



## **An Assessment of the Choice of Practical Subjects by Secondary School Pupils in Umguza District Secondary Schools**

**Tichaona Mapolisa<sup>1\*</sup>, Thembinkosi Tshabalala<sup>2</sup> and Alfred Champion Ncube<sup>3</sup>**

<sup>1</sup>*Department of Educational Studies, Faculty of Arts and Education, Zimbabwe Open University,  
Kuwadzana 4, P.O. Dzivaresekwa, Harare, Zimbabwe.*

<sup>2</sup>*Department of Educational Studies, Faculty of Arts and Education, Zimbabwe Open University,  
Zimbabwe.*

<sup>3</sup>*Academic Affairs Unit, Zimbabwe Open University, Zimbabwe.*

### **Authors' contributions**

*This work was carried out in collaboration between all authors. Author TM designed the study, wrote the protocol and supervised the work. Authors TT and ACN carried out all laboratories work and performed the statistical analysis. Author TT managed the analyses of the study. Author TM wrote the first draft of the manuscript. Author ACN managed the literature searches and edited the manuscript. All authors read and approved the final manuscript.*

### **Article Information**

DOI: 10.9734/BJESBS/2015/14553

#### Editor(s):

- (1) Eduardo Montero García, Department of Electromechanical Engineering, Polytechnic School, University of Burgos, Spain.  
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(3) Anonymous, Ghana.

Complete Peer review History: <http://www.sciencedomain.org/review-history.php?iid=1025&id=21&aid=8481>

**Original Research Article**

**Received 5<sup>th</sup> October 2014  
Accepted 29<sup>th</sup> December 2014  
Published 16<sup>th</sup> March 2015**

### **ABSTRACT**

It is generally believed that there is unequal distribution of boys and girls in practical subjects in most schools. The study therefore sought to assess whether the allocation of students to practical subjects reflects gender sensitivity in the secondary schools of Umguza District in Zimbabwe. The study was quantitative and utilised a descriptive survey design. The sample comprised 200 pupils of whom 100 were male and another 100 female. The information was gathered through a questionnaire. A sample of 20 pupils was used to pursue validity. Clear instructions for respondents

\*Corresponding author: E-mail: [tichmap@gmail.com](mailto:tichmap@gmail.com);

completing the questionnaire were used in search of reliability. A reliability coefficient could not be computed because there were no measures of association. The study revealed that the two sexes were doing different practical subjects. Most respondents indicated that girls can perform the same as boys if not better, in the traditionally male dominated practical subjects. The study recommends that there should be deliberate efforts by school authorities to encourage pupils to do any practical subject without associating any of the practical subjects with a certain gender. There should be vigorous campaigns by the Ministry of Primary and Secondary Education to eradicate gender stereotypes on the choice of practical subjects by pupils.

*Keywords: Practical subject; assessment; pupils; secondary schools; District.*

## 1. INTRODUCTION

The government of Zimbabwe has been concerned about gender imbalances since the country attained its independence in 1980. Zimbabwe has actively participated in various national, regional and international fora and conferences on gender equalisation issues. To underscore the preceding two statements, the [1] states that "all pupils are expected to learn at least one practical subject in addition to the six core ones." By the same token, [2] makes two observations of particular interest to this study. First, students are required to study a minimum of two practical subjects in addition to the core six subjects. Second, in order to redress the inequitable and discriminatory practices of successive colonial governments, the post-independent government adopted the policy of education as a basic human right and committed itself to universal and equal educational opportunity. The subject structure in Zimbabwe's secondary schools comprises six core subjects namely, English Language, Mathematics, Science, Shona/IsiNdebele, Geography, and History; and any two practical subjects from the following: Woodwork, Metalwork, Fashion and Fabrics, Food and Nutrition, Agriculture, Computer Science and Technical Graphics [2]. The country is also a signatory to international agreements and conventions which promulgate gender equity principles with special interest on the need for increased access to education by girls and women [3]. In spite of all these good intentions the unequal distribution of boys and girls in certain subjects studied at school still exist with its consequent unequal distribution of men and women in the occupational structure and this suggests some failure by schools and teachers to institute adequate measures to ensure learning equity [4]. The practical subjects are offered in well resourced schools, mainly in urban areas [5]. Also, Empirical studies are yet to be carried out to establish the proportions of pupils undertaking each of the practical subjects

along gender lines [6]. On the basis of the preceding observations, this study seeks to assess the role played by gender in the choice of practical subjects by secondary school pupils.

## 2. LITERATURE REVIEW

According to [7] the school curriculum inherited by the post-independence Zimbabwean government was modeled on the British system of education with Zimbabwean girls being educated for domesticity whilst boys were prepared for employment and the role of family head and breadwinner. Boys and girls were taught different practical and vocational subjects, boys having to study technical subjects such as metalwork, woodwork, agriculture, technical graphics and building, and being encouraged to pursue science subjects, whilst girls were offered domestic science subjects and typing and shorthand as well as being encouraged to pursue the arts subjects [4].

Kamadza [8] observed that gender bias within the Zimbabwean school system was not restricted to the official curriculum only, instead, gender bias was very noticeable also in the hidden curriculum in the form of discrimination in the classroom, choice of subjects especially practicals, unfairness in assessment and compliments, behaviour and domineering attitudes towards girls. According to [9] much of the differentiation between sexes in education concerns the subjects studied in that women have been excluded from almost all agricultural courses despite the fact that women in many areas are agriculture's main labour force. [9] cited an example in Cameroon where most women are responsible for groundnut production and yet out of the fifty-five farmers that were selected for a farmer training programme in improved techniques only eight trainees were females.

Some authors argue that there is great need to combat the western introduced beliefs that

women are inherently incapable of understanding technical matters and that they have no natural grasp of economics, hence there will be little advantage in women securing equal access to secondary education if they continue to be relegated into the study of 'female' subjects with little market value, career prospects of practical utility [10-12].

Gordon [12] and Jansen [13] as cited by [4], postulate that the relationship between the school curriculum and career choices in Zimbabwe are based on [2]. [14] 's notion of the hidden culture curriculum. According to [14], regardless of forms the curriculum takes, its content is often presented to pupils in a manner that emphasizes their gender role differences and as a result, boys and girls receive different messages in school; resulting in the school failing to afford girls opportunities for competing on an equal footing with their male counterparts and influences education, career aspirations and choices.

Parents also play a significant role in shaping the direction or path their children follow in later years [15]. In a study of young people's perceptions on parental influence on their career, [16] concluded that both boys and girls look to their parents when they make career choices and that girls indicated that their interest or lack of interest in technical courses was based on their parents' opinion about the field of study. [3] states that African tradition fully recognized the importance of educating the girl child by giving her traditional functional knowledge and skills to cope with motherhood, the provision of sustenance and management of the welfare of her family and boys were similarly educated in complementary traditional skills for the good of their families and society. This according to [17] may imply that some families and teachers are still holding onto their tradition thereby, disadvantaging the girl child and denying her the opportunity to venture into what traditionally was known as male dominated professions and subjects.

A study conducted by [18] found that women are disappearing from subjects already dominated by men. According to [18]'s finding, five years ago, women made up 24% of computer students in higher education; currently they make up just 19% and in ten years, there has been no improvement in the uptake of women in technology and engineering where women still make up just 15% of student numbers. A study

by [19] found that in Zimbabwean secondary schools, very few girls did agriculture, building studies, metal work and woodworking. [20] attributes this to stereotypes which focus upon and exaggerate differences between groups of people, and create competition, which minimizes similarities and magnifies differences between women and men to make them appear different when in actual fact they are more alike. When people automatically apply gender assumptions to others, regardless of evidence to the contrary, they are perpetuating gender stereotyping. Stereotypes are destructive because they limit individual's potential [21].

### 3. STATEMENT OF THE PROBLEM

The Ministry of Education in Zimbabwe has put in place several instruments and processes to enhance gender equality between boys and girls since independence in 1990. The traditional stereotypes about male and female roles still persist in spite of all these efforts. Schools ought to continue the war against gender stereotypes especially through the provision of a similar curriculum to both boys and girls. The study sought to answer this main problem:

How are secondary school pupils guided to choose practical subjects in the interests of practising and pursuing gender equality in Umguza District Secondary Schools in Zimbabwe?

### 4. PURPOSE OF THE STUDY

The study sought to investigate how pupils in secondary schools were influenced by gender to choose practical subjects in order to expose the status-quo regarding this phenomenon so as to suggest ways of improving the situation.

### 5. RESEARCH QUESTIONS

1. How identifiable was the pattern in the choice of practical subjects between boys and girls?
2. To what extent should boys and girls do the same practical subjects?
3. How are do pupils choose practical subjects?
4. How can schools minimise gender influence on the choice of practical subjects?

## 6. SIGNIFICANCE OF THE STUDY

The study's importance stemmed from the fact that it seeks to expose the magnitude of gender stereotypes in secondary schools so that practical suggestions for combating the stereotypes are proffered so that choosing subjects will not be influenced by one's gender; but by one's capabilities on the practical subject.

## 7. LIMITATIONS

The study is limited to the determinants of choice of practical subjects by secondary school pupils using a relatively small sample. The study is thus no more than a snap shot of reasons why students choose practical subjects the way they do. The other limitation has to do with the descriptive method that was used in this study. According to [21], the descriptive method lacks predictive power, the research may discover and describe "what is" but is unable to predict "what would be".

## 8. DELIMITATION OF THE STUDY

The study was delimited to the factors that influenced secondary school students to choose certain practical subjects over others using a sample of 200 pupils from Umguza District in Zimbabwe's Matabeleland North Province.

## 9. METHODOLOGY

The study employed the quantitative methodology. The quantitative methodology was found useful because it is statistics driven and can provide a lot of information [22]. It is also easier to compile the data onto a chart or graph because of the numbers that are made available. As [23] state, another advantage of quantitative research is that the research can be conducted on a large scale and give a lot more information as far as value is concerned. However, one major weakness of the quantitative methodology is that numbers change often [21]. So if research is conducted on a statistical level then it would have to be conducted much more frequently to help balance out the numbers [8]. The study settled for the survey research design. The use of the survey research design enabled the researchers to gather widespread views of the respondents on the studied phenomenon [24].

The study employed simple random sampling to arrive at a sample of 200 students from a population of 800 form four learners from five schools because it permitted every student an equal opportunity of participating in the study [21]. To arrive at this sample, a table of number of digits was constructed with even number standing for 400 male learners while odd numbers representing 400 female learners whose names were arranged alphabetically. The researchers selected every second even number until a sample of 100 boys was reached. They also selected every second odd number to arrive at a sample of 100 girls. These selections were meant to remove obvious biases from the study. Thus, the researchers used intact form four classes to draw the sample from. The questionnaire was used for collecting data from the respondents. Close-ended questions enabled the researchers to collect pre-determined respondents' opinions regarding the studied phenomenon. The researchers sought permission from heads of schools to distribute questionnaire to the selected students and these were collected after a week through the heads of schools. Data collected from the questionnaire yielded descriptive statistics around the variables under study. This questionnaire was coded Students' Choice of Practical Subjects Inventory (SCPSI). To ensure the validity of the questionnaire, the researchers pilot-tested the instrument using a sample 20 pupils selected from Zvishavane Rural District secondary schools. Here, ambiguous and unclear questions were re-worded and rephrased so that they would serve their original intended purpose. The researchers made use of clear instructions for the respondents to complete the questionnaire in search of reliability. Also, the instrument was reliable because it did not target one school, but five schools participated in the study. These statistics were computed manually using a calculator on the computer to come up with descriptive statistics which enabled the researchers to discuss the findings regarding the assessment of choice of practical subjects by secondary school pupils in the studied district. The fact that the researchers did not use computer software meant that they could not come up with a reliability coefficient value because the research data had no measures of association.

## 10. FINDINGS AND DISCUSSION

The study set out to establish the determinants that influence secondary pupils in the choice of

practical subjects in Zimbabwean schools. This section is presented in two parts; namely presentation of data and discussion thereof.

### 10.1 Presentation of Data

As Table 1 reveals, there was an equal number of representation in the sample by boys and girls 50% apiece.

**Table 1. Composition of sample by gender (N=200)**

Sex	Frequency	Percentage
Male	100	50
Female	100	50
Totals	200	100

Table 2 shows that the majority of respondents were within the 15 – 16 age range (65%), followed by the 13 – 14 age range (29%). The 17 – 18 age range constituted 4,5% and those 19 years and above were 1,5% of the respondents.

**Table 2. Composition of respondents by age ranges (N=200)**

Age ranges in years	Frequency	Percentage
13 – 14	58	29
15 – 16	130	65
17 – 18	9	4,5
19 +	3	1,5
Totals	200	100

Most pupils (83%) in Table 3 held the view that girls and boys should do the same practical subjects.

Table 4 reveals that the majority of respondents indicated that pupils volunteered to do particular practical subjects (79%), 13% stated that teachers allocated students to practical subjects, 5% indicated that this was done by the heads of schools and 1 % sated that it was done by parents.

The information on Table 5 shows that 72% of the respondents indicated that boys and girls performed the same duties at home (72%). 28%

stated that boys and girls performed different duties at home.

The information on the Table 6 shows that both boys and girls were doing the subjects traditionally associated with their gender. Most boys were doing Agriculture (41%), building (33%), woodwork (11%) and technical graphics (5%). On the other hand, girls were doing fashion and fabrics (49%), food and nutrition (39%) and a few were doing agriculture (12%). Only 2% of the boys were doing a traditionally female subject, fashion and fabrics.

**Table 3. Responses to the question: “should girls and boys do the same practical subjects” (N=200)**

Responses category	Frequency	Percentage
Yes	166	83
No	34	17
Totals	200	100

**Table 4. Responses to the question: “how are practical subjects allocated to pupils” (N=200)**

Allocation of practical subjects done by	Frequency	Percentage
Head	10	5
Teachers	26	13
Parents	6	3
Pupils volunteer	158	79
Totals	200	100

**Table 5. Responses to the question: “do boys and girls perform the same duties at home?” (N=200)**

Responses category	Frequency	Percentage
Yes	144	72
No	56	28
Totals	200	100

Table 7 shows that most of the girls (79%) indicated that boys were performing equally well like the girls and only 21% perceived that they were not performing well in fashion and fabrics.

The information on Table 8 shows that most of the boys (81%) thought that girls doing fashion and fabrics were performing equally well as the girls doing the subject. Only 29% indicated that the boys were not doing well.

**Table 6. Responses to the question: “Which practical subjects do you do?” (N=200)**

Subjects	Boys		Girls		Totals	
	F	%	F	%	F	%
Agriculture	41	41	12	12	53	27
Building	33	33	0	0	33	16
Fashion and fabrics	2	2	49	49	51	26
Metal Work	8	8	0	0	8	4
Technical graphics	5	5	0	0	5	2
Food and nutrition	0	0	39	39	39	20
Wood work	11	11	0	0	11	5
Totals	100	100	100	100	200	100

**Table 7. Responses to the question: “Are boys doing fashion and fabrics performing equally well as girls doing the subject?” (N=100)**

Category of responses	Frequency	Percentage
Yes	79	79
No	21	21
Totals	100	100

**Table 8. Responses to the question: “Are girls doing agriculture performing equally well as boys doing the subject?”(N=200)**

Category of responses	Frequency	Percentage
Yes	162	81
No	38	19
Totals	200	100

**10.2 Discussion**

**10.2.1 The pattern in the choice of practical subjects between boys and girls**

Results from the study reveal that both boys and girls believed that both sexes should do the same practical subjects. This information could be attributed to the massive gender awareness campaigns conducted by the Zimbabwean government through various strategies which promote equal treatment of boys and girls. This is corroborated by the [3] which alludes to the fact that Zimbabwe as a signatory to various international agreements and conventions which promulgate gender equity principles uses every fora to conscientise its citizens about gender equality. However, in spite of the awareness displayed by the pupils, when it comes to practical action regarding choice of subjects, both sexes seemed to be doing subjects

traditionally associated with their sex or gender. This could be explained by the fact that pupils are aware of what those in authority expect them to believe although they may not agree with the official line of thinking.

**10.2.2 The choice of practical subjects by pupils**

The data reveal that pupils were asked to choose practical subjects that they wanted to do. Heads and teachers did play a peripheral role in some schools. The role played by parents appear to be very minimal. The reason why these pupils are allowed to select practical subjects of their choice could be that schools believe that these students are mature enough and capable of making the right choices. This finding negates the observations by [15] that parents play a significant role in shaping the direction or path their children follow in later years.

**10.2.3 The extent to which boys and girls do the same practical subjects**

The information from the study also reveals that girls thought that those boys who were doing fashion and fabrics (a subject traditionally associated with girls) were performing equally well in both the theoretical and practical aspects of the subject. The same responses were obtained from boys about girls doing agriculture. Most of the boys thought that the girls were performing just as the boys were performing in this subject. This could be explained by the hypothesis that girls doing those subjects traditionally associated with boys exert more energy to prove that they are equally the same with boys [20]. This also applies to the boys, although there is a relatively significant number of boys who indicated that girls were struggling to do agriculture.

### **10.2.4 Minimisation of gender influence on the choice of practical subjects**

Results from the study also show that when it came to the practical subjects that pupils had volunteered to do, girls chose fashion and fabrics, food and nutrition and an insignificant number chose agriculture. Most boys chose agriculture, building, woodwork, metal work and technical graphics and a very small number chose fashion and fabrics. The implication of this revelation is that in spite of the theoretical gender parity awareness exhibited by the pupils, this does not necessarily translate into total belief of this sameness within the sexes. This is congruent with observations by [8] who states that gender bias within the Zimbabwean school system was not restricted to the official curriculum only; instead gender bias was very noticeable also in the hidden curriculum in the form of discrimination in the classroom choice of subjects.

## **11. CONCLUSION**

Given the background of the above findings, the researchers make the following conclusions:

- Both boys and girls believe that both sexes should do the same practical subjects as sex does not affect the choice of subjects.
- Schools allowed pupils to choose practical subjects they wanted to do without overtly coercing them to choose.
- Girls doing subjects traditionally associated with boys performed the same as their male counterparts and vice versa.
- Pupils still choose practical subjects that are traditionally associated with their sex.

## **12. RECOMMENDATIONS**

In light of the findings of this study, the researchers would like to make some recommendations:

- Schools should take advantage of the awareness of gender equality by pupils to reinforce this through involvement of pupils in activities that consolidate gender equality principles. For example, teachers can guide both boys and girls to select those practical subjects that are traditionally outside their gender orbit.
- There should be a deliberate attempt to involve parents in the conscientisation of

pupils about gender parity, so that even at home, this principle is emphasized practically.

- Schools may also identify female success stories in subjects traditionally associated with boys for example, a female tractor driver who is a successful farmer. They can also identify male success stories like tailors and bring them into the classroom situation to prove to boys that subjects like sewing or fashion and fabrics are not just for girls, but boys can also eke out a living out of doing them.

## **COMPETING INTERESTS**

Authors have declared that no competing interests exist.

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