THE EFFECT OF STUDENTS’ CULTURAL VALUES ON THE
TEACHER-DRIVEN LEARNING STYLE PREFERENCE

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ABSTRACT

This study examined the relationship between business students’ cultural values profile and the Teacher-Driven learning preferences of 364 higher education business students from Victoria University, Melbourne Australia. Two empirically driven inventories were used: Robertson and Hoffman’s (2000) Cultural Values Scale, derived from the work of Hofstede (1980, 1991, 1998), and Honey and Mumford’s (1992) Learning Style Questionnaire, derived from Kolb’s (1974, 1976) theoretical framework. A major finding of this study was that high Masculinity, high Confucian, high Uncertainty Avoidance and high Collectivism ratings form the characteristics of the Teacher-Driven learning style.

Keywords: Students, Teaching, University, Learning Styles, Culture

INTRODUCTION

During 2002 there were 157,296 international students enrolled within Australia’s higher education sector representing 20.4% of Australia’s higher education enrolments (Roach, 2003). It is predicted this number will grow by 2025 to over one million students and be worth more than $38 billion (Roach, 2003). Even though international student enrolments within Australia’s tertiary education sector are growing at a significant rate there seems to be little research that delves into cultural influences on learning preferences. Therefore the question “Is there a relationship between students’ cultural values profile and their learning style preference?” has been rarely asked and this paper attempts to answer this question.

The aim of Kolb’s (1976) Learning Style Inventory was to measure participants’ learning styles on four distinct dimensions: the Concrete Experience (CE), the Reflective Observer (RO), Abstract Conceptualisation (AC) and Active Experimentation (AE). Kolb’s (1976) Learning Style Inventory and theoretical framework was built upon by Honey and Mumford (1992) with their Learning Style Questionnaire. Similar to Kolb’s Learning Style Inventory, Honey and Mumford’s (1992) Learning Style Questionnaire also presented four learning styles: activists, reflectors, theorists and pragmatists.

Good learning has been defined by Honey and Mumford (1992) as when people move through all stages of learning. According to the Learning Style Questionnaire, activists prefer learning from situations where they are involved in activities like business games and competitive teamwork tasks. Reflectors have a preference to take a step back from the situation to listen and observe. Theorists prefer structure, where activities are offered as part of a concept, model or theory. Pragmatists like activities where the subject matter directly links to a job task or opportunity.

Honey and Mumford’s (1992) Learning Style Questionnaire has been reviewed by a number of authors (Caple and Martin, 1994, De Ciantis and Kirton, 1996, Van Zwanenberg et al., 2000). Caple and Martin (1994) stated that the Learning Style Questionnaire clearly
implied that certain learning styles had distinct and consistent behavioural characteristics. The reliability of the Learning Style Questionnaire was acceptable across a number of different studies (De Ciantis and Kirton, 1996, Van Zwanenberg et al., 2000). Mumford (1996) suggests that any learning style preference obtained through using the Learning Style Questionnaire is not stagnant but a preference that changes over time. Studies conducted within an Australian higher education setting (Barron and Arcodia, 2002, Volet and Renshaw, 1996) validated Mumford’s (1996) assertion. These studies found that Asian students studying courses in Australia shifted from a reflective theorist preference to an active preference over time. This suggests that students’ cultural value profiles and experiences may affect learning style preferences.

Due to their shared history, Kolb’s (1976) Learning Style Inventory and Honey and Mumford’s (1992) Learning Style Questionnaire have conceptual similarities. Figure 1 illustrates this conceptual overlap and uses Kolb’s (1976) concrete experience, reflective observation, abstract conceptualisation and active experimentation dimensions as determining axes. It becomes apparent that the Kolb ‘Diverger’ construct (individuals who favour Concrete Experience and Reflective Observation), and Honey and Mumford’s ‘Reflector’ construct gauge a similar type of learner; and Kolb’s ‘Assimilator’ construct (individuals who favour Abstract Conceptualisation and Reflective Observation), and Honey and Mumford’s ‘Theorist’ construct, gauge another type of learner. This paper suggests that the Teacher-Driven learning preference closely corresponds to the Diverger/Reflector construct, and the Assimilator/Theorist construct, as highlighted in Figure 1. It is a broad reflector/theorist learning style preference response to material given.
This Teacher-Driven learning style preference is based on deep and highly structured learning and is consistent with Hancock et al. (2002), Brown (2003b) and Hassall and Joyce’s (2001) definitions on deep learning as well as Honey and Mumford’s (1992, 1995) reflective-theorist dimension. This reflective-theorist dimension (Honey and Mumford, 1992, 1995) is where learners reflect on what they have been taught and use theoretical frameworks to form conclusions. This is also consistent with Lavelle and Guarino (2003), Webb (1997) and Campbell et al. (2001) descriptions of deep learning. In contrast to this, Student-Driven learning can be conceptualised as a preference for surface or broad ranged learning based on active experimentation. This is consistent with Honey and Mumford’s (1992, 1995) pragmatic-activist dimension.

The Teacher-Driven (Deep) learning preference therefore can be seen to revolve around a highly structured environment in which the teacher organises the learning tasks and time, presents material in accordance with teaching objectives and the methods for instruction (Hancock et al., 2002, Brown, 2003b) and a correspondingly low level of active experimentation by students. Within a Teacher-Driven environment the teacher is dominant within the classroom setting, establishing and enforcing the rules. The teacher structures the
learning tasks, method of task completion, time allocation; explains the lesson and actively ensures students are on track, responds to students with direct ‘correct answer’ or ‘incorrect answer’ feedback, and summarises key points of lessons (Hancock et al., 2002, Brown, 2003b). Therefore the Teacher-Driven learning preference is where the learner attempts to grasp the subject area within a theoretical framework of ideas, concepts and self reflection (Hassall and Joyce, 2001).

An interesting finding (Hancock et al., 2002) was that students within a Teacher-Driven classroom, a deep learning preference, do not necessarily perform better academically than those students who adopt a Student-Driven classroom, a surface learning preference, which encourages a more active pragmatic approach to learning. However, Case and Gunstone (2003) found that the deeper the Teacher-Driven learning preference the greater the sophisticated learning outcomes achieved. Nevertheless such sophisticated learning is not necessarily reflected in higher academic grades (Hancock et al., 2002). Indeed, Passman (2003) found that students were progressing more academically with the Student-Driven preference. Therefore the normative assumption that deep learning is a better form of learning than surface learning should not be unquestionably accepted.

In Anglo-Saxon societies ‘good learning’ has often been equated with deep learning and Teacher-Driven learning preference (Biggs, 1994). Within this paradigm good learning occurs when abstract frameworks are used by students to conceptualize tasks, plan and monitor their progress, interpret outcomes and perceive learning as both enjoyable and results based (Biggs, 1994, Hassall and Joyce, 2001). A different perspective of good learning is presented by Biggs and Moore (1993) although it is still a normative perspective, it depicts good learning occurring when teachers focus on Student-Driven learning by assigning cooperative group work tasks, contextual teaching within small groups and that assessment addresses high levels of cognitive outcomes in a non-threatening classroom climate, (see Figure 2). Such a style would allow active experimentation by students and be less
curriculum-driven than the Teacher-Driven learning process. Clearly not all researchers agree with such normative perspectives of good learning, (see: Chan and Drover, 1997, Chan, 1999, Woodrow and Sham, 1998, Biggs, 1994) and prefer to view good learning as how different learning styles of students can be responded to by the higher education sector (Chan and Drover, 1997). However some researchers have demised what Honey and Mumford (1992) has called the activist, pragmatist’s styles or Kolb’s (1976) active experimenters as ‘surface’ learners (Hassall and Joyce, 2001, Case and Gunstone, 2003).

**Figure 2: Model of Classroom Learning**

![Figure 2](Source: Biggs and Moore, 1993, in SIN Research Matters (1996), p1)

An increasing number of students in Australian universities are international students from non Anglo-Saxon backgrounds (Roach, 2003). A large proportion of these students have a Chinese background. Confucianism according to Chan (1999) encourages the Chinese to respect hierarchical relationships, hence within an educational context the role of teachers is seen to teach and guide pupils. Ballard and Clanchy (1997) found the following characteristics to be the norm for Asian students’ study regime: attend all classes, take detailed notes, avoid class discussions and only ask questions for clarity in private with the lecturer. Therefore what constitutes ‘good learning’ may also be culturally dependent.
Chinese students have been described as being strongly influenced by the Chinese culture and Confucian/collectivist beliefs (see: Chan, 1999, Woodrow and Sham, 1997, 1998, Biggs, 1994). These students would be classified as theorists through Honey and Mumford’s (1992) Learning Style Questionnaire. Mohamed’s (1994) study which focused on Malaysian students’ learning preferences also found a ‘theorist learning style preference’, which confirmed Chan’s (1999), Woodrow and Sham’s (1997, 1998) and Bigg’s (1994) views. Therefore these students would have a high preference towards Teacher-Driven Learning.

Barron and Arcodia (2002) and Volet and Renshaw (1996) found Confucian students studying business courses have a reflector learning style preference in their homelands which is different to Mohamed’s (1994) findings. Western students studying business courses have an active learning preference. Confucian students whilst studying business courses within Australia also adopted an active preference over a period of time (Barron and Arcodia, 2002, Volet and Renshaw, 1996). This also highlights that cultural differences may influence learning approaches and the context of learning.

Hofstede’s (1980) cultural dimensions is one of the most common instruments used to gauge cultural differences (Robertson, 2000, Robertson and Hoffman, 2000). Cultural differences were found to exist across different national boundaries (Hofstede, 1980). He proposed a four dimensional framework measuring national culture and recently added a fifth dimension and these are: power distance, uncertainty avoidance, individualism/collectivism, masculinity/femininity and Confucian dynamism (long-term versus short-term orientation).

The power distance dimension (Hofstede, 1991) measures people’s perceptions of inequality within society and not wealth. Short power distance countries are more democratic in their approach to power. Hofstede (1980, 1991, 1998) describes the uncertainty avoidance dimension as the creation of complex rules to avoid risks in any situation. Hence the lower a society’s uncertainty avoidance score the society is more comfortable with change an innovation. Within a higher education context students who hold low uncertainty avoidance
scores may be more comfortable with educational innovations. Individualism measures whether the relationships between individuals are loose and collectivism measures whether relationships are highly respected and valued (Hofstede, 1991). Hofstede (1991) found the top four individualist national cultures to be all Anglo-Saxon, headed by the USA followed by other European countries. On the collectivism dimension Anglo-Saxon countries tend to score low.

The masculinity dimension measures the level of assertiveness and competitiveness within a society (Hofstede, 1998). Anglo-Saxon societies tend to score high on the masculinity dimension (that is low femininity). Femininity focuses on cooperation, good working relationships and security within society (Hofstede, 1991, 1998). Asian countries except Japan score high on this dimension. Therefore within a higher education context, students who have high masculine beliefs can be thought of as being goal driven with the aim of quick course completion. This could influence students to maintain a Student-Driven learning preference to learning. In contrast to this, students who hold high feminine (low masculine) beliefs still see goals as important but also see knowledge and experience as equally important.

Hofstede (1991) describes the Confucian dynamism dimension as perseverance, thrift, having a sense of shame and ordering relationships by status. He found China and other Far Eastern countries score high on this dimension and Anglo-Saxon countries score low. Therefore a Teacher-Driven Learning Preference can be defined as: high Femininity, that is low Masculinity, high Power Distance, high Uncertainty Avoidance, high Confucian Dynamism (high Confucian) and high Collectivism that is low Individualism.

This preceding discussion on the possible relationship between business students’ cultural values profile and the Teacher-Driven learning preferences gives rise to the following Proposition:
P: That high Femininity that is low Masculinity, high Power Distance, Uncertainty Avoidance, Confucian Dynamism (Confucian) and Collectivism that is low Individualism is positively related to the Teacher-Driven Learning Preference (the Reflector and Theorist Learning Styles).

**Figure 3: Summary of Variables**

![Diagram of Cultural Values Profile and Teacher-Driven Learning Approach]

**METHODOLOGY**

An opportunity sample of higher education business students was chosen from Victoria University, Australia. A total of 455 students were approached to participate in the study. There was an 80 percent return rate giving a final sample of 364. Cultural values data was collected via Robertson and Hoffman’s (2000) scale because it was designed to measure an individual’s beliefs along each of Hofstede’s cultural dimensions. The cultural values were coded: 1 = strongly disagree through to 5 = strongly agree. The Teacher-Driven learning style preference was measured as being present within respondents’ reflector and theorist learning styles and therefore Honey and Mumford’s (1992) Learning Style Questionnaire was used to collect Reflector and Theorist learning styles data from the respondents. Students
rated on a six point likert scale (0 to 5) to what extent they agreed with these statements. The learning preferences were coded: 0 = strongly disagree to 5 = strongly agree. Data was entered into the SPSS version 11 statistical program. The proposition was operationalised as two hypotheses:

\[ H_1: \text{High Femininity (low Masculinity), high Power Distance, Uncertainty Avoidance, Confucian Dynamism (Confucian) and Collectivism (low Individualism) is positively associated to Honey and Mumford’s (1992) Theorist Learning Style.} \]

\[ H_2: \text{High Femininity (low Masculinity), high Power Distance, Uncertainty Avoidance, Confucian Dynamism (Confucian) and Collectivism (low Individualism) is positively associated to Honey and Mumford’s (1992) Reflector Learning Style.} \]

RESULTS

The results are presented in two parts. The first is an examination of the correlations between the variables within this study. The second section discusses the Ordinary Least Squares (OLS) regressions that tested each of the Hypotheses. The cultural dimensions within this study had adequate reliabilities: Individualism/Collectivism (Collectivism) 0.65, Masculinity/Femininity (Masculinity) 0.84, Power Distance 0.73, Uncertainty Avoidance 0.83 and Confucian Dynamism (Confucian) 0.62. However the past/present subset of Confucian Dynamism did not statistically hold in this sample. The learning style dimensions also had strong alpha reliabilities: Reflector 0.79 and Theorist 0.74. The correlation coefficients for the Cultural Values Profile variables: Confucian, Power Distance, Masculinity, Uncertainty Avoidance, and Collectivism; and the Teacher-Driven Learning Preference variables: Reflector and Theorist are presented in Table 1 below.

Table 1 illustrates that there are weak to respectable significant associations between the cultural variables Confucian and Power Distance; Masculinity; Uncertainty Avoidance; Collectivism; and the Theorist and Reflector learning styles, \( R = 0.28, 0.24, 0.32, 0.22, 0.35 \).
and 0.26 respectively. Power Distance also has a strong association with the cultural variable Masculinity and a weak but significant association with the Theorist learning style, R = 0.51 and 0.17 respectively as shown in Table 1 below. Table 1 also highlights that Masculinity has a weak but significant negative association with the cultural variable Uncertainty Avoidance (R = -0.17), and a positive weak but significant association with the Theorist learning style (R = 0.16). Uncertainty Avoidance has a significant modest to respectable positive association with the Collectivism cultural variable and the Theorist and Reflector learning styles, R = 0.34, 0.29 and 0.24 respectively as can be seen in Table 1. The Collectivism variable also has a weak but significant association with the Theorist and Reflector learning styles, R = 0.14 and 0.21 respectively. There also seems to be a very strong positive association between the Theorist and Reflector learning styles, R = 0.61 as highlighted in Table 1.

### Table 1: Correlation Coefficients

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Confucian</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Power Distance</td>
<td>0.282**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Masculinity</td>
<td>0.24**</td>
<td>0.507**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Uncertainty Avoidance</td>
<td>0.322**</td>
<td>-0.10</td>
<td>-0.166**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Collectivism</td>
<td>0.216**</td>
<td>-0.01</td>
<td>0.04</td>
<td>0.34**</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Theorist</td>
<td>0.348**</td>
<td>0.166**</td>
<td>0.162**</td>
<td>0.291**</td>
<td>0.138**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>7. Reflector</td>
<td>0.256**</td>
<td>0.08</td>
<td>0.08</td>
<td>0.239**</td>
<td>0.213**</td>
<td>0.61**</td>
<td>1.00</td>
</tr>
</tbody>
</table>

N = 364, ** Correlation is significant at the 0.01 level (2-tailed).

The second section comprises of two OLS regressions that were conducted to test the two hypotheses. The independent variables were: Power Distance, Masculinity, Confucian, Collectivism and Uncertainty Avoidance. The dependent variables were: the Theorist learning style and the Reflector learning style in turn. As can be seen in Table 1, Confucian, Power Distance, Masculinity, Uncertainty Avoidance and Collectivism were significantly correlated at the zero-order level with the Theorist learning style. A multiple regression
analysis was conducted between the Theorist learning style and the independent variables of Confucian, Power Distance, Masculinity, Uncertainty Avoidance, and Collectivism. The multiple $R$ (0.423) for the regression was significantly different from zero, ($F(5,358) = 15.607, p<0.001$). In total 18% (17% adjusted) of variation in the Theorist learning style was accounted by the variables ($R^2 = 0.179, \text{adj. } R^2 = 0.167$). Tables 2 and 3 below indicate that the standardized regression coefficient (Beta) for three variables: Uncertainty Avoidance, Confucian and Masculinity were significant. Of the 18% explained variance, the squared semi-partial correlations show that Uncertainty explained 4.5%; Confucian explained 3.8%; and Masculinity explained 0.9%. Though the variables Power Distance and Collectivism were also highly correlated to the Theorist learning style, they did not produce significant semi-partial correlations when the other variables in the equation were controlled for.

**Table 2: Theorist Learning Style Model Summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>$R$</th>
<th>$R$ Square</th>
<th>Adjusted $R$ Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.423$^*$</td>
<td>0.179</td>
<td>0.167</td>
<td>0.4228</td>
</tr>
</tbody>
</table>

*a. Predictors: (Constant), Uncertainty Avoidance, Power Distance, Collectivism, Confucian, Masculinity*

**Table 3: Theorist Learning Style OLS Regression**
As can be seen in Table 1, Confucian, Uncertainty Avoidance and Collectivism were significantly correlated at the zero-order level with the Reflector learning style. Another standard multiple regression analysis was conducted between the Reflector learning style and the independent variables of Power Distance, Masculinity, Confucian, Collectivism and Uncertainty Avoidance. The multiple $R (0.333)$ for the regression was significantly different from zero, ($F(5,358) = 8.933, p<0.001$). In total 11% (10% adjusted) of the variation in the Reflector learning style was accounted by the variables ($R^2 = 0.111, adj. R^2 = 0.099$). Tables 4 and 5 below indicate that the standardized regression coefficient (Beta) for three variables: Confucian, Uncertainty Avoidance and Collectivism were significant. Confucian explained 1.9%; Uncertainty Avoidance explained 1.88%; and Collectivism explained 1.3%, of the 11% explained variance.

Table 4: Reflector Learning Style Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.333</td>
<td>111</td>
<td>.099</td>
<td>4699</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Uncertainty Avoidance, Power Distance, Collectivism, Confucian, Masculinity

Table 5: Reflector Learning Style OLS Regression
High Masculine beliefs (see Table 3); High Confucian beliefs (see Tables 3 and 5); High Uncertainty Avoidance beliefs (see Tables 3 and 5) and High Collectivism (see Table 5) seem to be the cultural predictors of a Teacher-Driven learning style preference. These empirical findings suggest that students with these cultural beliefs are more likely to have a Teacher-Driven learning style preference. Conceptually it has been argued that students with a Teacher-Driven preference are more likely to prefer a highly structured classroom environment where the teacher organises the learning tasks and time (Hancock et al., 2002, Brown, 2003b). These students are also more likely to favour learning new material within a theoretical framework that they can reflect on (Hassall and Joyce, 2001, Lavelle and Guarino, 2003, Webb, 1997). They would be more willing to integrate materials (Campbell et al., 2001, Lavelle and Guarino, 2003, Webb, 1997). These students may also be more likely to be motivated by the subject material as an end in itself rather than as a means to some other end such as high academic grades or course completion. Students with a Teacher-Driven learning preference may indeed have a more sophisticated preference to learning as previously mentioned by Case and Gunstone (2003) and may be less likely to engage in active experimentation and pragmatic learning. This later style however is the one most common amongst Australian business students (Barron and Arcodia, 2002). There is no clear empirical...
evidence in the literature that students who hold a Teacher-Driven learning preference receive better grades or have higher course completion rates.

As an exploratory cross-sectional study this research is unable to gauge any changes in business students’ Teacher-Driven learning preferences over time. It only focused on one Australian University with campuses located in Australia. Studies that examine students longitudinally and use multiple campuses are needed. Hopefully this study had identified some variables worthy of further examination.

Its findings suggest that a number of assumptions about international students learning preferences need to be more carefully examined. The degree to which students hold masculine, Confucian, collectivism and uncertainty avoidance cultural values helps to explain the extent to which they will favour theoretical and reflective learning styles and prefer a Teacher-Driven learning environment. These cultural values are more common amongst international students. This understanding may help educators be more sensitive in their selection of teaching styles when working with this student sub-population.

REFERENCE LIST


