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## The Relationships Among Student Learning Styles, Course Delivery Method, and Course Outcomes: A Quasi-Experiment Investigating the Case Method of Course Delivery

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# The Relationships Among Student Learning Styles, Course Delivery Method, and Course Outcomes: A Quasi-Experiment Investigating the Case Method of Course Delivery

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**Abstract** – This study seeks to determine the impact of the case method of course delivery on the marketing education outcomes of experience with the marketing major and attitude toward the major. The study relies on a field, quasi-experiment consisting of undergraduate students from a large Midwestern university. Students participating in the study were enrolled in one of four courses, two of which rely on case method pedagogy as its primary means of delivering the content. In addition, student learning styles and the potential for those styles to interact with case method pedagogy to impact the outcome variables were examined. Results indicate that case method pedagogy is significantly related to experience with the marketing major and attitude toward the major. In fact, case analysis is one of only two teaching methods studied to significantly affect the former and the only one to significantly affect the latter dependent variable. However, case method pedagogy did not interact with student learning styles to impact the two outcome variables. These results provide preliminary evidence as to the efficacy of a common business school pedagogy, the case method, and they provide initial evidence of a research program that should continue with follow-up investigation.

**Key Words** – marketing majors, learning styles, case method pedagogy, course outcomes

**Relevance to Marketing Educators, Researchers and/or Practitioners** – This study examines and supports the value of case-based pedagogy and its effect on student perceptions of the marketing major and their learning. The results provide guidance for educators in developing and implementing effective undergraduate marketing courses and for employers seeking marketing graduates who can effectively translate their education into real-world problem solving and success.

## Introduction

Assessing educational quality and outcomes has become a major issue for institutions of higher education and this emphasis area is being embraced within the disciplines of business education. Toward addressing this research agenda, several topics have been recognized as being significant issues for investigation in business education, including student vs. instructor course-design preferences, student learning styles, and outcomes assessment (Tarasewich and Nair, 2000). Many of these topics have been in the mainstream of educational research for decades. Yet, the growing emphasis on understanding and producing educational quality in all disciplines is kindling fresh attention and challenging educators to extend existing research as well as expand research into new ways of examining these topics.

In business education, for instance, the case method of course delivery and learning has been an accepted pedagogical staple since it was developed and adopted at the Harvard University Law and Business Schools in the early 20<sup>th</sup> Century. Today, the active learning experience of case analysis, with its emphasis on critical thinking and problem solving, seems to be an automatically accepted and adopted teaching method in business courses almost beyond question. Yet, in reality, little extant research has rigorously examined the effectiveness of the case method of teaching in achieving course objectives. In addition, existing research varies significantly about the effectiveness of case analysis in teaching, with widely different results being reported (e.g., Jennings, 1996; Rees and Porter, 2002).

Similarly, it is a well-accepted axiom throughout higher education that students have different learning styles and course design preferences and that matching student learning styles to instructor teaching style and course design can dramatically enhance the quality of the student experience and improve learning (e.g., Bristow et al., 2011). Various contemporary reports espouse that student learning experiences should be the central focus of higher education efforts and that to enhance those efforts instructors need to recognize the potential for students to exhibit diverse learning styles. Such recognition assumes that if students are presented with the course material in a manner that coincides with their preferred style of learning, greater learning will result and students will be more satisfied with their educational experience. Yet, surprisingly little research to date has been conducted to actually assess and affirm the outcomes associated with matching various pedagogies to specific student learning styles.

Consequently, the specific teaching-learning objectives under consideration in this research are twofold. First, a goal of this research is to gather evidence regarding the efficacy of one pedagogy (case method) for delivering course content in senior-level marketing courses as compared to other course designs. In addition, the research seeks to determine if a student's particular learning style interacts with the case method of teaching to influence course outcomes. This research is based on the argument that there is a lack of research supporting the efficacy of the case method in achieving targeted course outcomes. Furthermore, there is a dearth of knowledge in the marketing discipline regarding the learning styles of its majors and if those learning styles relate effectively to how courses are taught. Examining these topics

together as determinants of student learning experiences and course outcomes in business education begins to provide richer and more accurate insight into the relationships among course design, student learning styles, and course outcomes. This insight can be the basis for improving educational quality and student performance by better matching course design and student learning style in marketing courses.

Research Background

## Case Method and Course Design

In the United States, case analysis in education was pioneered at Harvard University's law and business schools during the late nineteenth century and early twentieth century (Calkins, 2001; Jennings, 2002). Since then, case studies have assumed a major role in business education. The term "case method" has come to refer to a wide range of course designs and teaching approaches that can be adopted within the context of using case studies for teaching (Dooley and Skinner, 1977). Regardless of the specific pedagogical application of case method, the use of case studies is often valued as an active learning tool. In general, the case method is touted as yielding a variety of desirable learning experiences and outcomes, including 1) relating theory to practice, 2) illustrating specific points, issues, and managerial principles, 3) developing critical-thinking and analytical skills through synthesis, 4) confronting "real-world" situations and complexities, 5) developing interpersonal skills, communication and listening, and 6) mastering course concepts through application (Dowd, 1992; Jennings, 2002; Rees and Porter, 2002).

Despite wide-spread acceptance and use of the case method in business education and the benefits associated with such active learning tools, surprisingly little research has actually examined and provided empirical support for the connection between the case method of teaching and specific, targeted course outcomes. Scholars have noted that a case-based pedagogy can yield varying outcomes, not all of which are positive (Jennings, 1996, 2002; Uslay, 2007). Significant reasons for this could be misuse of the case method as a teaching tool and lack of understanding of case method strengths and weaknesses. Moreover, a mismatch may occur between an instructor's teaching style, case method strengths, and desired course outcomes. Argyris (1980) found that case method as employed in an executive training seminar did not operate in a manner that facilitated a desired objective – to have students explore open-ended situations in which there was no right answer. Rather, the case discussion became structured to converge with the instructor's own desired analysis and recommendations. This is similar to findings by other researchers that overuse of the traditional case method (TCM) can create disinterested and frustrated students (Lincoln, 2006; Uslay, 2007). Therefore, there is reason to conjecture that case method has characteristics that make it useful when combined with appropriate instructor teaching style, student learning style, and specific course outcomes. Alternatively, other teaching tools (e.g., simulations and games, lectures, field activities) are often better at achieving certain course outcomes than case analyses. For example, limited studies have shown that simulations may be superior to case studies in yielding desired course outcomes such as integrating across functional areas, problem solving, gaining the perspective of top

management, and adding realism (e.g., Miles et al., 1986; Jennings, 2002).

## Case Method and Student Learning Experience

When considering the wide-spread, pervasive acceptance and application of the case method as a teaching tool in business education, continuing research is needed to examine and support empirically the potential relationships between case method as a specific pedagogy and the student learning experience. This is especially true in the context of the current environment of higher education, which increasingly demands accountability for teaching effectiveness across disciplines, including business education. For example, a Task Force on Effective and Inclusive Learning Environments (1998) sponsored by the American Assembly of Collegiate Schools of Business (AACSB), recognized the need for university professors to match teaching styles with their students' learning style differences. The AACSB task force's report reinforces previous sentiments included in reports published by the Education Commission of the United States (1996) and the Kellogg Commission on the Future of State and Land-Grant Universities (1996). Taken together, these reports affirm that student learning experiences should be the central focus of higher education efforts and that to enhance those efforts instructors need to recognize the potential for students to exhibit diverse learning styles.

This evolving context of higher education has provided the impetus for researchers to explore the relationships among course design factors and student learning experience, including learning styles. It is interesting to note, however, that as this body of research grows, there is a lack of consensus as to what is meant by *student learning style*. A review of the literature on learning styles reveals differences as to whether one is referring to preferences a learner has for different pedagogies or the actual process of acquiring and processing information while engaged in a learning activity (Davis et al., 2000). The former view of learning style concerns how the content of a course is delivered and may be defined as those conditions enhancing the affective component of the educational experience motivating a student to choose, attend to, and perform well in a course (Canfield, 1994; Stewart and Felicetti, 1992). The latter view of learning style is defined as the student's particular manner of acquiring knowledge, skills, and attitudes through study and/or experience (Curry, 1991). The manner of acquiring knowledge displayed by students is influenced by individual differences in how people absorb information, think, and solve problems (Garger and Guild, 1984; Witkin et al., 1977). While the second perspective has been examined in a variety of educational contexts for several decades, to date almost no research explores this perspective within business education disciplines.

Building on the previous research background and the need for more outcome-based research, this paper seeks to link both aspects of learning style to student outcomes by exploring the following research questions:

*Research question 1:* How effective is the case method of course delivery at achieving specified course outcomes (e.g., positive student attitude toward the course) as compared to other course delivery methods? This question examines the relative effectiveness of case method compared to other course delivery techniques and adopts

the first definition of learning style by comparing affective outcomes when a course emphasizes case method pedagogy versus an alternative pedagogy.

*Research question 2:* Does the case method of course delivery moderate the relationship between student learning style and course outcomes? This question examines an alternative view of learning style by investigating the relationship between a student's natural method of acquiring knowledge, skills, etc. and student outcomes within the context of specific course delivery methods.

## **Methodology**

### *Sample*

The sample for this study consisted of 115 undergraduate students enrolled in upper-level marketing classes at a relatively large (21,000 total students) Midwestern university. Students participating in the study were enrolled in at least one of four courses: 1) the capstone undergraduate Marketing Strategy course, 2) Business-to-Business Marketing, 3) Retail Management, and 4) Integrated Marketing Communications. These courses were chosen because students within the courses were similar in terms of age (mean = 21.6 years), college major (marketing), and class standing (seniors), thus controlling for these variables as potential sources of variance in the dependent variables. In addition, these courses were chosen because two of them (Marketing Strategy and Business-to-Business Marketing) primarily rely on the case method of teaching to deliver course content while the other two courses rely on different pedagogical methods. Since one of the purposes of this study is to compare course outcomes when the case method of teaching is used versus outcomes obtained when other teaching methods are used, finding courses that capture this distinction was important. Overall, our sample included 60 males and 55.

### *Measures*

The scales utilized for this study were taken from extant literature with minor modifications to fit the current study's context. All scales are based on previous studies and are included in the appendix.

The teaching methods measure consisted of asking respondents to indicate how effective they believed each method was for achieving course learning objectives (Davis et al., 2000). The effectiveness of each teaching method was measured using a Likert-type, one to seven scale with anchors of "Not Effective At All" and "Extremely Effective." Nine different teaching methods were measured in the scale (Davis et al., 2000). Student learning style was measured using the index of leaning styles questionnaire developed by Solomon and Felder (2002). The questionnaire contains 44 items, the responses to which provide assessments of students' particular learning style on four dimensions with each dimension representing a dichotomy between two different learning styles. Dichotomies that help define the type of learner a student may be include active versus reflective learners, sensing versus intuitive learners, visual versus verbal learners, and sequential versus global learners. Student outcomes were measured with two scales measuring the overall experience a student had as a

marketing major at the university and the overall attitude the student has toward the major. The first scale, measuring student experience with the major, is a six-item, semantic differential scale that seeks to measure one's overall experience as a marketing student at the university (Davis et al., 2000). The second scale, developed for this project as a global attitudinal measure, contained three Likert-type items measuring one's general attitude toward marketing as a major.

### *Measure Reliability*

Reliability estimates for the students' experience with marketing as their major and their attitude toward the major were calculated using Cronbach's alpha. The alpha coefficient for experience with the major was .90 and for attitude toward the major the coefficient was .84 thus indicating an adequate level of reliability (Nunnally, 1978). Measuring reliability for effectiveness of each of the nine teaching methods was not possible because each method was measured using a single item. Finally, estimating reliability for the learning styles measure was not appropriate because of the manner in which learning style was assessed. Each of the dichotomies identifying individual learning styles was measured with eleven items. The cumulative responses to those eleven items determined the type of learning style preferred by that individual student. For example, the active/reflective learning style dichotomy was measured with eleven items that tapped into that student's preference for learning and understanding information by doing something active with it (an active learner) or by sitting quietly and thinking about the information (a reflective learner). To the extent that students indicate preferences for an active learning style, the active/reflective dichotomy score will be positive. On the other hand, if students indicate preferences for a reflective learning style, the active/reflective dichotomy score will be negative. The same procedure was used to measure students' learning preferences on the sensing/intuitive dichotomy, the visual/verbal dichotomy, and the sequential/global dichotomy.

For the two reflective constructs of experience with the major and attitude toward the major, validity of the measures was assessed using confirmatory factor analysis. The confirmatory factor analysis for the measurement model with the two constructs included was deemed adequate with fit statistics of  $\chi^2 = 35.03$  with 25 degrees of freedom ( $p = .088$ ), goodness of fit index of .94, non-normed fit index and comparative fit index of .98 and .99 respectively, and root mean square error of approximation of .055. In addition, discriminant validity between the two constructs was assessed using the procedure recommended by Anderson and Gerbing (1988). The chi-square difference between the two analyses when the correlation between the two constructs was constrained to unity and when the parameter was freely estimated was significant at the  $p < .01$  level, thus indicating discriminant validity.

## **Results**

Several interesting results emanated from the analysis. First, students had very interesting thoughts as to what they believed to be the most effective teaching methods

for achieving course objectives. Students ranked class discussion (mean = 5.95) and case analysis/discussion (mean = 5.56) as the two most effective means of achieving course objectives. The remaining teaching methods were ranked as follows: third was in-class exercises (mean = 5.35), fourth was individual projects (mean = 5.21), fifth was group projects (mean = 5.14), sixth was lecture (mean = 4.90), seventh was written assignments (mean = 4.86), eighth was exams (mean = 4.61), and last was computer simulation (mean = 4.54). These results differ from those of Davis, Misra and Van Auken (2000) who found that students believed computer simulation was the most effective method while the giving of exams was the least effective method.

Determining the potential for teaching method effectiveness to influence student outcomes of experience with marketing as the major and attitude toward the major was calculated using ANOVA. Prior to conducting the ANOVAs, the items measuring experience with marketing and attitude toward the major were summed. In addition, median splits of each teaching method were performed to create categorical variables of high effectiveness and low effectiveness. Next ANOVAs were run to see if the means for experience with marketing as a major and attitude toward the major were significantly different for the different levels of teaching method effectiveness. The results of these ANOVAs are shown in Tables 1 and 2. As one can see from Table 1, the means for experience with marketing as a major differed significantly for the teaching methods of lectures and case analysis/discussion. In addition, the means for attitude toward the major differed significantly only for the case analysis/discussion teaching method.

Table 1  
Comparison of Experience with Marketing Major Means for  
High and Low Levels of Teaching Methods

Teaching Methods	<i>Means for Experience with Marketing Major When Teaching Method is:</i>	
	High	Low
Lectures*	35.59	33.78
Computer Simulations	35.41	34.56
Class Discussions	35.38	33.86
Group Projects	35.35	34.10
Individual Projects	35.21	34.25
In-class Exercises	35.08	34.74
Written Assignments	35.40	34.28
Exams	35.65	34.18
Case Analysis/Discussion*	35.70	34.08

\* - Indicates that the difference between means is significant with  $p = .05$ .



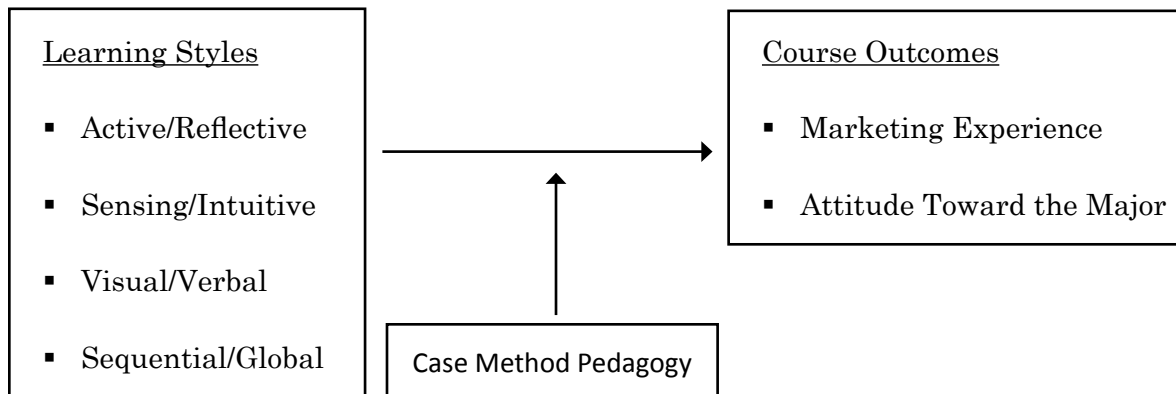
Table 2  
 Comparison of Attitude Toward the Major Means for High and Low  
 Levels of Teaching Methods

<i>Means for Attitude Toward the Major When Teaching Method is:</i>		
<b>Teaching Methods</b>	<b>High</b>	<b>Low</b>
Lectures	16.04	15.19
Computer Simulations	16.00	15.50
Class Discussions	15.84	15.54
Group Projects	15.96	15.23
Individual Projects	16.12	14.42
In-class Exercises	16.17	15.66
Written Assignments	16.08	15.18
Exams	16.15	15.26
Case Analysis/Discussion*	16.74	14.45

\* - Indicates that the difference between means is significant with  $p = .05$ .

Finally, the potential for case method pedagogy to moderate the relationship between student learning style and learning outcomes was tested using multiple regression with interaction terms inserted in the model per the recommendations of Baron and Kenny (1986). This model is illustrated in Figure 1. When testing the model, no significant interactions between learning style and case method pedagogy were found.

Figure 1  
 Model of Case Method Pedagogy Moderating Learning Style Influence  
 on Course Outcomes



## Implications

The purpose of this exploratory study was to examine the impact of case method pedagogy on course outcomes. In addition we sought to investigate the potential for student learning styles to interact with case method pedagogy to influence course outcomes. As mentioned previously, the pervasiveness of course method pedagogy

indicates its wide acceptance as a means for achieving course outcomes. Case method pedagogy achieved this status despite their being no empirical research to support its use in marketing classes. Furthermore, marketing educators had no idea if the pedagogical method chosen was appropriate for the preferred learning styles displayed by marketing students. The results of our exploratory analysis indicate that case method pedagogy is effective for achieving course objectives. In fact, of the nine pedagogical methods tested, the case method was the only one to impact both the marketing students' experience with the major and their attitude toward the major. The only other pedagogical method to impact outcomes was the use of lectures, which is somewhat surprising given that students' believed lectures to be the sixth (out of nine) most effective means for achieving course objectives. Our preliminary results support the notion that if marketing departments want their graduates to have a positive perception about their experience while pursuing the major, those departments will utilize case method pedagogy to a greater extent. In addition, to enhance students' perception of their attitude toward the major, marketing departments and professors will find opportunities to implement and utilize case study in their course designs.

Preliminary results indicated no significant interactions between case method pedagogy and student learning styles as an indicator of course outcomes. This result occurred despite logic and previous research leading us to believe that students with particular learning styles will prefer certain pedagogical methods and have the potential to perform better in courses emphasizing their preferred pedagogical method (Soloman and Felder, 2002). Because of this surprising result, we undertook a *post hoc* analysis that involved analyzing the correlations among learning styles and teaching methods. This correlation matrix is shown in Table 3.

Table 3  
Teaching Method/Learning Style Correlation Matrix

Teaching Methods	Student Learning Styles			
	Active/Reflective	Sensing/Intuitive	Visual/Verbal	Sequential/Global
Lectures	-.16 <sup>c</sup>	.03	-.34 <sup>a</sup>	.07
Computer Simulation	.00	-.21 <sup>b</sup>	.44 <sup>a</sup>	-.11
Class Discussion	.18 <sup>c</sup>	-.22 <sup>b</sup>	-.03	-.20 <sup>b</sup>
Group Projects	.22 <sup>b</sup>	-.18 <sup>c</sup>	.03	-.16 <sup>c</sup>
Individual Projects	-.01	.08	.03	-.17 <sup>c</sup>
In-class Exercises	.14	-.23 <sup>b</sup>	.02	-.10
Written Assignments	-.18 <sup>c</sup>	.02	.09	.09
Exams	-.23 <sup>b</sup>	-.10	-.04	.13
Case Analysis/Discussion	.02	-.24 <sup>a</sup>	.07	-.09

<sup>a</sup> – significant at  $p < .01$ .

<sup>b</sup> – significant at  $p < .05$ .

<sup>c</sup> – significant at  $p < .10$ .

(Please note that positive correlations indicate a preference for the first learning style of the dichotomy listed while negative correlations indicate a preference for the second learning style listed.)

As one can see from the table, several correlations among the teaching methods and learning styles are significant. In general, active learners seem to prefer class discussions and group projects, which seems natural given that such pedagogical methods encourage students to actively think about the material and interact with others while doing so. Reflective learners, on the other hand, seem to prefer lectures, written assignments, and exams, which allow students to work with the material in a thoughtful, reflective manner without having to outwardly justify their thoughts and conclusions to their peers. The correlation matrix indicates that intuitive learners prefer computer simulation, class discussion, group projects, in-class exercises, and case analysis/discussion. Such relationships seem logical given that these pedagogical methods allow intuitive learners to test assumptions and alternate courses of action in an iterative fashion with their peers or with computer software before deciding on a conclusion. For the next group of learning styles, Table 3 indicates that visual learners prefer computer simulation while verbal learners prefer lectures. These relationships seem logical given that visual learners can actually see the results of their recommendations being played-out in the simulation and verbal learners can process the information they hear in the lectures. Finally, global learners seem to prefer class discussions, group projects and individual projects. It seems that those students who tend to process information in a more holistic fashion prefer pedagogical methods that allow them to “see the big picture.” In summary, the correlation matrix displayed in Table 3 provides interesting insights and potential avenues for future research.

## **Future Research and Limitations**

Given these preliminary results, a few future research opportunities are evident. First, programmatic research should be conducted to establish the existence of consistent learning styles and pedagogical method preferences among marketing students. Gathering such information has great potential to influence course design such that students are exposed to course content in a manner that capitalizes on their preferred method of instruction. In addition, future research should investigate the potential for gender differences to influence student learning styles and their impact on course outcomes. Third, regardless of one’s generational cohort, non-traditional undergraduate students and MBA students may have completely different learning styles and may prefer pedagogical methods that are different from those preferred by students included in the present study. Such differences should be investigated and their potential impact on course design should be considered.

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## Appendix

1. Teaching Methods – measure asked students to “indicate how effective you believe the method is in achieving course learning objectives.”
  - a. Lectures
  - b. Computer Simulations
  - c. Class Discussions
  - d. Group Projects (outside of class)
  - e. Individual Projects (outside of class)
  - f. In-class Exercises (group or individual)
  - g. Written Assignments
  - h. Exams
  - i. Case Analysis/Discussion
  
1. Index of Learning Styles – responses help define the student as active vs. reflective learners, sensing versus intuitive learners, visual versus verbal learners, and sequential versus global learners.
  1. I understand something better after I  
(a) try it out. (b) think it through.
  2. I would rather be considered  
(a) realistic. (b) innovative.
  3. When I think about what I did yesterday, I am most likely to get  
(a) a picture. (b) words.
  4. I tend to  
(a) understand details of a subject but may be fuzzy about its overall structure.  
(b) understand the overall structure but may be fuzzy about details.
  5. When I am learning something new, it helps me to  
(a) talk about it. (b) think about it.
  6. If I were a teacher, I would rather teach a course  
(a) that deals with facts and real life situations.  
(b) that deals with ideas and theories.
  7. I prefer to get new information in  
(a) pictures, diagrams, graphs, or maps.  
(b) written directions or verbal information.
  8. Once I understand  
(a) all the parts, I understand the whole thing.  
(b) the whole thing, I see how the parts fit.
  9. In a study group working on difficult material, I am more likely to  
(a) jump in and contribute ideas. (b) sit back and listen.
  10. I find it easier  
(a) to learn facts. (b) to learn concepts.
  11. In a book with lots of pictures and charts, I am likely to  
(a) look over the pictures and charts carefully.  
(b) focus on the written text.

12. When I solve math problems
  - (a) I usually work my way to the solutions one step at a time.
  - (b) I often just see the solutions but then have to struggle to figure out the steps to get to them.
13. In classes I have taken
  - (a) I have usually gotten to know many of the students.
  - (b) I have rarely gotten to know many of the students.
14. In reading nonfiction, I prefer
  - (a) something that teaches me new facts or tells me how to do something.
  - (b) something that gives me new ideas to think about.
15. I like teachers
  - (a) who put a lot of diagrams on the board.
  - (b) who spend a lot of time explaining.
16. When I'm analyzing a story or a novel
  - (a) I think of the incidents and try to put them together to figure out the themes.
  - (b) I just know what the themes are when I finish reading and then I have to go back and find the incidents that demonstrate them.
17. When I start a homework problem, I am more likely to
  - (a) start working on the solution immediately.
  - (b) try to fully understand the problem first.
18. I prefer the idea of
  - (a) certainty.
  - (b) theory.
19. I remember best
  - (a) what I see.
  - (b) what I hear.
20. It is more important to me that an instructor
  - (a) lay out the material in clear sequential steps.
  - (b) give me an overall picture and relate the material to other subjects.
21. I prefer to study
  - (a) in a study group.
  - (b) alone.
22. I am more likely to be considered
  - (a) careful about the details of my work.
  - (b) creative about how to do my work.
23. When I get directions to a new place, I prefer
  - (a) a map.
  - (b) written instructions.
24. I learn
  - (a) at a fairly regular pace. If I study hard, I'll "get it."
  - (b) in fits and starts. I'll be totally confused and then suddenly it all "clicks."
25. I would rather first
  - (a) try things out.
  - (b) think about how I'm going to do it.
26. When I am reading for enjoyment, I like writers to
  - (a) clearly say what they mean.
  - (b) say things in creative, interesting ways.
27. When I see a diagram or sketch in class, I am most likely to remember

- (a) the picture. (b) what the instructor said about it.
28. When considering a body of information, I am more likely to  
 (a) focus on details and miss the big picture.  
 (b) try to understand the big picture before getting into the details.
29. I more easily remember  
 (a) something I have done.  
 (b) something I have thought a lot about.
30. When I have to perform a task, I prefer to  
 (a) master one way of doing it. (b) come up with new ways of doing it.
31. When someone is showing me data, I prefer  
 (a) charts or graphs. (b) text summarizing the results.
32. When writing a paper, I am more likely to  
 (a) work on (think about or write) the beginning of the paper and progress forward.  
 (b) work on (think about or write) different parts of the paper and then order them.
33. When I have to work on a group project, I first want to  
 (a) have “group brainstorming” where everyone contributes ideas.  
 (b) brainstorm individually and then come together as a group to compare ideas.
34. I consider it higher praise to call someone  
 (a) sensible. (b) imaginative.
35. When I meet people at a party, I am more likely to remember  
 (a) what they looked like. (b) what they said about themselves.
36. When I am learning a new subject, I prefer to  
 (a) stay focused on that subject, learning as much about it as I can.  
 (b) try to make connections between that subject and related subjects.
37. I am more likely to be considered  
 (a) outgoing. (b) reserved.
38. I prefer courses that emphasize  
 (a) concrete material (facts, data).  
 (b) abstract material (concepts, theories).
39. For entertainment, I would rather  
 (a) watch television. (b) read a book.
40. Some teachers start their lectures with an outline of what they will cover. Such outlines are  
 (a) somewhat helpful to me. (b) very helpful to me.
41. The idea of doing homework in groups, with one grade for the entire group,  
 (a) appeals to me. (b) does not appeal to me.
42. When I am doing long calculations,  
 (a) I tend to repeat all my steps and check my work carefully.  
 (b) I find checking my work tiresome and have to force myself to do it.
43. I tend to picture places I have been  
 (a) easily and fairly accurately.



- (b) with difficulty and without much detail.
44. When solving problems in a group, I would be more likely to  
(a) think of the steps in the solution process.  
(b) think of possible consequences or applications of the solution in a wide range of areas.
3. Student Experience with the Marketing Major – measured as a seven-point semantic differential scale with the following prompt and anchors:
- My overall experience as a marketing student at (university name) has been . . .*
- a. Bad Experience → Good Experience
  - b. Unsatisfactory → Satisfactory
  - c. Useless → Useful
  - d. Ineffective → Effective
  - e. Not Enjoyable → Enjoyable
  - f. Not as Good As Expected → Much Better Than Expected
4. Attitude Toward Marketing as a Major – measured as a seven-point Likert-type scale with anchors of “Strongly Disagree” and “Strongly Agree.”
- a. If I had to do it over, I would pick my major again
  - b. For me, the major I chose is the best I could have chosen
  - c. I am extremely satisfied with my choice of major

## Author Information

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