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Research Article

The Effecitveness of Fieldwork in the Teaching and Learning of Geography at Rukariro Secondary School in Zimbabwe

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Abstract: Fieldwork has long been central to the teaching and learning of geography at school and university levels. The purpose of fieldwork in geography stems from how geography was constructed as a discipline and how it was used to understand and make sense of the world. Fieldwork is at the heart of geography just as clinical practice is to medicine. For a geographer, the laboratory is the world outside. This study aimed at assessing the effectiveness of field work in the teaching and learning of geography at ordinary level in secondary schools. using the qualitative methodology. The main finding reveals that fieldwork was very beneficial to the learners and yet faced a number of challenges like lack of time, lack of resources as well as lack of experienced teachers. The researcher recommends that teachers should get adequate training on the fundamentals of fieldwork so that they properly guide the learners.
Keywords: Fieldwork, effectiveness, geography, teaching, learning, liberal arts, curriculum, syllabus, secondary school, pupils.

INTRODUCTION

The Zimbabwean Government recently introduced a new curriculum in the secondary school system; and Geography is one of the core subjects. Geography falls under a group of subjects called Liberal Arts and the other subjects in this group are English Literature, History and Religious Studies. The Geography syllabus aims at motivating learners to appreciate their local, national, regional and global geographical space. This is expected to raise their awareness about resource distribution, management and utilization for the benefit of Zimbabwean citizens (Ministry of Primary and Secondary Education 2016) [1]. The Geography syllabus further seeks to equip learners with skills, attitudes, values and practical competencies that enable them to participate in the development of the country [2]. The syllabus also prescribes various learner-centred methods of teaching and learning the subject, and fieldwork is one of these methods.

According to Albortt [3], fieldwork is an essential component of geography education as it enables pupils to better understand the messiness of geographical reality, develop subject knowledge and gain a range of skills that are difficult to develop in the classroom alone. However, as Malone [4] postulates, the value of fieldwork is not simply the geographical value of experiencing such things as landscape features, busy urban streets, river banks and unfamiliar cultures which help ground the pupils' local environment in the context of the global, it also aids motivation and self-development. In spite of all the benefits of fieldwork in teaching and learning of Geography, the method is not given much value. Thus, the study assessed the effectiveness of the cooperative teaching and learning method as a complement of the traditional teacher-centred method.

LITERATURE REVIEW

Benefits of field work

Fieldwork is at the heart of Geography, because it gives opportunities for learning, which cannot be duplicated in the classroom [5]. Fieldworks can significantly enhance content of a course by providing a type of information hard to convey in the classroom. According to Driver [6], for a Geographer, the laboratory is the world outside. Fieldwork can inspire a deep approach to learning and provide formative experiences because if learners interact with the environment containing the features or landforms understudy, they get to master the issues well, rather

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than only classroom confined learning which may promote surface learning [7]. The need to measure and observe in order to infer and generalize are geographical skills that students find intriguing. When students venture out of their classrooms, the world becomes more apparent and real [8]. Fieldwork is also regarded as an important experience of the research process in that learners and teachers get the opportunity to gather relevant data to the subject matter under investigation. This means that the fieldwork in geography positively affected learning by teaching new skills and making theory much clear and providing firsthand experience that enhances students to be creative and to have personalized outcomes which gives them a sense of ownership of the learning process [9]. Cook [10], opines that, fieldwork serves as a forum within which to develop more relaxed and productive student-teacher interactions and inter-students socializing. Students tend to learn comfortably when they relate freely without fear of being humiliated as what may happen in the classroom situation. The effectiveness of fieldwork is aptly articulated by Sharp [11] who observes that:

> It is always the person who sees, discovers or explores a situation who gets the most of it. This, in short is the whole thesis of outdoor education. Such learning is faster, is more deeply appreciated and retained longer.

Fieldwork promotes collaborative and discovery learning. Collaborative learning can be enhanced when groups of students contribute information to form a bigger picture to their inquiry so that more angles of an issue or problem can be covered [9].

Preparation for Successful Fieldwork

Proper Planning

Fieldwork activities cannot be conducted without a well thought out plan or design. This means that for fieldwork objectives to be achieved, there is need for proper planning beforehand [3]. The scope of fieldwork has to be properly determined beforehand, to ensure that students have the requisite skills to observe and formulate investigative questions, otherwise, anxiety and boredom may set in [12]. Fuller [13] advises that fieldwork is not for teachers who think going outdoors is a softer option than teaching indoors; if anything, the amount of responsibility is even more pronounced in the field than in the classroom – there is work either way. Sharp [11] advises that teachers should teach outdoors that which can best be taught outdoors and teach indoors that which can be best taught in doors. Depending on the nature of the topic taught, the intellectual and interest level of the students, the background of the teacher and various other factors should be considered when planning fieldwork. As Job [14], argues, fieldwork must not be carried out only for leisure or adventure, but to reinforce what has been learnt in the classroom. Before even planning a trip, the teacher should be sure to choose a destination that can be somehow tied in with the topic they are studying in class. This, as Stone [15] posits, is important for a couple of reasons:-

- First of all, the field trip can then be a way to confirm and expand on what is covered in the classroom.
- Second, there is a pragmatic reason, as well. Field trips cost money and take up valuable instructional time. Therefore, school authorities need to see how the trip will benefit the students and how the excursion will help the students to reach their educational objectives.

Job [16], states that going somewhere new can be very exciting for students, and there will be a lot of them to take in, therefore, it is an excellent idea to provide some background knowledge for them in the days leading up to the trip. A week or so before the trip, the teacher should be prepping the students by studying the place they will be visiting [11]. The teacher should have specific syllabus objectives (what material or skills the teacher wants students to learn; the goals (what the students should get out of the trip personally). The trip should be planned around these objectives.

Student Participation in the Field Trip

Fieldwork should be learner-centred such that it enhances students' interests. Job [16], postulates that geographers should be aware of the fact that traditional field excursions have been criticized from a present day pedagogic standpoint. The traditional field trips encourage the relative passive role of the learner and consider the role of the field leader as the omniscient provider of knowledge [16]. This means that teachers should encourage learners to explore the environment on their own without necessarily surrendering the teachers' role as the instigators of the learning process. In light of this, Stone [15], states that, for fieldwork to be more effective, the teacher should ideally not lead but follow the inclinations of a group of students, functioning as an amateur, waiting to be asked questions about features that are encountered in which learners express a spontaneous interest, then countering questions from pupils with further questions. The teacher should provide time for students to work in their field books writing questions, describing what they have seen as well as what interested them the most [15].

Sharp [11], states that, just as quality pre-planning is essential to the success of a field trip, planning for appropriate follow-up activities is important to facilitate student learning and multiply the value of hands-on experiences outside the classroom. Activities like providing time for students to share general observations and reactions to field trip experiences, sharing specific assignments students completed while on the field trip, linking field trip

activities to multiple curricular areas, will go a long way in consolidating the field work experiences [15]. It would also be most helpful if the students are encouraged as a class to compose and send thank-you letters to the field trip site host, Chaperons, school administrators and other persons that supported the field trip [16].

Equipping Teachers With Fieldwork Skills

Teachers must be trained in all facets of fieldwork in order to improve on their knowledge, skills and competencies in this teaching strategy [8]. Stone [15] posits that, the key to establishing environmental education in our schools resides with the classroom teacher. If the goal of incorporating fieldwork into all school curricular is to be realized, all teachers should be equipped with the necessary skills to handle fieldwork sessions [15]. This could be done by infusing outdoor education into existing teacher training programmes as this will help to equip trainee teachers with new knowledge and skills which will enable them to demonstrate competencies in fieldwork.

RESEARCH METHODS

This study was a qualitative inquiry and the overall aim of the study's design was to understand the perceptions of the geography teachers and learners towards fieldwork in the teaching and learning of geography using a case study. Cresswell [17] states that a collective case study, otherwise known as multiple case study, involves one issue selected for study, but the inquirer selects multiple case studies to illustrate the issue. This study focused on the case itself (fieldwork in geography lessons) and the perceptions of four teachers and sixteen students regarding the case. The four teachers and sixteen students came from different schools purposively selected on the basis of their history of using fieldwork. This collective nature allowed the researcher to identify similarities and differences within the four different schools' cases. The face to face interview technique was used to generate the data. Purposive sampling was used to come up with the participants because the researcher selected the people with a particular purpose already in mind [18] and these were the four Geography teachers and four of what they perceived to be their best geography students from each school. All interviews were audio-taped, transcribed and became the primary data source for analysis conducted by the researcher. The main aim was to understand experiences from the participants' points of view [19]. A transparent disclosure of the role of the researcher and his relationship with the participants, the "volunteering" of participants was done. The use of a small sample is common in qualitative research where the main aim is depth and not breadth [20].

FINDINGS AND DISCUSSION

FINDINGS

The study sought to establish the effectiveness of fieldwork as a teaching and learning method in the teaching and learning of geography in secondary schools. This section presents and discusses the findings. The demographic data are presented in tables and the data on the topic are presented in thematic format.

Table-1: Category of participants (N=20)

Category	Frequency	Percentage
Teachers	**4**	**20**
Students	**16**	**80**
Totals	20	100

The participants were geography teachers and their four best geography students across the form four streams in the four schools giving a total of sixteen students. Altogether, there were twenty (20) participants in the study.

Table-2: Composition of participants by sex (N=20)

Sex	Male		Female		Totals	
	F	Percentage	F	Percentage	F	Percentage
Teachers	**3**	**15**	**1**	**5**	**4**	**20**
Students	**7**	**35**	**9**	**45**	**16**	**80**
Totals	10	50	10	50	20	100

Table-2 above, reveals that there was an equal number of males and females in this study (50% male and 50% female). However, amongst the teachers, three (3) were male and only one (1) was female. There were seven (7) boys and nine (9) girls in the study.

Table-3: Composition of teachers by qualifications in geography (N=4)

Qualification	Frequency	Percentage
Ordinary level	**4**	**100**
Advanced level	**4**	**100**
Diploma	**1**	**25**
Degree	**1**	**25**

All four teacher participants did geography at ordinary level and advanced level. These two are school certificates where students will be studying the subject together with other school subjects to obtain a full certificate. Only one (1) teacher did geography at diploma level and another one (1) also did it at degree level. The teachers teaching geography are not in possession of requite qualifications for this subject.

Table-4: Teaching experience of geography as a subject (N=4)

Experience in years	Frequency	Percentage
0 – 5	**4**	**100**
6 – 10	**0**	**0**
11 – 15	**0**	**0**
Totals	4	100

All the four (4) participants in the study had less than five (5) years of experience of teaching geography. The implications of this situation is that the majority of the teachers lack the necessary experience to give them confidence to vary teaching methods.

Actual Research Findings

Both teacher and student participants concurred that fieldwork made the learning process easy than in a confined indoor classroom. They indicated that there was relaxation of strict rules and regulations used in the classrooms, thus students could relate with their peers and teachers freely. Both categories of participants (teachers and students) indicated that they enjoyed teaching and learning during fieldwork. Students stated that it was due to field trips that their level of awareness and appreciation of the environment had increased. There was an appreciation of landforms like rivers and mountains and students were aware of measures to be adopted to minimize river siltation and deforestation through field trips. One of the teacher participants highlighted that measuring of river velocity and discharge practically, have helped the learners to develop interest towards geography as a subject.

Learner participants stated that fieldwork provided them with an opportunity to get firsthand information from the physical and social environment. They noted that they witnessed the mining methods, farming methods and the settlements patterns at firsthand, and firsthand information from the environment lasted for a longer time in their memories as compared to second hand information from the teachers and textbooks. Learners and teachers understood the cultures of people from sites which were not located in their geographical areas. For example, they visited a national park where most of the workers spoke different languages from theirs, and learners appreciated a different language from their own indigenous language. Learners also demonstrated a better understanding of settlement patterns when they visited farms than when the teacher was drawing these on the chalkboard or teaching about them from the textbook or from the map.

One participant teacher indicated that fieldwork teaching and learning method enhanced cooperation and collaboration among learners rather than competition. The participant highlighted that in the field, learners learned to work together in groups or in pairs and this promoted sharing of ideas such as when they are measuring river velocity and discharge. Learners also ended up willing to explore more information including that which is outside the parameters of the objectives of the fieldwork task. The teacher participants also stated that since learners constituted the largest part of the fieldwork process, this enabled them to investigate a lot of subject matter guided by the fieldwork objectives and by their own interests. Fieldwork therefore, encouraged learners to question, investigate and think critically. Participants also stated that fieldwork provided both learners and teachers an opportunity to experience different environments beyond the classroom. They said that this was helpful to learners as well as teachers who got the chance to test various methodologies. The environment outside the classroom was said to be motivational to the students; especially the slow learners who were said to hate the indoor classroom method, questions and individual reading.

The study revealed many challenges faced by teachers and students when using fieldwork which they indicated hindered its effectiveness as a teaching method. The teachers stated that fieldwork was more expensive than the traditional classroom methods. They stated that there was need for money for transport and subsistence for both teachers and learners. The participants stated that most parents were struggling to raise money to pay fees for their children and the fieldtrips added another financial burden to the parents. According to another participant, the other challenge affecting fieldwork was the parents' perceptions on fieldwork. The participant was of the opinion that some parents viewed fieldwork as a non-academic activity and thought schools were wasting their children's learning time and as a result, some of the parents refused to sign the indemnity forms for their children. The reasons raised were that most parents attracted by the traditional method of teaching where learners did geography and passed without any form of field trip. One participant indicated that some parents viewed field trips as fundraising activities for the teachers and coupled with the high number of accidents in Zimbabwe's roads, this fueled negative perceptions towards the field trips.

Participant teachers highlighted that it was very difficult to convince the school administrators to authorize fieldwork. One of the participants stated that some school heads who have limited knowledge of the discipline are very negative towards sanctioning fieldwork. The participants stated that heads did not support fieldwork because they thought that fieldwork disrupted lessons for other disciplines, because each time a class went out on fieldwork, they would inevitably encroach on other lessons no matter how well planned the fieldwork was. This was a profound cause of consternation not just for heads of schools and other teachers, but for the learners participating in the fieldwork as they lost on learning time in other subjects.

Both teacher and student participants revealed that there is also the problem of wild behavior among students. Some took the opportunity to engage in illicit affairs which unfortunately, in some cases involved the teachers, particularly the young male teachers. This usually reached the ears of the school authorities and parents alike, and fueled negative attitudes towards the

method. The other challenge highlighted was lack of training of teachers on facilitating fieldwork. Some teachers were said to dominate at the expense of the learners who were supposed to be at the centre-stage of fieldwork processes such as data collection, observations and group discussions. Participants also mentioned the problem of lack of fieldwork materials and equipment which hindered the achievement of fieldwork objectives, and this was exacerbated by the large class sizes. Participants stated that fieldwork required equipment like binoculars, stopwatches, photogates, tickertapes, flow vanes amongst others which could be used during fieldwork and yet these were expensive and thus difficult to obtain by their schools. Participants also mentioned the unpredictable weather conditions as another obstacle to effective fieldwork sessions.

Lack of safety and inadequate insurance were some of the challenges highlighted by the participants. They stated that there were risks and accidents associated with fieldwork. Road accidents can happen, students may get bitten by poisonous snakes or by other dangerous creatures and this discouraged parents to permit their children to participate in fieldwork. Teacher participants alluded to the fact that due to lack of funds, they usually opted for cheap and not roadworthy vehicles to carry learners, and these exposed learners to high risks.

DISCUSSION

Fieldwork proved an opportunity for students to relate to teachers and their peers. Learners feel free in an outdoor environment than in an indoor classroom situation. Learners are also free to ask questions and contribute comfortably without any fear of being humiliated even if the response they received was negative. This fulfils Harvey's [9] view that, the opportunity to relate to peers and teachers in a new physical and social setting is one of the positive outcomes of fieldwork. The free environment could also promote the growth in respect for others and emphasis on collaborative learning which improved the level of understanding among the learners. This tallies with observations with Cook [10] who states that fieldwork serves as a forum within which to develop more relaxed and productive student teacher interactions and inter-students socializing. The fieldwork teaching and learning method should be employed because due to the relaxation of rules and regulations, students are very interested in learning since the bulk of the lesson is in the hands of learners themselves and teachers only provide guidance. This helps learners to be curious in making detailed observations which helps them to master concepts for a longer period.

However, it is important to note that the fieldwork sessions can be dominated by the high flyers in the class who could immensely contribute answers to the problems. Therefore, teachers, should always monitor the progress and the success of the groups. Cooperative learning can minimize the degree of selfishness but this could not totally eradicate it, therefore selfish learners would always be stingy with ideas which should be meant to benefit the group. This should be curbed by proper planning for the fieldwork. Job [16], advises that fieldwork planning should take into account the nature of the topic, the intellectual and interest level of all the individual learners.

Fieldwork also provided development of skills of teamwork and leadership. As students were afforded the opportunity to collect data on their own, it therefore means that they do that in groups of abilities and gender and being part of the team helps to develop interpersonal skills such as speaking and listening as well as team-working skills. This means they could be able to work in groups, sharing data and can become responsible for their learning. This tallies with Job's [16] assertion that fieldwork should be learner-centred such that it enhances students' interests.

Participants also revealed that fieldwork helped the learners to understand other people's cultures. There is promotion of cultural interaction particularly in multicultural communities, including tolerance of other people's religious beliefs, values, practices and rituals. Learners could get first-hand information from the resource persons which are information- rich such as old people, in the communities. This is very effective in that students get to know issues from different voices and could freely inquire more information for clarification for their benefit. Fieldwork also creates an opportunity for learners to see geography and theory coming together. This becomes very effective in that learners could see their theoretical knowledge of the subject being practiced on the ground. This was clearly articulated by Sharp [11], who when expressing his views on outdoor learning, stated that, it is always the person who sees, discover or explores a situation who gets the most of it. This means, that fieldwork in geography positively affects learning by making theory much clear and sees geography as a lining subject. As Fuller [13] postulates, fieldwork provides valuable first-hand experience that enhances learners' understanding of geography in terms of both depth and breadth. Learners retain knowledge and also develop positive attitudes towards the subject, hence improving the pass rate. Teachers should therefore, teach fieldwork material which has been learnt in the classroom rather than to introduce completely new things. This is helpful in that the fieldwork would be there to cement what has been learnt in the classroom.

In spite of the many positive things from fieldwork, the study revealed a number of challenges that this method faces. There were inadequate financial resources which affected effectiveness of fieldwork. Fieldwork requires a lot of money for transport,

accommodation, food as well as field equipment. Malone [4], states that one of the weaknesses of fieldwork is that, it is expensive especially on long fieldwork trips. Findings also reveal that time is very inadequate to carry out effective fieldwork. Teachers teaching geography are not in a position to carry out even a local fieldwork even in the school grounds in a period of thirty-five minutes of a single lesson, since the subject is being allocated the same time as the other subjects that can arguably be easily understood using other indoor methods. The other challenge highlighted by the participants was lack of support from the school authorities and parents. Convincing the school authorities to approve fieldwork was not easy and some parents denied their children from participating due to lack of understanding of the role of fieldwork in the education of their children. This is corroborated by observations by Munowenyu [8] who postulates that some school authorities might lack the know-how of the pedagogical value of fieldwork and thus, may not support the method.

CONCLUSIONS

On the basis of the findings of the study, the following conclusions are made:-

- Fieldwork is effective in the teaching and learning of geography in that it allows students to relate to each other and teachers in a new and different setting which is less formal.
- Fieldwork also leads to teamwork, because students helped each other to gather data collectively in the field and this promoted collaboration and the development of teamwork skills which are necessary in life after school.
- Fieldwork help students to become tolerant and responsible for their environment. They respect cultural diversity and become tolerant to other people's cultural values rather than to be ethnocentric when studying other groups.
- Despite its effectiveness, fieldwork faced challenges like paucity of resources, lack of fieldwork training by teachers. There were also many risks associated with fieldwork, like accidents and snake bites. Schools did not have the proper equipment to be used by teachers and students during fieldwork.
- Some unscrupulous students and teachers engaged in immoral and unprofessional conduct during fieldwork, thereby helping some stakeholders to cast aspersions on the functionality of fieldwork.

RECOMMENDATIONS

Based on the above findings and conclusions of the study, the researcher puts forward the following recommendations:-

- Before carrying out fieldwork, teachers should first of all get adequate training on the fundamentals of fieldwork so that they properly guide students, as they tend to dominate the fieldwork sessions. The training can be achieved through in-service training courses especially for teachers who did not do geography at teacher training colleges.
- Fieldwork is quite a risky undertaking and the likelihood of fatal accidents is real. There is need for parents to complete indemnity forms well in advance before the fieldwork commences. Schools should never take any chances when hiring the transport to use during fieldwork. Only reputable public transport should be used.
- Senior teachers should accompany students most of the time so as to reduce chances of child molestation by some of the young male teachers. Very clear rules and regulations should be stipulated for teachers and learners on the expected behaviour and heavy punishment meted on violators.
- Schools should prioritize the procurement of fieldwork equipment so that when they are placing orders for other learning resources like textbooks or sports equipment, they should also remember equipment for field work.

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