

Cultural Differentiation in Learning Styles: A Review of the Research

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Abstract

Students face a number of social and cultural challenges to success in the American higher education setting. Research on learning preferences, personality development, and learning style measurement has a rich history in psychological research, however, the refinement of the research to focus on cultural influences is relatively new and scattered at best. This review of standard literature presents research related to cultural differentiation in learning and learning preferences, and highlights the need for further work which explores the depth of influence of cultural components on learning preferences and pedagogical and programming strategies which successfully addresses this diversity.

Introduction

Research on learning preferences, personality development, and learning style measurement has a rich history in psychological research, including the writings of Freud and Jung (Hawk & Shah, 2007; Kolb, 1984; Kolb, Rubin, & MacIntyre, 1971; Swanson, 1995). However, the refinement of the research to focus on cultural influences is relatively new and has been inconsistent in regards to both time, depth of study, and findings (Entwhistles & Ramsden, 1983; Felder & Henriques, 1995; Glick, 1975; Gonzales & Roll, 1985; Gradman & Hanania, 1991; Hofstede, 1986; Lesser, Fifer, & Clark, 1965; Witkin, 1976). The following presents a review of seminal research related to cultural differentiation in learning and learning preferences.

Literature Review

Banks (2004) suggested the scarcity of literature on cultural influences on learning is a result of the complexity of the issue; class mobility and ethnic culture entwine themselves around the issue of learning characteristics in minority students (p. 20). For example, studies dealing specifically with learning differences in Hispanic students were even more limited than other minorities and usually narrowly focused, typically on Mexican-Americans and/or elementary students (Griggs & Dunn, 1995, p. 13). Herrnstein and Murray (1994) noted the lack of reliable general studies for this group and postulated it was due to the diverse nature of the population, its "disparate heritage and a wide range of racial stock...that differ markedly in their social and economic profiles" (p. 275).

However, a few studies were conducted in the 70's that suggested there is a cultural component to learning. For example, Glick (1975) suggested a difference in visual responses to illusions in subjects from industrialized and nonindustrial societies (p. 611). Recently a theoretical look at cultural influences on learning was done by Manikutty, Anuradha, and Hansen (2007). The authors created a framework understanding cultural influences on learning approaches, which despite a reference to "learning styles" in the title, they distinguished from "learning styles" by describing learning approaches as situational rather than a general preference (p. 72). Their framework layered Entwistle's and Ramsden's (1983) components of learning approaches, deep/surface and apathetic/strategic (p. 72), with Hofstede's (1986) dimensions of culture, power distance, individualism/collectivism, uncertainty avoidance time orientation, and masculinity/femininity (p. 74). Although the framework could be useful in developing theories around cultural differentiation in learning, more research in the area is needed before any practical applications could be developed or utilized.

An earlier study by Lesser et al. (1965), looked at 320 first-grade children across four ethnic groups, Chinese, African-American, Puerto Rican, and Jewish; two socio-economic groups; lower and middle class; and gender. The study explored many variables thoroughly; however, the number of variables studied left inconsistencies in identifying the group status. For instance, the authors admitted that subjects from other non-Puerto Rican Latino cultures would identify as Puerto Rican in the study and the defined Chinese cultural group came from many distinct Chinese ethnicities, and utilized at least four distinct primary languages (p. 21). However, an important finding was the pattern of mental abilities differed by socio-economic class and ethnicity (p. 73). In 1976 Witkin showed differences in cognitive functioning in different cultures due to differences in socialization and child-rearing practices (p. 45). Witkin utilized research performed by himself, Price-Williams, Bertini, Christiansen, Oltman, Ramirez and Van Meel (1974) and cited two additional studies by Berry (1966) and Dawson (1967a, 1967b, 1969, 1971) to show differences in independent/dependent cognitive functioning in children from culturally and ethnically diverse samples from Italy, Holland, Mexico, Sierra Leone, Inuit tribes, Australia and Hong Kong. He noted that the same socialization principles were seen in studies of western samples as well. Although dated, the accumulation of information from such vast studies, done in a relative synchronous format, added value and legitimacy to his findings and made this a landmark work in the study of cross-cultural cognitive differentiation.

Herrnstein and Murray (1994) published *The Bell Curve*, a comprehensive and controversial overview of intelligence differences across culture and race. The authors suggested that ethnic differences in cognitive ability are similar to cultural and biological differences. To substantiate this, they cited studies by Flynn (1991) and Vernon (1982) which highlighted cognitive differences in Asians and Caucasians (p. 273), and numerous studies (Jensen, 1985; Jensen, 1993; Osborne & McGurk, 1982;

Sattler, 1988; Shuey, 1966; Vincent, 1991), showing differences in African-Americans and Caucasians (p. 277). However, Herrnstein and Murray (1994) noted the wide spectrum of national origins, differences in socio-economic make-up of Latino ethnic heritage and language disparities combined to make conclusions based on cognitive testing for the Hispanic sub-population unconvincing (p. 275).

Furthermore, researchers have questioned the validity of some intelligence measurements based on cultural differences in cognitive styles. For instance, a 1985 study by Gonzales and Roll reviewed intelligence testing in 197 subjects in grades 4, 8, 12 and college freshmen in New Mexico (p. 195). Testing was done using the Group Embedded Figures Test (GEFT), Weschler Adult Intelligence Scale, the Weschler Intelligence Scale for Children, the Culture Fair Intelligence Test, and the Multidimensional Scale of Cultural Differences (MSCD). They divided and compared the results in Anglo-Americans to those of Mexican-Americans. The results suggested no difference in cognitive non-verbal performance between the two groups (p. 201). However, there was a difference shown in verbal ability and vocabulary (p. 201). The authors suggested this was due to language differences and not due to cross-cultural cognitive differentiation (p. 201). Although the dated nature of the study and geographic limitations of the sample could skew the results, as they relate to today's social, cultural and educational dynamic, the study, nonetheless, presented a notable argument about cross-cultural, or at the very least inter-linguistical, limitations of intelligence testing.

Ramirez and Cateneda (1974) proposed a theory of educational pluralism as a pathway to flexibility in learning. They argued that multi-cultural development was an important aspect of personality development and learning preferences (p. 27). In particular, the dual roles a young person of bi-cultural, or multi-cultural, influences produced bi-cognitive functioning, internal and external orientations (p. 67, p. 153). To support their theory the authors looked at children in Cucamonga, California and developed tests for cognitive styles and explored the play between socialization practices and values of Anglo-Americans and Mexican-American practices (p. 88) Like Gonzales and Roll (1985) the dated nature of the study could limit its applicability in today's environment; however, the educational practices suggested by the authors, i.e., encouraging cooperation, acceptance of children's ideas and personalizing (pp. 179-181) have proven to be sound and practical.

Other cross-cultural research has focused on learning differences within second-language classes. Reid (1987) utilized a self-reporting questionnaire modified from existing learning profile instruments to measure learning preferences across six learning styles; visual, auditory, kinesthetic, tactile, group learning, and individual learning of students enrolled in English as a Second Language, ESL, programs from 39 institutions (p. 88). With a sample size of 1,234, analysis of variance was measured across age, language of origin, Test of English as a Foreign Language (TOEFL) score, length of time

in the United States, length of time studying English, class and gender (p. 93). The most significant results came from the language of origins. Korean, Chinese and Arabic students showed divergent learning styles, while Spanish speaking students showed a definitive preference for kinesthetic and tactile learning (p. 96). With the large sample and the multiple variables studied, this research gave a good picture of language learning. From her findings, Reid advocated for the matching of teaching styles or pedagogical strategies with learner profiles based on variables existing in ESL classrooms.

Gradman and Hanania (1991) coded and analyzed 44 variables for 101 foreign language students at the University of Indiana (p. 39). Using multiple-regression techniques they identified 22 factors that had significant impacts on a student's TOEFL scores. Oxford, Ehrman, and Levine (1991) narrowed the list to the "nine most important factors"; namely aptitude, motivation, anxiety, self-esteem, tolerance of ambiguity, risk taking, language learning style age and gender. Their study of students in the United States Foreign Services Institute highlighted the profound impact learning styles could have on foreign language education. Through their studies they also contended that matching pedagogical strategies to student learning styles can enhance achievement, attitudes and behavior in language classes (Oxford & Ehrman, 1993; Oxford et al., 1991).

Felder and Henriques (1995) also suggested a multi-style approach to foreign language education (p. 28). However, they pointed out that an instructor will usually be teaching in a style that is preferred by several types of learners. Balancing this with strategies that employ variations of presentations and use of inductive and deductive techniques in a manner that is comfortable for the instructor and effective for students can greatly enhance the results of a class (p. 29). Some researchers have attempted to justify one pedagogical method over another based on learning style theories, e.g., Bergsteiner and Avery (2008). However, the majority of the research suggested that understanding the learner's style is the key to pedagogical planning and success in trans-cultural learning environments (Felder & Henriques, 1995; Manikutty et al., 2007; Reid, 1987; Sanchez, 2000).

In 2011, Tripp utilized the Index of Learning Styles (ILS) (Felder & Silverman, 1988; Felder & Soloman, 1991, 2001) to look for a relationship between a student's identification as Hispanic or Non-Hispanic and learning style. The researcher looked for a relationship between each of the four dimensional aspects of the ILS (Sensing/Intuitive, Active/Reflective, Verbal/Visual, and Sequential/Global) and cultural identity, gender and the interaction of cultural identity and gender. The findings showed no relationship between either cultural identity, as Hispanic or non-Hispanic, or gender and any of the four dimensional aspects. However, when looking at the interaction between gender and cultural identity "The study identified a relationship between score on the Active/Reflective dimension scale of learning as

measured by the ILS and a student's ethnic identity as Hispanic or non-Hispanic and gender" (p. 120).

Conclusion

Students face a number of social and cultural challenges if their efforts to be successful in an American higher education setting. Although the literature has been clear that cultural components can be seen in learning preferences, both cognitively and in personality, the research has been scattered at best. Further research which explores the depth of influence by cultural components on learning preferences is needed. Additionally, pedagogical planning and student programming which takes into account both the learning preferences and cultural impact will be key to the success of students from underrepresented cultures.

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