An Investigation of the Learning Styles of South Korean Business Students

Bijayananda Naik · V. G. Girish

Abstract The Index of Learning Styles (ILS) instrument based on the Felder-Silverman Learning Style Model was used to determine distribution of learning styles of 125 South Korean business students enrolled in a South Korean institution of higher education. Results show that greater proportion of South Korean business students surveyed in this study prefer sensing over intuitive, visual over verbal, reflective over active, and global over sequential learning styles. The majority of business students have a balanced learning style in all four dimensions of the Felder-Silverman model. Among the students that do not have a balanced learning style, students with sensing, visual, reflective, and global learning styles dominate. Gender difference in learning style preference was not statistically significant for any of the four dimensions.

Keywords Learning style · Felder-Silverman model · South Korea · business students

Introduction

Research in the field of educational psychology has indicated that a person's learning style affects educational achievements of a student in addition to factors such as intellectual ability and aptitudes (Loo 2002a). Different researchers have defined learning style in slightly different ways. According to Loo (2002a), "learning style refers to the consistent way in which a learner responds to or interacts with stimuli in the learning context." Felder (1996) claims that students have different learning styles which he defines as "characteristic strengths and preferences in the ways they take in and process information." Campbell (1991) cites Gregorc (1979) who defines learning style as "the distinctive behaviors which serve as indicators of how a person learns from and adapts to his environment."

Past research has indicated that students differ significantly in the way they learn (Dunn and Dunn 1979). Cano and Garton (1994) suggest that learning style is an important factor in the educational achievement of students. Sandman (2009) conducted research for identifying the dominant learning style profile of undergraduate business telecommunication students. Based on his research, he suggested that instructors and course designers should gain insight into the dominant learning style profile of students in their classes and explore how to accommodate the diversity of learners.

Due to increasing globalization, American institutions of higher education are likely to encounter increasing number of international students in their campuses in future. Consequently, faculty members in American universities are likely to face increasingly diverse student population in their classes. Prior research, though limited, shows differences in learning styles of students from different cultures and ethnic backgrounds (Baron and Arcodia 2002; Ladd and Ruby 1999). Teachers trying to adapt their teaching methods to match student learning styles would benefit if they get a better understanding of the impact of cultural and ethnic diversity on learning styles of students.

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Published research investigating the learning styles of students from different countries and cultures seems to be scanty. Ingham, Meza, and Price (1998) compared the learning style and creative talents of Mexican and American undergraduate engineering students. Recently, Naik, Tech, and Franco (2010) compared the learning styles of business students in Dominican Republic with the learning styles of business students in the U. S. Other prior studies have mostly focused on international students studying in foreign universities (Baron and Arcodia 2002). Very few published research seems to be available reporting the learning styles of a homogeneous groups of students studying in universities in their home country.

The primary objective of this research is to investigate the distribution of learning styles of South Korean business students using the Index of Learning Styles (ILS) instrument based on the Felder-Silverman Learning Style Model (Felder 1996). A convenience sample of 125 business students at an institution of higher education in South Korea was surveyed in this research during the period March to June of 2011. This research is the first in a series of future studies planned by the authors that will contribute to the current understanding of learning styles of students from Asian countries and cultures. Since a large number of Asian international students enroll every year in American universities, an understanding of their learning styles is expected to help American instructors meet the instructional needs of these students better. Furthermore, since this research investigates South Korean students in a South Korean university, the findings of this research would help instructors at South Korean institutions of higher education to achieve a better match between learning and teaching styles.

Besides the investigation of the influence of culture and ethnicity on the distribution of learning style of students (De Vita 2001; Manikutty, Anuradha, and Hansen 2007; Joy and Kolb 2009), past studies have examined the correlation between learning style and a number of other factors such as gender, GPA, academic discipline or major, and learning environment such as face-to-face or online instruction (Wynd and Bozman 1996; Dwyer 1998; Cano 1999; Keri 2002; Loo 2002a; Jones, Reichard, and Mokhtari 2003; Rees and Dunn 2007; Moallem 2007). Although all these factors are significant in the investigation of the distribution of learning style, the authors decided to examine the influence of gender as a secondary objective of this research for two reasons. First, past studies have provided mixed results regarding gender as a determinant of learning styles of college students (Loo 2002a; Keri 2002) unlike GPA which seems to better correlation with learning style (Wynd and Bozman 1996; Cano 1999). The authors felt that an investigation of the correlation of gender

with learning style would be more valuable in providing additional research result to help settle the issue of the influence of gender on learning style. Second, the limited scope of this research did not make it feasible to administer a more extensive demographic survey in addition to the ILS instrument. The authors plan to use more extensive demographic survey in future research involving investigation of learning style.

A brief literature review is presented next followed by a description of the model used for determining the learning styles of South Korean business students. The methodology used in this research is described after the literature review followed by the presentation of data analysis and results. The paper ends with a discussion of the implications of the learning style distributions observed in this research and conclusions drawn from it.

Literature Review

A number of articles have reported studies related to distribution of learning styles of students in accounting and business education. Loo (2002a) discusses the results of studies by Kolb (1984), Baldwin and Reckers (1984), Baker et al. (1986), and Holley and Jenkins (1993). These results indicate varying proportion of students falling under different learning styles. Loo (2002b) performs a meta-analytic examination of eight studies involving business majors and concludes that Kolb's (1984) learning styles are not equally distributed. A study of the learning styles of business students by Biberman Buchanan (1982) indicated that predominant learning styles were different for different business disciplines. Loo (2002a) studied the difference in learning style distribution between hard and soft business majors and between male and female business students. He found an equal distribution of styles for the soft majors but not for the hard majors. Jones et al. (2003) reported significant differences in the learning styles of students across disciplines.

A study of business majors by Wynd and Bozman (1996) indicated that the learning styles of students with higher GPA differed from that of students with lower GPA. Dawyer (1998) and Cano (1999) found positive correlation between learning style and cumulative GPA. Jones et al. (2003) also found that student learning style preference varied by GPA.

Loo (2002a) did not find any significant difference in learning style preference with respect to gender. Similarly, no significant difference in learning style preference across gender was found by Jones et al. (2003). However, a study by Keri (2002) of college students found that the predominant learning styles of male and female students were

different. Dawyer (1998) also found positive correlation between learning style preference and gender. Thus, there seems to be no conclusive evidence of the gender influence on learning style preference suggesting further research in this matter.

The influence of culture and ethnicity has been reported in a number of past studies. De Vita (2001) examined how cultural conditioning is reflected in the learning style preference of students in a multicultural class of International Business Management. Baron and Arcodia (2002) examined the link between ethnic origins of students and preferred learning styles of international students at Australian higher education institutions. A study of Asian international students in Australia by Wong (2004) indicated that learning style may be contextually-based rather than culturally-based. Manikutty et al. (2007) developed a framework for understanding the relationship between the learning style preference of students in higher education and the culture of the country where they grew up. Joy and Kolb (2009) examined the role of culture in shaping individual learning style preference.

The implication of differing learning styles among students with diverse background is that different students prefer and use different learning methods that match their learning styles. Just as students prefer learning methods that match their learning styles, teachers seem to prefer teaching styles that match their own learning styles. This implies that teachers tend to teach the way they themselves learn the material (Campbell 1991). If the predominant learning style of the students in a class differs markedly from the learning style of the teacher, a serious mismatch may occur between the teaching method used by the teacher and the preferred learning method of majority of the students. Charkins et al. (1985) suggest that the greater the mismatch between teaching style and learning style, the lower is the achievement of the students in the course. Felder (1993) argues that if the teaching style of a course matches with the learning style of the students, it helps them to retain information longer, to apply material learned more effectively, and to foster a positive post-course attitude. Teachers who are aware of the distribution of the learning styles of their students can orient their primary teaching methods to the students with the modal learning styles (Bell 1998) and diversify their teaching methods to meet the needs of other students.

Recently, Naik (2009) investigated the learning styles of business students in an American university using the Felder-Silverman model and found that majority of the business students prefer sensing, visual, active, and sequential learning styles. As mentioned earlier, Felder-Silverman Learning Style Model was also used in this research to investigate the learning styles of South Korean business students enrolled in a university in their home country. The next section briefly describes the theoretical basis of the Felder- Silverman Learning Style Model.

Theoretical Basis of Felder-Silverman Learning Style Model

A number of learning style models has been devised by researchers to identify individual learning styles of people. Felder (1996) briefly describes the essential elements of four of these learning style models, viz., the Myers-Briggs Type Indicator, Kolb's Learning Style Model, Herrmann Brain Dominance Instrument, and Felder-Silverman Learning Style Model. Felder and Silverman (1988) synthesized the results of a number of studies to develop their own model which they claimed to be particularly relevant to science education.

The theoretical basis of Felder-Silverman Learning Style Model postulates that a student's learning style can be defined by answers to four questions quoted from Felder and Brent (2005).

1. "What type of information does the student preferentially perceive: sensory (sights, sounds, physical sensations) or intuitive (memories, thoughts, insights)?"
2. "What type of sensory information is most effectively perceived: visual (pictures, diagrams, flow charts, demonstrations) or verbal (written and spoken explanations)?"
3. "How does the student prefer to process information: actively (through engagement in physical activity or discussion) or reflectively (through introspection)?"
4. "How does the student characteristically progress toward understanding sequentially (in a logical progression of incremental steps) or globally in large 'big picture' jumps)?"

Felder-Silverman Learning Style Model classifies students into four dichotomous categories: sensing learners versus intuitive learners, visual learners versus verbal learners, active learners versus reflective learners, and sequential learners versus global learners. The characteristics of the four dimensions of the model are briefly explained next (Felder 1993).

Sensing learners like learning facts and solving problems by well-established methods. They dislike complexities and surprises such as being tested on material not covered in the class explicitly. They understand material better with real-world examples and applications. They also like brain storming with group-mates. Intuitive learners, on the other hand, are comfortable with abstract ideas, mathemat-

ical formulations, and innovative methods of problem solving. They dislike memorization and routine calculations. In the extreme cases, sensing learners may rely too much on memorization without understanding, and intuitive learners may not pay attention to details and be careless in calculations.

Visual learners prefer pictures, diagrams, flow charts, photographs, videos, and demonstrations. They like color-coding, highlighting, and drawing boxes, circles, and lines to show connections. Verbal learners, on the other hand, are comfortable with written or spoken explanations and like to outline material in their own words. They prefer discussing material in groups, and explaining and listening to each other.

Active learners like hands-on activities, group discussions and group problem-solving. They dislike simply sitting in the class and taking notes. Reflective learners like to think about a concept or problem quietly first. They like to study and solve problems alone, take notes and summarize material. In the extreme cases, active learners can jump into activities prematurely without thinking and reflective learners may never get anything done.

Sequential learners first understand the connection between parts in sequential steps to understand the whole. On the other hand, global learners gain an overall understanding first by absorbing material at random and then seeing the significance of the parts to the whole. Sequential learners dislike teachers who jump around topics and skip steps. They learn new topics better when related to that already learned. Global learners can solve complex problems faster but may not be able to explain how they did it. In the extreme cases, sequential learners may know a lot about specific aspects of a topic but have difficulty in relating them to different aspects or different topics. Extreme cases of global learners may not have any clue of what is going on until the light bulb of the big picture turns on.

Although the dimensions of the Felder-Silverman Learning Style Model have been presented as dichotomous categories, Felder (1993) emphasizes that these dimensions should be treated as continua and not as either/or categories. He argues that a student's preference could be represented on a scale as weak, moderate or strong in one side of a dimension. He also points out that learning style preferences for a particular student may vary with subject and learning environment, and can change over time. A brief description of the methodology for determining the distribution of learning styles used in this research is presented in the following section.

Research Methodology

The research methodology used in this research involved administering the survey instrument called The Index of Learning Styles (ILS) to 125 business students mentioned earlier. The ILS instrument was administered to the students in the form of a printed questionnaire. The ILS instrument has 44 questions and takes about 15 minutes to complete. The ILS instrument does not include any demographic question within itself. Since the secondary objective of this research was to examine whether learning style distribution was significantly different for male and female students, a single demographic question identifying the gender of the respondent was added to the 44 questions of ISL on the printed questionnaire. No other identifying information was collected to protect confidentiality of the respondents.

The responses to the 44 ILS questions for each student were then entered into a Web based template one student at a time. The responses of a particular student were processed online and four scores corresponding to the four dimensions of the Felder-Silverman model were displayed as a report. The gender response was typed on to the displayed report manually and the report was printed. Thus 125 printed reports corresponding to 125 students formed the basis of the data analysis and results presented next.

Data Analysis and Results

The analysis report for a student consists of scores on a scale of 1 to 11 (odd numbers only) for one of the dichotomies in each of the four dimensions of the ILS. A score of 1 or 3 in either dichotomy of a dimension indicates a learning style preference that is fairly balanced in that dimension. A score of 5 or 7 indicates a moderate preference in the associated dichotomy of the concerned dimension. A score of 9 or 11 indicates a strong preference. For example, assume that the analysis report for a hypothetical student respondent contains the following scores: 3 for reflective, 5 for sensing, 7 for visual, and 9 for global learning styles. These scores of the hypothetical student indicate a balanced preference for both active and reflective learning styles in the active-reflective dimension, a moderate preference for sensing learning style in the sensing intuitive dimension, a moderate preference for visual learning style in the visual-verbal dimension, and a strong preference for global learning style in the sequential-global dimension.

The data in the analysis reports for the 125 respondents were organized into four cross tabulations corresponding to the four dimensions of the Felder-Silverman Learning

Style Model shown in Tables 1 to 4. The column variable includes the five categories of learning style preferences in each of the four dimensions and the row variable includes the two genders, male and female.

Table 1 Cross-Tabulation for Sensing-Intuitive Dimension

	Strong Sensing	Moderate Sensing	Balanced SEN-INT	Moderate Intuitive	Strong Intuitive	Total
Male	4(8.9%)	12(26.7%)	19(42.2%)	8(17.8%)	2(4.4%)	45(100%)
Female	8(10.0%)	17(21.3%)	44(55.0%)	8(10.0%)	3(3.8%)	80(100%)
Total	12(9.6%)	29(23.2%)	63(50.4%)	16(12.8%)	5(4.0%)	125(100%)

Table 2 Cross-Tabulation for Visual-Verbal Dimension

	Strong Visual	Moderate Visual	Balanced VIS-VRB	Moderate Verbal	Strong Verbal	Total
Male	5(11.1%)	11(24.4%)	27(60.0%)	1(2.2%)	1(2.2%)	45(100%)
Female	12(15.0%)	26(32.2%)	34(42.5%)	7(8.8%)	1(1.3%)	80(100%)
Total	17(13.6%)	37(29.6%)	61(48.8%)	8(6.4%)	2(1.6%)	125(100%)

Table 3 Cross-Tabulation for Active-Reflective Dimension

	Strong Active	Moderate Active	Balanced ACT-REF	Moderate Reflective	Strong Reflective	Total
Male	1(2.2%)	3(6.7%)	30(66.7%)	11(24.4%)	0(0.0%)	45(100%)
Female	1(1.3%)	9(11.3%)	49(61.3%)	19(23.8%)	2(2.5%)	80(100%)
Total	2(1.6%)	12(9.6%)	79(63.2%)	30(24.0%)	2(1.6%)	125(100%)

Table 4 Cross-Tabulation of Sequential-Global Dimension

	Strong Sequential		Moderate Sequential		Balanced SEQ-GLB		Moderate Global		Strong Global		Total	
Male	0	(0.0%)	4	(8.9%)	30	(66.7%)	9	(20.0%)	2	(4.4%)	45	(100%)
Female	2	(2.5%)	15	(18.8%)	44	(55.0%)	16	(20.0%)	3	(3.8%)	80	(100%)
Total	2	(1.6%)	19	(15.2%)	74	(59.2%)	25	(20.0%)	5	(4.0%)	125	(100%)

The combined percent frequency values for both genders are presented for each of the five learning style preference categories in each of the four dimensions of learning styles in Table 5. Table 5 shows that 50.4 percent of the students show balanced preference in the sensing-intuitive dimension. In the sensing learning style, 23.2 percent of the students have moderate and 9.6 percent have strong preference. The corresponding percentages for the opposite dichotomy, viz. intuitive learning style, are 12.8 percent for moderate and 4.00 percent for strong preference. Similar percentages for other three dimensions, viz., visual-verbal, active-reflective, and sequential-global can be seen in Table 5.

Table 5 Percent Frequency Values for the Five Categories of Learning Styles in Each Dimension

Preference	% Freq.	Preference	% Freq.	Preference	% Freq.	Preference	% Freq.
Strong Sensing	9.60	Strong Visual	13.60	Strong Active	1.60	Strong Sequential	1.60
Moderate Sensing	23.20	Moderate Visual	29.60	Moderate Active	9.60	Moderate Sequential	15.20
Balanced SEN-INT	50.40	Balanced VIS-VRB	48.80	Balanced ACT-REF	63.20	Balanced SEQ-GLB	59.20
Moderate Intuitive	12.80	Moderate Verbal	6.40	Moderate Reflective	24.00	Moderate Global	20.00
Strong Intuitive	4.00	Strong Verbal	1.60	Strong Reflective	1.60	Strong Global	4.00
Total	100.00	Total	100.00	Total	100.00	Total	100.00

A visual examination of the data in Tables 1 to 4 indicates that there may be some differences in learning style preferences between male and female students. For example, Table 1 shows that 55% of the female students are balanced learners in the sensing-intuitive dimension whereas only 42.2% of the male students are balanced learners in that dimension. These differences seem to be small and may not be statistically significant. A chi-square test of independence was performed for each of the four learning style dimensions to see if gender played a role in determining learning style preferences. The null and alternative hypotheses are given as follows:

H0: The learning style preferences are independent of gender difference.

Ha: The learning style preferences are not independent of gender difference.

With five categories of preferences in each learning style dimension variable and two categories in the gender variable, the degree of freedom is 4. Assuming a significance level 0.10, the critical value of the chi-square test statistic to reject the null hypothesis is 7.779 (taken from the chi-Square table). The chi-square test statistic values and p-values calculated for the four learning style dimensions are shown in Table 6.

Table 6 Chi-Square Test Statistic and p-Values

Dimension	Chi-Square Test Statistic	p-Value
Sensing - Intuitive	2.73008	0.60396
Visual - Verbal	4.84669	0.30339
Active - Reflective	2.06484	0.72383
Sequential - Global	3.66436	0.45333

It can be seen from Table 6 that the null hypothesis cannot be rejected for any of the four learning style dimensions since the values of the chi-square statistic are less than the critical value of 7.779. Thus, the difference between learning style preferences of male and female South Korean business students is not statistically significant for any of the four learning style dimensions at a significance level of 0.10.

Discussion

Table 5 shows that majority of the South Korean business students have balanced preference in each of the four dimensions. In the sensing-intuitive dimension, more number of students exhibit moderate and strong preferences for sensing dichotomy (total 32.8 %) than for intuitive dichotomy (total 16.8 %). In the visual-verbal dimension, more number of students exhibit moderate and strong preferences for visual dichotomy (total 43.2 %) than for verbal dichotomy (total 8.2 %). In the active-reflective dimension, less number of students exhibit moderate and strong preferences for active dichotomy (total 11.2 %) than for reflective dichotomy (total 25.6 %). In the sequential-global dimension, less number of students exhibit moderate and strong preferences for sequential dichotomy (total 16.8 %)

than for global dichotomy (total 24.0 %). Based on the results of this preliminary study, it seems that among South Korean business students who are not balanced learners, somewhat greater proportion of students are sensing, visual, reflective, and global learners. This statement needs to be verified with further research involving a much broader population of business students enrolled in more number of South Korean institutions of higher learning. However, assuming that the distribution of learning style preferences of South Korean business students found in this research is confirmed by future studies, it has implications for designing teaching methods appropriate for meeting the needs of diverse learners in South Korea and abroad. In South Korea, business faculty can adapt their teaching methods to benefit sensing, visual, reflective, global, and balanced learners.

It is interesting to examine the implications of the results of this research in the context of the findings of a previous study reported in Naik (2009). In his study of the distribution of learning styles of 297 American business students, Naik (2009) found that balanced learners dominated in the active-reflective and sequential-global dimensions like the South Korean business students, but not in the sensing-intuitive and visual-verbal dimensions unlike the South Korean business students. The proportions of American business students with moderate and strong preference in the sensing and visual dichotomies were far greater than those for the South Korean students. In the sensing dichotomy, this proportion was 60.3 % for American business students as opposed to 32.8 % for South Korean business students. In the visual dichotomy, the proportion was 60.6 % for American business students as opposed to 43.2 % for South Korean business students.

Naik (2009) also found that, in the active-reflective dimension, the proportion of business students with moderate and strong preference for active dichotomy is greater in the U. S. (25.3 % in the U. S. versus 11.2 % in South Korea) whereas the same for reflective dichotomy is greater in South Korea (25.6 % in South Korea versus 11.4 in the U. S.). In the sequential-global dimension, the proportion of business students with moderate and strong preference for sequential dichotomy is greater in the U. S. (35.7 % in the U. S. versus 16.8 % in South Korea) whereas the same for global dichotomy is greater in South Korea (24.0 % in South Korea versus 9.8 % in the U. S.). These observations point to the possibility of cultural differences in learning styles as discussed by Kolb (2009). The cultural influence on the learning style preferences of South Korean students need to be studied further for a better understanding of the implications of learning styles on the academic performance of South Korean students at home and abroad and how teachers can adapt their teaching strategies

to improve student learning.

Limitations and Future Research

This research is a pioneering study for investigating the learning style distribution of South Korean business students in their home country since no comparable prior research seems to exist. However, this preliminary research is limited in its scope in the sense that the survey data was collected for a sample size of only 125 students from only one institution during one semester. Extensive future research is necessary for validating, refining, and generalizing the results obtained in this research. The authors plan to collaborate with other institutions of higher learning in South Korea to obtain data from a more diverse student population in South Korea and enlarge the sample size in the next step of this research.

Prior research indicates that many factors are likely to influence learning styles distribution such as gender, GPA, discipline or major, ethnicity and culture. Study of the influence of these factors on learning styles distribution requires collection of appropriate demographic data from the students along with the ILS questionnaire. The scope of this research was limited to examining the influence of gender on the distribution of learning styles. Therefore, extensive demographic data other than the gender data were not collected in this research. However, the authors plan to broaden the scope of future research related to learning styles and collect appropriate demographic data needed.

Conclusions

Prior research indicates that individual learning styles of students significantly influence the effectiveness of classroom teaching. A mismatch between the teaching style of the instructor and the learning styles of majority of students can lead to poor performance in and negative attitude toward a course. Knowledge of the distribution of the learning styles of students in the class can help the instructor design his or her teaching methods to match the modal learning styles of the students in the class. When instructors teach students from other countries and cultures this knowledge can be especially helpful.

In this research the authors used the Felder- Silverman Learning Style Model implemented in the Index of Learning Styles (ILS) instrument to survey 125 South Korean business students enrolled in an institution of higher learning in South Korea. The analysis of the data shows that majority of the surveyed students have balanced learning style preference in each of the four dimensions of the

Felder-Silverman Learning Style Model. The proportions of students other than those with balanced learning styles were more in the dichotomies of sensing, visual, reflective, and global. The implication of this finding is that teaching methods in South Korea business schools can be designed to meet the special needs of sensing, visual, reflective, and global learners.

This research also concludes that no special consideration of the gender difference is needed in developing appropriate teaching methods for business students. Further research of learning styles of business students from different countries is likely to show commonality and differences in the learning styles of business students across the globe. The results of such research are expected to help instructors use teaching and learning approaches found effective not only with South Korean and American students but also with students in other countries.

References

Baker, R. E., Simon, J. R., & Bazeli, F. P. (1986). An assessment of the Learning Style Preferences of Accounting Majors. *Issues in Accounting Education, Spring,* 1-12.

Baldwin, B. A., & Reckers, P. M. J. (1984). Exploring the Role of Learning Styles Research in Accounting Education Policy. *Journal of Accounting Education, 2,* 63-76.

Baron, P., & Arcodia, C. (2002). Linking Learning Style Preferences and Ethnicity: International Students Studying Hospitality and Tourism Management in Australia. *Journal of Hospitality, Leisure, Sport & Tourism Education, 1,* 1-13.

Bell, J. A. (1998). Problems in Statistics: Learning Style, Age, and Part-Time Students. *Education, 118,* 526-528.

Biberman, G. A., & Buchanan, J. (1982). Learning Style and Study Skills Differences across Business and Other Academic Majors. *Journal of Education for Business, 57,* 303-307.

Campbell, B. J. (1991). Planning For a Student Learning Style. *Journal of Education for Business, 66,* 356-359.

Cano, J. (1999). The Relationship Between Learning Style, Academic Major, and Academic Performance of College Students. *Journal of Agricultural Education, 40,* 30-37.

Cano, J., & Garton, B. L. (1994). The Relationship Between Agriculture Preservice Teachers' Learning Styles and Performance in a Method's in a Methods of Teaching Agriculture Course. *Journal of Agricultural Education, 35,* 6-10.

Charkins, R. J., O'Toole, D. M., & Wetzel, J. N. (1985). Linking Teacher and Student Learning Styles with Student Achievement and Attitudes. *Journal of Economic Education, Spring,* 111-120.

De Vita, G. (2001). Learning Styles, Culture and Inclusive Instruction in the Multicultural Classroom: A Business and Management Perspective. *Innovations in Education and Teaching International, 38,* 165-174.

Dunn, R. S., & Dunn, K. J. (1979). Learning Styles/Teaching Styles: Should They⋯Can They⋯be Matched? *Educational Leadership, 36,* 238-244.

Dwyer, K. K. (1998). Communication Apprehension and Learning Style Preference: Correlations and Implications for Teaching. *Communication Education, 47,* 137-150.

Felder, R. M. (1993). Reaching the Second Tier: Learning and Teaching Styles in College Science Education. *Journal of College Science Teaching, 23,* 286-290.

Felder, R. M. (1996). Matters of Style. *ASEE Prism, 6,* 18-23.

Felder, R. M., & Brent, R. (2005). Understanding Student Differences. *Journal of Engineering Education, 94,* 57-72.

Felder, R. M., & Silverman, L. K. (1988). Learning Styles and Teaching Styles in Engineering Education. *Engineering Education, 78,* 674-681.

Felder, R. M., & Soloman, B. A. (1998). Index of Learning Styles. Online version of the questionnaire available at North Carolina State University: Retrieved on July 2, 2011 from http://www2.ncsu.edu/unity/lockers/users/f/felder/public/ILSdir/ilsweb.html.

Gregorc, A. J. (1979). Learning/teaching Styles: Potent Forces Behind Them. *Educational Leadership, 36,* 234-236.

Holley, J. H., & Jenkins, E. K. (1993). The Relationship Between Student Learning Style and Performance on Various Test Question Formats. *Journal of Education for Business, 68,* 301-308.

Ingham, J., Meza, R. M. P., & Price, G. (1998). A Comparison of the Learning Style and Creative Talents of Mexican and American Undergraduate Students. *28th Annual Frontiers in Education Conference, FIE'98, November 4-7, 2,* 605-610.

Jones, C., Reichard, C., & Mokhtari, K. (2003). Are Students' Learning Styles Discipline Specific? *Community College Journal of Research and Practice, 27,* 363-375.

Joy, S., & Kolb, D. A. (2009). Are There Cultural Differences in Learning Style? *International Journal of Intercultural Relations, 33,* 69-85.

Keri, G. (2002). Male and Female College Students' Learning Styles Differ: An Opportunity for Instructional Diversification. *College Student Journal, 36,* 433-441.

Kolb, D. A. (1984). Experience as the Source of Learning and Development. Englewood Cliffs, NJ: Prentice-Hall.

Ladd, P. D., & Ruby, Jr., R. (1999). Learning Styles and

Adjustment Issues of International Students. *The Journal of Education for Business, 74,* 363-367.

Loo, R. (2002a). The Distribution of Learning Styles and Types for Hard and soft Business Majors. *Educational Psychology, 22,* 349-360.

Loo, R. (2002b). A Meta-Analytic Examination of Kolb's Learning Style Preferences Among Business Majors. *Journal of Education for Business, 77,* 252-256.

Manikutty, S., Anuradha, N. S., & Hansen, K. (2007). Does Culture Influence Learning Styles in Higher Education? *International Journal of Learning and Change, 2,* 70-87.

Moallem, M. (2007). Accommodating Individual Differences in the Design of Online Learning Environments: A Comparative Study. *Journal of Research on Technology in Education, 40,* 217-245.

Naik, B. (2009). An Investigation of Learning Styles of Business Students. Proceedings of the 16th Annual South Dakota International Business Conference, Rapid City, South Dakota, October 1-3.

Naik, B., Tech, D., & Franco, M. (2010). A Comparative Study of Learning Styles of Business Students in United States and the Dominican Republic. Proceedings of the 17th Annual South Dakota International Business Conference, Rapid City, South Dakota, September 30 - October 2.

Sandman, T. E. (2009). Gaining Insight into Business Telecommunication Students Through the Assessment of Learning Styles. *Decision Sciences Journal of Innovative Education, 7,* 295-320.

Wong, J. (2004). Are the Learning Styles of Asian International Students Culturally or Contextually Based? *International Education Journal, 4,* 154-166.

Wynd, W. R., & Bozman, C. S. (1996). Student Learning Style: A Segmentation Strategy for Higher Education. *Journal of Education for Business, 71,* 232-235.