information Systems	.1308	.1511
Management	.1467	.0725

Responding students had taken an average of 6.7 large classes. The determination of what constitutes a large classes was left to the respondents. However, most lecture halls on the university campus held more than 100 students. Other classrooms had an average capacity of 50 students. An informal poll of students indicated that this criterion was normal to make the distinction between "regular" and "large" sections.

For the pre-test, students were asked to respond to

several questions regarding their past experiences in large classes. Overall, the students rated the lecture portion of their large classes poorly. The respondents appeared to have relatively low expectation for a large class, and were more anxious regarding large classes. Questions specifically addressing the introductory marketing course showed the students' expectations for the course were tempered with their concern over the quality of large vs. small classes.

The post-test means showed that their initial expectations had been met. The level of interest and feeling regarding the importance of the class had changed very little. However, the feelings that the course would be better in a small class had been moderated (x=3.871), and their anxiety had declined substantially (pre-test x=3.472, post-test x=2.406). Anxiety may be viewed as relating to the predisposition toward affective learning.

Results of the Regression Analysis

Since the study combined factors from a variety of previous work, no specific hypotheses were delineated. Stepwise regression was used to evaluate the relative importance of various factors. Analysis was conducted for the pre-test and post-test in order to determine the relative influence of the variables on the level of affective learning and probability of declaring marketing as a major.

Pre-test results were analyzed to provide an evaluation of students' expectations and attitudes coming into the course. Results of the pre-test regression are outlined in Table 2. The analysis investigated generalized expectations for large sections, along with specific expectations for the course.

The students' evaluation of how the course in a large section would compare to a course in a small section was negatively related to their evaluation of how large classes compared to small sections as a learning experience (R_2=.1493, sign=.000). Although this analysis suggests that past experience does not have a great deal of influence on current expectations, further analysis suggested that was not the case.

General affective responses to the course were consistently influenced by past experiences. The level of anxiety experienced for the course was positively related to the overall level of anxiety that the students experienced in large versus small class (R_2=.0533, sign=.002). The level of expected interest in the course was a function of the students' expected rating of the course (b=.443), their rating of their best large course (b=.130), and attitude about how important the course would be to their career (b= -.999). These factors accounted for 55% of the variation in the students' expected interest in the course (R_2=.549, sign=.000). It appeared that past experiences had a significant impact on general affective responses prior to beginning the course.

Investigation of the relationship between expected outcomes, affect and experience told a different story. The extent to which the students were looking forward to this class was related to their expected interest in the class (b=.613), was higher for non-business students (b= -.543), and positively related to their expected overall rating of the course (b=.332). The regression equation showed that 59% of the variation in the extent to which the students were looking forward to the class was explained by these three factors (R_2=.5904, sign=.000).

The anticipated rating of the course was a positively related to the level of interest (b=.467), being a business student (b=.560), and the extent to which the student was looking forward to the course (b=.402). However, anticipated rating was negatively related to students' evaluation of the course's importance to their career (b= -.1554). The regression equation explained 67% of the variance in the anticipated rating of the course (R_2=.6749, sign=.000). From these results, it was apparent that student anticipation was related to their degree of interest in the subject coming into the course, whether the course was optional or required, and their expectations for the course.

TABLE 2
Pre-test Stepwise Regression Results

Dependent	Independent	Beta	Partial	R^{2*} Change
Lrg vs Small	Large/Learning	-.476		
R^2 = .1493				
Anxiety Felt	Anxiety Lg/Sm	.2263		
R^2 = .0533				
Interest	Rating	.4432	.6075	.497
R^2 = .5499	Best Lg Class	.1296	.2477	.037
	Career Import	-.0992	-.1834	.015
Extent Look-	Interest	.6134	.3389	.373
ing Forward	Major	-.5429	-.4391	.155
R^2 = .5904	Rating	.3321	.3606	.061
Rating of	Interest	.4667	.3184	.590
Course	Major	.5599	.3488	.021
R^2 = .6749	Look Forward	.4020	.3682	.046
	Career Import.	-.1554	-.2169	.016
Prob. of				
Marketing	Anxiety Lg/Sm	-.8324		
R^2 = .0579				

* Significance of F Change above .05 level

Overall, the pre-test results were consistent with the expectations theory outlined by King (1983). The results suggested that students' who had been exposed to relatively fewer large classes, and whose experiences in these classes had not been positive, tended to project these experiences in their expectations for the introductory marketing course taught in large sections.

Results of the post-test analysis, contained in Table 3, followed the pattern established by the pre-test. Post-test attitudes appeared to be the result of previous experience with large sections, and the degree to which the students' expectations were met during the course.

The students' post-test evaluation of the introductory marketing course in a large versus small section was related to a number of affective factors. There was a positive relationship between the students' pre-test evaluation of the course in large vs. small sections (b=.937). The relationship was negative for other affective variables; post-test importance of the course (b= -.490) and post-test level of anxiety (b= -.441). The three variables explained 72% of the variance in evaluation of the course in a large vs. small section (R_2=.7242, sign=.000). These results suggested that students who were positively inclined toward large courses, continued this attitude after the course. However, students' who rated the course as more important (possible marketing majors?), and those who experienced more anxiety were more liking to rate the large section poorly.

The post-test level of anxiety experienced by the students' was higher for those of stated a higher probability of information systems as a major (b=.577) and negatively related to their actual grade in the course (b= -.395). These factors explained 72% of the variation in the level of anxiety experienced by the students at the end of the course (R_2=.7193, sign=.000).

Whether the students felt the course to be interesting was a negative function of a variety of factors. Most importantly, the level of interest was negatively related to the extent to which the student was looking forward to the course (b= -.614), the expected rating of the course (b= -.483). It appears from this analysis that the course did not live up to the students' expectations. The initial mean score analysis may have masked student dissatisfaction. This result then had an impact on the students' stated probability of marketing as a major.

The final analysis for the post-test investigated the probability of marketing as a major. Only the students' pre-test probability of marketing as a major was significant in the regression equation (R_2=.7692, sign.=.000). It appeared these students were not inclined to change their major area.

TABLE 3
Post-test Stepwise Regression Results

Dependent	Independent**	Beta	Partial	R^{2*} Change
Lrg vs Small	Pre-test Lg/Sm	.937	.733	.387
R^2 = .7242	Importance	-.490	-.545	.232
	Anxiety Lg/Sm	-.441	-.324	.105
Interest	Look Forward	-.614	-.467	.610
R^2 = .9606	Rating	-.483	-.357	.185
	Prob. of Mgmt Major	-.144	-.201	.056
	Pre-test Rating of Worst Class	-.314	-.322	.041
	Worst Class	.183	.129	.028
	Prob. of Mktg. Major	-.076	-.189	.041
	College of Bus.	-.527	-.198	.017
Prob. of Mktg Major	Pre-test Prob.	.877		
R^2 = 7692	of Mktg Major			

* Significance of F Change above .05 level
** All are Post-Test responses unless indicated

The post-test results provided tentative support for King's (1983) expectations theory. For most of the relationships investigated, past experiences appeared to produce expectations about large classes. The results suggest that if expectations were not met in the course, then the students' attitudes about the course became more negative.

CONCLUSIONS

The results of this study are relatively consistent with the results and major hypotheses of past research [King 1983] [Kerin, Harvey and Rothe 1978] [Gaertner, Terpening and Pitts 1982]. Student expectations coming into the course are influenced by the number of large classes taken in the past, and their experiences in these classes. These expectations, in turn, influence the students' post-test evaluation of the course.

Past research results by King [1983] and Gaertner, Terpening and Pitts [1982] suggest that the probability of declaring marketing as a major should be influenced by the students' level of interest in the course, and the perception of how important this course will be to their career. Our research did not find these factors to be significant in the choice of major. However, our results do indicate that the students' evaluation of their

interest in the course, and their evaluation of the course's importance to their careers did influence their final rating of the course. The lack of results regarding the probability of marketing as a major may have been related the slightly negative evaluation of the course and low level of commitment the students had made to specific majors. In the post-test results, the highest mean probability for a major area was marketing, with a probability of .288. Therefore it appears that the majority of the students' had not made a firm decision regarding a major.

Overall, the study demonstrated the importance of three factors to the success of large mass-lecture sections. First, the instructor must set realistic expectations regarding the course to overcome the influence of past experience and to avoid disappointment at a later date. Second, the instructor should attempt to reduce the level of anxiety regarding the course, and the large class size. It appears that high levels of anxiety tends to have a negative impact on the final assessment of the course. Finally, in order to build interest in marketing during the course, institutions should have their best instructors teaching the course. These instructors are better able to create the level of enthusiasm and interest needed to move students toward declaring marketing as a major.

The study had several limitations which might be overcome in future research. Required student identification would ensure that valid difference scores were available for individual level analysis. The response to the probability of marketing as a major item might be substantially increased by requiring only the probability of the marketing major. The survey item in this study required the student to estimate probabilities for ten potential majors. Finally, it would be of interest to compare the results of a similar study to the actual student evaluations of the instructor.

More research is needed to address this important issue. Continuing research efforts should be designed to gauge the impact of large sections on the subsequent success of marketing students in their careers. This research should be longitudinal in nature, perhaps observing groups of students over multiple semesters.

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