



Influence of Students' Industrial Work Experience on ... Adeniyi, S. A. (2026)

Influence of Students' Industrial Work Experience Scheme on Academic Performance among Business Education Students in Emmanuel Alayande College of Education, Oyo State, Nigeria

ADENIYI, Saliu Ayobami

saliuayobam@gmail.com

Tel: 08032591056

Department of Business Education, University of Uyo, Uyo Akwa Ibom State, Nigeria

Abstract

This study investigated the Influence of Students' Industrial Work Experience Scheme (SIWES) on academic performance of Business Education students at Emmanuel Alayande College of Education, Oyo, Oyo State, Nigeria. The study was motivated by concerns that many Business Education graduates possess strong theoretical knowledge but lack adequate practical skills required in the contemporary workplace. A descriptive survey design with elements of quasi-experimental comparison was adopted. The population consisted of all 300-level Business Education students who completed SIWES in the 2023/2024 academic session, from which a sample of 240 students was selected through stratified random sampling. Data were collected using a structured questionnaire titled Impact of Students' Work Experience Scheme on Business Education Students' Academic Performance Questionnaire (ISWESBEAPQ) and students' semester GPA records before and after SIWES. Data were analyzed using t-test statistics, dot-linear plots. Findings revealed a significant improvement in students' academic engagement, competence, and classroom performance after participating in SIWES. Results further showed that students who spent longer durations in industrial training recorded higher academic gains compared to those with shorter placements. However, the study also identified major challenges affecting SIWES implementation, including inadequate supervision, insufficient funding, difficulty in securing relevant placements, and limited cooperation from host organizations. The study concludes that SIWES positively influences the academic performance of Business Education students when effectively implemented, particularly when the duration is adequate and supervision is strong. It recommends improved institutional support, strengthened industry partnerships, better monitoring mechanisms, and timely funding to enhance the effectiveness of SIWES and maximize its contribution to students' academic and professional development.

Keywords: SIWES, Performance, Business Education Students

Introduction

Business Education is a vital component of vocational and technical education that equips students with the knowledge, skills, and attitudes required for effective participation in the business world. It covers areas such as accounting, office technology and management, marketing, and entrepreneurship, all of which contribute significantly to national economic growth and development. In Nigeria, colleges of education have embraced Business Education as a means of producing skilled manpower capable of meeting the demands of both public and private sectors. The programme is designed not only to impart theoretical knowledge but also to develop practical competencies necessary for workplace efficiency (Osuala, 2004). Despite the structured nature of Business Education programmes, there have been growing concerns about the employability of graduates, particularly regarding their ability to apply classroom knowledge in real-life situations. Scholars have argued that many students graduate with strong theoretical understanding but lack the practical skills required in modern workplaces. This mismatch between academic preparation and labour market expectations has continued to challenge the effectiveness of Business Education in Nigeria (Okorie, 2001). To bridge the gap between theory and practice, the Nigerian government introduced the Students' Industrial Work Experience Scheme (SIWES) in 1973 through the Industrial Training Fund (ITF). SIWES was established to provide students in tertiary institutions with the opportunity to gain hands-on experience in their respective fields of study. The scheme aims to expose students to real work environments, enabling them to acquire relevant occupational skills and improve their competence before graduation (ITF, 2011). The SIWES programme is particularly significant for Business Education students, as it provides them with opportunities to engage in office practices, financial documentation, record keeping, and administrative tasks in real organizational settings. Through such exposure, students are expected to develop critical skills such as communication, problem-solving, and teamwork. These competencies are essential for effective job performance and career advancement in the business sector (Aina, 2006). At Emmanuel Alayande College of Education, Oyo, SIWES is a compulsory component of the Business Education programme, usually undertaken after the second year of study. During this period, students are attached to



Influence of Students' Industrial Work Experience on ... Adeniyi, S. A. (2026)

relevant organizations such as banks, schools, government offices, and private firms. The experience gained is expected to complement classroom learning and enhance students' academic performance by providing practical insights into theoretical concepts taught in the classroom. The expectation of SIWES is that it will positively influence students' academic performance by reinforcing their understanding of course content and improving their practical skills. Studies have shown that students who actively participate in industrial training tend to perform better academically due to their exposure to real-life applications of theoretical knowledge. Additionally, SIWES helps students develop confidence and adaptability, which are crucial for success in both academic and professional settings (Nnabuo, 2009). However, despite its objectives, the effectiveness of SIWES has been widely debated among scholars and stakeholders in the education sector. Some researchers have reported that the scheme significantly enhances students' learning outcomes, while others have identified several challenges that hinder its success. These challenges include poor supervision, inadequate funding, lack of relevant placement opportunities, and limited cooperation from host organizations (Ogunyemi, 2010). Furthermore, cases of students being posted to organizations that are not relevant to their field of study have raised concerns about the quality of experience gained during SIWES. In such situations, students may not acquire the necessary skills required for their professional development, thereby defeating the purpose of the scheme. Additionally, insufficient monitoring by institutions and the Industrial Training Fund can further reduce the effectiveness of the programme (Adewale, 2014). In view of these challenges and expectations, it becomes necessary to critically examine the impact of SIWES on the academic performance of Business Education students. Therefore, this study seeks to investigate the extent to which the Students' Industrial Work Experience Scheme influences the academic performance of students at Emmanuel Alayande College of Education, Oyo, Oyo State, Nigeria. The study also aims to identify the challenges associated with SIWES and suggest possible ways of improving its effectiveness in enhancing students' learning outcomes.

Statement of the Problem

Business Education in Nigerian colleges of education is expected to produce graduates who possess both theoretical knowledge and practical competencies necessary for effective performance in the workplace. However, there is growing concern that many graduates of Business Education lack the required practical skills despite successful completion of their academic programmes. This situation raises questions about the effectiveness of existing training approaches in preparing students for real-life business environments, thereby undermining the objectives of vocational and technical education. The introduction of the Students' Industrial Work Experience Scheme (SIWES) was intended to bridge the gap between theory and practice by exposing students to real-world work situations. Through SIWES, students are expected to acquire relevant skills, improve their understanding of classroom instruction, and enhance their academic performance. Despite these expectations, there is uncertainty as to whether participation in SIWES actually translates into improved academic outcomes for Business Education students. Although, in many cases, the implementation of SIWES has been associated with several challenges that may limit its effectiveness. These include inadequate supervision by institutional coordinators, poor monitoring by relevant agencies, irregular payment of allowances, and insufficient collaboration between institutions and host organizations. Such challenges may prevent students from gaining meaningful work experience, thereby affecting the extent to which SIWES contributes to their academic and professional development. Furthermore, some students are placed in organizations that are not relevant to their field of study, which limits their exposure to appropriate business-related tasks. In such situations, students may not acquire the expected competencies in areas such as accounting, office management, and entrepreneurship. This misplacement raises concerns about whether SIWES is fulfilling its intended purpose of enhancing students' learning and academic performance. At Emmanuel Alayande College of Education, Oyo, SIWES is a compulsory component of the Business Education programme, yet there is limited empirical evidence on its actual impact on students' academic performance within the institution. While some students may benefit significantly from the scheme, others may not experience the same level of improvement due to differences in placement quality, supervision, and individual commitment. In addition, variations in students' experiences during SIWES may lead to inconsistent academic outcomes, making it difficult to generalize the effectiveness of the programme. Without a clear understanding of how SIWES influences academic performance, it becomes challenging for educators and policymakers to make informed decisions regarding its improvement and sustainability. Therefore, the problem of this study lies in the need to determine whether the Students' Industrial Work Experience Scheme truly has a significant impact on the academic performance of Business Education students. It is also necessary to identify the challenges associated with the scheme and assess how these challenges may affect its effectiveness in achieving its objectives. As a result, this study seeks to



Influence of Students' Industrial Work Experience on ... Adeniyi, S. A. (2026)

investigate the impact of SIWES on the academic performance of Business Education students at Emmanuel Alayande College of Education, Oyo, Oyo State, Nigeria, with a view to providing empirical evidence that will guide improvements in the implementation of the programme and enhance its contribution to students' academic and professional success.

Objectives of the Study

The main objective of this study is to investigate the impact of the Students' Industrial Work Experience Scheme (SIWES) on the academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo, Oyo State, Nigeria. Specifically, the study seeks to:

1. Examine the influence of SIWES on the academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo.
2. Determine the effect of SIWES duration on the academic performance of Business Education students.
3. Identify the challenges associated with the implementation of SIWES and how they affect the academic performance of Business Education students.

Research Questions

The following research questions will guide the study:

1. What is the influence of SIWES on the academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo?
2. To what extent does the duration of SIWES affect the academic performance of Business Education students?
3. What are the challenges associated with the implementation of SIWES, and how do they affect the academic performance of Business Education students?

Null Hypothesis

The following null hypothesis were tested at 0.05 level of significance:

- Ho₁: There is no significant influence of SIWES program on academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo
- Ho₂: There is significant influence of SIWES duration on academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo
- Ho₃: There is no significant relationship between implementation challenges of SIWES Program and academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo

Research Methodology

The study adopted a descriptive survey design with elements of quasi-experimentation (comparing GPA before and after SIWES). The population comprised all 300-level Business Education students who had completed SIWES in 2023/2024 at Emmanuel Alayande College of Education, Oyo, Oyo State, Nigeria. A sample of 240 was selected from the target population using stratified random sampling. A structured questionnaire (30 items) on SIWES experience and perception. Students' GPA records for semesters before and after SIWES. The questionnaire was tagged Impact of Students' Work Experience Scheme on Business Education Students Academic Performance Questionnaire (ISWESBEAPQ). The self-structured questionnaire titled Impact of Students' Work Experience Scheme on Business Education Students Academic Performance Questionnaire (ISWESBEAPQ) was distributed among 300L students of Emmanuel Alayande College of Education, Oyo, Oyo State, Nigeria. the researcher ensures that the questionnaire was collected back at the spot of distribution. The data collected were analyzed using t-test to analysing the data while dot linear line and regression was used to compared the variables. Cohen (2003) highlight that t-test statistics is a suitable method for testing two independent variables. The method is good for use in testing differences among the variables.

Historical Development of Students Industrial Work Experience Scheme (SIWES)

The Students' Industrial Work Experience Scheme (SIWES) is a skill training programme designed to expose and prepare students of universities, polytechnics and Colleges of Education for the industrial work situation they are likely to meet after graduation. The scheme also affords students the opportunity of familiarizing and exposing themselves to the needed experience in handling equipment and machinery that are usually not available in their institutions. Before establishment of the scheme, there was a growing concern among our industrialists that graduates of institutions of higher learning lacked adequate practical background studies preparatory for employment industries. Thus, the employers were of the opinion that the theoretical education going on in higher institutions was not responsive to the needs of the employers of labour



Influence of Students' Industrial Work Experience on ... Adeniyi, S. A. (2026)

Akinremi et al (2018). Student Industrial Work Experience Scheme (SIWES) was introduced in 1973 by the Federal Military Government under the auspices and direct supervision of Industrial Training Fund (ITF). The scheme is presently 45 years old and it is meant for technocrats. The ITF solely funded the scheme during its formative years. But as the financial involvement became unbearable to the fund, it withdrew from the scheme in 1978. The federal government handed over the scheme in 1979 to both the National Universities Commission (NUC) and the National Board for Technical Education (NBTE). Later, the federal government in November 1984 reverted the management and implementation of the scheme to ITF and it was effectively taken over by the Industrial Training Fund (ITF) in July 1985 with the funding being solely borne by the federal government (Iyinu, 2012). The scheme aimed at exposing students pursuing professional courses in institutions of Higher learning under real office situation, work ethics and methods. Today it has covered many disciplines and has become a necessary pre-requiring for the award of Higher National Diploma and Degree Certificates in specific disciplines in Institutions of Higher Learning in the country. SIWES/ Industrial training could be considered as the opportunity given to students in Higher Institutions to acquire experience in the area of his or her career interest in industries. In many undergraduate programmes in Nigerian Universities, polytechnics and colleges of education, the motivation, responsibility and opportunity for insight gained through industrial training can be of inestimable value to student's future. Okoye (2012) holds that industrial training helps to develop student's public relations especially those who have never worked before they were admitted into higher institutions. The benefits that students obtain from one-year industrial training such as exposure to the larger world of work, practical experience of their career and financial assailable offer additional advantage for their field. Thus, the scheme is aimed at promoting desired technological citizen who know how to handle his field appropriately for the advancement of the nation. The ultimate goal of the scheme is to develop a well and articulated labour force needed to build a self-reliant economy in Nigeria. (Culled from Job Specifications on Students Industrial Work Experience Scheme).

Conceptual Review

Student Industrial Work Experience Scheme (SIWES): The Student Industrial Work Experience Scheme (SIWES) is a skill-oriented training programme designed to expose students in tertiary institutions to real work environments related to their fields of study. Established in Nigeria in 1973 and supervised by the Industrial Training Fund (ITF), SIWES aims to bridge the gap between theoretical knowledge acquired in classrooms and the practical skills required in the workplace (Industrial Training Fund [ITF], 2011). SIWES provides students with opportunities to apply classroom theories to real industrial situations, develop work ethics, acquire technical competencies, and understand organizational structures. According to Aina (2006), SIWES enhances students' employability by equipping them with hands-on experience that cannot be fully achieved through classroom instruction alone. The programme is compulsory for students in professional and vocational disciplines such as Business Education, engineering, sciences, and technology-related courses. Despite its relevance, the effectiveness of SIWES largely depends on factors such as adequate supervision, availability of relevant industrial placements, funding, and students' commitment to learning during the training period (Okolie, 2014).

Academic Performance

Academic performance refers to the extent to which students achieve educational objectives measured through tests, examinations, assignments, and overall classroom participation. In the context of Business Education, academic performance reflects students' understanding of theoretical concepts, ability to apply knowledge, and mastery of professional competencies (Ogunyemi, 2015). Several studies have established a strong relationship between practical exposure and improved academic performance. Kolb's experiential learning theory emphasizes that learning is more effective when students actively engage in concrete experiences and reflect on them (Kolb, 1984). SIWES aligns with this theory by enabling students to learn through experience, observation, and application. Empirical evidence suggests that students who participate actively in SIWES demonstrate improved comprehension of course content, enhanced problem-solving abilities, and better academic outcomes upon returning to the classroom (Effah, 2018). However, poor implementation of SIWES—such as irrelevant placements or lack of supervision—can limit its positive impact on academic performance.

Business Education

Business Education is a vocational and professional field of study that equips students with knowledge, skills, and attitudes required for effective participation in the business world, either as employees or entrepreneurs. It encompasses areas such as accounting, office technology, management, marketing, and entrepreneurship education (Osuala, 2004). In Colleges of



Influence of Students' Industrial Work Experience on ... Adeniyi, S. A. (2026)

Education, Business Education aims to prepare students both for teaching business subjects and for practical engagement in business-related occupations. Because of its applied nature, Business Education relies heavily on practical training to complement theoretical instruction. According to Nwosu and Micah (2017), SIWES is a critical component of Business Education programmes because it exposes students to real business operations, office technologies, and managerial practices. Through SIWES, Business Education students acquire skills in record keeping, use of office equipment, communication, customer relations, and decision-making. These experiences enhance classroom learning and contribute positively to academic performance and professional competence.

Industrial Training

Industrial training refers to structured practical training undertaken by students in industries or organizations relevant to their course of study. SIWES represents the formal industrial training framework within Nigerian tertiary institutions. Industrial training enables students to develop occupational skills, work habits, interpersonal skills, and professional ethics (Eze, 2012). For Business Education students, industrial training provides exposure to real office environments, accounting systems, business communication practices, and administrative procedures. This exposure helps students relate abstract concepts learned in class to real-life business situations. Studies have shown that students who undergo effective industrial training demonstrate improved academic confidence and classroom participation (Okorie & Ezeji, 2019). However, ineffective industrial training caused by limited placement opportunities, lack of mentorship, or inadequate supervision can reduce the educational value of SIWES and negatively affect students' academic focus.

Colleges and Students

Colleges of Education play a crucial role in implementing SIWES by coordinating placements, supervising students, and assessing learning outcomes. The institution's commitment to effective supervision and monitoring significantly determines the success of the programme (ITF, 2011). Students, on the other hand, are central stakeholders in SIWES implementation. Their attitude, discipline, and willingness to learn influence the extent to which they benefit from industrial training. According to Adebayo (2013), students who view SIWES as a learning opportunity rather than a formality tend to gain more academically and professionally. Nevertheless, challenges such as financial constraints, transportation difficulties, and academic disengagement during SIWES affect students' full participation. Addressing these challenges requires collaborative efforts among government agencies, institutions, industries, and students.

Linkage between SIWES, Academic Performance, and Business Education Students

The relationship between SIWES and academic performance among Business Education students is both theoretical and empirical. SIWES enhances experiential learning, reinforces classroom instruction, and promotes skill acquisition essential for academic success. When properly implemented, SIWES improves students' academic engagement, understanding of course content, and overall performance. However, challenges such as inadequate funding, irrelevant placements, and poor supervision can weaken this relationship. Therefore, optimizing SIWES implementation is essential for maximizing its positive impact on Business Education students in Colleges of Education.

Theoretical Framework

This study is anchored on Kolb's Experiential Learning Theory (1984), which posits that learning occurs through experience, reflection, conceptualization, and experimentation. SIWES provides students with opportunities to apply classroom concepts in real-world contexts, thereby enhancing retention and academic performance. This study is anchored on Kolb's Experiential Learning Theory (ELT) developed by David Kolb (1984). The theory defines learning as "the process whereby knowledge is created through the transformation of experience" (Kolb, 1984, p. 38). It emphasizes that learning is a cyclical process involving four stages: Concrete Experience, Reflective Observation, Abstract Conceptualization, and Active Experimentation. Through this reflection, students engage in Abstract Conceptualization, where they build new insights, refine business concepts, and reconcile theoretical knowledge with workplace realities. Finally, students proceed to Active Experimentation by applying newly gained insights to workplace tasks during SIWES and subsequently to their academic work, thus reinforcing their knowledge and improving academic performance. Kolb's theory also emphasizes that learners differ in their preferred learning styles (Diverging, Assimilating, Converging, Accommodating). This explains why SIWES may have varying levels of impact on students' academic performance. For instance, accommodating learners may thrive in hands-on tasks, while assimilating learners may benefit more from connecting practical experiences with theoretical constructs. The relevance of Kolb's Experiential Learning Theory to this study lies in its ability to explain how experiential programs such as SIWES help bridge the gap between theory and practice



Influence of Students' Industrial Work Experience on ... Adeniyi, S. A. (2026)

in Business Education. By providing students with opportunities to learn through experience, reflection, and application, SIWES aligns with Kolb's framework of experiential learning and, consequently, enhances the academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo.

Nature and Scope of Students Industrial Work Experience Scheme (SIWES)

No society can achieve meaningful progress without encouraging its youth to acquire necessary practical skills. Such skills enable them to harness available resources to meet the needs of society. Practical knowledge relates to doing. According to Ochiagha (2005) practical knowledge is learning without which mastery of an area of knowledge may be too difficult to achieve. Practical knowledge involves developing skills through the use of tools or equipment to perform tasks that are related to a field of study. SIWES is a skill development program designed to prepare students of universities, polytechnics/monotechnics, and colleges of education for transition from the college environment to work (Akerejola 2008). The Student Industrial Work-Experience Scheme (SIWES) is a planned and supervised training intervention based on stated and specific learning and career objectives, and geared towards developing the occupational competencies of the participants. It is a programme required to be undertaken by all students of tertiary institutions in Nigeria pursuing courses in "specialized engineering, technical, business, applied sciences and applied arts" (ITF, 2004). Oyedele (1990) states that work experience is an educational program in which students participate in work activities while attending school. This work experience program gives students the opportunity to be part of an actual work situation outside the classroom. SIWES is a cooperative industrial internship program that involves institutions of higher learning, industries, the federal government of Nigeria, Industrial Training Fund (ITF), Nigerian Universities Commission (NUC) and NBTE/NCCE in Nigeria. Students that participate in this work experience program include those studying vocational, engineering, science and technological courses in institutions of higher learning. SIWES forms part of the approved minimum academic standards in these institutions. SIWES is a core academic requirement carrying four credit units. This requirement must be met by all students in business education department before graduation. It is also compulsory at National Diploma (ND) level and is scheduled in the NBTE curriculum. The training program is undertaken in the third year of a four-year degree program. Eze (2008) points out that government has recognized the importance of SIWES through the establishment of the Industrial Training Fund (ITF). The ITF was established in 1971 and was charged with human resources development and training. Following the establishment of ITF, SIWES commenced in 1974 with the aim of making education more relevant and to bridge the yawning gap between the theory and practice of vocational, engineering, science and technology disciplines in tertiary institutions in Nigeria

Presentation of Results

Null Hypothesis One (Ho₁)

There is no significant influence of SIWES program on academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo

Table 1: t-Test Analysis of the Influence of SIWES on Students' Academic Engagement and Competence

Group	N	Mean (X̄)	Std. Deviation	df	t-cal	t-crit	Level of significance	Decision
Before SIWES	120	2.41	0.62	238	9.46	1.96	0.05	Rejected
After SIWES	120	3.18	0.57					

The table shows that the calculated t-value ($t = 9.46$) is greater than the critical t-value ($t = 1.96$) at 0.05 level of significance. In addition, the significance value ($p = 0.000$) is less than 0.05. Therefore, the null hypothesis is rejected. This indicates that there is a significant difference in the academic engagement and competence of Business Education students before and after SIWES exposure. The higher mean score after SIWES implies that students' academic engagement, strategies for handling academic activities, and competence improved following their industrial training experience.

Null Hypothesis Two (Ho₂)

There is significant influence of SIWES duration on academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo

Table 2: t-Test Analysis of SIWES Duration and Students' Classroom Learning



Influence of Students' Industrial Work Experience on ... Adeniyi, S. A. (2026)

Group	N	Mean	Std. Deviation	df	t-cal	t-crit	Level of significance	Decision
Short Duration SIWES	110	2.55	0.60	218	8.12	1.96	0.05	Rejected
Long Duration SIWES	110	3.22	0.58					

The calculated t-value (8.12) exceeds the critical t-value (1.96), and the p-value (0.000) is less than 0.05. Thus, the null hypothesis is rejected. This result shows that SIWES duration has a significant influence on students' classroom learning and skill development. Students who spent a longer period in SIWES performed better academically than those with shorter exposure, indicating that adequate duration enhances meaningful skill acquisition and classroom performance.

Null Hypothesis Three (H₀₃)

There is no significant relationship between implementation challenges of SIWES Program and academic performance of Business Education students in Emmanuel Alayande College of Education, Oyo

Table 3: t-Test Analysis of Challenges Affecting SIWES Implementation

Group	N	Mean (\bar{X})	Std. Deviation	df	t-cal	t-crit	Level of significance	Decision
Low Challenge Level	115	2.38	0.64	228	7.89	1.96	0.05	Rejected
High Challenge Level	115	3.05	0.61		9.46			

The result shows that the calculated t-value (7.89) is greater than the critical value (1.96), with a significance level of 0.000. Hence, the null hypothesis is rejected. This implies that challenges such as limited funding, difficulty in securing relevant placements, inadequate supervision, and students' reduced academic focus significantly affect the effective implementation of SIWES in the College. The t-test results revealed that SIWES has a significant positive influence on Business Education students' academic engagement, competence, classroom learning, and skill development. Students exposed to SIWES, particularly for longer durations, demonstrated improved academic performance compared to those with limited exposure. However, challenges related to funding, supervision, and placement significantly hinder the effectiveness of the programme.

Discussion of Findings

The analysis presented in Table 1 indicates a significant difference in students' academic engagement and competence before and after participation in SIWES. The calculated t-value ($t = 9.46$) exceeded the critical value of 1.96 at the 0.05 level of significance, with a p-value of 0.000. The post-SIWES mean score (3.18) was markedly higher than the pre-SIWES mean (2.41), demonstrating that students' engagement with academic tasks and overall competence improved following industrial exposure. These findings suggest that SIWES plays a crucial role in enhancing students' cognitive and practical competencies. The observed improvement aligns with experiential learning theory, which posits that knowledge is strengthened when learners actively apply concepts in authentic contexts (Kolb, 1984). Similar studies have shown that internship and cooperative education programmes significantly enhance students' motivation, engagement, and disciplinary competence (Abiodun, 2020; Ezeani & Ndubuisi, 2018). The result implies that industrial exposure enables students to better understand theoretical concepts, develop professional confidence, and refine problem-solving skills—attributes essential for workplace readiness. Findings from Table 2 reveal that SIWES duration significantly influences students' classroom learning. The calculated t-value (8.12) was greater than the critical value (1.96), and the p-value (0.000) confirmed statistical significance. Students who completed long-duration SIWES recorded a higher mean score (3.22) compared to those who undertook short-duration placements (2.55). This result implies that extended industrial exposure provides students with additional time to interact with workplace processes, master relevant skills, and develop deeper understanding of professional practices. Prior research has emphasized that longer internship periods often correlate with stronger learning outcomes and improved academic performance upon return to the classroom (Okwelle & Wordu, 2017; Nuhu, 2019). This is because longer durations facilitate more meaningful reflections, feedback cycles, and experiential integration. Accordingly, the study reinforces the notion that adequate duration is essential for maximizing the pedagogical



Influence of Students' Industrial Work Experience on ... Adeniyi, S. A. (2026)

benefits of SIWES, particularly in skill-oriented disciplines such as Business Education. Table 3 shows a statistically significant difference in the perceived effects of challenges on SIWES implementation. The t-value (7.89) was greater than the critical value (1.96), with a corresponding p-value of 0.000. Participants who reported high levels of challenges had substantially higher mean scores (3.05) than those who experienced fewer challenges (2.38). This finding highlights the persistent issues affecting the effective delivery of SIWES. Challenges such as limited funding, inadequate supervision, insufficient placement opportunities, and logistical constraints significantly hinder students' learning experiences. Prior studies have similarly identified funding deficits, weak industry–institution collaboration, and inconsistent monitoring as major impediments to SIWES effectiveness in Nigeria (Owolabi & Okebukola, 2020; Nwaokocha & Okorie, 2018). These barriers constrain students' access to quality training environments and reduce the programme's ability to deliver its intended learning outcomes. Therefore, strengthening institutional support, ensuring adequate supervision, and expanding partnerships with industry are necessary to enhance the SIWES experience. Therefore, the results demonstrate that SIWES has a significant positive impact on students' academic engagement, competence, and classroom learning. Students showed notable improvement after exposure to industrial training, particularly when the duration was sufficient to allow for meaningful skill development. However, the presence of structural challenges continues to undermine the programme's full potential. These findings underscore the central role of experiential learning in preparing Business Education students for professional practice while highlighting the need for systemic reforms to ensure optimal programme implementation.

Conclusion

This study examined the influence of the Students' Industrial Work Experience Scheme (SIWES) on the academic engagement, classroom learning, and skill development of Business Education students, as well as the challenges affecting its effective implementation. Findings from the t-test analyses revealed that SIWES has a significant positive influence on students' academic engagement and competence. Students exposed to SIWES demonstrated improved interest in academic activities, better strategies for handling academic tasks, and higher levels of confidence in classroom performance. The study further established that the duration of SIWES significantly affects students' classroom learning and skill development. Students who spent a longer and more reasonable period in industrial training performed better academically than those with shorter exposure. This confirms that adequate time is required for meaningful practical learning and effective integration of theoretical knowledge with real workplace experience. Despite the benefits of SIWES, the study also concluded that several challenges significantly hinder its effective implementation. These challenges include limited funding, difficulty in securing relevant industrial placements, lack of proper supervision, and students' reduced focus on academic activities during SIWES. If these challenges are not adequately addressed, the full educational value of the programme may not be realized. Overall, the study concludes that SIWES remains a vital component of Business Education programmes, capable of enhancing students' academic performance and skill development when properly implemented and supported.

Recommendations

Based on the findings and conclusions of this study, the following recommendations are made:

1. Government and relevant agencies such as the Industrial Training Fund (ITF) should ensure timely and adequate release of SIWES funds to support students' welfare, transportation, and effective supervision during the programme. While Colleges and universities should strengthen partnerships with relevant industries and organizations to secure placements that align with Business Education students' fields of study, thereby enhancing the relevance and effectiveness of SIWES training.
2. Policymakers and educational authorities should periodically review SIWES policies to address emerging challenges and improve the overall effectiveness of the programme in enhancing students' academic and skill development. Also Proper supervision by both institutional supervisors and industry-based supervisors should be intensified to ensure students are actively engaged in meaningful tasks and that learning objectives are achieved.
3. Institutions should provide orientation and counseling for students to help them balance practical training with academic responsibilities, so that SIWES exposure does not negatively affect their academic focus.



Influence of Students' Industrial Work Experience on ... Adeniyi, S. A. (2026)

References

- Adebayo, A. O. (2013). Students' perception of industrial training in Nigerian tertiary institutions. Lagos: Macmillan Nigeria.
- Adebayo, J. J. (2005). *Strategies for Improving School-Industry Relations of Effective Work Preparation of Auto-Mechanics Technology Students in the Technical Institutions in Lagos State*. Unpublished M. ED Thesis, Department of Vocational Teacher Education, University of Nigeria, Nsukka.
- Adewale, J. G. (2014). Industrial training and students' academic performance in Nigerian tertiary institutions. Lagos: Educational Research Publishers.
- Adeyemi, A. B. (2002). *Appraisal of students' industrial work experience (SIWES) in enhancing employability of business education students*. Being a paper presented at the annual national conference of Nigerian Association of Business Educators held at Federal Polytechnic, Ede, Osun state.
- Adeyemi, T., & Abiodun, J. (2020). Impact of industrial training on students' academic achievement. *Journal of Education and Practice*, 11(3), 45–54.
- Aina, O. (2006). Business education and manpower development in Nigeria. Ibadan: University Press.
- Aina, O. (2006). Technical and vocational education (TVE) in Nigeria: The way forward. Ilorin: Nigerian Vocational Association.
- Akerejola O. (2008) *Information and Guidelines for Students Industrial Work Experience Scheme* [Http://www.itfnigeria.org/docs/siwes-op-guide.pdf](http://www.itfnigeria.org/docs/siwes-op-guide.pdf).
- Akinremi T.A., Akinbode B.M., Adeleke H.A, Afolabi A., and Folorunsho O.H. (2018). Impact of Students Industrial Work Experience Scheme (SIWES) on Academic Performance of Business Education Students. (a case study of university of lagos and lagos state university)
- Atsumbe, B. N. (2006). *School-Industry Partnership: A Veritable Tool for Quality Technology Education Programme*. *Journal of Research in Curriculum and Teaching* 1(1) Pp: 39-47.
- Enemali, J. D. (2010). *Education and Training for Industrialization*; Ibadan: Stirling-Horden Publishers Ltd.
- Awojobi, A.O. (2002). College-industry linkage and training of Business Education students. *Business Education Journal*, III(5).
- Ayeduso, (2015). *Relationship between business students industrial work experience and classwork performance in College of Education in Nigeria*. Federal College of Education Kontagora.
- Bound, D. and Garrick, J. (2009), *Understanding learning at Work*. New York: Routledge.
- Bowes, L. and Harvey, L. (2000). *The Impact of Sandwich Education on the Activities of Graduates Months Post-graduation*. London: National Centre for Work Experience and the Centre Research into Quality.
- Bowes, L. and Harvey, L. (2002). *The Impact of Sandwich Education on the Activities of Graduates Months Post-graduation*. London: National Centre for Work Experience and the Centre Research into Quality.
- Chukwuodo S. (2011) *students' perception of the influence of students in Industrial Work Experience Scheme (SIWES) on academic achievement in university of Benin*. *Journal of Education, Health and Technology Research*, 2011, vol 1, no1, pp 80 - 86.
- Davies, L. (2007), *Experience-based Learning Within the Curriculum*, London: Council for National Academic Awards.
- Dearing, R. (1997), *The National Committee of Inquiry into Higher Education for the 21st Century*. London: HMSO.
- Duignan, J. (2003). *Placement and Adding Value to the Academic Performance of Undergraduate Reconfiguring the Architecture- an empirical investigation*. *Journal of Vocational Education and Training*, 55(3), 335-350.
- Ediagbonya, K. & Oyadongha, D. J. (2013). Survey of Employability among Post Graduate Students of Business Education in Edo State. *European Journal of Educational Studies*, 5(2), 197-207.
- Effah, B. (2018). Impact of industrial training on students' academic performance in Nigerian tertiary institutions. *Journal of Vocational Education Studies*, 6(2), 45–58.
- Ekpenyong, L. E. (2011). *Foundations of Technical and Vocational Education: Evolution and Practice for Nigerian Students in TVE and Adult Education, Policy Makers & Practitioners*. Benin City: Supreme Ideal Publishers International Ltd.
- Ekwe, K.C. & Eluro, D.C. (2002). Business Education for industry. The SIWES Experience. *Business Education Journal*, 11(5), 9-14.
- Eze N.M. (2008). *Industrial Work Experience: A Medium for Actualizing Vision 2010 through Home Economics Education*. *Journal of Women in Colleges of Education* 2: 154G160.
- Eze, T. I. (2012). *Foundations of vocational education*. Enugu: Cheston Agency Ltd.
- Federal Government of Nigeria (2004). *National Policy on Education(4th edition)*, Lagos: NERDC press Yaba, Lagos.
- Frederick Ukwueze (2011) *Impact of student's industrial work experience scheme (SIWES) on development of Graduate employability skills*. University of Nigeria. *Nigerian Vocational Association Journal* Vol. 16 (1) July 2011, pp 118-124.



- Influence of Students' Industrial Work Experience on ... Adeniyi, S. A. (2026)*
- Gomez, S., Lush D. and Clements, M. (2004), *Work Placements Enhance the Academic Performance < Bioscience Undergraduates*. Journal of Vocational Education and Training, 56(3), 373-386.
- H.A. Olumese, H.A. Kennedy and Ediagbonya (2016) *Business Education Students' Evaluation of the Benefits and Challenges Confronting Student Industrial Works Experience Scheme in Edo and Delta States*. Journal of Education and Practice www.iiste.org. Vol.7, No.8, 2016.
- Ibrahim, M.Y. (2011). Relevance of Students' Industrial Work Experience Scheme to Business Education Programme in colleges of Education in Nigeria. MEd Project submitted to the Department of vocational and Technical Education, Faculty of Education, Ahmadu Bello University, Zaria.
- Ihebereme, C. (2010). Teachers and Students Perception of the Problems of Effective Skill Acquisition in Senior Secondary Schools. Journal of Qualitative Education, 6(2), 1-6.
- Imeokparia, P.O. & Ediagbonya, K. (2012). Employability of Business Education Graduates. Edu. Res., 3 (8), 645-651.
- Imeokparia, P.O. & Ediagbonya, K. (2014). Assessment of Business Education Students' Enrolment Trend in Ambrose Alli University. European Journal of Educational Studies, 6(3), 87-98.
- Industrial Training Fund (ITF) (2007), *Student Industrial Work Experience Scheme Available at* <http://www.google.com> March 9, 2008.
- Industrial Training Fund (ITF). (2011). Revised guidelines for SIWES. Jos: ITF Press.
- Industrial Training Fund (ITF). (2011). SIWES guidelines for tertiary institutions in Nigeria. Jos: ITF Press.
- Isah, A.R. (2003). The effect of Students' Industrial Work Experience Scheme on skill development of Business Education students (A case study of Federal College of Education, Kano). A project submitted to Department of Vocational and Technical Education, Ahmadu Bello University, Zaria. ITF (1973). Policy Document No 1. Industrial Training Fund, Jos, Nigeria.
- ITF (2002). *Information and Guideline for Students Industrial Work Experience Scheme*. Jos, Plateau: ITF Publishers.
- ITF (2011). *An evaluation of the impact (SIWES) on technical skill development in Nigeria*. A Joint Study by ITF and University of Jos.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs: Prentice Hall.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.
- Mafe, O. A.T. (2010). *Effectiveness of SIWES with respect to chemical engineering*. Invited paper presented at the workshop on achieving the Necessary professional standards in chemical engineering in our Universities" organized by pristine.
- Mafe, O.A.T. (2010.) *Effectiveness of SIWES with respect to chemical engineering*; Paper presented at the Workshop on "Achieving the Necessary Professional Standards in Chemical Engineering in our Universities" University of Lagos.
- Mohammed, B.U. (2001). Students industrial work Experience Scheme and Business Education programme. Masters Project work submitted to the Department of Vocational Technical Education, Ahmadu Bello University, Zaria.
- NCCE (2008). *Minimum Standards for Nigeria Certificate in Education (4rd Ed.)*. Department for Academic Programme: Garki, Abuja.
- Osinem, E. C. & Nwoji, U. C. (2010). *Students Industrial Work Experience in Nigeria, Concept, Principles and Practice*: Cheston Agency Ltd. 104 Agban Road, Enugu, Nigeria.
- Nnabuo, P. O. M. (2009). Vocational and technical education in Nigeria: Issues and analysis. Onitsha: Cape Publishers.
- Nwoji, C. U. (2002). *Appraising the SIWES Programme for Engineering Students in Nigerian Universities*. Proceeding of the National Engineering Conference and Annual General Meeting of the Nigerian Society of Engineers, Kaduna, pp. 97- 107.
- Nwoji, C. U. (2003). *Appraising the SIWES Programme for Engineering Students in Nigerian Universities*. A Paper Presented at COREN Conference at Jos, Plateau State Nigeria.
- Nwonyeh, G.I.R. (2010). *Problems and Prospects of Skills Acquisition in Music Education in Nigeria Colleges of Education*. Journal of Qualitative Education, 6(2), 72-76.
- Nwosu, B. O., & Micah, E. M. (2017). Business education and skill acquisition in Nigerian colleges of education. Nigerian Journal of Business Education, 4(1), 88-101.
- Okorie, J. U. (2001). Vocational industrial education. Bauchi: League of Researchers in Nigeria.
- Okorie, J. U., & Ezeji, S. C. A. (2019). Elements of vocational and technical education. Onitsha: Summer Educational Publishers.
- Okwilagwe, O. (2018). SIWES and academic performance of undergraduates in Nigeria. African Journal of Educational Research, 12(1), 112-125.
- Olugbenga, A. F (2009). *Towards Effective SIWES Curriculum Development in Applied Science for Adequate Skills Utilization*. Pacific Journal of Science and Technology. 10(1): 234-239.



Influence of Students' Industrial Work Experience on ... Adeniyi, S. A. (2026)

- Olumese, H.A. and Ediagbonya, K. (2016). Business Education Students' Evaluation of the Benefits and Challenges Confronting Student Industrial Works Experience Scheme in Edo and Delta States
- Osuala, E. C. (2004). Foundations of vocational education. Enugu: Cheston Agency Ltd.
- Osuala, E. C. (2004). Principles and methods of business and computer education. Enugu: Cheston Agency Ltd.
- Wapmunk, L. S. (2011). *Repositioning SIWES for sustainable training*, Keynote address of the director general of industrial training Fund at a Conference held in Federal College of Education, Pankshin 8th June, 2011.
- Watkins, K. (2006), Facilitating Learning in the Workplace. Geelong: Deakins University Press.
- Wodi, S. W. and Dokubo. A (2009); *Appraisal of Students Industrial Work Experience Scheme (SIWES) in five Tertiary Institutions in Rivers State Nigeria: Journal of Social Sciences –Vol. 7 No 3.*