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Irma S. Jones

The University of Texas Rio Grande Valley

Dianna Blankenship

The University of Texas Rio Grande Valley

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Learning style preferences and the online classroom

Irma S. Jones

The University of Texas Rio Grande Valley

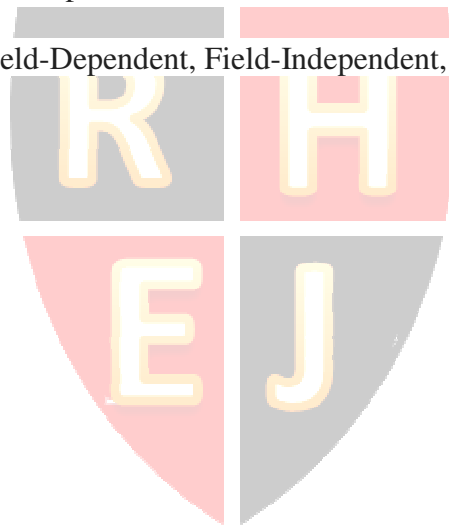
Dianna Blankenship

The University of Texas Rio Grande Valley

ABSTRACT

This study was adapted from a learning styles questionnaire in *College Study Strategies* (Laskey & Gibson, pp. 52-53, 1997). The authors administered the adapted questionnaire to undergraduate education and legal online students in a Southern predominately Hispanic serving institution. This study allowed the students to identify their preferred method of learning and will allow the online instructors to modify and improve the design of their courses. Results of the learning styles questionnaire will be presented with suggestions and recommendations for teachers of field dependent and independent online learners.

Keywords: Online Courses, Field-Dependent, Field-Independent, Learning Styles



INTRODUCTION

Many different factors influence how each individual approaches learning new information and how they retain that information. Learning styles are just one of the approaches that can explain these influences. The identification, classification and definition of learning styles varies widely depending on the perspective of the researcher. In addition, learning styles terminology can at times be utilized interchangeably with terms such as thinking styles, cognitive styles and learning modalities. Learning styles refer, in this case, to “the preferential way in which the student absorbs, processes, comprehends and retains information” (Teach.com, 2016). In exploring learning styles, Jantan and Razali (as cited in Othman & Amiruddin, 2010) define learning style as the way a student deliberates, as well as how they approach the processing of material, knowledge, and experience. Each individual possesses a different mix of learning styles; some that may be more dominant than others or some that may be used depending on the circumstances and the information to be learned (learningstyles.com, 2016). The learning styles upon which this study will be concentrating are the field dependent and field independent models.

FIELD DEPENDENCE/FIELD INDEPENDENCE

One of the topics which has received much importance and thought in recent times is learning styles and learning strategies. Considering all the data, it is evident that Witkin's theory of field dependent-field independent cognitive styles has been extensively used for much research (Saracho, 1998). Witkin, an American psychologist, began his enduring work on field dependence and field independence (one-dimensional models of variation in cognitive styles) in the early 1960s (Witkin, Dyk, Faterson, Goodenough, & Karp, 1962). His Embedded Figures Test (EFT) shows examinees a simple figure and then asks participants to locate that figure which is embedded within a relatively complex design (Goodstein, 1978). As Woolbridge and Haimen-Bartolf (2006) explained, citing Witkin and Goodenough (1981, p. 15), “To locate the simple figure it is necessary to break up the exposed pattern so as to expose the figure. It was found that subjects who had difficulty separating the sought-after simple figure from the complex design . . . were the ones who were field dependent. Conversely, people who were field independent . . . found it easy to overcome the influence of the organized complex design in locating the same figure within it.” Thus, the construct of field dependence-field independence refers to “the way individuals respond cognitively to confusing information and unfamiliar situations,” and the behaviors that the responses produce (Irvine & York, 1995). Griggs and Dunn (1996) stated that, “Field-dependent individuals are more group oriented and cooperative and less competitive than field-independent individuals.” Wooldridge and Haimen-Bartolf (2006) reviewed the literature on field-independence/dependence research and found a common theme: field-dependent learners will “require more structure” than field-independent learners “in order to achieve the same level of learning” (p. 251).

With regard to Hispanic students and learning styles, Griggs and Dunn (1996) reviewed research on Hispanic students' learning styles and found more field dependency in Hispanic and other minority students and less in nonminority students.

Mestre (1997) cautioned awareness of cultural differences when demonstrating the use of computer accessed information. She stated, “The majority culture falls into the category of field-independent learners who are parts-specific, can isolate facts as needed, are rather linear in their

thinking and problem solving and tend to test well. On the contrary, field-dependent learners, such as Latinos, must see the big picture, seek to find personal relevance in the task at hand and require that some sort of personal relationship is established between the instructor and the student” (p. 191).

METHODOLOGY

For this study, the authors administered a 10-question version of the field independent and field dependent 11-question inventory from Laskey and Gibson’s (1997) *College Study Strategies: Thinking and Learning* (pp. 52-53) and offered this survey to students enrolled in the authors eight online classes during the summer and fall 2016 semesters at this Southern Hispanic-serving institution. Students were given the option of volunteering to take this survey in order to learn which learning style was dominant in their educational habits. Out of approximately 200 students, 121 undergraduate education and legal studies online students responded to the survey.

Of these 121 participants, 95 students or 78% were of Hispanic origin while 26 students or 21% were not Hispanic. The authors’ university is a Hispanic-serving institution; therefore, these numbers and percentages were not surprising. Of the 26 participants or 21% non-Hispanic participants, no effort was made to distinguish between specific races.

FINDINGS



The following Table 1 reports a breakdown of six categories: those that held an equal number of field dependent and field independent responses; those that have field dependent responses; and those that have field independent responses. Each of these categories was divided by Hispanic and non-Hispanic responses as indicated in Table 1 (Appendix).

The number of participants in this study that had the majority of their responses in the field dependent category was 31 or 25%. We arrived at this number by adding the number of field dependent Hispanic students and the number of field dependent non-Hispanic students. The total number of field independent responses was 64 or 53% of the participants. The other category showed an equal number of responses for both field dependent and field independent characteristics. In this equal category, there were 26 responses or 21% of the participants that fell into neither category nor both categories, equally. Seventeen percent of these participants were Hispanic and 4% were not.

As stated in Table 2 (in the Appendix), the authors report each question and whether it was considered a field dependent or field independent characteristic if the participant answered with “true.”

In this survey, questions 2, 5, 6, 8, and 9 are the statements that if a participant responds with a True, this response indicates field dependent characteristics. Questions 1, 3, 4, 7, and 10 are the statements that if a participant responds with a True, this response indicates field independent characteristics.

The high number of responses (ones that range from 50 and above) occurred in statements 1, 3, 4, 6, 7, 8, 9 and 10. Comparing the field independent statements to the statements that had the higher number of responses, we see that field independent statements were selected more often than field dependent statements. When we compare the Table 2 numbers with the numbers from Table 1, Participant Responses by Categories, the number of

field independent learners are 74% of the total participants. Hence, if we were to extrapolate, field independent characteristics were selected 57% more often than field dependent characteristics.

While Griggs and Dunn (1996) found Hispanic students to be field dependent, the results of this survey found Hispanics to be more field independent. This difference could be attributed to the rising English proficiency of Latinos. Eighty-nine percent of U.S. born Latinos spoke English proficiently in 2013, up from 72% in 1980. (Krogstad, Stepler & Lopez, 2015). The difference might also be attributed to the dramatic decrease in Hispanic high school dropout (32% in 2000 to 12% in 2014) and their increasing college enrollment (22% of Hispanics ages 18-24 in 1993 to 35% in 2014) (Krogstad, 2016).

RECOMMENDATIONS

Wooldridge and Haines-Bartolf (2006) reviewed the literature on field-independence/dependence research and found a common theme: field-dependent learners will “require more structure” than field-independent learners “in order to achieve the same level of learning” (p. 251). Similarly, Griggs and Dunn (1996) examined learning style preferences of Hispanic students and advised teachers and counselors to expect these students to prefer (among other things) a field-dependent cognitive style, peer-oriented learning, and a highly structured learning environment.

The British Council (2016) noted that field dependent and independent cognitive styles “make successful models for teachers trying to understand their learners.” With regard to instructional design, online instructors need to remember that field-dependent students will be “strongly dominated by focus on the overall organization of the surrounding field” and will tend to perceive parts of the field as “fused” while field-independent students will experience parts of the field “as discrete from the organized ground” (Wooldridge & Haines-Bartolf, 2006, p. 253). But, as Pithers (2002) pointed out, teachers need not slavishly adopt field dependent styles and behaviors to match field dependent students because in the work place, the learners may need to adopt a different style or information approach to achieve the most appropriate or the ‘best’ quality decision or solution.”

Chambers (2015) has stated that while technology may be the racial equalizer, Blackboard (a learning management system) is “white” because (1) it has a text based approach to information dissemination; (2) its assignments are designed for independent rather than group learning; and (3) the instructor’s response is delayed. Thus, field independent learners or those who have a “white” approach to learning will experience success in Blackboard’s text-based environment while minority field dependent learners will experience challenges. Chambers (2015) thus recommends strategies that will help reduce Blackboard’s inherent “whiteness.” These include the use of blogs that allow “real talk” to happen; contact that allows uploaded images; discussion boards that promote community; groups to provide community interaction; and the use of film and video archives from NBC Learn (Chambers, 2015). These suggestions are in line with results of Blackboard Learn’s spring 2016 study of 70,000 courses from 927 institutions with 3,374,472 learners (Whitmer, 2016). Cluster analysis of the data revealed five course design archetypes: supplemental, complementary, social, evaluative, and holistic. The majority of courses (53%) were supplemental in that they were high in content with very little student interaction, while the second largest amount (24%) were used primarily for one-way teacher-student communication. Eleven percent of the courses were social, with a high peer-to-

peer discussion board interaction. Only 2% of the courses were holistic, having a high learning management activity with a balanced use of assessments, content and discussion (Whitmer, 2016). Implementing Chambers' earlier recommendations (2015) would result in more holistic courses, reduce Blackboard's inherent "whiteness," and lead to greater learner satisfaction.

Since, as noted by Witkin, Oltman, Raskin, and Karp (1971) field dependent individuals pay more attention to and remember faces, online instructors can post their picture and encourage other students to do the same. Learners can also discuss what they know about a topic, predict content, or look at and listen to related material (Wooldridge & Haimes-Bartolf, 2006). Online instructors can also take advantage of the results of Clinefelter and Aslanian's 2016 annual study of the demands and preferences of 1,500 online college students. (Clinefelter & Aslanian, 2016). Their study revealed that engagement with classmates is seen as important or very important to 45% of college students. In this connection, they also reported that posting to online message boards was the preferred way to stimulate engagement in online classes, followed by group projects, and having a partner (Clinefelter & Aslanian, p. 46). The researchers recommended that online instructors who do not require face-to-face interaction "need to focus on finding and designing course activities to enable students to engage with each other" (p. 46).

Online instructors can also maintain a continuing presence by the use of constant feedback and communicating regularly with students via course announcements (Matias, 2015). Also, online instructors need to remember, as noted by Wooldridge (1995, p. 52), that "field dependent learners require more structure in terms of objectives and planned activities in human relations training, lecture outlines, or in the 'inherent organization of the task material itself.' " In this connection, the following suggestions might also be helpful for online instructors:

- An online instructor should be well prepared;
- Online courses should be sure to have course objectives clearly spelled out;
- Online courses should be well organized and structured, with clear and explicit instruction for all assignments;
- Online courses should also provide a study outline;
- Online courses should post a rigorous discussion board that requires social interaction with consistent feedback.
- Students should be given a choice between individual or group projects;
This is because field-dependent learners often work well in teams as they tend to be better at interpersonal relationships. Group projects and activities that connect different parts of a lesson are useful for field-dependent learners

Nevertheless, the bottom line for the authors (and probably for most online instructors) is that "students need more discipline to succeed in an online course than in a face-to-face course" (Allen & Seaman, 2005). This is in line with Kaupp's (2012) conclusion that online students (whether white or Hispanic) performed better in face-to-face courses than in online courses. He also found this effect was stronger among Hispanic students who attributed the absence of a strong student-instructor relationship as the key difference between their face-to-face and online educational experience

Finally, as Matias (2015) reminds online instructors, "Teaching fully online takes time. Learning fully online takes time." Thus, following recommendations and suggestions to help

develop that discipline and engage online students in their learning will be of benefit to all students – whether they are field independent or field dependent learners.

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APPENDIX

Table 1: Participant Responses by Categories		
Category	Responses	Percentage of Responses
Field Dependent Responses from Hispanic Students	27	22%
Field Dependent Responses from Non-Hispanic Students	4	3%
Field Independent Responses from Hispanic Students	47	39%
Field Independent Responses from Non-Hispanic Students	17	14%
Equal Number Field Dependent and Field Independent Responses from Hispanic Students	21	17%
Equal Number of Field Dependent and Field Independent Responses from Non-Hispanic Students	5	4%
Total Number of Participants	121	100%

Table 2: Questions by Field Dependent/Field Independent Responses

Characteristic	Question Number	Number of True Responses
Field Dependent	#2 I study with friends or in a group	28
Field Dependent	#5 I am not overly motivated to study unless I have deadlines to meet	37
Field Dependent	#6 I tend to procrastinate	51
Field Dependent	#8 I prefer teachers who provide careful course outlines and objectives	71
Field Dependent	#9 I prefer teachers who encourage class discussion and activities	53
Field Independent	#1 I like to study alone	111
Field Independent	#3 I like to study in a quiet place	113
Field Independent	#4 I enjoy my studies and do not need any outside motivation to study	72
Field Independent	#7 I am usually prepared	101
Field Independent	#10 I prefer teachers who use lectures and textbook readings as a method of teaching	98

