First Time International College Students’ Level of Anxiety in Relationship to Awareness of Their Learning-Style Preferences

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Abstract
Given the receptivity of American colleges to international students, administrators and professors must recognize the diversity such registrants bring to campus in the form of achievement, age, gender, language, and national differences. The purpose of this study was to compare learning style preferences of international first year college students and to analyze the effects of accommodating learning-style preferences of first year international college students on achievement and anxiety levels over one semester. This paper focused on the identification of learning style profiles of first time visiting Japanese, Korean, and Chinese college student populations. It also assessed the anxiety and acculturation levels of these international students when they were first introduced to the American educational system which incorporated teacher facilitation and promoted student directed studies. Finally, student learning styles were assessed after a six-week summer session to see if learning styles remained the same after students were introduced to the American educational system. After the six-week summer session and two semesters, a focus group meeting with a sample population of students and a separate focus group meeting with instructors were held to confirm quantitative findings.

American colleges and universities welcome international students for the economic and humanistic cornerstone they provide, and studies suggested that cultural diversity on college campuses produced favorable results for both international and American students’ educational experiences (Beerkens, 2003; Goodman, 2004; Griggs, Price, & Suh, 1997; Ngai, 2003; & Paige, 1993). Therefore, teachers’ understanding and tolerance of student anxiety created by culture shock and diverse learning styles was vital to the academic success of their students. Dunn and Griggs (1995) indicated that lack of student achievement was directly related to teaching methodologies of their instructors and teachers should be aware of student learning styles.

Therefore, questions considered with regard to student achievement and teaching methodologies in American colleges were:
1. To what extent did anxiety and/or acculturation influence learning styles in Chinese, Japanese, and Korean international students over an orientation semester?
2. Did learning style profiles of newly arrived Chinese, Japanese, and Korean international students differ among the research population relative to culture and gender within the group?

Methodology
This study compared and contrasted learning style preferences of Chinese, Japanese, and Korean students studying at an American college for the first time. The methods used in conducting this case study were mixed in design. The information gathered and data collected were validated through the use of triangular concepts (Cresswell, 1998). The study included the analysis of student documents, such as GPA from the College database; pre test results of Spielberger’s Stait-Trait Anxiety Inventory (1983); assessment from Building Excellence (BE) (Rundle & Dunn, 2000); and results from the Suinn-Lew Asian Self Identity Acculturation (SL-ASIA) (Suinn, 1992); post-test results of the aforementioned instruments (Spielberger, 1983; Rundle & Dunn, 2000; Suinn, 1992); and interviews and focus group meetings with administrators, instructors, students, and professionals in the field of international studies at the testing site in an attempt to determine if learning styles of the population changed over a six-week summer session and two semesters in an American college.

Participants
The subjects who comprised the sample for this study include of a minimum of 86 first time, Korean, Japanese, and Chinese international students from a small Liberal Arts College in northwest New Jersey. All international students had at least eight years of English language study taught in their home countries by instructors of the same nationality. Approximately 30 of the international students studied at the host college site for one year only, all of whom were international students studying in the United States for the first time.

Anxiety and Learning
Research by Eysenck (1979) suggested that there is a correlation between anxiety and learning. Anxiety does not necessarily have an effect on the
quality of performance if there is sufficient effort expended, although it produces differential effects if there is a lack of motivation among high-anxiety subjects. The anxious subjects spend more time on irrelevant tasks, have less working memory capacity, and spend more time on secondary, rather than primary tasks. Eysenck suggested that “anxiety produces task-irrelevant cognitive activities that impair task performance” (1979, p. 365). These highly anxious subjects engage in dual activities which, ultimately, impair performance in primary tasks. Therefore, there is a lack of motivation among high-anxiety subjects. Eysenck suggested that “anxiety produces task-irrelevant cognitive activities that impair task performance” (1979, p. 365). These highly anxious subjects engage in dual activities which, ultimately, impair performance in primary tasks. Therefore, one goal of a host country school is to provide students with a comfort level that is conducive to learning (MacIntyre & Gardner, 1991; Sogunro, 1998).

Raising cultural awareness in the classroom is essential for educators in order for them to assist students in maximizing their learning potential. Adjusting and evaluating instructional methods employed in colleges is important because “individuals may evidence differently culturally based learning strategies” (Berry, Poortinga, Segall, & Dasen, 2002, p.4). It is, therefore, essential to understand the human behavior exhibited by culturally diverse individuals.

Gardner’s theory of multiple intelligences focused on not only cultural differences, but individual intelligences which affected learning (1993). Gardner suggested that human beings are born with certain “individual proclivities” that promote learning (1993, p. xvi). These intelligences were derived from “the informational contents that exist in the world” (1993, p. xxi). Gardner claimed that while the eight intelligences are “independent of one another, …they can be …combined in a multiplicity of adaptive ways by individuals and cultures” (1993, p. 9).

Kolb’s A Learning Style Inventory produced information with regard to the type of environment that is most conducive to student learning, thereby supporting Gardner’s theory (1993). Curry (1983) also supported the theory, adding the metaphor of an onion to represent learning methods. Gregorc (1985), Schmeck (1988), Claxton and Murrell (1987), Clark-Thayer (1987), and Dunn and Dunn (1978) are among those who concurred with the theory of multiple methods of learning. In fact, the issue of learning styles has also been addressed as a consideration of “possible factors that lead to college success” (Clark-Thayer, 1987, p.163).

Dunn and Dunn (1978) enhanced the idea of styles of learning put forth by Gardner and expanded on his theory. The Dunn and Dunn model evolved into a model for assessing learning style preferences by identifying the psychological, as well as, the physiological elements that affect learning (Honigsfeld, 2000).

Therefore, raising cultural awareness through recognizing, identifying anxiety levels and learning style preferences in the classroom, through the use of State/Trait Anxiety Inventory (Spielberger, 1983), and Building Excellence (Rundle & Dunn, 2000) provided conditions in which effective communication reduced student anxiety. This cultural awareness among educators lends itself to greater heuristic understanding of student learning.

**Delimitations**

International students studying at an American college for the first time were chosen for this study. While the research site hosted international students from 14 different countries, the study was restricted to three cultural norms: Chinese, Japanese, and Korean college students studying the College.

The parameters of this study were also limited by the use of Building Excellence (Rundle & Dunn, 2000), as the only instrument of measuring sociological learning preferences. This instrument was used because of its convenience of being an on-line survey that produced immediate results. While research suggested that this instrument, based on the Dunn and Dunn Model of Learning-Style Preference was valid (De Paula, 2003; Dunn & Griggs, 2003; Dunn, Griggs, Olson, Gorman, & Beasley, 1995; Rundle & Dunn, 2000; Honigsfeld, 2000; and Pfleger-Dunham, 1999), it was only one of several inventories available.

The uniqueness of this study was found in the setting in northwest New Jersey, an area where second language learner (L2) students attended a small Liberal Arts College where faculty was primarily Caucasian. While much of the population was from a similar culture, many more students from various cultures are expected to enter this institution as enrollment expands, and concerns focused on preparing teachers to instruct these second language learners from various cultures. Because the sample size of the population studied was less than 86, limitations of this study included the fact that the study was generalizable only to students enrolled at small, private colleges with similar populations. However, the qualitative design of this study, which allows for more in-depth study of the target population, “promote[d] greater understanding” of first-time international students (Gay, 1996, p. 208).

According to Berry (2008b), the process of acculturation varies for each individual, and Chance (1988) suggested there may be limitations to learning based on the individual’s predisposition to acquire new knowledge. Therefore while acculturation and anxiety...
of the test population may also be related to the duration of time in its present environment, this study was conducted to meet the needs of this College’s particular location and population. Ideally, subjects should be exposed to the American education system for a longer time in order to accurately assess its relationship to learning styles.

Learning Styles
Many influences affect and shape one’s preference for learning. “Socialization in any cultural milieu not only teaches…language…but how to learn as well” (Cushner, et.al., 1992, p. 108). Tweed and Lehman (2002) considered Confucian and Socratic approaches to learning. They reported that the culture in which a student lives provides “tools, habits, and assumptions” that affect human behavior and learning (Tweed & Lehman, 2002, p. 89). Students from East Asia may be more “culturally Chinese” and process knowledge through a Confucian style of learning in which students expect a pragmatic approach to learning where the role of the teacher is paramount (Tweed & Lehman, 2002, p. 89). The teacher is the exemplar from which knowledge flows, and students observe, respect, and obey. They do not question or generate their own ideas (2002).

This Confucian-oriented approach to learning clashes with Western-Socratic ideals in American classrooms. In these settings, teachers are guides and lessons involve “overt and private questioning, expression of personal hypotheses, and a desire for self-directed tasks” (Tweed & Lehman, 2002, p. 93). The differences between such culturally diverse groups in American schools may lead to ability differences of Asian international students and their American counterparts (Sam & Berry, 1976). Sam and Berry suggested that the greater existence of cultural differences, the greater stress thus further complicating the learning environment (2006). They further concluded that reshaping of habitual patterns of learning may be necessary “to meet the demands of a particular society”, but temporary visitors, such as international students, may not fully acculturate into the new culture knowing their stay is temporary (Sam & Berry, 2006, p. 30).

Tucker (2003) concurred. In his study of understanding learning styles of Korean students in American colleges, he suggested that “a mere appreciation of cultural difference does not often translate into any significant adjustment in classroom style” (Tucker, 2003, p. 3). Based on his personal experiences working in a “Korean Extension school”, Tucker began to recognize various ways in which students learn. He noted, that the students did not think like him (2003). His observations concluded that “Korean students did not participate in classroom discussion” and were often represented by a “statesman who spoke on their behalf” (Tucker, 2003, p. 4). Tucker suggested that teachers need to take time to know each international student in order to enhance their learning potential (2003).

Clark-Thayer (1987) reported that learning style preferences represent more than how we process or react to information. Dunn and Dunn concurred. According to Dunn & Dunn (1978), learning-styles are more comprehensive—they encompass not only the cognition, but also the preferred environment in which individuals learn. Therefore, learning styles, as a field of study, has slowly evolved over several decades, consequently producing several learning-style models which may measure student learning.

However, according to Claxton and Murrell (1987), educators in teacher-centered classrooms are slow to recognize the value of learning styles. In such classrooms, educators are mainly concerned with imparting knowledge of content material rather than considering how or why the student learns. Yet, recognizing how the student learns, rather than how well or how much has been learned, is an important strategy to be employed (DePaula, 2003; Honigsfeld, 2000; Park, 2000; Pfleger-Dunham, 1999; Lewthwaite, 1999; Dunn & Griggs, 1995; Carbo, Dunn, & Dunn, 1991; Claxton & Murrell, 1987; Dunn & Dunn, 1978; Kolb, 1976). Therefore, recent changes in awareness of student outcomes, and diverse populations in the classroom have piqued educators’ interest. This awareness impacts student learning. Researchers are concerned with and interested in how and why students succeed or fail (Pfleger-Dunham, 1999).

Research Supported by and in
Contradiction to the Theories and Principles
Dunn and Griggs (1995) suggested that the learning styles of adult learners are unique which, when considered in instructional methodologies, revealed positive student outcomes. A study by Park (2000) also suggested that there were significant learning style differences in Asian students as compared to white students because of cultural mores, and such differences were related to academic achievement. Park’s study investigated California high school students from “a subsample of 738 cases of a larger study” (2000, p. 254). Her research suggested that “Korean, Chinese, and Filipino students are more visual [learners] than Whites” and that Korean, Chinese and White students show “negative preferences for group learning” (Park, 2000, p. 250).
She also suggested that “English as a Second Language students strongly prefer kinesthetic and tactile learning styles” (Park, 2000, p. 250). Yet, ESL students who were in the United States for longer than three years were “significantly more auditory” than their ESL counterparts who were in the United States for a shorter time. This suggested that the longer ESL students remained in the United States, the more closely their learning style preferences resembled native speakers (Park, 2000, p. 250).

This theory was substantiated by Lam-Phoon (1986) who compared 143 Asian male and female college students with Caucasian male and female students at a Michigan college. Lam-Phoon’s research concluded that there was a difference between Asians and Caucasians with regard to learning style, and it appeared that gender was “a contributing factor to learning-style preferences” (1986, p. 96). This was predicated on culture as the determining factor. Because of this study, Lam-Phoon (1986) recommended that further exploration be conducted in this field and that evaluating learning styles of Asian and Caucasian college students be conducted prior to the beginning of the semester for a better understanding of student learning. Therefore, for the purposes of this study, learning style preferences and cultural biases will be considered as an element of reducing anxiety and promoting student learning.

According to Claxton and Murrell (1987), “learning style can be an extremely important element in the move to improve curricula and teaching in higher education” (p. 1). In order for students to understand the options available to them that will promote successful learning, they need to become aware of their strengths and weaknesses when approaching the learning process (Clark-Thayer, 1987); faculty awareness of learning styles is one way faculty can execute their duties as instructors (Claxton & Murrell, 1987). They indicated that if the research of Kolb, Curry, Dunn and Dunn, and others is correct, consideration of learning styles in education is “not just a nice thing to do...but...a prerequisite” to teaching (Claxton & Murrell, 1987, pp. 30-31). And while their research followed a theory of learning styles that differs from Kolb, the research of Dunn and Dunn (1978), Carbo, Dunn and Dunn (1991), Dunn and Griggs (1995), Pfleger-Dunham (1999), Lewthwaite (1999), Honigsfeld (2000), and DePaula (2003) corroborated Claxton’s and Murrell’s (1987) view of the importance of addressing learning styles.

Summary of Findings
The quantitative findings suggested that the learning style profiles of the Asia students studied did not differ at the start of their studies in the US on the basis of either nationality (Chinese vs. Korean) or gender. Chinese students were somewhat more anxious than Korean students when they began studying in the US, but students from the two countries did not differ on level of acculturation. Although the very small number of Chinese students in the study (n = 14) precludes confident generalization, it was observed that within this group initial anxiety was related positively to a preference for Late Afternoon learning and negatively to a preference for Evening study. Within this group anxiety was also related negatively to a positive disposition toward studying in Pairs or in Small Groups. Among the larger Korean sample, initial anxiety was related only to motivation. Acculturative orientation (more Asian vs. more American) was not related significantly to learning style.

Over the orientation six-week semester of study in America, the Asian students did not change very much in terms of learning style. The Chinese group increased in preference for Kinesthetic learning activities and Variety, but they decreased on the learning style Motivation subscale. The Korean students increased in their positive disposition toward Evening study, and they decreased in Task Persistence.

Results of the STAI (Spielberger, 1983) indicated that anxiety was largely unrelated to the changes that occurred in the learning styles of the Asian students under study. However, among the Chinese students there was a positive relationship between initial anxiety and increases on preference for Authority. Among the Korean students initial anxiety was related to increases in a positive disposition toward Auditory learning and toward study in the Evening; and initial anxiety was related negatively to Motivation.

Acculturation also was not broadly related to changes in learning style. Among the Chinese group, a more American acculturative orientation was associated with increased preference for Later Morning or Early Afternoon study. Among the Korean sample a more American orientation was associated with increased scores on the Intake learning style dimension.

Grades received at the conclusion of the students’ six-week orientation period were not strongly related to changes in learning style. Among the Chinese group higher initial grades (a proxy for English language skills) was related to increased preference for Sound and for Late Morning learning, and to decreases
The qualitative study provided greater insight into the responses of the Asian students to the new learning environment. Focus group responses indicated clearly that the Asian students were accustomed to formal, authoritative presentations from the instructor to the students, with little opportunity for students to share their observations or opinions. The Asian students were oriented toward memorizing, and they tended to work alone. Thus the students in the focus groups commented on the extensiveness of the exchange between teacher and students in the American classrooms, as well as on the informality of the relationship between teacher and students and the inclusion of small group learning projects.

The instructors who participated in the teacher focus group made it very clear that they were aware of the learning style differences of foreign students, and that they made special efforts to accommodate these differences. Specifically, the instructors noted that they made efforts to help their Asian students to participate and to express themselves in class. They also made a special effort to incorporate diverse learning activities and to provide multiple options for assessment when possible. Both students and instructors noted that the students became more comfortable with the American learning environment rather quickly.

Conclusions

The results of the study provide reason for an optimistic assessment of the response of Asian students to the new learning environment, as well as for a positive evaluation of the response of the instructional staff to the learning style differences of Asian students. Although the Asian students were clearly surprised by aspects of the American classroom that differed markedly from their prior learning experiences in Asia, they generally adapted quickly and comfortably. This was no doubt facilitated by the awareness of the instructors of the Asian students’ familiarity with formal instruction directed almost entirely from teacher to student, with memorization, and with individual study rather than paired study or group study efforts. The results of the quantitative portion of the study make it clear that the Asian students did not change very much in their learning styles over the course of six weeks here, but the student responses in focus groups suggest strongly that they were able to adapt and to function quite well in learning situations that were quite different from what they had experienced in their home countries. The Asian students showed that they could adapt to the informal learning environment rather quickly.

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One conclusion that is quite clear from the focus group responses is that the English language training received by students in their home countries before coming to the US could be improved by a greater emphasis on oral communication skills, rather than the almost complete focus on reading and written English that appears to characterize English language instruction at present. Given the expectation in the American classroom for student participation, it is important that Asian students arrive with good skills in spoken English. Failing this, the culturally based tendency of Asian instruction to be one-directional from teacher to student will be exacerbated by reluctance to participate based on apprehensions regarding poor skills in spoken English. Failing this, the culturally based tendency of Asian instruction to be one-directional from teacher to student will be exacerbated by reluctance to participate based on apprehensions regarding poor skills in spoken English. Failing this, the culturally based tendency of Asian instruction to be one-directional from teacher to student will be exacerbated by reluctance to participate based on apprehensions regarding poor skills in spoken English.

Recommendations

Based on the results of the present study, it seems clear that future research should be carried out on larger samples of foreign students from diverse home countries. The use of larger samples would allow more confident generalization of findings. In addition, the inclusion of students of various nationalities would allow for the emergence of more pronounced nationality differences in initial learning styles.

In addition, it is recommended that future studies employ learning style measures that are more focused on specific dimensions of learning preference. The use of an inventory with 28 different aspects of learning style results in the necessity of conducting large numbers of hypothesis tests in order to identify significant relationships, which in turn results in an accumulating probability of Type one statistical errors (false positives). In other words, we cannot be certain whether the results obtained in the present study are generalizable to Asian students in general, or simply the result of random variability in responses.

Of course, the clear awareness of cultural difference among the faculty members who participated in this study, as well as their active and positive responses to these differences, suggests the utility of continuing
to teach future instructors about learning style differences and the relationship of such differences to specific nationalities and cultural groups. Obviously this is something that instructors will learn by experience as they are exposed to foreign students, but it is very important to provide instructors with theoretical models for students' learning style preferences that inform the instructors' efforts to make the educational experience of foreign students as enjoyable and productive as possible.

References


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