Cultural values influence on learning style preferences: A case of Leribe Senior Secondary School, Lesotho

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This study was conducted with senior secondary schools Form Four learners doing science in the Leribe District of Lesotho. It sets out to probe the possibility of the influence of cultural values on students’ learning style preferences and their possible differences by gender. Filled questionnaires were collected from the eleven schools from which the study was conducted. Also, focus group discussions, with equal representation of both genders, were conducted in six of the eleven schools representative of all the regions under study. The quantitative data were subjected to SPSS analysis and the MANOVA results gave significant multivariate main effect for school location. Results showed that the learners were culturally socialized to be respectful to authority and had a visual learning style preference in the Highlands and Lowlands with no gender differences.

Key words: Learning style preference, Senior secondary school, Cultural values, Gender differences, Lesotho, Africa.

INTRODUCTION

Culture, gender and level of education have been found to influence learning in a locality (Joy and Kolb, 2009). Prophet (1990) makes reference to culture and language in the case of Botswana and observes that:

...the quality of learning in the classroom here in Botswana may not be drastically improved by curriculum reform... The problem is more fundamental and is related to the issues of culture and language (p. 116).

On the other hand, Tabulawa (2013) generalizes this observation to the African continent and refers to what he calls the African social structure, the child rearing African practices that emphasize the domination and subordination of the child. At the end, domination and subordination are internalized as subjective realities by the children. Since the teachers would have been conditioned the same way too, both they and the children they teach carry this cultural baggage to the school setting and operate within its influence. A person’s culture and way of socialization largely influence that person’s view of issues in general. Tabulawa (2013, p. 94) quips, “... teaching methods have social and cultural origins; they are contextual”. In different societies, there are different ways of passing on knowledge from generation to

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generation. The knowledge an individual acquires from what they are taught depends on material complexity, age of learner, methods of teaching, learner’s learning style preferences and the learner’s immediate environment. “Learning is composed of individual traits people use to interact with situations and objects, and the intersections of these traits indicate individual learning styles” (Erdem, 2009, p. 156). Vermont and Vermetten (2004, p. 369) observe that “[c]ultural differences in pedagogical and educational practices may give rise to differences in learning pattern structures.” By the same token, Park (2000, p.250) states that “[r]esearch has identified cultural differences in the learning styles of various ethnic groups and group differences between high achievers and low achievers.” In support of the existence of cultural influence on learning style preference, Woodraw and Sham (2001) found that the British-Chinese learners preferred working on their own and in quiet classrooms than in groups. Unlike their British-European counterparts, they got nervous and embarrassed when they had to work in groups. British-Chinese learners were not comfortable with asking or being asked questions.

The British-Europeans on the contrary preferred group work and took time to complete their work. They liked learning wherein new knowledge was related to the previously learned one. Unlike their British-Chinese counterparts, memorising was the least preferred mode of learning. They liked group work and were happy with teachers that encouraged group work. They were relaxed with asking and being asked questions. A lot of studies have covered different permutations of learning style preference and other factors such as authoritative teachers, collegial teachers, gifted students, small groups, achievement, attitudes, learning along, learning with peers, learning with teacher, team teaching and a host of other variables (Dunn et al., 2001).

It must be said though that although the culture and gender dimensions have been studied in contexts different than the current study, gaps still exist. For example, Joy and Kolb (2009) looked at the impact culture has on learning style and the relative effect it has when compared to other demographic variables like gender, age, level of education and area of specialization. Culturally different regions of the world as identified by other studies were compared. Of interest to the Joy and Kolb study was the Sub-Saharan Africa region (Joy and Kolb, 2009, p. 77) that consisted of Namibia, Nigeria, South Africa (Black sample), Zambia and Zimbabwe. This cluster may have suggested a near homogenous group; it must however be pointed out that the cultures in this sub-group are very different and that in fact certain elements would have been left out by leaving countries like Botswana and Lesotho out of the study; hence, the relevance of this study.

Lesotho as a country has a very rich culture, one of which is to observe and respect elders. This includes taking orders without questioning authority. This authority is two-fold, based on age or gender. It is common to find males who have just began married life to still be given directives by their parents because “[t]he family is still the dominant unit, and respect for the elder generation is important” (Lesotho, 2011, p. 1). There is a strong suspicion that this sort of culture of respect could influence learning style preferences of Basotho learners at senior secondary because “[a]lthough there is not one general characterization encompassing all cultures, an individual’s culture, family background, and socio-economic situation can be important external factors affecting learning” (The Complexity of Learning n.d.; Culture, gender, and learning preference section, para. 5). Joy and Kolb (2009) found factors contributing significance to variance to be culture, gender, educational level and area of specialization.

To add to the complexity of the dynamics in learning, gender dimensions as they relate to learning style preference have also been reported in some studies (Park, 2000). This gender dimension needs to be explored more given the importance ascribed to gender roles in African settings, Lesotho included.

Embedded within these cultural African practices are engendered norms and customs. For example, Tabulawa (2013, p.101) quips that “[c]hildren are taught that obedience to and respect for elders is very important” in Tswana child rearing practices. Associated with this hierarchy, which is based on age, is also the gender dimension that places the male ahead of the female without any merits to it. These dynamics, cultivated first in society at home, entrench themselves in pedagogical practices in schools.

This paper is premised on the conviction that given appropriate teaching methods that take cognizance of students’ learning needs, most students’ learning difficulties can be solved (Mahajan and Singh, 2003). For example, Dunn et al. (2001) reported that students who learnt under conditions matching their preferred learning styles performed significantly better and developed more positive attitudes than their peers who were not in their preferred learning style conditions.

Consequently, awareness therefore of the learning difficulties that students have, especially in the sciences, and cognizant of the existence of a plethora of teaching strategies and methodologies out there as attempts to resolve these difficulties (Mahajan and Singh, 2003; Laight, 2004), this paper attempts to look at the importance of the interplay between learning style preference and the cultural dimension in the African context, with special emphasis on gender, specifically in the Lesotho region of Leribe and muse about a possible way forward.

Specifically, this paper will attempt to look into the differences in cultural practices in the different areas of the Leribe region of Lesotho and how these influence students’ learning style preferences. Studies that looked into personal learning style preference and cultural
traditions did not link the two (Naserieh and Sarab, 2013). A typical question might be: What kind of learning style do students who come from an authoritarian background prefer? Authoritarian here could imply a typical traditional top-down practice that places people hierarchically based on age and or gender (See Tabulawa, 2013 for a discussion of age and time and how this translates into ‘wisdom’ in the elderly in society). A more general question might be; how do the different cultural practices of the different Leribe areas of Lesotho translate into learning style preference?

This paper will not address arguments of how learning takes place or even whether during learning, there is transfer or transition (Hager and Hodkinson, 2009), but will assume that all the necessary preparations would have been made and the students are in a position to learn and seek how their cultural practices will influence their learning style preference as well as how gender plays a part in this preferred learning style.

METHODOLOGY

In this study, aware of the advantages and disadvantages of both the qualitative and quantitative methods, a mixed methods approach was used to take advantage of the strength of each approach.

Population

The population of this study comprised Form four science learners in Lesotho. The schools were under three different proprietorships. Two schools are classified as government, two private, and the rest missionary schools although under different denominations. The class sizes ranged between 70 and 80 across the different schools.

Lesotho has four geographical regions namely: the Highlands, Foothills, Senqu River Valley, and the Lowlands. The schools picked were in three of these regions. The Region from which no school was picked is the Senqu River Valley because the district from which the study was done does not extend to this region. In other words, schools in the Leribe region do not extend to the Senqu River Valley district.

Methods, sample and sampling

Due to budgetary constraints as already alluded to, a multi-stage cluster sampling approach was used to allow for a cross section of the student population in the area of study without involving the numbers that would have had to be used if pure random sampling was used. Consequently, the first cluster was regions, in which three regions were conveniently chosen. These were the Highlands, Foothills and Lowlands. The Senqu River Valley region was not included in the study due to difficulty in accessing by road.

The second stage was choice of schools in the regions picked and 11 schools were chosen. Out of these 11 schools, six easily accessible schools were also chosen for the focus group discussions such that both genders were equally represented. These were done during school hours, especially at study time in the afternoons. It was left to the teacher assigned by head of department to assist the researcher decide who in the different classes would participate. The interviews were conducted as a way of triangulating the data that was gathered using the quantitative five-point Likert scale questionnaire. For each school, one such discussion was held.

The interview transcripts were coded and analyzed using a rating scheme developed during the pilot stage in Botswana where the first author was a student and the second author was the supervisor. For consistency, only the first author coded and analyzed the interview transcripts. The coding schemes had been previously agreed upon between the authors. The third and last stage of the cluster sampling was choice of students who actually participated in the study. In some cases, the learner questionnaires were given and collected on the same day. In other cases, due to logistical challenges, the questionnaires were left with school heads of departments who then tasked a teacher in the department to administer the questionnaires at a time convenient to the students.

This arrangement had implications for the teacher’s choice of students even though they were given instructions to randomly select half the class with equal representation by gender. One such could be the temptation on the part of the teacher to only select academically better performing students. Nonetheless, the results should give us a window into the possible results generated through a random sample. In other words, care should be taken in interpreting the results. The responses to the quantitative questionnaire were subjected to statistical analysis using SPSS 16. The learner questionnaire was adopted from Reid (1984). This instrument is known for its validity issues on some of its subscales (Naserieh and Sarab, 2013); nevertheless, a “perfect learning style measure is a fantasy”, perhaps explaining why it has continued to find use despite its shortcomings (Prajapati et al., 2011, p 70). Notwithstanding the many learning style preference instruments available (Dunn et al, 2001), some are better than others; it was felt that the adapted Reid instrument would be suited for this study. It was a 30 item questionnaire with six themes viz: Vision, Auditory, Tactile, Kinesthetic, Individual, and Group.

RESULTS AND ANALYSIS

Learners were asked to explain how the way they were raised in their homes influenced the way they related to their teachers in class. The researcher wanted to see how far the learners’ cultural values and practices in the different geographical locations could impact on their learning style preferences. The assumption though, was that there could be different cultural values per region with the Highlands approximating what was traditionally the Basotho culture. This assumption is based on the nature of the country’s terrain that renders some parts of the country inaccessible and hence less affected and ‘contaminated’ by foreign cultures, which are largely copied through exposure to mass media. Some of these areas still cannot access televisions, newspapers and magazines regularly. Below are themes that were generated by students’ responses.

Authority should not be questioned

Surprisingly, responses throughout all areas covered by this study indicated similar cultural values, one of which is that authority cannot be questioned and elders should be respected. The followings are some of the students’ responses. Pseudo-names have been used.
Thabo: I choose to be quiet if my teacher does not understand my viewpoint on some issue in class because I was raised not to argue with teachers or elders.

Lebo: I sometimes take things as I am told because I respect my teacher as an elder not because I agree to the view.

Puleng: I was raised to take that an older person is always right.

Lefa: I was raised to bottle my dissatisfaction with elders, I cannot even complain about my teacher at home.

Thato: My parents would always find a fault with me if I complain about my teacher so I no longer voice my dissatisfaction.

Ntho: I was raised to keep quiet if unhappy and not to stand up to my teacher.

These responses are testimony of the socialization that the learners have been through. One thing is clear from all of them, that the learners were raised to observe authority and respect elders. Whilst respect for authority is positive and should be encouraged, it unfortunately at times compromises students’ education as they would sit with unresolved issues in the name of cultural values. This becomes problematic especially in cases where, as in the constructivist views of education, students are expected to pronounce their views on classroom interactions and argue their positions through, which need not be in congruence with those of the teachers.

**Differences by gender**

Differences by gender were not observed in this study. This is in stark contrast to other studies. For example, Prajapati et al. (2011) alluded that learning style literature suggests that gender plays an important role in influencing learning styles. In their study however, they found differences by gender in some subscales and not others, and concluded that “females were on average more likely to have a reflective and visual learning style in comparison to males” (p. 73). Joy and Kolb (2008) also found that gender, among other factors, had an impact on learning style preference, albeit to different levels.

**Differences by geographical location**

The three geographical areas had the following number of students: Highlands, 40; Foothills, 80; Lowlands, 135.

The reliability with 30 items was $\alpha = .65$. The Box’s M test $= 46.858$ was not significant ($p = .357 > \alpha = .001$). This meant that there were no significant differences between covariance matrices. Since the assumption of the multivariate tests was not violated, Wilk’s lambda was used.

The Wilk’s lambda test used an alpha level of .05 and the test was significant (Wilk’s $\lambda = .908$, $F (12, 494) = 2.037$, $p < .020$, multivariate $\eta^2 = .047$). The observed power was at .930. The multivariate $\eta^2 = .047$ meant that about 5% of the multivariate variance of the dependent variables namely Visual, Tactile, Auditory, Kinesthetic, Group, and Individual was associated with School Location. A statistically significant $F$ indicates the existence of significant differences among school location groups on a linear combination of the dependent variables (Table 1). It would therefore, be expected that there would be a difference school location wise in a likelihood of a learner being Visual, Tactile, Auditory, Kinesthetic, Group, and Individual as the learner’s main learning style preference.

Given the statistical significance of the MANOVA test, there was need to do univariate ANOVA whose results are in Table 1.

Doing a MANOVA test was meant to reduce Type 1 error which gets inflated when a number of ANOVAS are done separately on individual variables especially when error rates are not adjusted for the individual tests. A pair of the independent variable School Location and the dependent variable Visual was the only one with a statistically significant result, $p < .005$ with alpha level of .008. The original alpha level of .05 was divided by six since there were six tests to be performed (.05/6 = .008). The significant univariate main effects were obtained for Visual, $F (2, 252)$, $p < .005$.

The task at this point was to look at the dependent variable whose univariate ANOVA was significant (Visual, $p < .005$). Table 2 shows the results of the Levene’s test where the result for the variable Visual was not significant, $p > .383$ at alpha level of .008. The Scheffé tests for comparing pairwise means for groups were conducted as a result. The tests sought to find if visual learning style preference differed significantly with School Location (Table 3). That is, is visual learning style preference of a learner dependent on the learner’s school location?

The one-way MANOVA yielded a significant multi-variate main effect for school location (Wilk’s $\lambda = .908$, $F (12, 494) = 2.545$, $p < .020$, multivariate $\eta^2 = .047$). The observed power was at .930. With the significance of the overall test, univariate main effects were examined. Significant univariate main effect for the school location was obtained for visual learning style preference, $F (2, 252) = 5.445$, $p < .005$, $\eta^2 = .041$ and power = .844. Significant school location pairwise differences were obtained between Highlands and Lowlands.

**DISCUSSION AND RECOMMENDATIONS**

Results show that the learners in the Highlands and Lowlands largely preferred visual learning style. This could be attributed to the socialization of the learners in which respect for authority (teachers and elderly) is seen
Table 1. Univariate ANOVA tests of dependent variables.

<table>
<thead>
<tr>
<th>Source</th>
<th>Dependent variable</th>
<th>Type III sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig.</th>
<th>Partial Eta squared</th>
<th>Observed powerb</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Location</td>
<td>Visual</td>
<td>4.099</td>
<td>2</td>
<td>2.049</td>
<td>5.445</td>
<td>.005</td>
<td>.041</td>
<td>.844</td>
</tr>
<tr>
<td></td>
<td>Tactile</td>
<td>2.182</td>
<td>2</td>
<td>1.091</td>
<td>1.745</td>
<td>.177</td>
<td>.014</td>
<td>.364</td>
</tr>
<tr>
<td></td>
<td>Auditory</td>
<td>.911</td>
<td>2</td>
<td>.456</td>
<td>1.526</td>
<td>.219</td>
<td>.012</td>
<td>.323</td>
</tr>
<tr>
<td></td>
<td>Kinesthetic</td>
<td>3.660</td>
<td>2</td>
<td>1.830</td>
<td>4.060</td>
<td>.018</td>
<td>.031</td>
<td>.719</td>
</tr>
<tr>
<td></td>
<td>Group</td>
<td>.134</td>
<td>2</td>
<td>.067</td>
<td>.112</td>
<td>.894</td>
<td>.001</td>
<td>.067</td>
</tr>
<tr>
<td></td>
<td>Individual</td>
<td>4.327</td>
<td>2</td>
<td>2.164</td>
<td>2.402</td>
<td>.093</td>
<td>.019</td>
<td>.482</td>
</tr>
</tbody>
</table>

Table 2. Pairwise comparisons on the significant Univariate tests.

<table>
<thead>
<tr>
<th>Levene's test of equality of error variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
</tr>
<tr>
<td>Visual</td>
</tr>
<tr>
<td>Tactile</td>
</tr>
<tr>
<td>Auditory</td>
</tr>
<tr>
<td>Kinesthetic</td>
</tr>
<tr>
<td>Group</td>
</tr>
<tr>
<td>Individual</td>
</tr>
</tbody>
</table>

Table 3. Pairwise differences of means.

<table>
<thead>
<tr>
<th>Scheffe</th>
<th>Dependent Variable</th>
<th>(I) Respondent's school location</th>
<th>(J) Respondent's school location</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>98.3% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Highlands</td>
<td>Foothills</td>
<td>Lowlands</td>
<td>-.3635</td>
<td>.11044</td>
<td>.043</td>
<td>-.6419</td>
</tr>
<tr>
<td></td>
<td>Visual</td>
<td>Foothills</td>
<td>Highlands</td>
<td>.3000</td>
<td>.11880</td>
<td>.043</td>
<td>-.6814</td>
</tr>
<tr>
<td></td>
<td>Lowlands</td>
<td>Foothills</td>
<td>Highl</td>
<td>nds</td>
<td>.0635</td>
<td>.08656</td>
<td>.043</td>
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<tr>
<td></td>
<td>Lowlands</td>
<td>Highlands</td>
<td>Lowlands</td>
<td>.3635</td>
<td>.11044</td>
<td>.005</td>
<td>-.1856</td>
</tr>
</tbody>
</table>

as paramount. Whenever this is the case, there is not much arguing of one’s point of view even when one feels unhappy about some issues in class lest they be mistaken for being disrespectful. Naserieh and Sarab (2013) discussed similar findings where it was concluded that learning style is a function of individual preference and that it might even be context dependent.

The cultural socialization of the Basotho learners in the regions under the study could be thought to have influenced the visual learning style preference and according to Holtbrügge and Mohr (2009, p. 24) “…some cultural values can affect learning style preferences of students, while other facets do not seem to have an impact”. It is therefore important for teachers to identify those cultural values that impact on learners’ learning styles in order to move closer to “the desirability of the convergence of educational systems” (Holtbrügge and Mohr 2009, p. 24) because educational systems draw from cultural values and address national goals and aspirations.

It can be claimed from these results though that even within the same ethnic/race group there could be significant differences in learning style preferences across regions of the same country. The learning style preference for learners in Highlands and Lowlands has been found to be visual and that is not the case with learners in the Foothills.

In view of the results obtained from this study, whilst
admitting that there is a need for more research in the area for the case of Lesotho, and perhaps the Southern African region as a whole, where there are possible cross cultural fertilisations, a number of recommendations could be made. For one, teachers should try to use more visual materials including but not limited to textbooks, chalkboard, films and videos, charts, simulations, graphs, computer graphics, and graphic organizers to provide effective instruction in science for Leribe senior secondary school learners. This should not be difficult to achieve given the advent of the internet and the vast array of teaching resources that can be used to achieve this end. It should be borne in mind though that some learners could be multimodal and as such teachers need to be vigilant that the learners are not treated as though they were all unimodal in terms of their learning style preferences.

It is imperative that teacher training institutions take keen interest in research studies in the field of perceptual learning style preferences of learners. That would enable the institutions to train student teachers to take note of learning style preferences and address them in their teaching when they get to schools. The very institutions could begin teaching their student teachers in response to their learning style preferences in order for student teachers to see what it means to do it. This would be more critical in the first and second years of study at colleges, when the students are not so different from students at the secondary school level in most developmental departments.

There are international schools which could provide pockets of different ethnic groups that could give better results than the current ones. It may be worth visiting these schools for further inquiry in this subject. It may also be necessary to look at learners with differing academic abilities and age groups within the same culture to check how their learning style preferences would be.

Conclusion

This study sought to look into the dynamics between learning style preference and culture and possible influence of gender in these dynamics. It was found that students’ learning style preferences differed as a function of region of Lesotho with no differences by gender. This lack of differences by gender differs from other studies and no possible explanation has been proposed. Differences in learning style preferences were attributed to cultural practices of Basotho. Students in the Highlands and Lowlands were visual, whereas the Foothills students were not.

REFERENCES


Conflict of Interests

The authors have not declared any conflict of interests.