

Research Paper



The impact of field trip method of teaching basic science and technology on junior secondary school students: benefits and challenges

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ABSTRACT

A field trip is a visit to a location outside of the typical classroom that is intended to accomplish some goals that cannot be as effectively attained by other methods. pupils have the chance to leave the classroom and engage in new activities on field trips, which also have aspects that help pupils acquire abstract concepts. The study looked at the advantages and drawbacks of using field trips to teach basic science and technology to junior high school pupils. It took place in St. Timothy's College in Onike, Lagos State, on Iwaya Road. The study was directed by three research questions and three hypotheses. Nine hundred and fifty-seven students from St. Timothy's College made up the study's population. The junior secondary two class of 78 pupils was randomly chosen as the sample. The study employed a straightforward random sample strategy, and the tool used to gather data was a standardized questionnaire with 30 items named The Impact of Field Trip Method of Teaching Basic Science and Technology on Junior Secondary School Students: Benefits and Challenges (IFTMTBSTJSSBC). For the study, face and content validity were applied, and a reliability coefficient of 0.84 was found. The study issue was answered using the mean and standard deviation, and the hypotheses were addressed using the z test at the 0.05 level of significance. According to the study, it is beneficial to interact with pupils from various cultural backgrounds since it fosters critical and creative thinking. Additionally, it was shown that field trips aid in the development of social awareness and assist kids in understanding the significance and relevance of what they study in the classroom. It was suggested that the field trip instructional technique be highlighted and used in conjunction with other instructional strategies.

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1. INTRODUCTION

George Shillibeer developed the idea of a field trip approach in 1827 in response to the Abney portion earthquake in Stoke Newington, London, United Kingdom. A field trip is a visit to a location outside of the typical classroom that is intended to accomplish some goals that cannot be as effectively attained by other methods. Field trips offer students the chance to leave the classroom and engage in new activities, and they include aspects that make it easier for pupils to understand abstract concepts [1]. Learning is more effective when kids go on field trips since they can learn a lot about the subject.

Field trips engage kids by piquing their interest and curiosities and give instructors, parents, and students the chance to collaborate on the curriculum. Since parents must give their permission, a letter sent home with the permission from explaining the purpose of the trip is a good way to pique their curiosity and encourage them to ask the students or teachers about the trip [2]. Students can also choose the location to be visited, develop questions to ask, develop writing reports, or evaluate the expenses. In order to protect their children from harm, parents' guide their children. The parents and teachers might develop a much tighter bond thanks to this position. Working in groups will also boost the interaction between students within each group.

Students have the chance to experience firsthand what is happening in our environment through field trips. It supports the development and maintenance of students' interest in the subject. Due to the persistent nature of the encounters, it helps with information retention [3]. A field trip is an excursion outside of the typical classroom where students can engage in new activities, encounter novel situations, and gain important life lessons. A field trip can take students to a number of destinations where they can experience a wide range of activities firsthand and see new sights [4].

A field trip could involve taking a bus to another town or visiting a location that is just around the corner.

Regardless, learning, experiencing a new environment, and having the opportunity to do new things are the main goals of a field trip [5]. Children who receive comprehensive development in the classroom mature into citizens of the world. In addition to learning English and math, it is crucial that students in schools receive a proper education in the arts and go on field trips. Children will be better prepared for what is outside in the real world if indoor and outdoor activities are given equal weight. Unfortunately, rather than seeing field trips as a requirement, most schools tend to view them as a novelty.

The following are some justifications for why field trips should be prioritized and how they help students receive a well-rounded education:

- Interactive learning: Field trips provide students the chance to engage in their studies. Children are able to physically participate in the event, which goes beyond simply reading about it in a textbook.
- Direct access to resources and environments that kids would not otherwise have access to inside the walls of their school: Field trips give students access to a variety of tools and settings that they would not otherwise have. On field trips, students can visit historical objects or even an aquarium with an underwater habitat [6].
- Social-economic development: Students who go field trips develop more empathy and tolerance than those who do not. A field trip gives students the ability to think critically and to consider a subject from a fresh angle [7].
- Eliminates classroom boredom: It's well-known that kids get bored and quickly distracted. Children

develop a different level of excitement and fun on school field trips. It provides people with something to anticipate [8].

- Social interaction: Taking a field trip takes pupils out of the classroom and into a new social setting [9]. During the duration of the field trip, they get to interact with a potential new group of adults and potentially meet other kids [10].

[11] Asserts that a field trip can be both exciting and educational for students. Field trips should be included in the curriculum since they are a useful teaching approach that encourages learning outside of the classroom. Keeping students interested in the learning process during lectures can be challenging. An interest in learning might be sparked by a change in the learning environment. Consequently, a field trip is a successful way to enhance teaching methodologies [12].

Students gain a variety of experiences through field trips that are not available in a classroom setting. Additionally, increasing students' textbook knowledge does not guarantee their overall progress. Consequently, a field trip is a fantastic approach to give pupils practical experience [6]. Students are taken on field trips to historical places, museums, zoos, mountains, etc. to instill cultural values in them and support the development of their skills. Additionally, when students interact with people from all backgrounds, their social skills are enhanced. Field trips may sound fun, but planning them can be difficult for instructors.

[13] States that the primary goal of organizing field trips and educational excursions for pupils is to strengthen experience and contextual learning. In addition, the school arranges pre-arranged excursions to other locations to broaden the students' horizons and extend their study beyond the confines of the classroom. Field trips help students make connections between what they learn in the classroom and the real world. Trips are specifically designed to help kids learn about and comprehend the diverse, real world. These are some examples of field trips:

- Educational Study abroad: A group of people travels on an excursion or field trip to a location outside of their normal habitat. Field trips are described in the context of education as visits made by a teacher and students to an area outside of the typical classroom for the goal of direct observation [14].
- Field trips are a well-liked strategy used to expose pupils to concepts, experiences, and ideas that cannot be provided in a classroom setting. Field trips can be thought of as quick learning activities that give students the chance to observe their chosen subject outside of the context of the classroom [15]. Children are most pleased about sightseeing school trips that transport them to alluring destinations, claim [12], [16].
- Field trip for language and cultural education: Field trips are crucial and beneficial for language improvement and for learning about the fascinating indigenous culture [17], [18].
- Students go on a field trip to learn about gardening and farming. They discover how vegetables are produced and try out some of the traditional agricultural methods used by the locals.
- Field excursion to a manufacturing facility: Students can be taken to any factory that produces machinery, vehicles, tools, packaging, or other goods [5].
- Eco-adventure field trip: Students can have fun and unwind while exploring unspoiled natural wonders to observe the local flora and fauna.
- [11] Lists the following benefits of field trips for students: Strengthen the curriculum: Field trips provide pupils a chance to interact with the outside world. The knowledge imparted by the curriculum should be amplified and clearly illustrated through this experience.
- Students can study in a new setting thanks to field trips, which take them away from the traditional classroom. A field trip provides the chance to introduce the kids to fresh material.
- Team building: Field trips help kids get to know one another better. Many educational field excursions include team-building exercises like working together to forge bonds as well as educational content [5]. Field trips can help students become more aware of significant issues. They can also be entertaining and educational and can be used to trace a problem's origin [11].

In today's era of limited resources and busy schedules, field trips are sometimes viewed as a distraction from education. Eager students enthusiastically board buses with teachers and volunteers, which can strain school budgets and take away from valuable instructional time. If not properly planned,

field trips can become wasteful in terms of time and resources. Long-distance trips can be particularly challenging to organize. Additionally, there is a risk of accidents during field trips, leading to unexpected financial burdens for schools, parents, and students. Furthermore, tourism often contributes to the overconsumption of natural resources, especially in areas where resources are already scarce. This puts significant pressure on local land use and can result in detrimental effects such as soil erosion, increased pollution, loss of natural habitats, and heightened threats to endangered species.

2. METHODOLOGY

The aim of the study is to investigate the impact of field trip method of teaching on senior secondary school students: Benefits and Challenges. Specifically, the study intends to:

1. Examine the benefits of field trip on senior secondary school students.
2. Describe the impact of field trips on senior secondary school students.
3. Identify the challenges of field trip on senior secondary school students.

2.1. Research Questions

1. What are the benefits of field trip method of teaching on senior secondary school students?
2. What is the impact of field trip method of teaching on senior secondary school students?
3. Are there challenges of field trip method of teaching on senior secondary school students?

2.2. Hypotheses

- **H01** : There is no significant difference between male and female students benefits of using field trip method of teaching on senior secondary school students. H02: There is no significant difference between male and female students' impact of field trip method of teaching. H03: There is no significant difference between male and female students' challenges using field method of teaching
- **Research Design**: The research is a descriptive survey that aims to investigate the Impact of Field Trip method of Teaching Basic Science and Technology on Junior Secondary School Students: Benefits and Challenges
- **Area of the Study**: The research was conducted at St. Timothy's College on Iwaya Road, Onike, Lagos State, Nigeria.
- **Population**: The study population consisted of 957 students from St. Timothy's College.
- **Sample and Sampling Techniques**: A random sample of 78 students from junior secondary two was selected. Simple random sampling technique was used, and data was collected using a structured questionnaire titled "The Impact of Field Trip Method of Teaching Basic Science and Technology on Junior Secondary School Students: Benefits and Challenges" (IFTMTBSTJSSBC), which consisted of 30 items.
- **Study validity**: For the study, face and content validity were used.
- **Method of Data Analysis**: The study's statistical methods included the mean and z test.
- **Reliability**: Using Pearson product moment correlation, a reliability co-efficient of 0.84 was found.

3. RESULTS AND DISCUSSION

- **Research Question 1**: What are the benefits of field trip method of teaching on senior secondary school students?

Table 1. Benefits of Field Trip Method of Teaching

S/N	Items Benefits of field trip	SA	A	D	Mean	SD	Total no of Respondents
1	Field trips give children a powerful inspiration boost.	52	26	-	3.66	0.47	78

2	A field excursion enhances the experience's realism.	31	47	-	3.39	0.48	78
3	Businesses become research collaborators	25	53	-	2.55	0.81	78
4	It is enriching to interact with students from various cultural backgrounds.	70	4	-	3.83	0.43	78
5	Thinking critically and creatively is encouraged	65	10	-	3.79	0.49	78
6	Enhances the curriculum by providing students with practical experience.	45	30	-	3.53	0.57	78
7	thinking about one's own work and its significance in a larger context	61	17	-	3.78	0.41	78
8	Students can learn outside of the classroom on a field trip.	36	42	-	3.46	0.50	78
9	gives pupils the chance to experience firsthand what is happening in us surroundings	32	46	-	3.41	0.49	78
10	Due to the persistent nature of the experiences, it helps with memory retention.	48	25	-	3.55	0.61	78
Average Mean					3.49	0.52	

Table 1 demonstrates that students recognized all of the advantages of the teaching strategy of field trips. The reason for this is that the item mean overall was higher than the 2.50 criteria mean. The overall mean of 3.49 suggests that interacting with students from various cultural backgrounds is enjoyable and that creative and critical thinking are encouraged.

- **Research Question 2:** What is the impact of field trip method of teaching on senior secondary school students?

Table 2. Impact of Field Trip Method of Teaching

S/N	Items Impact of field trip	SA	A	SD	D	Mean	SD	Total no of Respondents
1	During effective field trips, participants get to experience the subject firsthand.	50	20	8	-	3.53	0.67	78
2	Field trips offer distinctive learning opportunities that are not available inside the four walls of the classroom.	40	20	18	-	3.28	0.81	78
3	Field trips are typically unique and interesting learning opportunities that can provide variation to the normal classroom teaching program.	37	40	1	-	3.41	0.52	78
4	Field trips promote social contact between students and between students and teachers.	47	20	11	-	3.46	0.53	78

5	Field trips give students, parents, and teachers the chance to participate in the educational program.	28	49	1	-	3.34	0.50	78
6	When students collaborate in groups, there is also an increase in internal student contact.	45	30	3	-	3.53	0.57	78
7	A field trip promotes social awareness	60	18	-	-	3.76	0.42	78
8	Students are made aware of learning activities in daily life through field trips.	39	30	9	-	3.38	0.68	78
9	Field trips provide students with hands-on learning opportunities	47	31	-	-	3.60	0.48	78
10	Students benefit from field trips by understanding the significance and relevance of what they study in the classroom.	56	22	-	-	3.71	0.45	78
	Average Mean					3.50	0.56	

According to Table 2, students accepted each and every item as an effect of the teaching strategy of field trips. The reason for this is that the item mean overall was higher than the 2.50 criteria mean. The overall mean of 3.50 suggests that field trips aid in the development of social awareness and assist students in understanding the significance and relevance of what they learn in the classroom.

- **Research Question 3:** Are there challenges of field trip method of teaching on senior secondary school students?

Table 3. Challenges of Field Trip Method of Teaching

S/N	Items Challenges of field trip	SA	A	S D	D	Mea n	SD	Total no of Respondents
1	students carefully preparing their research designs	51	17	10	-	3.52	0.84	78
2	being actively interested in the partner's actions	70	4	4	-	3.84	0.48	78
3	enduring and mutually respectful friendship with the partners	57	21	-	-	3.73	0.36	78
4	Time management and organizing can be difficult.	56	22	-	-	3.71	0.45	78
5	It is incredibly challenging to complete, especially when a considerable distance is involved.	65	13	-	-	3.83	0.37	78
6	Accidents might happen when on field trips.	56	20	2	-	3.69	0.51	78
7	It causes additional financial costs for the school, the parents, and even the pupils.	66	12	-	-	3.85	0.44	78
8	For kids of all ages, a field trip may be an essential	50	28	-	-	3.64	0.47	78

	educational experience.							
9	Costs for a field trip can add up quickly.	44	34	-	-	3.56	0.49	78
10	A field trip raises a variety of legal difficulties. most in terms of liability	72	6	-	-	3.92	0.27	78
	Average Mean					3.72	0.46	

According to Table 3, students accepted all of the field trip-related challenges. The reason for this is that the item mean overall was higher than the 2.50 criteria mean. The overall mean of 3.72 shows that field trips raise a variety of legal difficulties, most notably those related to liability. They also result in additional costs for the school, parents, and even the pupils.

• Hypotheses

H01: There is no significant difference between male and female students benefits of using field trip method of teaching on senior secondary school students.

Table 4. Gender Difference in the Benefits of the Field Trip Method

Group	Mean	SD	N	Df	Standard Error	Z (Cal)	Z (Tab)	Decision
Male	2.55	0.81	39	76	0.10	12.8	1.96	Rejected
Female	3.83	0.43	39					

The estimated value of Z (Cal) is greater than the tabular value, hence the null hypothesis is rejected. This shows that there are considerable differences between the advantages of using the field trip method of instruction for male and female pupils. Because the world is huge and girls seem to want to know everything about it, female students are naturally interested and want to explore and learn about new topics, especially in their early years. As a result, the results indicate that female students gain more from field trips than do male students; female students (Mean = 3.83) and male students (Mean = 2.55).

- **H02:** There is no significant difference between male and female students' impact of field trip method of teaching.

Table 5. Gender Difference in the Impact of the Field Trip Method

Group	Mean	SD	N	Df	Standard Error	Z (Cal)	Z (Tab)	Decision
Male	3.38	0.68	35	76	0.13	2.92	1.96	Rejected
Female	3.76	0.42	43					

The estimated value of Z (Cal) is greater than the tabular value, hence the null hypothesis is rejected. This suggests that adopting the field trip method of instruction has quite different effects on male and female pupils. This is due to the fact that the field trip mode of instruction had a greater influence on female students than on male students (Mean = 3.76 vs. 3.38).

- **H03:** There is no significant difference between male and female students' challenges using field method of teaching.

Table 6. Gender Difference in Challenges of the Field Trip Method

Group	Mean	SD	N	Df	Standard Error	Z (Cal)	Z (Tab)	Decision
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Male	3.92	0.84	39	76	0.14	2.85	1.96	Rejected
Female	3.52	0.27	39					

The estimated value of Z (Cal) is bigger than the tabular value, hence the null hypothesis is rejected. This demonstrates how employing the field trip method of instruction presents different difficulties for male and female students. This is due to the fact that the field trip mode of instruction presented additional challenges to the male students.

Table 1 shown that meeting kids from many cultural backgrounds is stimulating and encourages critical and creative thinking. The study thus supports findings, which found that field trips provide an opportunity to inspire and connect students to appreciate and understand classroom concepts that increase a students' knowledge foundation and promote further learning and higher-level thinking strategies. With understanding comes confidence and intrinsic motivation. Field trips improve effective learning, provide experiences and opportunities for learning, offer a practical approach, and help students develop the necessary qualities, according to research.

According to Table 2, field trips aid in the development of social awareness and help pupils understand the value and significance of what they study in the classroom. The findings of the study are in agreement with those of [9], who discovered that field trips can significantly improve students' performance in ecology. Field trips improved pupils' academic performance more than the traditional lecture method did [19]. The results of the study concur with those of, who discovered that the field trip technique was more successful in raising the academic achievement of students studying basic sciences.

According to Table 3, field trips raise a variety of legal difficulties, most notably those related to responsibility. They also result in additional costs for the school, parents, and even the pupils. The results of the current study are consistent with those of, who discovered that among other things, school-related factors, teacher-related factors, and student-related factors were barriers to field trip effectiveness in institutions' technology education instruction [20]. The findings of the study are in line with those of Theophilus, Frank, who discovered that planning a field trip presents a number of difficulties, including limited time, money, inadequate support from school administration, parents, and some teachers, the nature of the curriculum, and students' outdoor behavior.

A field trip is an excursion outside of the typical classroom where students can try new things, engage in novel experiences, and pick up important life lessons. There are various places that can be visited on a field trip so that children can experience a variety of firsthand chances and fresh views. A field trip could go somewhere nearby or might involve taking a bus to a different town. Regardless, learning, experiencing a new environment, and having the opportunity to do new things are the main goals of a field trip. According to the study, having the opportunity to interact with students from diverse cultural backgrounds is enriching and fosters critical and innovative thinking. Field trips also aid in the development of social awareness and help students understand the value of what they learn in class. However, field trips also raise a number of legal concerns, most notably those related to liability [21]. They also result in additional costs for the school, parents, and even the students.

4. CONCLUSION

Based on the conclusions, the following recommendations were made:

1. Field trip strategy of teaching should be emphasized and collaborated with other method of teaching.
2. Provision of adequate security personnel for schools should be encouraged.
3. Discipline of learners should also be encouraged by teachers, parents and the school.

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Author Contributions Statement

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Kasumu Rebecca Oluwayimika	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓
Kasumu Abayomi Adeoye	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓

C : Conceptualization

M : Methodology

So : Software

Va : Validation

Fo : Formal analysis

I : Investigation

R : Resources

D : Data Curation

O : Writing - Original Draft

E : Writing - Review & Editing

Vi : Visualization

Su : Supervision

P : Project administration

Fu : Funding acquisition

Conflict of Interest Statement

The authors declare that there are no conflicts of interest regarding the publication of this paper.

Informed Consent

All participants were informed about the purpose of the study and their voluntary consent was obtained prior to data collection.

Ethical Approval

Not Applicable.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

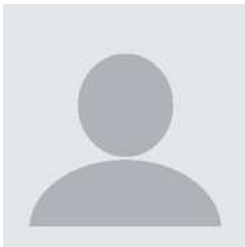
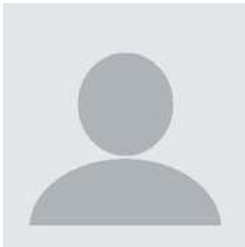
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