Personality and Learning Preference Interactions of Women in Tertiary Education

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Abstract

The aim of this paper was to determine the association between personality and learning styles and their interactions with the expected degree classification of the final year female students and the teaching methods used at the Women's University in Africa, Zimbabwe. A questionnaire consisting of demographics, twenty-five personality items, and academic questions was administered. The dominating personalities were extrovert and openness, whilst the dominating learning styles were elaborative processing and methodical study. The students understood the most when the lecture teaching method was utilized and they recommended that attachment and e-learning be co-opted to improve their academic performance. X^2-tests of association were conducted and insignificant associations were exhibited between personality and learning style, and consequently with preferred teaching method, and expected academic qualification. This revealed diversity of students' personality and learning styles implying that the university's lecturers had to employ a variety of teaching methods to ensure high academic performance.

Key Words:　personality, learning styles, association, academic performance, teaching methods

1. Introduction

Higher education institutions are the providers of high-level manpower in Zimbabwe and thus face telling challenges in the light of the past inequalities in the provision of education. Zimbabwean higher education institutions need to provide easy access to the once educationally disadvantaged women.　The Women's University in Africa has tailored its academic programmes in such a way as to accommodate the triple roles (productive, reproductive and community roles) of women in the society.

There are day, evening, weekend and school holiday programmes. As observed from the aforementioned triple role of women, in order to improve academic performance teaching methods should take cognizance of the women's personalities and learning styles.

Vermunt (1992) considered the way a student learned as a learning style. In literature, learning styles are very often considered as a kind of general strategy, for example, characterized as surface level versus a deep level processing (Marton and Saljo, 1976), a holistic versus a serialistic style (Pask, 1976), deep processing, elaborative processing, fact retention and methodical study (Chmeck, 1983). Learning styles are also described as types of learning, for example, concrete experience, reflective observation, abstract conceptualization and active experimentation, resulting in four learning styles: divergers, accommodators, convergers and assimilators (Kolb, 1984), as orientations like achieving, meaning, reproducing and non academic (Entwistle, 1988), or as approaches to learning like surface, deep and achieving (Biggs, 1993). Kolb (1993) further defines learning styles as the process by which one learns and deals with life situations on a day-to-day basis. One's learning style develops as a result of one's hereditary equipment, past life experience and the demands of one's present environment. Kolb (1981) observed that through socialization we could resolve 35 conflicts between action and reflection and between immediate experiences and detached analysis in characteristic and stable ways.

Women's University in Africa's mission is to provide quality tuition, research and service to the community to empower students, particularly women for leadership and developmental roles, and its vision is to be the best in Africa in the promotion of gender equity in tertiary education. It is therefore imperative for the Women's University in Africa to establish the association amongst personality, learning styles and teaching methods in their pursuit of academic excellence.

2. Literature Review

According to Chickering and Reisser (1993), institutions that impart transferable skills and relevant knowledge, bolster confidence and creativity, and hence require the acquisition of appropriate learning styles and use of effective teaching methods.

Particularly, of major importance to the focus of this study, is the fact that Cillers and Sternberg (2001) argued that learning and thinking styles were as important as levels of ability for optimal academic performance. Furthermore, learning styles can play an important role in the improvement of curricula and teaching in higher education (Claxton & Murrell, 1987). Not understanding the learning process can serve as a substantial impediment to student learning and faculty teaching (Sims & Sims, 1995). Conversely, knowledge and understanding of the learning process, particularly about how individuals learn, enables educators to redesign their teaching styles to enhance their students' ability to learn (Sims & Sims, 1995).

Deller (1997) asserts that among the many factors that contribute to academic performance, learning styles and personality types have been identified as significant predictors of academic performance. Gauss (2002) recommends that different faculties compare learning styles and personality types to enable them to facilitate a more unified approach towards learner-centered education. Strack (1999) found that most of the studies investigating the role of personality type on academic performance have included a description of learning styles associated with the different personality types. The effectiveness of the specific learning style used by the learner influences their academic performance (Gauss, 2002).

Studies have revealed that training programmes that are customized to the unique personality types and learning styles of the learners are more likely to lead to academic success (Briggs Myers & McCaulley, 1992; Deller, 1997). Studies have found a link between the teaching styles of tertiary educators and the academic performance of learners since teaching styles can be adjusted to suit learners' needs and personality types. De Raad and Schouwen Burg, 1991, (cited in Vermont 1992) established that of the big five factors, extroversion, conscientiousness and openness to experience were educationally relevant. Extroversion correlated positively with the meaning directed, the reproduction directed and the application directed learning styles. Conscientiousness was associated positively with meaning directed, reproduction directed and application directed learning styles, and negatively with the undirected learning style. Openness to experience correlated positively with the meaning directed and the application directed learning styles and negatively with the undirected learning style. Agreeableness was associated positively with the reproduction directed and application directed learning styles.

This understanding of personality and learning styles relations would result in educators benefiting from gaining insight into their learners' personality characteristics (Mokoena, 1997; SAAPT, 1998), and hence improve on their delivery.

In their study of personality on learning a second language Caroline Grace (1998) found that extroverts exhibited more vocabulary retention than introverts did, and Paula Kezwer (1987) found that extroverts learned a second language faster than their introverts counterparts did.

Busato *et. al.* (1998) made a number of significant findings. There were moderate correlations between the personality types; extroversion, agreeableness, conscientiousness, neuroticism, and openness to experience and most learning styles. The meaning directed learning style had a low but positive correlation with introversion and conscientiousness, moderate positive correlation with openness to experience and a low negative correlation with neuroticism. High scores on reproduction directed learning were associated with high scores on extroversion, conscientiousness, and agreeableness, but negatively correlated with neuroticism. The undirected learning style correlated positively with neuroticism but negatively with conscientiousness and openness to experience. The application directed learning style correlated positively with extroversion, conscientiousness, agreeableness, and openness to experience.

With respect to online learning, Ainslie E Ellis (2006) found that extroverts preferred learning environments that offered opportunities to confer with others such as online cafés or a shared workplace while introverts preferred personal aspects of learning like e-journals where the environment offered an opportunity for personal reflection. People with a judging type personality preferred a structured environment while the perceiving type preferred flexibility.　Erasmus (1994) found that the prominence of particular learning styles for a specific group of learners has important implications for discipline specific teaching as it enables the lecturer to accommodate specific learning styles by using various teaching strategies.

Claxton and Murrell (1987) conceptualized these different models using the analogy of an onion. At the core is personality, which focuses on stable individual characteristics. These models emphasize how the role of personal tendencies such as extroversion versus introversion, and thinking and feeling influence the learner's preferred style of learning (Anderson & Bucher, 1994). The second layer is the information-processing model, which describes how people receive and process information. This model focuses on the individual's preferences in the acquisition of experience and the subsequent restructuring of that experience as knowledge on an active versus reflective continuum (Anderson & Bucher, 1994). The third layer, the social interaction model, deals with how students tend to interact and behave in the classroom, and it considers the collaborative learning styles and the dimensions of dependence and independence. The outer fourth layer is the instructional preference model, which focuses on the sensory channel most important to the learner (Anderson & Bucher, 1994), and identifies various characteristics such as light and temperature, motivation and persistence, and individual or group.

3. Materials and Methods

A descriptive research design was used in this investigation as we sought to ascertain what was going on in terms of the interactions between personalities and learning preferences of the final year female students at the Women's University in Africa. Data was collected in September 2012 through the administration of a questionnaire. The questionnaire consisted of twenty-five questions on the personality identification on a Likert scale, and overall the research collected qualitative data. The presence of a comprehensive sampling frame enabled us to employ stratified sampling in the identification of the students to be incorporated in the sample. The three faculties of Agriculture, Social Science, and Management were used as strata and a sample with a probability proportional to the size of each faculty's final year female students' population was considered. A sample of size 150 was considered from the population of 356 students and questionnaires were administered to them.

The data was analyzed using Statistical and Presentational System Software (SPSS) version 16. Explorative descriptive statistics, including graphs, were used to ascertain the personality and learning preference of the students in terms of their demographic details. Chi-square tests of association were then used to test for the presence or absence of significant interactions between personality and learning styles.

Tests were also done on personality and the preferred teaching methods, the additional teaching method that would improve the performance of women in tertiary education, and the expected degree result. The level of significance employed in these investigations was $\alpha = 0.05$.

4. Results and Discussions

The final sample collected was of size 139, showing a response rate of 92.7%. The sample consisted of 15(10.8%) were from the faculty of Agriculture, 89 (64.0%) from the faculty of Social Sciences, 33 (23.7%) final year female students from the faculty of Management, and 2 (1.4%) who did not indicate their faculties of study. The majority of the students, 103 (74.1%) were of the age group less than 30 years, 61.9% of the students were single and 36.7% were married. The students were mainly motivated to pursue tertiary education by themselves (68.3%) whilst 26.6% were motivated by their families.

The pie chart in Figure 1 shows that the dominating personalities exhibited by the students were extrovert and openness, respectively.

Table 1 shows that the most prevalent learning style amongst the students was elaborative processing, which meant that most students could connect and apply new ideas to the existing knowledge whilst the minority of the students preferred synthesis style.

Figure 2 shows that most students understood the most when the lecture teaching method was employed, and the least in practical classes.

However, they felt that attachment (43.9%) and e-learning (30.2%) teaching methods if employed would improve the performance of women in tertiary education, while 18.7% preferred problem-based learning and a mere 4.3% opted for distance learning. Regardless of their personality, 92.1% of the students were expecting to graduate with at least an upper second class pass.

The chi-square tests of association showed that there were insignificant associations between personality and learning style (*p-value=0.591*), teaching method (*p-value=0.745*); teaching method that would improve the performance of women in tertiary education (*p-value=0.718*), and the expected final degree qualification (*p-value=0.743*). In spite of there being no significant associations between personality and learning styles, agreeable (31.6%) and extrovert (29.8%) personalities were highly inclined to the methodical study style, whilst neurotic (42.9%), conscientious (50%) and openness (52.2%) personalities were inclined to elaborative processing learning style. The elaborative processing and synthesis analysis and elaborative processing were the dominating learning styles amongst expected high achievers and methodical study had an upper hand amongst the expected low achievers.

5. Conclusions and Recommendations

The research discovered that the majority of the final year female students at the Women's University in Africa had either an extrovert or an open personality, meaning that they were either outgoing/energetic or inventive/curious. This shows that the majority of them sought stimulation from company and had a degree of intellectual curiosity, which is pivotal in the prediction of their academic achievements. The insignificance of the association exhibited by their personality and either their preferred teaching method or their recommended teaching method for the improvement of the performance of women in tertiary education showed that the personality of these students could not help the lecturers in determining and employing effective teaching techniques which could stimulate them to high academic achievements. There was an insignificant association between personality and the expected final degree qualification. This can be attributed to the suppressed conscientious personality which calls for self-discipline and advocate for achievement.

The absence of significant associations amongst personality, learning styles, and teaching methods makes us recommend that the Women's University in Africa lecturers should employ a variety of teaching methods to cater for the wide spectrum of personalities exhibited by their students. This will help improve their academic performance. We also recommend that they should consider adopting attachments and e-learning as recommended by the students to improve the academic attainments and to bridge the gap with industrial requirements and technological advancements.

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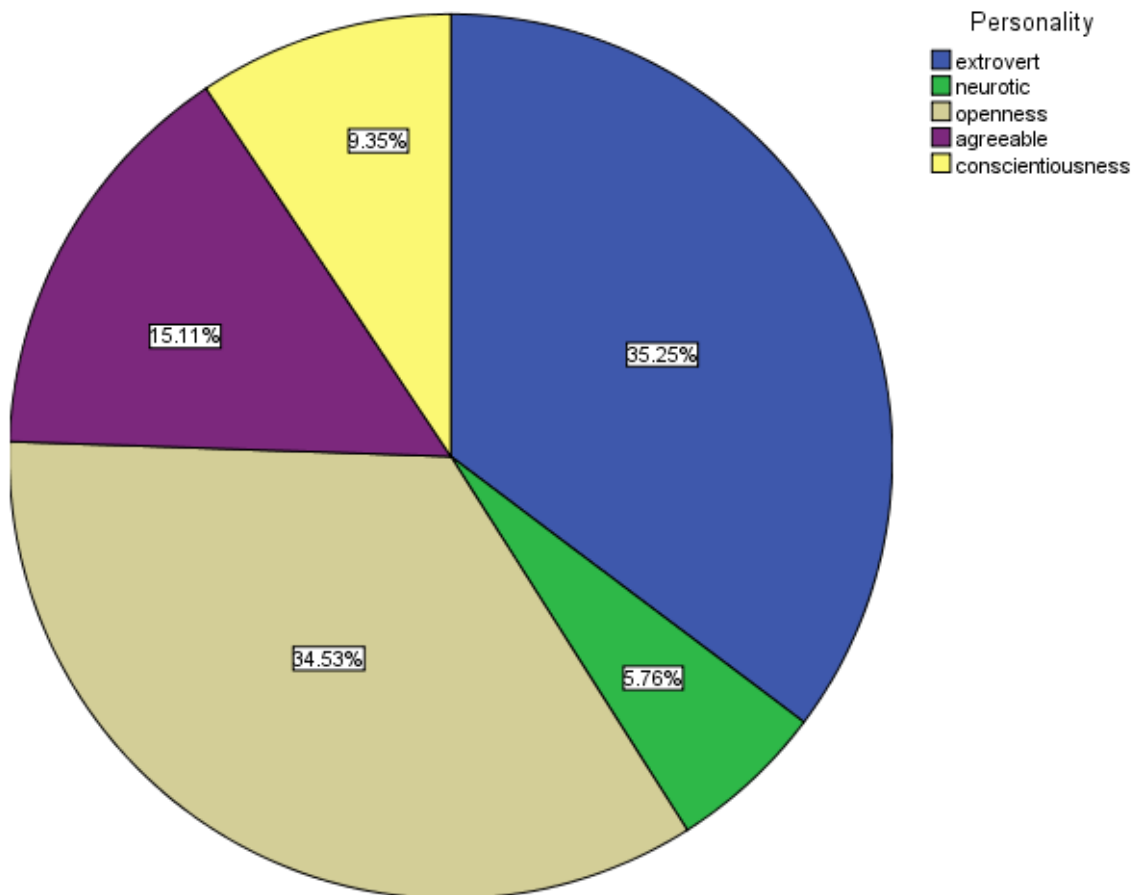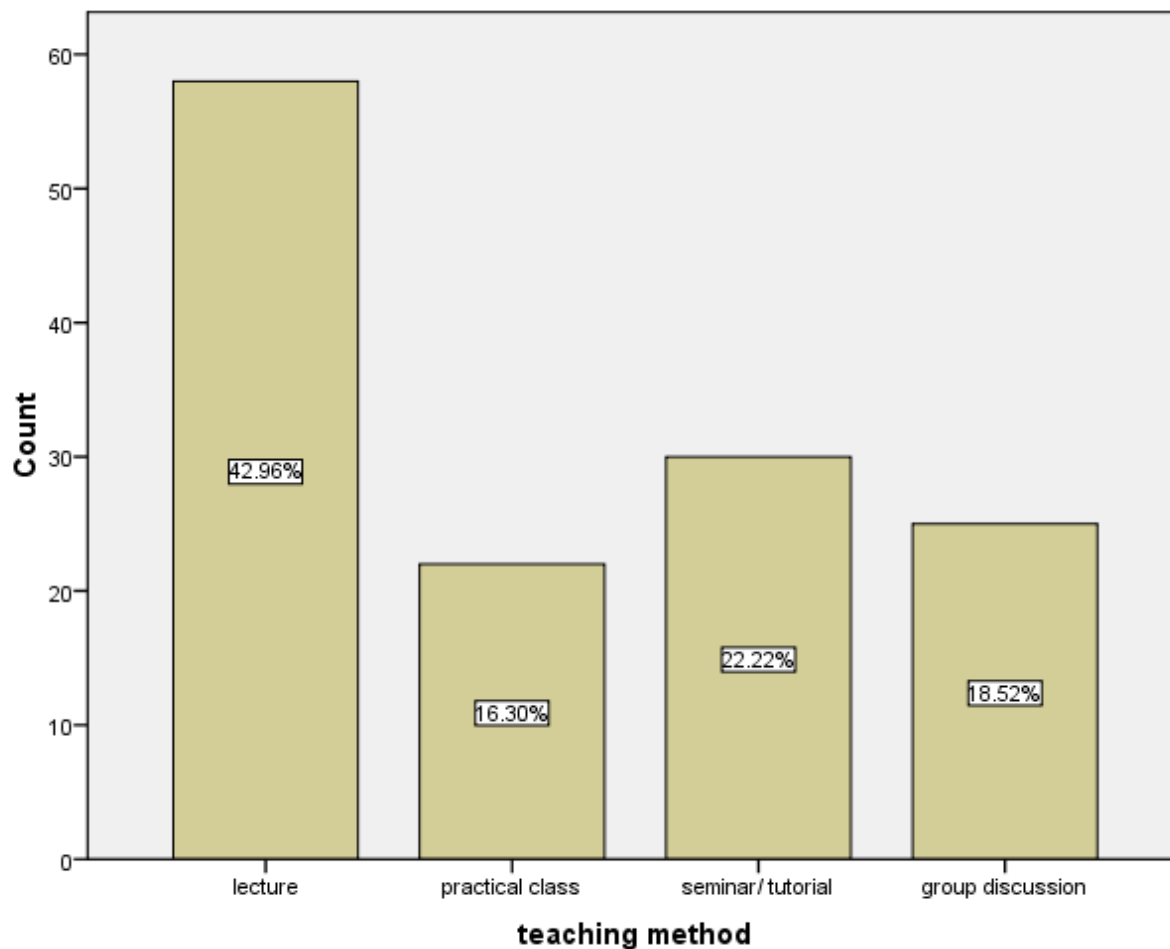Vermont, J.D.H. Learning Styles and Guidance of Learning. Amsterdam/Lisse: Swets and Zeitlinger

Fig. 1: Pie chart showing the personalities of the female students

Table 1: Learning styles of the female students

Style	Frequency	Percent (%)
Synthesis analysis	17	12.2
Methodical study	37	26.6
Fact retention	20	14.4
Elaborative processing	57	41.0
Missing	8	5.8

Fig. 2 Bar chart showing the female students' preferred teaching method