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South African Geography teachers' perceptions of fieldwork – constraints and benefits of fieldwork practice

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ABSTRACT

This study examines the perceptions of Geography teachers in South African secondary schools and the constraints they face in conducting fieldwork with learners. It is based on the notion that fieldwork plays an integral part of the Geography curriculum and that, through the pedagogy of enquiry-based learning, learners in a field context acquire skills needed for the 21st Century workplace. It also evaluates the types of geographical fieldwork conducted and recommends a case for more active practice in a school or local environmental context. In this study, data were collected via an online questionnaire from South African secondary school Geography teachers (n=55). Results of the study show that teachers have variable perceptions of constraints on fieldwork. Learner safety is viewed most negatively and fieldtrip planning and preparation is viewed most positively. Recommendations to overcome constraints to conducting fieldwork include encouraging teachers to carry out enquiry-based fieldwork by adopting a 'local environment or area' within the school grounds as a primary space, and outside the perimeter of the school as a walkable location of geographical enquiry.

Keywords: Enquiry-based learning; Geographical fieldwork; Local environment; Perceptions; Skills development.



INTRODUCTION

Fieldwork as a school learning activity is defined as outdoor experience in which a learner collects data by conducting observations or measurements on, for example, a soil profile at a road cutting, water quality in a river, or microclimate of the school grounds, using one or more field technique, skill or instrument (Lai, 2000). In this paper, 'fieldwork' describes the activity that is undertaken on a 'fieldtrip' or excursion. However, in the literature, the term 'fieldwork' is used interchangeably with other terms such as fieldtrip, outdoor learning, field exercise, or excursion (Oost et al., 2011). Fieldwork is considered as an essential component of Geography at all levels (Kent et al., 1997; Hovorka & Wolf, 2009; Preston, 2016; Fagan & Sturm, 2015; France & Haigh, 2018; Sprenger et al., 2024). Advantages for learners include the opportunity to engage with their community and natural environment, thereby learning to understand a place and how to care for it (Israel, 2012). The excitement and sense of agency that learners gain from conducting fieldwork enables them to manage and direct their own experiential learning practices (Ballantyne & Packer, 2009; Ballantyne et al., 2010). In addition, a real-world field issue or enquiry may be addressed holistically, with the cognitive, affective and social domains contributing to learning outcomes, both directly and indirectly (Foskett, 1997; Job, 1999). This can help learners integrate environmental and social issues (Wilmot & Dube, 2015; le Grange & Ontong, 2018) and enhance their critical thinking and leadership skills (Kinder, 2018).

Fieldwork approaches and types have changed over time (Roberts, 2003) from a teacher-led model in which knowledge was provided to a passive learner, to that of a coach or facilitator for an active-enquiry learner (Roberts, 2003; Herrick, 2010; Oost et al., 2011) (Figure 1). In this scenario, learners are guided on the questions to investigate, the appropriate methods and procedures, and to reach their own conclusions (Roberts, 2013; Lee, 2020). A typical approach to fieldwork teaching in the 1950s and 1960s was a bus trip (see France & Haigh, 2018) with a teacher or expert imparting knowledge through directed observation and with learners typically passive participants in the process (Kent et al., 1997; Job, 1999). In South Korea, such a 'look and see' field trip is still the most common outdoor activity undertaken, but a change in the senior school curriculum in 2016 shifted to a more enquiry-based learning approach in Geography fieldwork (Lee, 2020). Geospatial tools such as Geographic Information Systems (GIS), Global Positioning Systems (GPS), Geotagging, and Social Networking can be used today to enhance fieldwork outcomes (France & Haigh, 2018). Virtual field trips (VFT) have also been used for spatial exploration via a digital interface (Krakowka, 2012; Sprenger et al., 2024).

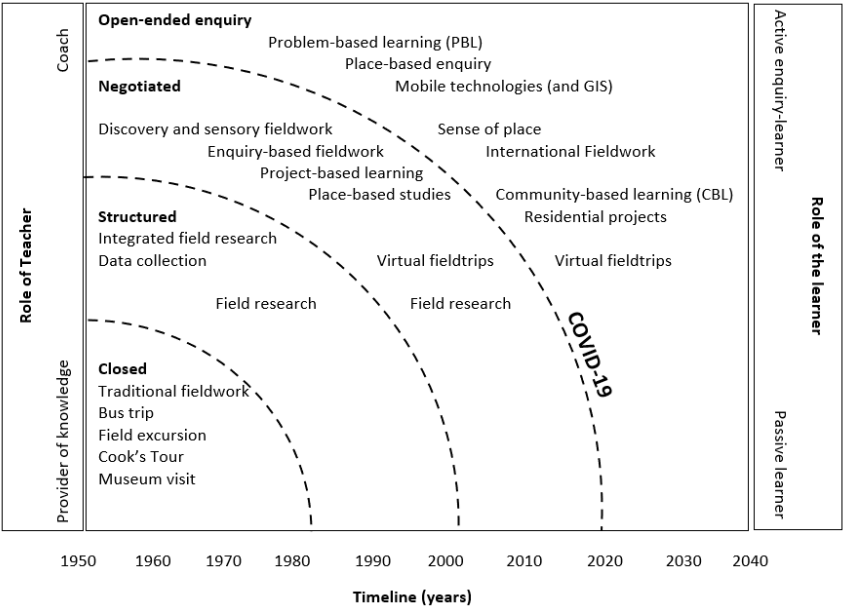


Figure 1. Evolution of types of geographical fieldwork undertaken by learners since the 1950s.

Place-based fieldwork has gained prominence over the past two decades (2000–2020) where ‘place’ may be interpreted in terms of area, location, and the sense of place (le Grange & Ontong, 2018). Today, enquiry-based, problem-based, and experiential learning approaches that use a place-based construct are the most widely used (Cook, 2008; Ballantyne & Packer, 2009; Remmen & Frøyland, 2014; Golubchikov, 2015; Preston, 2016; Lai, 2000). Kinder (2013) explored this from a constructivist position, while Preston (2016) emphasised the importance of sensory experience in conducting place-based fieldwork. Oost et al. (2011) suggested that for fieldwork to be a valuable experience, the following should be met:

- The fieldwork should be enquiry-driven and learner-centred, where the learners negotiate their learning through active participation;
- The learners should immerse themselves in the activities, and this would consequently lead to social experiences;
- Active engagement should lead to cognitive, affective, social and kinaesthetic outcomes being targeted, which would allow deep learning to take place, with the learner being able to review and solve problems critically.

However, a number of factors can inhibit the development of these approaches in school Geography fieldwork. In the UK, teachers are increasingly reluctant to take learners into the field with constraints including fears of red tape (administration),

funding, time and resources, and newer risks including learner behaviour, safety, transport, and social inclusion (Cook et al., 2006). In China, classes may be too large to ensure effective fieldwork (Yang et al., 2014). Herrick (2010) notes the limitations imposed by an increasingly litigious society on fieldwork. Risk assessment and consent forms must be signed to protect learners and teachers from unforeseen risks. Health, safety and behavioural risks must be covered in such paperwork. In addition, if Geography teaching and learning is devoid of fieldwork or outdoor experiential activities, learners may develop apathy towards the subject (Opoku et al., 2021). Teachers' perceptions on the value and constraints on fieldwork may be shaped by their enthusiasm, knowledge and experience; any opportunities offered for investigation in the surrounding environment (e.g. if it is a rural or urban school, if there are nearby parks or rivers); class size and grade; and the school environment or ethos (e.g. support from the head teacher, resources available). Teachers may share many perceptions regarding the value and benefits of fieldwork, as well as the perceived constraints in planning and conducting these activities (Yang et al., 2014).

Even though internationally it is well documented that the benefits of conducting geographical fieldwork outweigh the constraints (Nairn et al., 2000), there is little research about the perceptions of teachers conducting fieldwork in South African schools (Wilmot & Dube, 2015). The national curriculum CAPS document (DBE, 2011) advocates active and critical learning in and outside of the classroom but teacher-centred instruction still dominates (Golightly & Sprenger, 2024) and, anecdotally, Geography fieldwork in secondary schools in South Africa has declined. This study aimed to establish South African Geography teachers' perceptions of conducting fieldwork and to reflect whether they hold a more negative or positive view of this teaching and learning practice. This was undertaken using an opinion-based survey amongst members of the Southern African Geography Teachers' Association (SAGTA) and the South African Geography Teachers' Google group.

METHODOLOGY

In this study an online Likert-scale questionnaire was circulated as a Google Form to two professional learning community groups for Geography teachers in South Africa, namely the Southern African Geography Teachers' Association (SAGTA) and the Southern African Geography Teachers' Network. These groups are open, public groups for Geography teachers, accessible either by request to join or through a membership subscription. These groups were used because their members are interested in professional development, stay up-to-date with new trends, are enthusiastic about the subject, are eager to gain new knowledge, and are happy to share their expertise. This was a form of purposeful sampling. In total, there were 55 respondents to the online questionnaire. Responses were collated and presented using Excel. Data were analysed using descriptive statistics; Cronbach's alpha was used to consider the internal consistency of responses (Thiétart, 2007).

The invitation to complete the online questionnaire was accompanied by an information sheet describing the nature of the study. Completing the questionnaire was stated as implied consent to participate in the study. This study received ethics clearance from the Faculty of Education Ethics Committee, University of Pretoria (clearance number EDU126/22).

RESULTS

Teaching experience and location of respondents

Almost half (49%) of the 55 respondents had been teaching for 26 years or more (Figure 2). A minority (2%) of the respondents had between one and five years of teaching experience. The largest proportion of respondents was from Gauteng Province (43%, Figure 3); 76% of respondents stated they were in urban schools, 13% indicated their schools were in the rural-urban fringe, and 11% were located in a rural context.

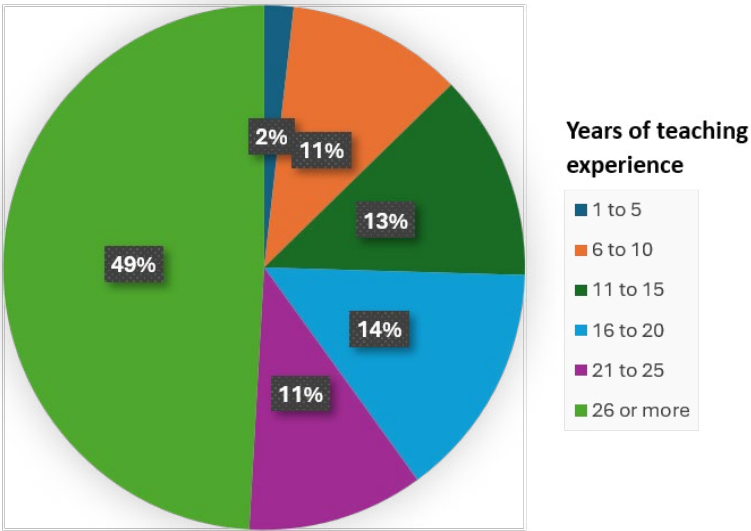


Figure 2. Years of teaching experience of the respondents.

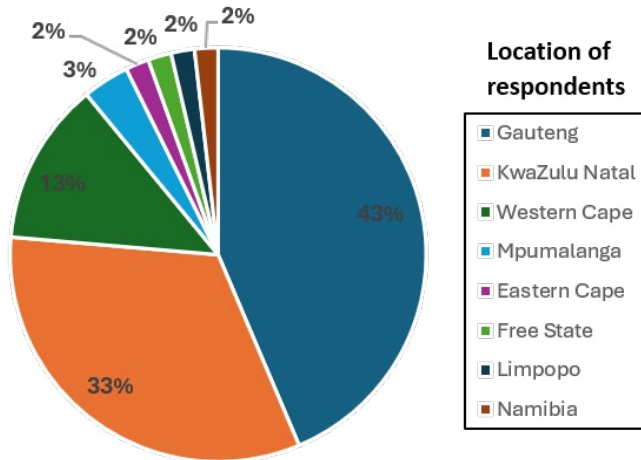


Figure 3. Provincial and regional distribution of respondents.

Questionnaire responses on teachers' perceptions of conducting geographical fieldwork

The survey consisted of nine questions, which asked respondents to use a 4-point Likert scale to indicate their perceptions. Table 1 shows the number of respondents and the values of centrality (mean, median and mode) for each question. The questions are ordered as they appeared in the survey form. Cronbach's Alpha (α) was used to test the reliability of the Likert-scale responses and to ensure that these questions all reliably measured the teachers' perceptions. Factors such as emotions and economic conditions, which are not directly observable, can be inferred to be consistent across a set of questions. The range for this reliability calculation is 0 to 1, with higher values indicating greater reliability. A Cronbach's alpha coefficient of ≥ 0.7 indicates that the scale items are highly consistent (Thiétart, 2007). In Table 1, the Cronbach's Alpha is 0.809, and all individual question values were ≥ 0.7 , which indicates a high level of internal consistency.

Table 1. Statistics from the questionnaire responses regarding factors that contribute to the likelihood of fieldwork being conducted in secondary schools.

	Q1 Safety in the field	Q2 Class size and behaviour	Q3 Health hazards in the field	Q4 Resistance from colleagues	Q5 Planning and preparation	Q6 Permissions and red tape	Q7 Transport costs and logistics	Q8 Teacher liabilities	Q9 Physical challenges
Number of valid responses	55	54	55	55	55	55	55	55	55
Mean	1.49	2.20	1.91	2.07	2.47	2.02	1.84	1.93	2.09
Median	1	2	2	2	3	2	2	2	2
Mode	1	2	2	1	3	2	1	1	2
Sum	82	119	105	114	136	111	101	06	115
Cronbach's alpha	0.793	0.802	0.788	0.822	0.777	0.769	0.779	0.784	0.792

As noted in Table 1, the most negative responses were for safety during a fieldtrip. Of all the respondents, 64% were most concerned about safety during a fieldtrip (Figure 4) and 90% of respondents expressed some concern about safety. The responses indicating greatest concern focused on safety, health hazards, transport costs, and teacher liabilities. Moderate concerns were expressed for a lack of support from colleagues, and permissions/red tape. Respondents were least concerned with their competence/abilities when planning and preparing for fieldwork.

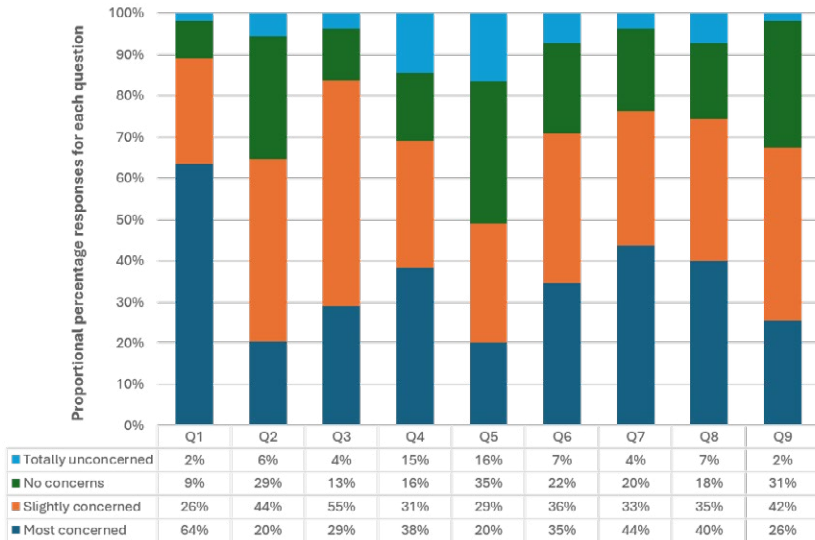


Figure 4. Teachers' responses to the questionnaire, expressed as a proportional percentage (%). Questions 1–9 refer to those listed in Table 1.

Why teachers do not conduct fieldwork

Of the 55 survey respondents, 17 (31%) said they do not conduct geographical fieldwork with their learners. Time and cost were the most commonly-cited responses (Figure 5). Safety was ranked third and transport fourth. Safety during a field trip was the most frequently expressed concern (question 1, Figure 4). Overall, transport costs was the second-most cited concern (77% of all respondents). Although time was indicated as a constraint by those who do not conduct fieldwork (Figure 5), this was a low-ranked concern (51%) for those that actually undertake fieldwork (Figure 4), suggesting that these respondents manage their time well.



Figure 5. A word cloud to show the perceptions of teachers who do not conduct fieldwork (<https://worditout.com/word-cloud/5623554>).

Types of fieldwork conducted

The second aspect of the survey asked respondents to indicate which fieldwork, trips, and activities they had conducted, from a list provided (Table 2). Although the most common is a bus tour, 35% of respondents had undertaken fieldwork in the local environment near the school. Activities cited included a visit to a shopping centre or conservation area, surveys of traffic flow at the start or end of a school day, and recording tuckshop queues and people flow at the entrance of a shopping centre.

Table 2. Types of fieldwork conducted by the respondents. *Italics* = Types of fieldwork undertaken in the local environment.

Types of fieldwork conducted	Responses (%)
Bus tour	16
Investigation where measurements and data are collected, for example: beach study/testing water quality	14
Urban walking tour	13
Investigative research on an environmental or social issue	13
<i>A local physical or human topic within the school grounds, for example: microclimate analysis</i>	12
<i>Case study, such as visiting a shopping centre</i>	10
<i>Human Geography: collecting data from surveys, interviews and tallies</i>	8
<i>Traffic count at a particular place: e.g. car park entrance, shop entrance, busy intersection, school parking area</i>	5
Virtual Field Trip	4
Walkability tour (any precinct)	4
International trip	1

DISCUSSION

Results of the questionnaire in this study show that Geography teachers have different reasons for why they do, and do not, undertake fieldwork with their learners. The most common area of concern is health and safety of learners in the field, followed by the logistics of permissions and red tape (Table 1). This is similar to concerns in running learner fieldtrips in Singapore (Chew, 2008) and China (Yang et al., 2014). However, most teachers were confident in their planning and preparation of fieldwork (Table 1). It is also likely that the location of each school (whether urban or rural) would impact on the type of place-based fieldwork opportunities availability in the local area (Table 2). It is also the case that taking learners on fieldtrips in South Africa is challenging. This includes poor road maintenance, drivers not adhering to the rules of the road, and the generally high crime rate. One respondent said: 'In the past, learners' behaviour has put us in danger, as they apparently showed all kinds of signs to taxi drivers, who subsequently tried to run us off the road.' Travel and transport costs are also factors that constrain fieldwork as learners may be excluded if they cannot afford it. This was noted by respondents who did not conduct geographical fieldwork as, in many schools, learners are required to pay for the fieldtrip in advance. When planning fieldtrips, parents must be informed and provide all relevant medical information on indemnity forms or in the Educational Management System, and the need for signed consent forms to protect all parties from unforeseen risks. Several previous studies have noted the risk-aware society and its implications for running field trips (Cook et al., 2006; Herrick, 2010). Greater hesitancy in fieldwork may have also resulted from anxiety following COVID-19.

Resistance or support from colleagues was a concern by 69% of respondents (Figure 4). This could stem from apathy, limited access, or a lack of experience in conducting fieldwork. Time is also cited as an important factor by respondents who do not conduct fieldwork (Figure 5). Leaving work for classes and taking learners out of the class for an extended period requires extra preparation time. For new teachers, time in planning and preparing for fieldwork may also be overwhelming. Class size was not listed as a major concern (Table 1) but was noted by 64% of respondents while 36% indicated no concerns. This is in contrast to previous studies in Ghana (Baidoo-Anu et al., 2019) and China (Yang et al., 2014) where class sizes are large and that pose management problems as a result.

The most positive response was to the question on fieldwork planning and preparation (Table 1) where 41% of respondents reported no concerns about this element (Figure 4). This may reflect the fact that 60% of the respondents have more than 20 years of teaching experience (Figure 2). Time is a constraint on fieldwork planning. One respondent said: 'A demanding academic program does not allow for extension of concepts in the field and DoE constraints on excursions regarding transport and consent.' In Ghana, Baidoo-Anu et al. (2019) found that teachers did not have enough time to organise field trips. This was also noted in Nigerian secondary schools, where the weekly schedule was not adequate in preparing learners for fieldwork or covering the curriculum (Mohammed, 2016). In Australia, 90% of teachers reuse excursions and fieldwork activities from year to year as

tried-and-tested activities have addressed most potential pitfalls (Munday, 2008). This is the same in China, where 92.5% of teachers sampled conduct the same fieldwork each year (Yang et al., 2014).

Recommendations

Table 3 presents some pragmatic solutions to addressing fieldwork issues identified by teachers in this study. Preparation by teachers for fieldwork can be undertaken to address the three factors of cost, time, and transport (Figure 4). Enquiry-based, experiential learning can take place on school grounds and in the surrounding area, at little/no cost to the learner which makes the activity more inclusive (Bye, 2016). A walkability study could also be considered for local place-based activities, such as an urban renewal precinct where redevelopment has taken place. This type of activity may limit cost and mitigate safety concerns (Munge et al., 2018). Some recommendations on fieldtrip management are supplied in the Supplementary file for this paper.

Table 3. Perceptions of conducting geographical fieldwork with suggestions to mitigate these factors.

Factor stated	Suggestions to mitigate the factor
Cost	Conducting local, place-based activities within walking distance (see Supplementary file, Appendix 1) or within the school grounds
Time	Use local, place-based options where class time can be used for fieldwork
Transport	Use of school transport or conduct local walkability activities
Relationship to the syllabus	CAPS states six hours in the field in grades 10 and 11, and if time permits, in Grade 12 (DBE, 2011). The IEB Subject Assessment Guidelines (SAGs) follow the CAPS curriculum at the Grade 12 level (IEB, 2025)
Staff apathy	Join a Professional Learning Community (PLC); attend courses that offer continuous professional development (CPD) points; join excursions with local groups to gain insight; find and work with a mentor through a PLC
Safety	Conduct a risk assessment in class with learners (Supplementary file, Appendix 2); check school policies on dress code and taking photographs
Access	Use local, place-based activities in scheduled lesson time
Behaviour	The school's ethos determines this, but it does not negate the responsibility to ensure that learners observe the school code of conduct in all places and spaces
Large classes	Work smartly, as group work can be effective; allocate specific roles to each learner within a group

CONCLUSIONS

Geography fieldwork is an important part of a learner's geographical knowledge and skills development but constraints on this practice are noted by Geography teachers globally. This study shows the most negative teachers' perception is learner safety, whilst the most positively perceived aspect is planning and preparation. Local, place-based enquiry-led fieldwork can help reduce barriers and perceptions of fieldwork, such as time, transport, and access. This type of activity also becomes inclusive for all learners. In addition, if a site is regularly visited, teachers can implement progression plans for the development of essential subject-specific and fieldwork skills. Through geographical enquiry, learners can engage in collaborative reflection and problem-solving.

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