

# Assessing challenges faced in the teaching and learning of practical Agriculture using practical projects at Ordinary level: A case of Masvingo South

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## Abstract

*The objective of the study was to assess challenges faced in the teaching and learning of practical Agriculture using practical projects at ordinary level in Masvingo south. The study was carried out at Nyabata and Makumbe clusters in Masvingo South, Masvingo District. Data collection was done using questionnaires and interviews. The study used questionnaires and interviews to collect data from teachers and learners. The study used a sample size of sixty (60) learners and twelve (12) teachers. From the sixty (60) learners, thirty (30) were selected from Makumbe Cluster and the other thirty (30) from Nyabata Cluster. Data was analysed using IBM SPSS version 25.*

*The study revealed that shortage of land, poor allocation of funds, large number of students and unqualified teachers were the major challenges encountered in the use of practical projects. Challenges such as shortages of tools were largely indicated by participants. It is recommended that schools should ensure that resources should be well available.*

**Keywords:** Challenges, teaching, learning, Agriculture, practical agriculture, practical projects, Masvingo South.

## Introduction

Agriculture is the mainstay of Zimbabwean economic and many other sub-Saharan countries in Africa.<sup>5</sup> Teaching of agriculture has marked a great potential to learners and parents who mainly depend on these learners for advice as their resource persons. Teaching of practical agriculture does not only impart skills in learners but shapes their future by gaining entrepreneurial skills which they can also pass on to others in the communities they live. Practical agriculture can develop a great support base for the Zimbabwean government and other countries by making agriculture a compulsory subject from grade 3 to ordinary level.<sup>3</sup>

This was also done in countries like Kenya, Ghana and Uganda as means of empowering school learners to have long life skills which they can use to improve their livelihoods and even in generating income.<sup>3</sup> In most developing countries, agriculture employs more than 60% of the country's economically active group.<sup>3</sup>

However, the teaching and learning of practical agriculture faced challenges when agriculture was made compulsory especially in Zimbabwe due to several issues. When agriculture was made a compulsory subject and stopped from being no longer a practical subject where learners used to choose it among other practical subjects such as Wood Design and Technology, Textile and Design Technology and Building Design and Technology. Class sizes increased from average leading to shortages of land for practicals, tools for use and financial support.<sup>15</sup>

Lack of tools, funds, shortage of land and human resources (qualified teachers) negatively affected practical agriculture and made it a theory subject in many countries.<sup>9</sup> There is high need for support from government and other donors to promote practical agriculture as this will improve food security in the country. The objective of the study was to assess challenges faced in the teaching and learning of agriculture in Masvingo South.

## Methodology

The qualitative study used questionnaires and interviews to collect data from teachers and learners. The study used a stratified sample size of sixty (60) learners and twelve (12) teachers. From the sixty (60) learners, thirty (30) were selected from Makumbe Cluster and the other thirty (30) from Nyabata Cluster. Learners were selected using stratified random sampling technique. Learners who do agriculture at farms there were listed from two different clusters. Teachers were selected using convenient sampling technique.

## Data Analysis

Collected data from the participants was analysed using descriptive data analysis to give a clear picture of the collected information about the challenges faced in the teaching of practical agriculture using practical projects.

## Results and Discussion

**Biographical information of respondents:** A total of 72 respondents were targeted by the study (constituting 60 students and 12 teachers. The biographical information of the respondents such as gender, qualifications and teaching experience is presented here.

The results show that from 12 questionnaires distributed to teachers, only 10 teachers responded and returned the questionnaires with two teachers failing to respond and returned the questionnaire. This shows a sign of ignorance

and leads bias of results. Total 10 of the teachers responded showing high response rate and only 2 of the teachers did not respond; may be due to lack of information for them to answer or ignorance. Of the 60 questionnaires distributed to learners, 55 were answered and only 5 were spoiled but the response rate was high compared to that of teachers. The response was high in total and allowed the researcher to analyse. These results are shown in table 1.

**Distribution of respondents by gender:** The respondents were first asked to indicate their gender. These are shown in the table 2. Table 2 shows that 35 (63.6 %) of the student respondents were male while 20 (36.4 %) were female. On the other hand, 7 (70 %) of the teacher respondents were male while 3 (30%) were female. General conclusion was that most of the students who take agriculture are male and that most of the teachers are also male. These results also concurred with findings by Giva<sup>5</sup> and Ngugi et al<sup>11</sup> who found that male learners are the most who choose agriculture and male teachers are dominant in agriculture departments due to heavy manual activities in the department.

**Distribution of teachers by qualifications:** The teachers were asked to indicate their professional qualification. These are shown in the table 3.

Table 3 shows that 1 (10%) of the respondents had a Master's degree in Agriculture, 2(20%) had degrees in Agriculture, 1(10%) had degrees but were not trained in Agriculture and another 6 (60%) had diploma in agriculture

education. It can generally be concluded that majority 6 (60%) of teachers taking students in Agriculture in secondary schools in Makumbe Cluster are qualified. These results also coincide with results obtained by Mwangi<sup>9</sup> and Robert and Harlin<sup>14</sup>. The results were also supported by Mwiria<sup>10</sup> and Wootoyitidde<sup>17</sup> who found that to teach agriculture at secondary level, one should have a minimum of Diploma in Agriculture. The results were further confirmed by Wootoyitidde<sup>17</sup> who found that most teachers who teach agricultural sciences are holders of Degrees in Agriculture.

**Shortage of tools and equipments:** Shortage of tools and equipments was indicated by 35 participants and it was found as a major challenge in the teaching of practical Agriculture using practical projects. The results show that many schools in the cluster were facing these as their major challenges affecting the teaching of practical Agriculture as learners will not be able to complete their practical projects in time. These results were also affirmed by Darko et al<sup>3</sup> who also found that shortage of tools affects completion of practical projects in time, hence affecting the teaching of practical Agriculture in many schools.

Darko et al<sup>2</sup> also reported that shortage of tools is a major challenge in the teaching of practical agriculture using practical projects as the teacher will need for time to cover aspects which can be covered in one day if tools are available in abundance.

**Table 1**  
Response rate for questionnaires

Targeted Population	Questionnaire distributed	Questionnaire responded
Teachers	12	10
Learners	60	55
Total response	72	65

**Table 2**  
Distribution of respondents by gender

Gender	Students: Frequency	Percentage (%)	Teachers: Frequency	Percentage (%)
Male	35	63.6	7	70
Female	20	36.4	3	30
Total	55	100	10	100

**Table 3**  
Distribution of Teachers by Qualifications Teachers

Qualifications	Frequency	Percentage
Master's Degree in Agriculture	1	10
Degree in Agriculture	2	20
Degree but not training as a teacher in Agriculture	1	10
Diploma in Agriculture Education	6	60
<b>Total</b>	<b>10</b>	<b>100</b>

These results were also confirmed by Darko et al<sup>3</sup> who reported that there are several constraints such as shortage of tools, land and equipments which negatively affect the teaching of practical Agriculture in African High Schools. The results were further confirmed by Otekinrin, Oni and Otekinrin<sup>13</sup> who reported that shortage of tools affects the teaching of practical Agriculture and performance of learners in many schools.

**Low allocation of funds and shortage of funds:** The results show that 8 participants indicate low allocation of funds and shortage of funds as one of the challenges faced by teachers in the teaching of practical agriculture using practical projects. Lack of funding negatively affects teaching of practical Agriculture due to lack of inputs required by students to do their projects in time. These results were supported by Mwangi and Mwai<sup>8</sup> who reported that lack of funds or low allocation of funds allows teachers to purchase limited number of inputs which will not support each learner to carry out individual project, hence end up using groups. The results also concur with findings by Mavhungu<sup>7</sup> who reported that low allocation of funds is a challenge and a factor which affects performance in Agriculture.

The results were also affirmed by Ngugi et al<sup>11</sup> who reported that poor allocation of funds can be a great challenge in the teaching of practical Agriculture using practical projects as this limit procurement of inputs is needed for practical projects such as fertilisers, seeds, chemicals and tools. These results were also confirmed by Mwangi<sup>9</sup> who reported that teaching of practical Agriculture using practical projects can be negatively hindered due to lack of funding to purchase required inputs for projects. The results were also further endorsed by Darko et al<sup>3</sup> who found that poor allocation of funds towards practical projects is a major challenge for teachers to teach practical Agriculture using practical projects due to limited resources.

**Large class sizes:** Results show that 9 participants indicated large class sizes as another challenge faced in the teaching of practical Agriculture using practical projects. Large class sizes are not easy to manage hence this takes time for teachers to organise the class and running in short of time. The results concurred with results by Agrar<sup>1</sup> who reported that large class sizes were seen to give teachers problems in terms of management and conducting practical projects due to limited resources in many schools leading to poor performance.

The results were also affirmed by Giva<sup>5</sup> who indicated that large class sizes can be a major challenge in the teaching of practical Agriculture using practical projects since agriculture was made compulsory and this affects our scenario here in Zimbabwe as Agriculture was made compulsory. The results concurred with findings by Vandenbosch<sup>16</sup> who reported that large class sizes are difficult to manage during trainings especially for practical Agriculture.

The results were also confirmed by Nyang'au, Kibett and Ngesa<sup>12</sup> who reported that large class sizes affect the use of resources which are scarce and take time for the teachers to meet set standards as they will be forced to group learners for easy management and monitoring. The results were further endorsed by Darko et al<sup>2</sup> who indicated that large class sizes need time for teachers to organise, monitor and group learners since the resources in schools are limited hence negatively affecting the teaching of practical Agriculture using practical projects where teacher will end up use theory instead of practical.

**Shortage of land:** The results show that only 2 participants indicated shortage of land as a challenge in the use of practical projects in teaching practical Agriculture. Shortage of land was well linked to large class sizes where learners cannot have enough piece of land for practical projects. The results were more linked to urban schools in the cluster which do not have enough land for use. The results were supported by Agrar<sup>1</sup> who reported that shortage of enough land for learners to do practical projects is a challenge in the teaching of practical Agriculture. Many schools have no farms to run viable practical projects and this is a challenge for learners who take practical projects at ordinary level rather than starting early at form one.

The results concurred with findings by Ssekamwa<sup>15</sup> who reported that for practical projects to be viable in the teaching of practical Agriculture, enough land is needed. The results were also confirmed by Wootoyitidde<sup>17</sup> and Nyang'au et al<sup>12</sup> who also produced similar results to this study and explained that Agriculture requires large land, equipment such as irrigation and well equipped farms to run practical projects. The results were further confirmed by Diise, Zakaria and Mohammed<sup>4</sup> who reported that most schools have poorly equipped school gardens with limited number of animals and plants which do not support the teaching of practical Agriculture using practical projects.

## Conclusion

Agriculture in the cluster was mainly taught by males with the majority of them having Diploma in education specialising in Agriculture. This indicated that the teachers were qualified to teach Agriculture. Shortage of tools and equipments was indicated as major challenge in the teaching of practical Agriculture using practical projects. Most schools had few tools to support their large class sizes which were also a challenge in the teaching of practical Agriculture using practical projects. Few participants indicated shortage of land as a challenge and this mainly affects urban schools in the cluster.

## Recommendations

Using the main findings from the study, it is recommended that schools may use small class sizes so as to improve individual participation of learners and avoid the use of theory instead of using practical projects to teach practical Agriculture. Schools are also recommended to secure more

tools by borrowing tools from parents through learners to reduce shortage of tools. Schools may also use field trips and farm visits to nearby farms where they can teach practical Agriculture for example in the case of irrigation, they can use local irrigation schemes.

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