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An Investigation into the Preferred Learning Styles of Accounting, Management, Marketing, and General Business Majors

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The research has shown that individual characteristics, past experiences, gender, and ethnic background affect students' learning. This study investigated the preferred learning styles of accounting, management, marketing, and general business majors. According to our findings, although all four learning styles as defined by Kolb (1981) are present among all four majors of accounting, management, marketing, and general business, the vast majority of all four majors demonstrate clear preferences for the Assimilator and Converger learning styles. The results underscore the importance of a diversified teaching approach that speaks to all learning styles, with a greater emphasis on Assimilator and Converger learning styles.

All students learn, but not all learn in the same way. Some grasp information best by listening, while others learn better through reading, reasoning, or discovering concepts through a hands-on experience. These different ways of learning are referred to as learning style. The research has shown that individual characteristics, past experiences, gender, and ethnic background affect students' learning styles (Banks, 1988; Belenky, Clinchy, Goldberger, & Tarule, 1986; Knowles, 1980; Philbin, Meier, Huffman, & Bouverie, 1995). The purpose of this study was to investigate the preferred learning styles of accounting, management, marketing, and general business majors. Specifically, we have attempted to determine whether accounting, management, marketing, and general business majors are attuned to different learning styles and whether one or more specific learning modes predominate within each of these four groups.

Rationale for the Study

Since individuals perceive and process information in different ways, at any one point in time many students in a class may experience some degree of discomfort, disinterest, or anxiety because the instructor is not using the learning approach they most prefer. Students who are having difficulty may become so disenchanted, or "failure-prone," that they may give up on their learning efforts. Thus, understanding how students learn is a crucial part of selecting appropriate teaching strategies (Bentz, 1974; Montgomery & Groat, 2002). For example, by knowing the preferred learning styles of accounting, management, marketing, and general business majors, educators may be in a better position to develop and provide learning experiences that capitalize on the learning strengths of the students within each discipline. Failure to gear instructional methods to how students best learn can result in students failing to acquire the desired skills and knowledge from the instruction.

Learning Styles

There are a number of theories and models in regard to learning styles and the factors affecting one's learning style. In general, the proposed learning style models and accompanying inventories can be classified into three areas related to information processing, environment, and personality (Hickcox, 1995). This study is based upon Kolb's Experiential Learning

model and the accompanying Learning Style Inventory (LSI) instrument, which has been extensively analyzed, tested, and critiqued as evidenced by the various citations of Kolb's work listed in the Social Sciences Citation Index (Hickcox, 1991).

According to Kolb (1976, 1984), learning has two dimensions: perceiving the information and processing the information. That is, Kolb's model focuses on how students most readily perceive information to be learned and how they prefer to process that information.

Perceiving information occurs either by Concrete Experience (learning from feeling and personal experiences and involvements) or Abstract Conceptualization (learning by thinking). In the process of learning, the individual moves in varying degrees from specific involvement to general analytic detachment. Concrete perceivers learn information best from personal experiences with people in everyday situations. They tend to rely more on their feelings. Abstract perceivers learn information best by using logic, analysis, and thinking about the information rather than feelings. Although individuals may utilize both modes for perceiving information, over time they tend to favor one over the other.

The second learning dimension is processing the information perceived. Processing information occurs either by Reflective Observation (watching/listening) or Active Experimentation (doing). That is, in the process of learning, the individual moves in varying degrees from observer to actor. Reflective processors learn how to process the perceived information by watching and listening to ideas and situations from different points of view. On the other hand, active processors prefer to process information by putting the new knowledge to immediate use and having hands-on experience. Once again, although individuals may utilize both modes for processing information, over time they tend to favor one over the other.

To identify individuals' preferred modes for perceiving and processing information, Kolb (1984) has developed an instrument called The Learning Styles Inventory (LSI). The instrument contains 12 questions that require the respondent to rank statements reflective of the above four modes for perceiving and processing information, thereby indicating the individual's preferences for each.

Given various preferences for perceiving and processing information, Kolb has suggested four different learning styles: Accommodator, Diverger, Assimilator, and Converger (see Figure 1).

1. Accommodator refers to a person who favors Concrete Experiencing and Active Experimentation learning dimensions (i.e., a person who prefers to perceive information from feeling and process it by doing).
2. Diverger refers to a person who favors Concrete Experiencing and Reflective Observation learning dimensions (i.e., a person who prefers to perceive information from feeling and learn about the processing of information by watching and listening).
3. Converger refers to a person who favors Abstract Conceptualization and Active Experimentation learning dimensions (i.e., a person who prefers to perceive information by thinking and doing).
4. Assimilator refers to a person who favors Abstract Conceptualization and Reflective Observation learning dimensions (i.e., a person who prefers to learn by thinking and watching/listening).
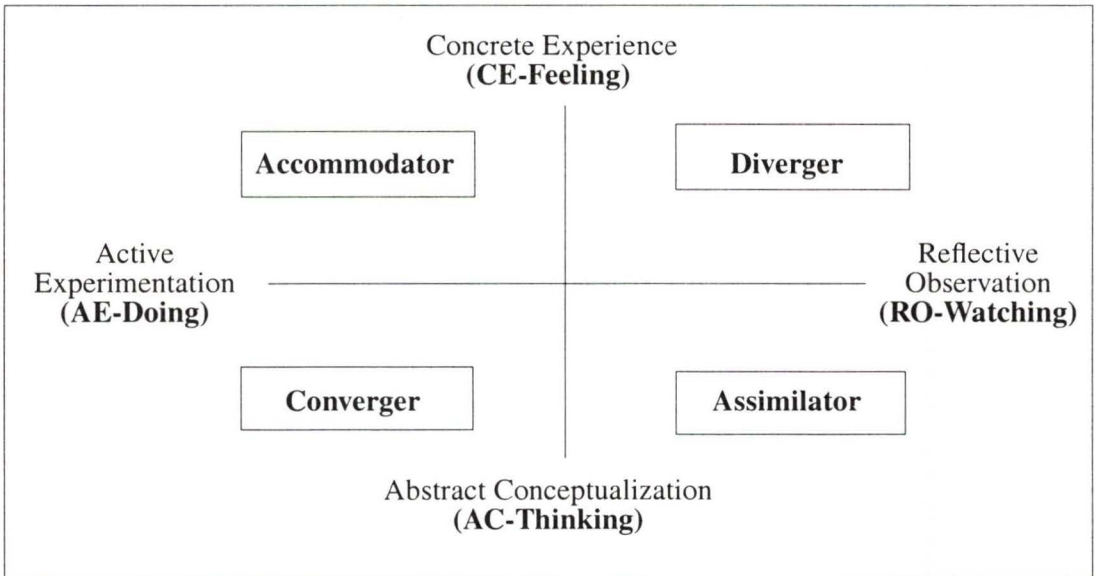
Figure 1. Kolb's Learning Styles.

Research Method

Sample

The sample consisted of 274 undergraduate business students at a state university. Of the 274 participants, 76 were accounting majors, 92 were management majors, 57 were marketing majors, and 49 were general business majors. There were 99 males and 175 females in the sample.

Instrument

To identify students' preferred modes for perceiving and processing information, Kolb's Learning Styles Inventory (LSI) was administered to the participants. The instrument contains 12 questions, which require the respondent to rank statements reflective of the above four modes for perceiving and processing information, thereby indicating the individual's preferences for each. The extent to which an individual prefers Concrete Experience for perceiving information is denoted in a score called "CE," and the extent to which an individual prefers Abstract Conceptualization is denoted in a score called "AC". The extent to which an individual prefers Reflective Observation for processing information is denoted in the "RO" score, and the extent to which an individual prefers Active Experimentation is denoted in the "AE" score. The lowest raw score for any of the modes is 12 and the highest is 48.

Results

Perceiving Information

Table 1 presents the participants' reported preferences for the two modes of perceiving information. According to the results, the vast majority of the students in our study in all four disciplines preferred abstract conceptualization over concrete experience. The percentage showing a preference for abstract conceptualization ranged from 68% for marketing majors to

86% for accounting majors. Moreover, over three-quarters of all the students surveyed preferred this mode of perceiving information.

Table 1

Preferred Learning Mode for Perceiving Information

Major	Abstract *	
	#	%
Accounting (n=76)	65	86%
Management (n=92)	70	76%
Marketing (n=57)	39	68%
General Business (n=49)	35	71%
Total	209	76%

*Note: The percentage preferring concrete experience is calculated by subtracting the percentage preferring abstract conceptualization from 100%.

Information Processing Mode

Table 2 displays the participants' preferences for each of the two modes of processing perceived information. According to the results, the majority of accounting and general business majors preferred Active Experimentation (54% and 55%, respectively) while the management and marketing majors (46%) preferred Reflective Observation. Overall, business student participants in this study equally preferred Active Experimentation and Reflective Observation modes.

Table 2

Preferred Learning Mode for Processing Information

Major	Preferred Mode*	%
Accounting (n=76)	Active	54%
Management n=92)	Reflective	46%
Marketing (n=57)	Reflective	46%
General Business (n=49)	Active	55%

*Note: Those preferring the alternative mode can be determined by calculating 100% minus the preferred mode.

Learning Style

Table 3 displays the preferred learning styles by students within each discipline. According to the results, 47% of the accounting majors prefer the Converger learning style and 38% the Assimilator learning style. Of the other three majors the Assimilator learning style had the highest percentage followed by the Converger learning style.

Table 3

Preferred Learning Style

Major:	Accommodator #	Accommodator %	Diverger #	Diverger %	Converger #	Converger %	Assimilator #	Assimilator %
Accounting (76)	5	7%	6	8%	36	47%	29	38%
Management (92)	11	12%	11	12%	31	34%	39	42%
Marketing (57)	11	19%	7	12%	15	26%	24	42%
General Business (49)	11	22%	3	6%	16	33%	19	39%
Total	38	14%	27	10%	98	36%	111	41%

Discussion and Implications

Limitations of Study

As with most research, the results of this study must be interpreted within the constraints of the study's limitations. First, the sample was limited to students of only one university. While we are not aware of any reason to suspect the results would be different in other environments, those differences may exist. Second, as noted by Kolb himself, the LSI results are based solely on the way learners rate themselves. That is, it does not rate learning style preferences through standards or behavior. The data are self-reported and are not measures of actual behavior.

Implications for Teaching Convergers

According to our findings, accounting majors most preferred a Converger learning style. Convergers are "practical" and need to work through the process of determining how the system works and how it will be useful to them. They are active learners who prefer discovery-type inquiry. Instructional methods that suit Convergers include, above all, interactive, not passive style. Computer-assisted instruction is a possibility. Problem sets or workbooks can be provided for students to explore (Litzinger & Osif, 1993, pp. 78-79).

Students who prefer a Converger learning style make decisions and solve problems objectively using factual data. Given the recent news events regarding creative accounting techniques, it is appropriate to continue to encourage students in this area. To facilitate accounting students' learning, an instructor of accounting students should approach teaching from an objective approach, which allows students to learn by doing by having them work on problems and cases that allow them to evaluate alternatives and to arrive at answers logically.

On the other hand, it is also important for instructors to emphasize that all solutions cannot be objectively determined and to encourage them to distinguish between those problems that require objective evaluation and those that demand subjective judgment. In order to facilitate the students' learning of accounting principles, it is important to use a Converger approach. Likewise, it is important to prepare them for the world of work where all decisions are not made objectively. Furthermore, it is important to emphasize to them to learn to be flexible because of the increasing diversity of today's workforce.

Implications for Teaching Assimilators

The remaining three majors, management, marketing, and general business,

preferred an assimilator learning style. Assimilators want an accurate, organized delivery of information, and they tend to respect the knowledge of the system expert. Instructional methods that suit Assimilators include lecture method (or video and audio presentation) followed by a demonstration of a subject corresponding to a prepared tutorial and for which answers should be provided. Assimilators are perhaps less "instructor intensive" than some other learning styles. They will carefully follow prepared exercises, provided a resource person is clearly available and able to answer questions (Litzinger & Osif, 1993, p. 78).

Assimilators are organized, good planners. They follow through on plans, synthesize information well, and make decisions after analyzing probabilities and risk. They also tend to react slowly and want facts. In order to facilitate Assimilators' learning, it is important that the instructor be well-organized, plan the course carefully, and make very few changes during the course. In order to challenge assimilators, the use of cases that require them to assimilate and synthesize information to build a model or theory is important.

Just as with the Convergers, the instructor should, in addition to facilitating learning, expose students to different approaches to learning. Students should learn to use their strengths and, at the same time, enhance areas in which they are weak in order to be more successful on the job. Once these students begin work in their fields of study, they will realize that their supervisors and customers are less likely to adjust their styles to meet their needs. While almost everyone has a preferred learning style, employees can make themselves more valuable in the workplace if they can respond flexibly to the situation. In particular, current approaches to leadership encourage the need for leaders to adjust to the situation.

Teaching Accommodators and Divergers

Despite strong preferences for the majority of student majors, there was a small percentage who preferred alternative learning styles. According to our results, 7% of accounting majors, 12% of management majors, 19% of marketing majors, and 22% of general business majors are perceived to be Accommodators. These learners prefer to be active participants in their learning and could explore the system independently if they were given the basic tools to do so. A variety of methods are suitable for this learning style, but anything that encourages independent discovery is probably the most desirable. The instructors working with this type of student might expect devil's advocate type questions, such as "What if?" and "Why not?" (Litzinger & Osif, 1993, p. 79).

Diverger was the least preferred style: accounting 8%, management 12%, marketing 12%, and general business 6%. Instructional methods that suit these learners include lecture methods and focusing on specifics such as strengths, weaknesses, and hands-on exploration. Divergers like to reason from concrete specific information and to explore what a system has to offer, and they prefer to have information presented to them in a detailed, systematic, reasoned manner. The instructor would do best to mingle with the students, answering questions and making suggestions. Ready reference guides and organized summaries are very handy for these kinds of learners. Flexibility and the ability to think on your feet are assets when working with Divergers (Litzinger & Osif, 1993, p. 78).

Conclusion

The general public has been led to believe that it is the student's responsibility to succeed in a course. This may be true to a certain extent, but there are other factors that contribute to a student's success as

well. For instance, a student that prefers in-class discussions may not adapt quite as well in a class that does not provide any interaction. Therefore, a professor's teaching style can have a strong impact on the student's individual comfort level and performance in the course. This fact has helped move educational thought from a focus on the instructor back to the learner. Thus, understanding how students learn is a crucial part of selecting appropriate teaching strategies.

Likewise, it is important that instructors realize the importance of exposing students to a variety of learning styles, in addition to their preferred styles. By attending only to students' preferred style, instructors are reinforcing their strengths and ignoring their weaknesses, areas in which it is important that they improve. In particular, if an accountant who, according to our study, is primarily a Converger, supervises employees who are Accommodators or Divergers, for example, both the supervisor and employees will likely be frustrated because they have different expectations, and, in essence, speak a different language.

Given these results and conclusions, the instructor, then, is the one responsible for facilitating students' learning and for preparing them for a career that will likely not adjust to their learning style. Rather, the work situation, and in particular their supervisors and customers, will expect them to adjust to their styles. Therefore, it is the instructor who must be versatile and flexible, who must learn how to effectively attend to all learning styles. The instructor must learn what are the specific characteristics and the most effective approaches for each of Kolb's learning styles. By doing that, all of us may become more effective teachers both in the short run in class and in the long run in our students' career success.

In this study, we investigated whether accounting, management, marketing, and general business majors are classified into different learning styles and whether one or more specific learning modes predominate within each of these three groups. According to our findings, although all four learning styles, as defined by Kolb, are present among all four majors of accounting, management, marketing, and general business, the vast majority of all four majors demonstrate preferences for the Assimilator and Converger learning styles. The results underscore the importance of a diversified teaching approach that addresses all learning styles, with a greater emphasis on Assimilator and Converger learning styles. These findings should better position educators to develop and provide learning experiences that capitalize on the learning strengths of students within each discipline. "As we dramatically change how we present information to our patrons, we must also change how we present our instructions" (Litzinger & Osif, 1993, p. 77).

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