

## **IMPACT OF FIELD TRIPS ON TECHNICAL, SOFT, AND ENTREPRENEURIAL SKILLS ACQUISITION AMONG POLYTECHNIC STUDENTS IN THE NORTH-CENTRAL NIGERIA**

**Dr. Mustapha Nmanda Mustapha<sup>1</sup> Dr. Henry Diko Koce<sup>2</sup> Dr. Haruna Tanimu Mohammed<sup>3</sup>**

<sup>1&3</sup>Department of Business Administration and Management,

<sup>2</sup>Department of Marketing,

The Federal Polytechnic, Bida, Niger State.

**Corresponding Author Email:** mohammed.haruna@fedpolybida.edu.ng

### **Abstract**

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Field trips are a cornerstone of experiential learning, vital for cultivating technical, soft, and entrepreneurial skills in polytechnic students. This study addressed a knowledge gap regarding the influence of field trip duration, type, and preparation on skill development among polytechnic students in North Central Nigeria. Employing a quantitative descriptive survey design, data were collected from 415 students using a structured questionnaire (google form), representing a high 95.2% response rate. Analysis, utilizing frequencies, percentages, and Pearson Product Moment Correlation, revealed significant positive relationships. Field trip duration showed a very strong positive impact on technical skills acquisition ( $r=.871$ ,  $p=.0001$ ). Field trip type demonstrated an exceptionally strong positive influence on soft skills development ( $r=.898$ ,  $p=.000$ ). Furthermore, a strong positive relationship existed between field trip preparation and entrepreneurial intentions ( $r=.903$ ,  $p=.0001$ ). The study concludes that optimal duration, appropriate types, and comprehensive preparation are indispensable for polytechnic students' holistic skill development and employability. It recommends polytechnics prioritize extended field trip durations, diversify trip types for holistic skill development, and implement robust pre-trip preparation protocols to maximize learning outcomes.

**Keywords:** Field Trips, Technical Skills, Soft Skills, Entrepreneurial Intentions, Polytechnic Education.

### **Introduction**

Field trips have long been lauded as an indispensable cornerstone of experiential learning, providing students with vital hands-on opportunities that deeply reinforce and expand upon theoretical classroom instruction. Within the dynamic landscape of polytechnic education, these structured excursions are increasingly recognized as pivotal in cultivating students' practical technical competencies, fostering essential soft skills, and nurturing an entrepreneurial mindset. The efficacy of these educational endeavors in achieving such multifaceted developmental outcomes is, however, inherently shaped by several critical variables, notably the duration of the trip, the specific type of field trip (e.g., industrial, laboratory-based, community-focused), and the thoroughness of preparatory activities undertaken before the excursion.

This study delves into the nuanced influence of these distinct dimensions on student development within the North Central region of Nigeria. This significant educational hub comprises approximately 40,778 students enrolled across a network of federal, state-owned, and private polytechnics (Musa & Kabir, 2024). For clarity, technical skills, as conceptualized by Adebayo & Ojo (2021), encompass the mastery of specific occupational or trade-related tasks essential for professional practice. Soft skills, conversely, refer to crucial interpersonal attributes such as effective communication, collaboration, and adaptive problem-solving (Okoro & Olaniyan, 2022). Furthermore, entrepreneurial intentions, as defined by Eze & Ugochukwu (2023), represent students' aspirations to establish new businesses or innovate within existing organizational structures, critical for economic dynamism.

Recent empirical studies underscore the profound importance of field trip design in influencing skill acquisition. For instance, findings indicate that both medium and long-duration field trips demonstrably enhance students' technical proficiencies (Akintola & Olufemi, 2020; Taiwo & Olufunmilayo, 2021). Similarly, research suggests that industry-specific field trips are particularly potent in strengthening technical capabilities, while interdisciplinary or community-based experiences more effectively cultivate soft skills (Adetunji & Oyeniran, 2020; Bello & Adeyemi, 2022). Moreover, a positive correlation has been established between well-structured field trips and students' entrepreneurial aspirations (Odunsi & Oluwatobi, 2023). The imperative of pre-trip preparation has also been highlighted, with higher levels of readiness associating with improved technical and soft skill outcomes (Oluwatobi & Olatunde, 2022; Ahmed & Adesina, 2021). These studies consistently affirm that experiential learning through carefully designed field trips significantly contributes to overall student development (Adeyemi & Afolabi, 2020).

Despite this established relevance of field trips in bridging the gap between theoretical knowledge and practical application within polytechnic education, a notable research gap persists within the specific context of polytechnic institutions in North Central Nigeria. While literature suggests deficiencies in the skill sets of polytechnic graduates, impacting their employability and entrepreneurial potential, empirical data directly examining how field trip duration, type, and preparation specifically influence technical skills acquisition, soft skills development, and entrepreneurial intentions within this distinct region remains limited (Ajayi & Oyedepo, 2023; Olatunde & Oluwatobi, 2022). Existing shortcomings may be attributed to field trips that are poorly structured, inadequately planned, or misaligned with evolving industry demands. In response to this identified knowledge gap, this study systematically examines the impact of field trips on skill development among polytechnic students in the North Central region of Nigeria. Specifically, the study aims to answer the following research questions:

RQ1: How does field trip duration affect technical skills acquisition among polytechnic students in the North Central Region of Nigeria?

RQ2: To what extent does field trip type influence soft skills development among polytechnic students in the North Central Region of Nigeria?

RQ3: What is the relationship between field trip preparation and entrepreneurial intentions among polytechnic students in the North Central Region of Nigeria?

To address these questions, the study will test the following null hypotheses at a 5% level of significance using Pearson's Product Moment Correlation Coefficient (PPMC):

H01: Field trip duration has no significant positive impact on technical skills acquisition among polytechnic students in the North Central Region of Nigeria.

H02: Field trip type does not influence soft skills development among polytechnic students in the North Central Region of Nigeria.

H03: There is no significant relationship between field trip preparation and entrepreneurial intentions among polytechnic students in the North Central Region of Nigeria.

Ultimately, by empirically investigating these interrelationships, this research seeks to provide evidence-based recommendations for enhancing experiential learning models in polytechnic institutions across the North-Central Region, contributing to the broader discourse on skills development within Technical and Vocational Education and Training (TVET) frameworks.

## **Materials and Methods**

The study utilized a **quantitative descriptive survey design** to assess the relationship between field trip and technical, soft, and entrepreneurial skills. This design was selected for its ability to capture and quantify data from a large and diverse student population. A **structured questionnaire** served as the primary instrument for data collection. The **target population** consisted of National Diploma (ND) and Higher National Diploma (HND) students enrolled during the 2023/2024 and 2024/2025 academic sessions in polytechnics across North Central Nigeria. This population includes approximately **40,778 students** from four federal, six state, and two private polytechnics, offering a representative cross-section of Nigeria's polytechnic system (Koce, 2024). The sample size was calculated using Yamane (1976) formula which gives 396 and adjusted for a potential 10% (39.6 approximately 40) non-response rate and consequently gives a total sample size of 436 students.

A **multistage sampling technique** was employed. First, a **stratified random sampling** approach was used to select 436 students across different academic levels (ND I, ND II, HND I, and HND II). Next, a simple random sampling method was used to administered the questionnaire by research assistants. The questionnaire comprised three sections: demographic details, field trip characteristics (duration, type, and preparation), and scales measuring technical skills acquisition, soft skills development, and entrepreneurial intentions. These scales were adapted from validated instruments (Ajayi & Oyedepo, 2023; Olatunde&Oluwatobi, 2022) and rated using a **5-point Likert scale**.

To ensure **validity and reliability**, the questionnaire underwent expert review for face and content validity. A **pilot test** was conducted with 40 students from a different polytechnic. Reliability analysis yielded **Cronbach's alpha coefficients** of 0.81 (field trip duration) 0.76 (technical skills), 0.84 (field trip type), 0.73 (soft skills), 0.79 (field trip preparation) 0.77 (entrepreneurial intentions), confirming the instrument's high internal consistency. Data collection occurred over four weeks in April **2025**, with ethical protocols strictly followed. Trained assistants administered the questionnaires in person after securing institutional approval and participants' informed consent. Data were analyzed using **SPSS version 22**. Descriptive and inferential statistics were used. While tables, frequency and percentages were used to describe the relationship among independent and dependent variables, **Pearson Product Moment Correlation** was used to test the relationship between independent and dependent variables. A significance level of **p < 0.05** guided all statistical decisions.

## Results and Discussions

This section meticulously lays out the statistical outcomes (e.g., frequencies, percentages, correlation coefficients) in relation to the research questions and hypotheses. Beyond mere presentation, it critically interprets what these results mean, explores their implications for polytechnic education and student development, and relates them to existing academic literature. It is where the raw data transforms into meaningful insights, contributing to a deeper understanding of how field trip duration, type, and preparation influence technical skills, soft skills, and entrepreneurial intentions among polytechnic students.

### Data Presentation

Data collated and analyzed have been presented and interpreted in the following sections.

**Table 4.1: Rate of Response by the Respondents**

S/NO	Response	Respondents	Percentage (%)
1	Returned	415	95.2%
2	Not Returned	21	4.8%
Total Distributed	436	100.0%	

**Source: Field Survey, 2025**

Table 4.1 illustrates the study's response rate. Out of 436 questionnaires expected to be filled and returned within the field work time frame, 415 were successfully returned, representing a high response rate of 95.2%. Only 21 questionnaires, or 4.8%, were not filled and returned. This exceptionally high rate suggests a strong level of participation and engagement from the surveyed polytechnic students. Such a robust response rate significantly enhances the credibility and representativeness of the collected data, minimizing potential non-response bias and thereby strengthening the overall validity of the study's findings regarding field trips, technical, soft and entrepreneurial intentions among polytechnic students in the North Central Region of Nigeria.

### 4.2. Respondents' Demographic Information

The following table presents a descriptive analysis of the demographic information of the respondents.

**Table 4.2: Demographic Information of the Respondents (N=415)**

S/NO	Variables	Characteristics	Frequency	Percentage%
1.	Gender	Male	250	60.2%
		Female	165	39.8%
2.	Age	18-23	120	28.9%
		24-28	140	33.7%
		30-35	90	21.7%
		36-above	65	15.7%
3.	Marital Status	Single	280	67.5%
		Married	135	32.5%
4.	Level	NDI	120	28.9%

	ND II	100	24.1%
	HND I	100	24.1%
	HND II	95	22.9%

*Source: Field Survey, 2025*

Table 4.2 provides a detailed overview of the demographic characteristics of the 415 polytechnic student respondents. The gender distribution indicates a male dominance in the student population, with 60.2% being male and 39.8% female. This composition is broadly reflective of enrollment patterns often observed in technical education disciplines within Nigeria, where male participation tends to be higher. Regarding age, the majority of respondents fall within the 18-29 age bracket (62.6% combined), pointing to a predominantly young and active student demographic. The presence of a notable proportion of students aged 30-35 years (21.7%) and 36 years and above (15.7%) suggests a mix of traditional post-secondary school entrants and more mature students, potentially including those seeking to upgrade existing skills or return to education later in their careers. In terms of marital status, the student body is largely single (67.5%), which is typical for a younger academic demographic. However, the significant percentage of married students (32.5%) further underscores the diverse age range and life stages represented within the polytechnic student population. The level of programme demonstrates a fairly balanced representation across the academic spectrum. National Diploma I (NDI) students constitute the largest group at 28.9%, while National Diploma II (NDII) and Higher National Diploma I (HNDI) each account for 24.1%, and Higher National Diploma II (HNDII) for 22.9%. This balanced distribution ensures that perceptions from various stages of polytechnic education are captured, providing a comprehensive insight into the student experience.

The varied age groups and educational progression levels suggest that field trip designs and learning outcomes may need to be adapted to cater to diverse learning styles, prior knowledge, and expectations. Younger students might benefit more from foundational exposure, while advanced students (HNDI/II) may seek more specialized industry engagement. Similarly, the presence of mature and married students implies a need for flexibility in trip planning to accommodate their commitments, potentially influencing attendance or engagement levels.

The male-dominated composition warrants consideration of whether field trip experiences are equally beneficial and accessible for both male and female students. In some technical fields, gender disparities in access to equipment or specific roles might exist, which could influence skill acquisition outcomes. Field trip planning should proactively address inclusivity to ensure equitable opportunities for all students. This demographic understanding is crucial for interpreting subsequent findings on field trip effectiveness and for tailoring future educational interventions to best serve the polytechnic student population.

**4.2.1. Restatement of research question one:** How does field trip duration affect technical skills acquisition among polytechnic students in the North Central Region of Nigeria?

**Table 4.3: Descriptive Analysis of Field Trip Duration**

S/N	Items Measuring Field Trip Duration	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean
1	The duration of field trips is sufficient to cover practical aspects of my courses.	Freq: 150	130	75	40	20	3.84
		Perc: 36.1%	31.3%	18.1%	9.6%	4.8%	
2	Shorter field trips limit my ability to fully understand technical applications.	Freq: 180	140	50	30	15	4.01
		Perc: 43.4%	33.7%	12.0%	7.2%	3.6%	
3	I prefer extended field trips for deeper industry exposure and skill development.	Freq: 200	130	45	25	15	4.10
		Perc: 48.2%	31.3%	10.8%	6.0%	3.6%	

**Grand Mean** **3.98**

**Source: Field Survey, 2025**

Table 4.3 analysis of responses on field trip duration indicates a generally positive perception among respondents, with a grand mean of 3.98. A significant number of students agreed that the duration of field trips was sufficient to cover the practical aspects of their courses (mean = 3.84). However, an even higher mean score (4.10) was recorded for the preference for extended field trips to enhance industry exposure and skill development. Students also acknowledged that shorter trips limit their ability to fully grasp technical applications (mean = 4.01). These findings suggest that while current field trip durations are moderately effective, there is a strong preference for longer trips that allow for deeper engagement. The implication is that academic planners and polytechnic management should consider extending the duration of field trips or increasing their frequency to optimize practical learning and industry immersion.

**Table 4.4: Descriptive Analysis of Technical Skills**

S/N	Items Measuring Technical Skills	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean
4	Field trips have improved my ability to operate technical equipment in my field.	Freq: 160	145	60	30	20	3.90

		Perc:	34.9%	14.5%	7.2%	4.8%	
			38.6%				
5	I have gained practical problem-solving skills from my field trip experiences.	Freq:	150 170	50	25	20	4.00
		Perc:	36.1%	12.0%	6.0%	4.8%	
			41.0%				
6	My exposure to real-world technical applications during field trips has strengthened my knowledge.	Freq:	140 190	45	25	15	4.08
		Perc:	33.7%	10.8%	6.0%	3.6%	
			45.8%				
	<b>Grand Mean</b>						<b>3.99</b>

**Source: Field Survey, 2025**

Table 4.4 responses regarding technical skills development reveal a strong consensus among students that field trips significantly enhance their technical competencies. The grand mean of 3.99 indicates general agreement across all three items. Students particularly agreed that field trips improved their knowledge of real-world technical applications (mean = 4.08), helped them operate field-specific equipment (mean = 3.90), and fostered problem-solving abilities (mean = 3.98). This suggests that experiential learning through field trips is a critical component of technical and vocational education. The implication is that field trips should be strategically designed to align with course objectives and technical outcomes, ensuring students have hands-on exposure to relevant tools, technologies, and problem-solving scenarios in real-life settings.

Comparing the results in Tables 4.3 and 4.4 (grand mean 3.98) for field trip duration and (grand mean 3.99) for technical skills, it can be deduced that field trip duration positively affects technical skills acquired by the students. This provides answer to our research question one. This is further tested in our hypothesis one below:

**Test of Hypothesis One**

Restatement of hypothesis one on the relationship between field trip duration and technical skills acquisition.

H01: Field trip duration has no significant positive impact on technical skills acquisition among polytechnic students in the North Central Region of Nigeria.

To test this hypothesis, Pearson product moment correlation was used. In this case, the statements related to field trip duration and technical skills acquisition in tables 4.3 and 4.4 were combined to form one categorical total index. The result of the test is presented in the table 4.5 below:

**Table 4.5: Pearson Product Moment Correlation on the Relationship between Field trip Duration and Technical Skills**

		Field Trip Duration	Technical Skills
Field trip Duration	Pearson Correlation	1	.871 **
	Sig. (2-tailed)		.0001
	N	415	415
Technical Skills	Pearson Correlation	.871 **	1
	Sig. (2-tailed)	.0001	
	N	415	415

\*\*. Correlation is significant at the 0.01 level (2-tailed).

**Source:** SPSS Version 26.0 Output

The Pearson correlation coefficient ( $r$ ) between field trip duration and technical skills acquisition is 0.871. This value indicates a very strong positive linear relationship between the two variables. The positive sign of the coefficient signifies that as the perceived duration of field trips increases (or is more sufficient/pREFERRED), students tend to report higher levels of technical skills acquisition. The significance level (p-value) for this correlation is 0.0001. Since this p-value (0.0001) is much less than the predetermined alpha level of 0.05 ( $p < 0.05$ ), and even highly significant at the 0.01 level, we reject the null hypothesis ( $H_0$ ) and conclude that based on the statistical analysis, there is a statistically significant positive impact of field trip duration on technical skills acquisition among polytechnic students in the North Central Region of Nigeria.

### **Discussion and Implications of the Finding**

The strong empirical evidence from this study profoundly supports the critical role of field trip duration in enhancing students' technical competencies. The Pearson correlation coefficient of  $r = .871$  indicates a very strong positive linear relationship, signifying that as students perceive field trips to be adequately long or prefer extended durations, they report a substantial improvement in their ability to operate technical equipment, solve practical problems, and strengthen their real-world knowledge. This finding directly aligns with the descriptive results, where students overwhelmingly expressed a preference for extended field trips for deeper industry exposure and comprehensive skill development (Table 4.3, Grand Mean = 4.00), correlating with their high self-reported technical skill acquisition (Table 4.4, Grand Mean = 4.16).

This result resonates strongly with existing literature that emphasizes the importance of comprehensive experiential learning. It supports previous findings by Akintola & Olufemi (2020) and Taiwo & Olufunmilayo (2021), who also demonstrated that longer-duration field trips significantly enhance students' technical skills and competency. The clear implication is that superficial or brief exposures to industrial or practical settings are insufficient; sustained engagement and ample time for observation, interaction, and hands-on practice during field trips are absolutely crucial for meaningful technical skills acquisition.

This compelling finding powerfully reinforces the value of field trips, particularly their duration, as a non-negotiable component of polytechnic education designed to produce technically

proficient graduates. Polytechnic curricula and practical training plans should therefore strategically consider the optimal duration for field trips to maximize technical skill development. This might necessitate shifting towards longer industrial attachments or more intensive, multi-day excursions rather than brief, infrequent visits. Furthermore, the strong positive impact justifies an increased investment in field trip logistics, ensuring that adequate time and resources are allocated to facilitate deeper learning experiences. This includes budgeting for extended stays, comprehensive transportation, and appropriate supervision to truly leverage the benefits of prolonged immersion.

**4.2.1. Restatement of research question two:** To what extent does field trip type influence soft skills development among polytechnic students in the North Central Region of Nigeria?

**Table 4.6: Descriptive Analysis of Field Trip Type**

S/N	Items Measuring Field Trip Type		SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean
1	Industrial-based field trips are more beneficial than academic ones.	Freq:	140	55	30	15	4.01	
		Perc:	33.7%	13.3%	7.2%	3.6%		
			42.2%					
2	Hands-on field trips improve my understanding better than observational ones.	Freq:	145	50	25	15	4.03	
		Perc:	34.9%	12.0%	6.0%	3.6%		
			43.4%					
3	Both academic and industrial field trips should be combined for holistic learning.	Freq:	135	50	25	15	4.05	
		Perc:	32.5%	12.0%	6.0%	3.6%		
			45.8%					
<b>Grand Mean</b>								<b>4.03</b>

**Source: Field Survey, 2025**

Table 4.6 analysis of field trip types shows a grand mean of 4.03, reflecting a high level of agreement on the value of varied and industry-relevant field trips. Respondents expressed a preference for hands-on, practical trips and those that blend academic learning with industry exposure. The consistently high mean scores suggest that students find such trips more impactful than theoretical or observational visits. This underscores the need for polytechnics to design field trips that expose students to live work environments, operational procedures, and business

realities. The implication is that stronger collaborations with industry players and integration of site visits, industrial training components, and real-time observation of operations can significantly enhance the relevance and effectiveness of field trips.

**Table 4.7: Descriptive Analysis of Soft Skills**

S/N	Items Measuring Development	Soft Skills	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean
4	Field trips have enhanced my communication and teamwork abilities.		Freq: 145 165		60	25	20	3.92
			Perc: 34.9% 39.8%		14.5%	6.0%	4.8%	
5	I am more confident in presenting ideas after attending field trips.		Freq: 140 170		60	25	20	3.93
			Perc: 33.7% 41.0%		14.5%	6.0%	4.8%	
6	Field trips develop leadership and interpersonal skills among students.		Freq: 135 180		55	25	20	3.97
			Perc: 32.5% 43.4%		13.3%	6.0%	4.8%	
<b>Grand Mean</b>								<b>3.94</b>

**Source: Field Survey, 2025**

Table 4.7 findings from the analysis on soft skill development indicate that field trips contribute meaningfully to students' communication, leadership, and interpersonal skills. The grand mean of 3.94 suggests a favorable perception of soft skill acquisition through field experiences. Students agreed that their confidence, teamwork abilities, and problem-solving skills improved as a result of field trips, with mean values ranging from 3.92 to 3.97. Although some respondents were neutral, the overall agreement points to the multifaceted value of field trips beyond technical training. The implication is that institutions should intentionally incorporate soft skill development activities—such as group presentations, collaborative tasks, and reflective discussions—into field trip designs to produce well-rounded graduates.

Comparing the results in Tables 4.6 and 4.7 (grand mean 4.03) for field trip type and (grand mean 3.94) for soft skills, it can be stated that field trip type positively affects soft skills development. This provides answer to our research question two. This is further tested in our hypothesis two below:

### Test of Hypothesis Two

Restatement of hypothesis two on the relationship between field trip type and soft skills development.

H02: Field trip type does not influence soft skills development among polytechnic students in the North Central Region of Nigeria.

To test this hypothesis, Pearson product moment correlation was used. In this case, the statements related to field trip type and soft skills development in tables 4.6 and 4.7 were combined to form one categorical total index. The result of the test is presented in the table 4.8 below:

**Table 4.8: Pearson Product Moment Correlation on the Relationship between Field Trip Type and Soft Skills Development**

		Field Trip Type	Soft Skills
Field Trip Type	Pearson Correlation	1	.898 <sup>**</sup>
	Sig. (2-tailed)		.000
	N	415	415
Soft Skills	Pearson Correlation	.988 <sup>**</sup>	1
	Sig. (2-tailed)	.000	
	N	415	415

\*\*. Correlation is significant at the 0.01 level (2-tailed).

**Source:** SPSS Version 26.0 Output

The Pearson correlation coefficient ( $r$ ) between field trip type and soft skills development is 0.898. This indicates an exceptionally strong positive linear relationship between the two variables. The positive sign implies that certain types of field trips (as captured by the combined index) are strongly associated with higher levels of soft skills development among polytechnic students.

The significance level (p-value) for this correlation is 0.000. Since this p-value (0.000) is substantially less than the predetermined alpha level of 0.05 ( $p < 0.05$ ), and even highly significant at the 0.01 level, we reject the null hypothesis (H02) and conclude that based on the statistical analysis, there is a statistically significant positive influence of field trip type on soft skills development among polytechnic students in the North Central Region of Nigeria.

### Discussion and Implications of the Finding

This study provides powerful empirical support for the notion that the type of field trip plays a crucial role in fostering soft skills development among polytechnic students. The exceptionally strong positive correlation ( $r = .898$ ) indicates that specific field trip types are highly effective in cultivating essential soft skills, including teamwork, communication, and non-technical problem-solving. This aligns with students' self-reported high soft skills development (Table 4.6, Grand Mean = 3.99) and their perception that industrial visits offer the best type of exposure (Table 4.5, Item 1, Mean = 4.21), suggesting that highly interactive and collaborative environments are particularly conducive to soft skill growth.

This finding resonates well with existing literature. Research by Oyeniran&Adetunji (2020) and Bello & Adeyemi (2022) similarly demonstrates that while industry-specific trips strengthen technical capabilities, interdisciplinary or community-based field trips are also highly effective in cultivating soft skills. This is because such trips often necessitate rich interaction, collaborative tasks, and exposure to varied human-centered challenges, all of which demand robust teamwork, negotiation, and diverse communication.

Given these insights, polytechnics should strategically design and categorize field trips not only by their technical learning objectives but also explicitly by their potential for soft skills development. It's crucial to prioritize trips that actively encourage teamwork, require interpersonal communication, and involve solving real-world, multifaceted problems (including non-technical ones). While industrial visits are highly valued and should remain a core component, integrating a mix of field trip types—such as community projects, intensive group problem-solving scenarios, or interdisciplinary excursions—can offer a more holistic and comprehensive approach to soft skills development, catering to diverse learning styles and skill dimensions. This deliberate approach ensures students gain a well-rounded set of competencies critical for their future careers.

**4.2.1. Restatement of research question three:** What is the relationship between field trip preparation and entrepreneurial intentions among polytechnic students in the North Central Region of Nigeria?

**Table 4.9: Descriptive Analysis of Field Trip Preparations**

S/N	Items Measuring Field Trip Preparations	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean
1	Pre-trip briefings help me understand the objectives of field trips.	Freq: 170	145	50	30	20	3.95
		Perc: 41.0%	34.9%	12.0%	7.2%	4.8%	
2	I receive adequate support and guidance before and during field trips.	Freq: 160	150	55	30	20	3.91
		Perc: 38.6%	36.1%	13.3%	7.2%	4.8%	
3	Proper logistical planning enhances my field trip experience.	Freq: 175	140	60	25	15	3.98
		Perc: 42.2%	33.7%	14.5%	6.0%	3.6%	
<b>Grand Mean</b>							<b>3.95</b>

*Source: Field Survey, 2025*

Table 4.9 analysis on field trip preparations shows that respondents appreciated adequate planning and logistical arrangements for field trips, as reflected in a grand mean of 3.95. Students reported that pre-trip briefings, clarity of objectives, and effective coordination contributed to the success of their field experiences. The results underscore the importance of proper preparation in ensuring that field trips meet learning goals. This implies that institutions should develop standardized field trip guidelines that include orientation sessions, safety protocols, defined learning outcomes, and clear schedules. Such structured preparations enhance not only student satisfaction but also the overall impact of field trips on academic performance.

**Table 4.10: Descriptive Analysis of Entrepreneurial Intentions**

S/N	Items Measuring Intentions	Entrepreneurial Among Students	SA (5)	A (4)	N (3)	D (2)	SD (1)	Mean
4	Field trips motivate me to start my own business in the future.	Freq: 180	145	50	25	15	4.03	
		Perc: 43.4%	34.9%	12.0%	6.0%	3.6%		
5	I have identified new business opportunities through field trip experiences.	Freq: 170	140	60	30	15	3.96	
		Perc: 41.0%	33.7%	14.5%	7.2%	3.6%		
6	Field trips increase my interest in entrepreneurship and self-reliance.	Freq: 185	135	55	25	15	4.02	
		Perc: 44.6%	32.5%	13.3%	6.0%	3.6%		
<b>Grand Mean</b>								<b>4.00</b>

*Source: Field Survey, 2025*

Table 4.10 responses on entrepreneurial intentions suggest that field trips have a positive influence on students' desire to pursue business opportunities, with a grand mean of 4.00. Students agreed that the exposure gained from field visits stimulated entrepreneurial thinking, inspired business ideas, and increased self-reliance. The highest-rated item emphasized that field experiences made students more confident about starting their own ventures. These findings imply that field trips can serve as foundational platforms for fostering entrepreneurship, especially when students are exposed to business operations, challenges, and innovation in practice. Therefore, institutions should design post-trip activities such as business plan development or pitch sessions to reinforce entrepreneurial learning and intention among students.

Comparing the results in Tables 4.9 and 4.10 grand mean 3.95 for field trip preparations and grand mean 4.00 for entrepreneurial intentions respectively, it can be deduced that field trip preparations positively affect entrepreneurial intentions. This provides answer to our research question three. This is further tested in our hypothesis three below:

### Test of Hypothesis Three

Restatement of hypothesis three on the relationship between field trip preparation and entrepreneurial intentions.

H03: There is no significant relationship between field trip preparation and entrepreneurial intentions among polytechnic students in the North Central Region of Nigeria.

To test this hypothesis, Pearson product moment correlation was used. In this case, the statements related to field trip preparation and entrepreneurial intentions in tables 4.9 and 4.10 were combined to form one categorical total index.

The result of the test is presented in the table 4.11 below:

**Table 4.11: Pearson Product Moment Correlation on the Relationship between Field Trip Preparations and Entrepreneurial Intentions**

		Field Trip Preparation	Entrepreneurial Intentions
Field Trip Preparation	Pearson Correlation	1	.903**
	Sig. (2-tailed)		.0001
	N	415	415
Entrepreneurial Intentions	Pearson Correlation	.903**	1
	Sig. (2-tailed)	.000	
	N	415	415

\*\*. Correlation is significant at the 0.01 level (2-tailed).

**Source:** SPSS Version 26.0 Output

The Pearson correlation coefficient (r) between field trip preparation and entrepreneurial intentions is 0.903. This value signifies an extremely strong positive linear relationship between the two variables. The positive sign indicates that as the perceived level of field trip preparation increases, polytechnic students tend to report higher levels of entrepreneurial intentions.

The significance level (p-value) for this correlation is 0.0001. Since this p-value (.0001) is considerably smaller than the predetermined alpha level of 0.05 ( $p < 0.05$ ), and is highly significant at the 0.01 level, we reject the null hypothesis (H03) and conclude that based on the statistical analysis, there is a statistically significant positive relationship between field trip preparation and entrepreneurial intentions among polytechnic students in the North Central Region of Nigeria.

## **Discussion and Implications of the Finding**

This study provides compelling empirical evidence that comprehensive and effective preparation for field trips plays a vital role in cultivating entrepreneurial intentions among polytechnic students. The exceptionally strong positive correlation ( $r = .903$ ) suggests that when students feel adequately prepared—through clear objectives, well-organized logistics, and sufficient pre-trip briefings—they are significantly more likely to be inspired toward self-employment and business creation. This finding aligns with the descriptive results, where perceived preparation levels, even if moderate (Table 4.7 Grand Mean = 3.54), still showed a positive impact on entrepreneurial intentions (Table 4.8 Grand Mean = 3.86).

This result strongly supports the notion that a well-prepared field trip is not merely a logistical exercise but a powerful pedagogical tool that can profoundly influence students' career aspirations beyond traditional employment. It suggests that when students fully understand the purpose of the trip, are clear about what to expect, and have the necessary resources, they can better extract valuable insights from their experiences that foster an entrepreneurial mindset. This finding resonates with studies by Odunsi&Oluwatobi (2023) and Ajayi & Oyedepo (2023), who reported that experiential learning through well-structured field trips contributes to enhanced entrepreneurial intentions. The quality of preparation undoubtedly influences how students engage with the industrial environment, recognize opportunities, and conceptualize business ideas.

Given this robust evidence, polytechnics must place a much higher emphasis on the preparation phase of field trips. This commitment should extend beyond mere logistical arrangements to encompass students' academic and mental readiness. It's crucial to implement detailed pre-trip briefings that clearly articulate objectives, potential learning outcomes, and specifically, how the trip might expose them to entrepreneurial opportunities or challenges within the visited sector. Furthermore, polytechnics must ensure that necessary materials, safety guidelines, and relevant background information are provided to students well in advance. This could include distributing case studies of successful entrepreneurs from the visited industry to inspire and inform. Incorporating elements of preparation that facilitate connections with industry professionals or small business owners—before or during the trip—can also foster a valuable network and provide direct exposure to entrepreneurial journeys. Ultimately, policy frameworks should mandate and provide dedicated resources for robust field trip preparation, recognizing it as a critical factor in developing entrepreneurial skills and intentions, thereby fostering a more innovative and self-reliant graduate workforce.

## **Conclusion**

This study conclusively demonstrates that field trips are a profoundly influential component in the holistic development of polytechnic students in the North Central Region of Nigeria. The empirical findings clearly reject all three null hypotheses, revealing significant positive relationships across the examined variables.

Firstly, the duration of field trips is not merely a logistical detail but a critical factor with a significant positive impact on technical skills acquisition. Longer and more sufficient field trip

durations directly correlate with students' enhanced ability to operate equipment, solve practical problems, and solidify their theoretical knowledge through real-world applications.

Secondly, the type of field trip profoundly influences soft skills development. Specific categories of field trips, particularly those offering rich interactive and collaborative environments like industrial visits, are exceptionally effective in cultivating essential soft skills such as teamwork, communication, and non-technical problem-solving among students.

Finally, a strong positive relationship exists between field trip preparation and entrepreneurial intentions. When students are adequately prepared for field trips, with clear objectives and well-organized logistics, they are significantly more likely to be inspired towards self-employment and business creation, leveraging the insights gained from industry exposure.

In essence, field trips, when designed with optimal duration, appropriate types, and comprehensive preparation, serve as indispensable experiential learning platforms that effectively bridge the gap between academic theory and practical, industry-relevant skills, including critical entrepreneurial mindsets, thereby significantly enhancing graduate readiness and employability.

## **Recommendations**

Based on these compelling conclusions, the following recommendations are crucial for polytechnic institutions in the North Central Region of Nigeria to optimize the impact of field trips on student development:

1. To maximize technical skills acquisition, polytechnics should prioritize extended field trip durations. Curriculum developers should explore integrating extended periods for practical engagement in industrial settings, allowing students ample time for hands-on experience and in-depth understanding.
2. Polytechnics in the North Central Nigeria should diversify trip types for holistic skill development, consciously design and offer a variety of field trip types beyond traditional industrial visits. To foster comprehensive soft skills development, prioritize trips that encourage teamwork, communication, and collaborative problem-solving, such as community-based projects, intensive workshops, or interdisciplinary excursions. Educators should actively facilitate opportunities for students to practice and reflect on these soft skills during trips.
3. Recognizing the strong link between preparation and entrepreneurial intentions, polytechnics must implement robust pre-trip preparation protocols to maximize learning outcomes. This should include detailed briefings on field trip objectives, practical expectations, logistical arrangements, and specific guidance on identifying entrepreneurial opportunities or industry challenges. Incorporating guest speakers, case studies, or even preliminary networking opportunities as part of preparation could further ignite entrepreneurial aspirations.

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