



# **Constraints on the Utilization of Field Trips in Technology Education Instruction Delivery in Universities in South - South Nigeria**

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## **ABSTRACT**

Field trip is an instructional technique involving students' experiences outside of the classrooms at interactive locations. The study examined the constraints to field trips effectiveness as instructional technique in the teaching and learning of technology education in universities in South-South Nigeria. The design of the study was a descriptive survey research. The population of the study comprised 315 final year students and 77 lecturers in technology education of these institutions. The entire population was used for the study. Five research questions guided the study. The instrument used for the study was a structured questionnaire constructed using a five point Likert scale which was validated by three experts. The reliability co-efficient of the instrument was 0.89 obtained using Cronbach's Alpha correlation coefficient. Data collected were analyzed using mean, standard deviation and t-test. The study revealed among others, students', teachers', and school related factors as constraints to field trips effectiveness in technology education instruction in these institutions. Improved funding, provision of adequate security personnel for schools and industries, discipline of learners, bridging the communication gap between companies and schools among others, were some recommendations made in this study.

**Keywords:** Field trip, Technology education, TVET, constraints, instruction, strategy.

## **1. INTRODUCTION**

Skills and knowledge are the engines of economic growth and social development of any nation (Goel, 2010). The educational process equips individuals with the relevant knowledge, skills and character for purposeful living in a society. The importance of education is evident at every stage of education whether at primary, secondary and in higher education; and universities are the main institutions that provide higher education in the society (Shakil, Faizi, & Hafeez, 2011). Technical Vocational Education and Training (TVET) is recognized as the aspect of education that transfers quality skills into people for a country's technological, economic, social and cultural development (Afeez, 2013). TVET is widely recognized as having a significant role to play in an individual's life and the life of a nation in the modern society. UNESCO (2010) defined TVET as those aspects of the educational process involving in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life. Thus, TVET can be regarded as a means of preparing individuals for occupational fields and effective participation in the world of work (Okwelle & Okeke, 2016). The National policy on education of the Federal Republic of Nigeria (2013) refers to TVET at the higher education level as technology education.

From the foregoing, it could be seen that the main feature of TVET is its orientation towards the world of work and the curriculum's emphasis on the acquisition of practical skills. Curzon (cited in Okwelle, 2011) described practical skill as an organised and coordinated pattern of mental and/or physical activity in relation to an object or other display of information which usually involves both the receptor and effectors processes. TVET programmes therefore, are activity or practical-oriented

and the appropriate methods of teaching it is activity base. As the students are central part of learning process, they not only required quality education but also effective and latest means of learning to have a better knowledge and skill acquisition as well as have a command on what they are being taught presently so they will able to apply that knowledge and skill in their future lives. This suggests that instructing students in TVET programmes cannot be fully achieved without the use of student – oriented and activity based instructional strategies. Greenwood, Delquadri, & Hall (cited in Shouse, Weber, McLaughlin, & Riley, 2012) reported that the more time students spend actively responding to learning tasks, the greater the students’ acquisition and maintenance of material in and out of the classroom. Significant empirical research has shown that student learning can be substantially improved when instructors move from traditional, transmission-style instruction to more student-centred, interactive instruction (Henderson, Dancy, & Niewiadomska-Bugaj, 2012). Similarly, Pugh and Bergin (2005) also asserted that more interactional, alternative education methods lead to a higher level of school-to-real-world transfer as evident in their statement that learning that involves the development of deep-level, connected knowledge structures and metacognitive knowledge in relation to the subject matter is more likely to be accessible in novel contexts and when solving real-world problems than learning that is superficial and disconnected. Thus, it can be said that interactive and alternative learning methods, such as field trips, or instructional visit can be more beneficial to students’ holistic learning than other day-to-day tasks in TVET.

Field trips include any learning experience that occurs outside the classroom (Krakowka, 2012). In the same vein, Tal and Morag (2009) described field trips as students experiences outside of the classrooms at interactive locations designed for educational purposes. Aggarwal (2008) posited that educational field trips aims at enriching, vitalizing and complementing content areas of the curriculum by means of first hand observation and direct experience outside the classroom. Shakil, Faizand and Hafeez (2011) view field trip as a major source of providing knowledge to the students by giving opportunity for self-experiences and observations and self-long-lasting learning. A field trip is a visit to a place outside the regular classroom which is designed to achieve certain objectives, which cannot be achieved as well by using other means (Limbu, 2012). For example, if the lesson is on pipelines, machine production or railway construction, and there is no hand on experience it may be very difficult to achieve the objectives. In such a lesson the field trips strategy is imperative. Industrial visits give opportunity for students to get out of the classroom and experience something new. The located place for field trip in vocational/technical education programmess can be mechanic/auto-mechanic workshops, offshore rig sites, electrical/electronic firms, building construction sites and the likes. A student with many connections concerning a subject will accommodate new knowledge faster and with greater clarity (Kisiel, 2006). Field trips or industrial visits therefore, are recognized as moments in learning that extends beyond the walls of the classroom.

There are three types of field trips strategy (Limbu, 2012) namely, instructional trips ( a visit by a class or group of classroom, designed to allow the students to achieve specific course objectives); school contests or festivals (an extra campus activity, which provides an opportunity for students to demonstrate knowledge and skills developed through subject area instruction);and motivational trips (also an extra-campus activity, which is not a part of a scheduled class but provides a motivational incentive for the school, club, group, or class and is related to improving the school climate). Specifically, the focus of this paper is on instructional field trips, which is a planned, teacher supervised outings that occur outside of the classroom (Krakowka, 2012; Tal & Morag, 2009). Such trips continued as noted by Limbu (2012) are a great opportunity for students to make curriculum connections while experiencing extended activities that relate to what they are learning in the classroom.

There is much evidence available showing the benefits of field trips. For example, Krakowka (2012) suggests that a field trip is a form of active learning and students get valuable experience when seeing things themselves. In the same vein, Berer (2015) stated that through field trips, students will experience a more holistic, integrated picture of the information that, in the classroom, may have only been presented in a textual and abstract way. According to Limbu (2012), field trips enhance school curriculum; facilitate the learning of abstract concepts; give students experimental experiences and help students appreciate the relevance and importance of what they learn in the classroom. Similarly, Nadelson and Jordan (2012) reported that field trips result in affective gains such as more positive

feelings toward a topic. Salmi (2003), asserted that learning in field trips provide experiences that can be recalled and useful long after a visit.

It can be gleaned from the foregoing that field trips give students the opportunity to learn in a natural environment and experience things first-hand and from primary resources, rather than texts; real objects and rather than photos. With technology, today's students are visual learners and a field trip lets them touch, feel and listen to what they are learning about. This helps them build on classroom instruction, gain a better understanding of topics and expose them to worlds outside their own.

Learning in field trips is impacted by many factors (DeWitt & Storksdieck, 2008). The presence or absence and quality of preparation and follow – up on the part of the school, teachers and students could positively or negatively impact learning through field trips. In this context, Falk and Adelman (2003) posited that prior knowledge and interests of the students, impacts learning during the visit. Berer (2015) maintained that a successful and quality field trip requires the teacher to prepare his students by developing their visual literacy and by integrating the trip actively into their curriculum. If students are not adequately prepared for the experience, the trip can negatively impact learning. In the same vein, Scales (2012) posited that field trips are worthwhile only if students understand their value. Also, tighter budgets and heavy workloads by schools may result to fewer or poorly organised field trips. Lewis (nd) pointed out that with proper planning and a positive attitude, field trips can be unique ways to explore the outside world with students. Therefore, a successful field trip requires adequate teachers' preparation, students' interest and necessary support from school management.

### **Problem of the Study**

As noted so far, field trips are highly essential to vocational/technology education programmes as it expose students to real life practical situations. This is very vital for a quality TVET programme at all levels including universities. Research evidences (Greene, Kisida & Bowen, 2014, Kennedy, 2014) indicate that today, enriching field trips are in decline due to a variety of factors. Among them are scarce resources available to schools, some schools believing that student time would be better spent in classroom preparing for exams than outdoor learning; planning a field trip as labour intensive for teachers. Literature available to the researchers shows that there are relatively little evidence highlighting the challenges and prospects of field trip as a teaching method in TVET programme instruction in Universities in South-South Nigeria. This prompted this study.

### **Purpose of the Study**

This study aims to identify the problems affecting field trips in TVET programmes in Universities in South-South Nigeria and also to proffer solutions that will enhance field trip method of instruction in these universities. Specifically the study sought to:

1. Determine the students' factors as constraints to effective field trips method in technology education in universities in South-South Nigeria.
2. Determine the teachers' factors as constraints to effective field trips method in technology education in universities in South-South Nigeria.
3. Determine the school factors as constraints to effective field trips method in technology education in universities in South-South Nigeria
4. Determine the strategies for improving the use of field trips method in technology education in universities in South-South Nigeria

### **Research Questions**

The following research questions guided the study:

1. What are the students' factors affecting field trips method in technology education in universities in South-South Nigeria?
2. What are the teachers' factors affecting field trips method in technology education in universities in South-South Nigeria?
3. What are the schools' factors affecting field trips method in technology education in universities in South-South Nigeria?
4. What are the strategies for improving the use of field trips method in technology education in universities in South-South Nigeria?

## 2. MATERIALS AND METHODS

This research adopted the descriptive survey research design. The study was conducted in the South-South geographical zone of Nigeria made up of six states namely; Akwa Ibom, Bayelsa, Cross River, Delta, Edo and Rivers States. The choice of this area was informed by the presence of universities offering TVET programmes and a large concentration of institutions and industrial sites for field trips. There are seven universities in the South-South zone that offer technology education. The population of the study comprised all the 77 technology educators and 315 final year technology education students in these universities at the time of this study. The final year students were considered as participants in this study based on the fact that they have spent more than three years in their programme of study to be able to respond to the questionnaire items. The entire 392 respondents (77 technology educators and 315 final year students) were used as respondents in the study because the population size was manageable.

Instrument used for data collection was a questionnaire titled “Constraints to Field Trips Methods of Instruction (CFTMI)”. The CFTMI consists of two parts; Part one contains the respondent’s details and status (Lecturer or student) while part two had four sections (Section A-D). Section A is on learners’ factors, Section B is on teachers’ factors, section C on School factors, and Section D is on the strategies to address the identified problems. Sections A, B, C, and D had 6, 7, 10, 6, and 11 items respectively making up a total of 34 items in the questionnaire. The CFTMI instrument was validated by three lecturers from Rivers State University, Port Harcourt. Copies of the questionnaires were administered to twenty (20) students and five (5) lecturers from the Federal College of Education (Technical) Omoku, Rivers state, for pilot testing. The Cronbach’s Alpha correlation technique was used to ascertain the instrument reliability which yielded 0.89, implying that the instrument was reliable. The researchers and three research assistants went to the seven universities South-South Nigeria to administer the questionnaires on the respondents. A total of 70 lecturers and 280 final students duly completed the instrument, given rise to 89 percent return rate. Mean and standard deviation were used to analyze the research questions. Mean value of 3.00 (criterion mean) and above was accepted as ‘Agree’, while mean value less than 3.00 was regarded as ‘Disagree’. Standard deviation values were used to determine the level of homogeneity among the respondents.

## 3. RESULTS

The analysis of data in relation to each of the research questions are presented in tables 1- 4

### **Research question 1:**

*What are the students’ factors affecting field trips method in technology education in universities in South-South Nigeria?*

**Table 1: Mean responses on students' factors affecting field trips method in technology education instructions in universities in South-South Nigeria.**

S/N	Items	Technology Educators			Students		
		$\bar{X}_1$	SD <sub>1</sub>	Remark	$\bar{X}_2$	SD <sub>2</sub>	Remark
1	Too much involvement in student unionism and other time consuming activities.	3.95	0.91	Agree	3.46	0.81	Agree
2	Lack of student interest in outside classroom learning	4.77	0.82	Agree	3.23	0.76	Agree
3	Lack of students' awareness of the benefits of field trips	3.56	0.51	Agree	4.12	0.52	Agree
4	High rate of indiscipline and violent tendencies.	4.15	0.66	Agree	3.77	0.59	Agree
5	Non-challant attitude towards studies.	4.40	0.68	Agree	4.32	0.76	Agree
6	Poor student behaviour and attitudes	3.70	0.74	Agree	3.55	0.70	Agree
<b>Grad mean /SD</b>		<b>4.09</b>	<b>0.73</b>	<b>Agree</b>	<b>3.74</b>	<b>0.69</b>	<b>Agree</b>

Table 1 show that lecturers and students agreed with all the items as factors affecting field trips method in technology education in universities in South-South Nigeria. Furthermore, the standard deviation of the items ranged from 0.51 to 0.91 for TVET lecturers and 0.52 to 0.81 for students, signifying that the two categories of respondents were close in their opinions.

**Research question 2:**

*What are the teachers' factors affecting field trips method in technology education in universities in South- South Nigeria?*

**Table 2: Mean responses on teachers' factors affecting field trips method in technology education instruction in universities in South- South Nigeria.**

S/N	Items	Technology Educators			Students		
		$\bar{X}_1$	SD <sub>1</sub>	Remark	$\bar{X}_2$	SD <sub>2</sub>	Remark
7	Preference for classroom-based activities.	3.68	0.95	Agree	4.15	0.87	Agree
8	Poor rapport with students	3.13	0.76	Agree	3.97	0.70	Agree
9	Low level of communication with school management	3.62	0.88	Agree	3.66	0.95	Agree
10	Teacher's inability to prepare field trip	3.20	0.91	Agree	3.60	0.84	Agree
11	Lack of Teacher training and experience	2.51	0.95	Disagree	2.65	0..80	Disagree
12	Security fears and concerns	4.32	0.79	Agree	4.2	0.89	Agree
13	Time constraints	4.50	0.84	Agree	4.31	0.87	Agree
<b>Grand Mean /SD</b>		<b>3.57</b>	<b>0.76</b>	<b>Agree</b>	<b>3.79</b>	<b>0.85</b>	<b>Agree</b>

Data in Table 2 shows that both categories of respondents (lecturers and Students) agreed with all the items except item 11, as teachers' factors affecting field trips method in technology education instruction in universities in South-South Nigeria. The standard deviation of the items ranged from 0.76 to 0.91 for TVET lecturers and 0.70 to 0.95 for students, implying that both categories of respondents were close in their opinions.

**Research question 3**

*What are the schools' factors affecting field trips method in technology education in universities in South- South Nigeria?*

**Table 3: Mean responses on the school factors affecting field trips method in technology education in instruction universities in South- South Nigeria.**

S/No.	Items	Technology Education			Students		
		$\bar{X}_1$	SD <sub>1</sub>	Remark	$\bar{X}_2$	SD <sub>2</sub>	Remark
14	Non allocation of scores/marks for engagement in industrial visits	3.75	0.90	Agree	4.32	0.62	Agree
15	Low communication level between Schools and industries	3.95	0.66	Agree	3.85	0.77	Agree
16	Too many classroom-based activities for students	4.22	0.90	Agree	4.54	0.75	Agree
17	Delay in approval of course lecturer's field trip application letter	4.30	0.52	Agree	4.08	0.96	Agree
18	Poor logistics in industrial visits to organizations	4.10	0.67	Agree	4.77	0.42	Agree
19	Communication gap between school management and course lecturers	3.50	0.43	Agree	3.92	0.92	Agree
20	Curriculum inflexibility	4.10	0.73	Agree	3.95	0.75	Agree
21	Lack of school administrator support for field trips	4.11	0.67	Agree	4.20	0.70	Agree
22	Time issues such as school schedule	4.35	0.84	Agree	4.20	0.90	Agree
23	Transportation issues	3.92	0.76	Agree	4.21	0.78	Agree
	<b>Grand Mean / SD</b>	<b>4.03</b>	<b>0.65</b>	<b>Agree</b>	<b>4.23</b>	<b>0.47</b>	<b>Agree</b>

Data in Table 3 shows that both lecturers and students accepted all the 10 items as school factors negatively affecting field trips method in technology education instruction in universities in South-South Nigeria. Also, the standard deviation of the items ranged from 0.43 to 0.90 for TVET lecturers and 0.42 to 0.92 for students. This is an indication that the respondents were close in their opinions.

**Research question 4**

*What are the strategies for improving the use of field trips method in technology education in universities in South-South Nigeria?*

**Table 4: Mean responses on the strategies for improving the use of field trips method in Technology education instruction in universities in South-South Nigeria.**

S/No.	Items	Technology Education			Students		
		$\bar{X}_1$	SD <sub>1</sub>	Remark	$\bar{X}_2$	SD <sub>2</sub>	Remark
24	Improved and regular funding of TVET institutions by government.	4.75	0.88	Agree	4.54	0.84	Agree
25	Awarding of high marks/scores to students by School management.	4.52	0.91	Agree	4.92	0.95	Agree
26	Provision of adequate security personnel to schools & industries by government.	4.65	0.79	Agree	4.38	0.88	Agree
27	Creation of more public industries & Supporting of private industries by government.	4.70	0.87	Agree	4.22	0.96	Agree
28	Construction & Rehabilitation of roads linking to industries.	4.45	0.98	Agree	4.38	0.94	Agree
29	Adequate supervision of TVET institutions by relevant government agencies.	4.65	0.79	Agree	4.77	0.92	Agree
30	Establishment of strong partnership between schools and industries.	4.62	0.82	Agree	4.63	0.83	Agree
31	Speedy approval of field trips Applications by school management.	4.84	0.81	Agree	4.59	0.99	Agree
32	Curriculum flexibility	4.52	0.92	Agree	3.90	0.71	Agree
33	School administrators support for field trips	4.71	0.86	Agree	4.25	0.81	Agree
34	Improving time issues such as school schedule	3.65	0.71	Agree	4.11	0.87	Agree
<b>Grand Mean /SD</b>		<b>4.55</b>	<b>0.85</b>	<b>Agree</b>	<b>4.23</b>	<b>0.88</b>	<b>Agree</b>

Table 4 reveals that both the lectures and students agreed with all the items as strategies for improving the use of field trips method in technology education instruction in universities in South-South Nigeria. The standard deviation of the items ranged from 0.71 to 0.98 for TVET lecturers and 0.71 to 0.98 for students, signifying closeness in the opinion of both categories of respondents.

#### 4. DISCUSSION

The result in Table 1 revealed that in the opinion of the respondents, lack of student interest in outside classroom learning, lack of awareness of field trips benefits, non-challant attitude towards learning and poor student behaviours among others are students' factors affecting the effective utilization of field trips in technology education instruction in universities in South-South Nigeria. This finding is supported by Falk and Adelman (2003) who posited that prior knowledge and interests of the students, impacts learning during the visit. Also, the finding is in line with Scales (2012) that field trips are worthwhile only if students understand their value.

Analysis of data in Table 2 indicated that there are teachers' factors as constraints to effective utilization of field trips in technology education instruction in universities in South-South Nigeria which include time constraints, teachers' inability to prepare field trips and security fears and concerns by teachers. This agrees with the findings of David, James and Martins (2006) who said that teachers felt that curriculum demands did not allow them to spend adequate time on field trip preparation and/or follow-up. Also the finding on security concerns is supported by Kalvaitis (2007) who said that often, a teacher's biggest fear is losing control of the students once at the field trip location. Upon arrival at a field trip venue, students are often disoriented resulting in excited, explorative, and unrestrained behaviour (Falk, Martin, Balling, 1978). Finding time for the trip and making arrangements for students who cannot make the trip adds tasks to an already busy teacher schedule (Mawdsley, 1999; Scarce, 1997).

The findings from Table 3 show that the respondents agreed that the school factors that affect field trips method in technology education instruction in universities in South- South Nigeria are curriculum inflexibility, lack of school administrator support for field trips, time issues such as school schedule among others. The finding is in agreement with Ojimba (2012) and Michie (1998) who reported that time issues such as school schedule and teacher's ability to prepare affects field trips organization, lack of school administrator support for field trips, curriculum inflexibility all affect industrial visit teaching method.

## 5. CONCLUSION

Field trips are crucial and vital for a quality technical educational programme. Qualitative lifelong knowledge and experiences are derived from students who engage in industrial visitations. But there are several factors militating against effective field trips in Rivers state tertiary institutions such as government, school, learners that were identified in this study. Remedies to these issues were also highlighted to help address the problems.

Based on the findings of the study, it is recommended that:

1. Government as a matter of urgency improves on the amount of fund allotted to the state owned tertiary institutions.
2. School management should create more awareness about field trips,
3. Scores/marks as a part of continuous assessment should be attached to field trip reports submitted by participants to encourage seriousness on the part of students.
4. Disciplinary and correctional programs should be regularly brought up in schools so as to guide and aid students in behavioural manners when in public. This will make companies more willing to welcome and accept students.
5. School management team should give attention to approvals of requests for industrial visits.

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