



A TECHNICAL REPORT
STUDENT INDUSTRIAL WORKING EXPERIENCE SCHEME
(SIWES)

Held at
KAPCI PAINT AND AUTHORIZED DEALER

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DEDICATION

I dedicate this report to Allah, the one who has given me the privilege to write this report. I also want to appreciate my wonderful parent and siblings for the support and faith in me.

ACKNOWLEDGEMENT

I take this opportunity to express my profound gratitude and deep regards to the creator of heaven and earth, the one who knows the beginning and the end, the alpha and the omega, the Almighty Allah and also to my guides (MR & MRS. ABDULLATEEF), and to all those who has helped me during my SIWES programme. The blessings, help and guidance given by them, time to time has carry me so this far and shall carry on the journey of life on which I am about to embark. I also take this opportunity to express a deep sense of gratitude to compliment my mentor for his cordial support valuable information and guidance which helped me in completing my SIWES through various stages.

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CHAPTER ONE

1.1 INTRODUCTION OF SIWES

The Student Industrial Work Experience Scheme (SIWES) is a skill development program designed to prepare students of universities, polytechnics, and colleges of education for the industrial work situation they are likely to encounter after graduation. Established by the Industrial Training Fund (ITF) in 1973, SIWES bridges the gap between theory and practice by providing students with the opportunity to gain hands-on experience in their chosen fields. The program is mandatory for students in engineering, technology, science, and other related disciplines, as it equips them with practical skills and exposure to real-world work environments.

Students Industrial Work Experience Scheme (SIWES) is a Skills Training Program designed to prepare and expose Students of Universities, Polytechnics, Colleges of Technology, Colleges of Agriculture and Colleges of Education for the Industrial Work situation they are likely to meet after graduation. The Scheme affords Students the opportunity of familiarizing and exposing themselves handling equipment and machinery that are usually not available in their institutions.

1.2 HISTORY OF SIWES

The SIWES program was introduced in Nigeria in 1973 by the Industrial Training Fund (ITF) to address the growing concern about the lack of practical skills among graduates. The scheme was created in collaboration with the Nigerian Universities Commission (NUC), the National Board for Technical Education (NBTE), and the National Commission for Colleges of Education (NCCE). Over the years, SIWES has evolved to become a critical component of tertiary education in Nigeria, ensuring that students are well-prepared for the demands of the labor market.

The Students' Industrial Work Experience Scheme (SIWES) was initiated in 1973 by the Federal Government of Nigeria under the Industrial Training Fund (ITF) to bridge the gap between theory and practice among products of our tertiary Institutions. It was designed to provide practical training that will expose and prepare students of Universities, Polytechnics, and Colleges of Education for work situation they are likely to meet after graduation.

Before the establishment of the scheme, there was a growing concern among the industrialists that graduates of institutions of higher learning lacked adequate practical background studies preparatory for employment in 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.

As a result of the increasing number of students' enrolment in higher institutions of learning, the administration of this function of funding the scheme became enormous, hence ITF withdrew from the scheme in 1978 and was taken over by the Federal Government and handed to National Universities commission (NUC), National Board for Technical Education (NBTE) and National Commission for Colleges of Education (NCCE). In 1984, the Federal Government reverted back to ITF which took over the scheme officially in 1985 with funding provided by the Federal Government

1.3. OBJECTIVES OF THE PROGRAMME

The primary objectives of SIWES include:

- To expose students to real life work environments and industrial practices.
 - To provide students with the opportunity to apply theoretical knowledge gained in the classroom to practical situations.
 - To equip students with relevant skills and competencies required in their chosen professions.
 - To foster a smooth transition from academic life to the professional world.
 - To enhance students' employability by providing them with hands-on experience and industry exposure.
 - Expose students to work methods and techniques in the handling of equipment and machinery that may not be available in schools.
 - Make transition from school to the labour market smooth and enhance students' conduct for later job placement
 - Provide students with the opportunity to apply their knowledge in real life work situation thereby bridging the gap between theory and practice
 - Strengthen employer involvement in the entire educational process and prepare students for employment in industry
- Promote the desired technological knowhow required for the advancement of the nation.

1.4. OBJECTIVES OF ESTABLISHMENT

The establishment of SIWES was driven by the need to:

- Address the gap between academic training and industry requirements.
- Produce graduates who are not only theoretically sound but also practically competent.
- Promote collaboration between educational institutions and industries.
- Enhance the quality of education by integrating practical training into the curriculum.
- Contribute to national development by producing a skilled workforce capable of driving innovation and economic growth.
- To maintain good relationship with patients, relations and the community through health education.
- To carry out diagnosis and intervention.
- To provide training for students.
- To maintain sufficient hospital supply of equipment and promote their utilization and maintenance.

CHAPTER TWO

2.1. BENEFIT DERIVED FROM SIWES PROGRAMME

The experience, knowledge, skills and exposure acquired during the period of attachment in the industrial exercise cannot be over emphasized. I was exposed to certain areas in my course of study, such as:

1. **Skill Development:** Students acquire practical skills and competencies that are essential for their professional growth.
2. **Industry Exposure:** The program provides students with firsthand experience of industrial operations, processes, and technologies.
3. **Networking Opportunities:** Students interact with professionals in their field, building valuable connections for future career prospects.
4. **Enhanced Employability:** Employers prefer candidates with practical experience, making SIWES participants more competitive in the job market.
5. **Improved Academic Performance:** The application of theoretical knowledge in realworld scenarios enhances students' understanding of their coursework.
6. **Contribution to National Development:** By producing a skilled workforce, SIWES contributes to the economic and technological advancement of the nation.

2.2 OVERVIEW OF THE ORGANIZATION

Kapci Paint is a leading manufacturer and dealer of high-quality paints and coatings. The company specializes in a wide range of wall paints, including emulsion, gloss, and textured finishes, catering to both residential and commercial markets. Kapci Paint is known for its innovation, durability, and eco-friendly products.

ORGANIZATION OVERVIEW

History of Kapci Paint

Kapci Paint has grown to become a reputable brand in the paint industry. The company is committed to delivering premium-quality products that meet international standards.

Mission and Vision

Mission: To provide innovative and sustainable paint solutions that enhance the beauty and durability of surfaces.

Vision: To be a global leader in the paint and coatings industry, recognized for quality and customer satisfaction.

2.3 ORGANIZATIONAL CHART OF THE ORGANIZATION

Kapci Paint operates with a well-defined organizational structure, including departments such as Production, Quality Control, Sales and Marketing, Research and Development, and Human Resources.

Products and Services

Kapci Paint offers a wide range of products, including:

Emulsion paints

Gloss paints

Textured paints

Wood finishes

Protective coatings

Below is the organizational chart for Kapci Paint, which reflects a typical structure for a paint manufacturing and distribution company. Please note that the actual structure may vary depending on the size and specific operations of the organization.



Explanation of the Organizational Structure

CEO (Chief Executive Officer): Oversees the entire organization and ensures alignment with the company's vision and mission.

Makes strategic decisions and guides the directors of various departments.

Director of Production: Manages the production process, ensuring efficient and timely manufacturing of paint products.

Oversees the Production Manager, Quality Control Team, and Research & Development (R&D) Team.

Director of Sales & Marketing: Responsible for driving sales and promoting Kapci Paint products.

Manages the Sales Team, Marketing Team, and Customer Service Team.

Director of Finance: Handles the financial operations of the company.

Oversees the Accounting Team, Budgeting Team, and Treasury Team.

Production Manager: Supervises the production process, ensuring quality and efficiency.

Coordinates with the Quality Control and R&D Teams.

Quality Control (QC) Team: Ensures that all products meet quality standards before they are released to the market.

Conducts tests on raw materials and finished products.

Research & Development (R&D) Team: Focuses on innovation and improvement of paint products.

Develops new formulations and ensures compliance with environmental and safety standards.

Sales Team: Responsible for selling Kapci Paint products to customers and distributors.

Builds relationships with clients and meets sales targets.

Marketing Team: Promotes Kapci Paint products through advertising, campaigns, and market research.

Enhances brand visibility and customer engagement.

Customer Service Team: Provides support to customers, addressing inquiries, complaints, and feedback.

Ensures customer satisfaction and loyalty.

Accounting Team: Manages financial records, including income, expenses, and payroll. Prepares financial statements and reports.

Budgeting Team: Develops and monitors the company's budget. Ensures financial resources are allocated effectively.

Treasury Team: Manages cash flow, investments, and financial risks. Ensures the company's financial stability.

2.5 INTRODUCTION TO APPARATUS AND THEIR FUNCTIONS

In any industrial or laboratory setting, apparatus and equipment play a critical role in ensuring efficient operations, accurate results, and safety. Below is an introduction to some common apparatus and their functions, particularly in the context of a paint manufacturing company like **Kapci Paint**.

1. MIXING TANKS

Function: Mixing tanks are used to blend raw materials (such as resins, pigments, solvents, and additives) to produce paint.

Importance: Ensures uniform consistency and homogeneity of the paint mixture.

Types: High-speed dispersers for thorough mixing.

Slow-speed mixers for gentle blending of sensitive materials.



2. GRINDING MILLS

Function: Grinding mills are used to break down pigment particles into smaller sizes to achieve a smooth and consistent texture in the paint.

Importance: Improves the quality and finish of the paint.

Types: Ball mills. Sand mills. Bead mills.



3. FILTRATION EQUIPMENT

Function: Filters are used to remove impurities and undissolved particles from the paint mixture.

Importance: Ensures the final product is free from contaminants.

Types: Bag filters. Cartridge filters. Screen filters.



4. QUALITY CONTROL APPARATUS

Function: Used to test the quality and properties of raw materials and finished products.

Examples and Functions:

Viscometer: Measures the viscosity of the paint to ensure it meets specifications.

pH Meter: Determines the acidity or alkalinity of the paint.

Gloss Meter: Measures the gloss level of the paint finish.

Adhesion Tester: Evaluates how well the paint adheres to surfaces.

Colorimeter: Ensures color consistency and accuracy.



5. PACKAGING MACHINES

Function: Used to fill and seal paint into containers (e.g., cans, buckets, or drums).

Importance: Ensures proper packaging and prevents leakage or contamination.

Types: Automatic filling machines. Capping machines. Labeling machines.



6. SPRAY GUNS AND PAINT APPLICATION TOOLS

Function: Used for applying paint to surfaces during testing or production.

Importance: Helps simulate real-world application and assess paint performance.

Types: Airless spray guns. HVLP (High Volume Low Pressure) spray guns. Brushes and rollers.



7. DRYING OVENS

Function: Used to dry or cure painted surfaces quickly for testing purposes.

Importance: Helps evaluate the drying time and durability of the paint.

Types: Convection ovens. Infrared drying systems.



8. SAFETY EQUIPMENT

Function: Ensures the safety of workers during production and testing.

Examples and Functions:

Respirators: Protects against inhalation of fumes and dust.

Safety Goggles: Shields eyes from chemical splashes.

Gloves: Prevents skin contact with hazardous materials.

Fire Extinguishers: For emergency fire control.



9. STORAGE TANKS

Function: Used to store raw materials (e.g., solvents, resins) and finished paint products.

Importance: Prevents contamination and ensures proper inventory management.

Types: Stainless steel tanks. Polyethylene tanks.



10. DISPENSING EQUIPMENT

Function: Used to measure and dispense precise quantities of raw materials during production.

Importance: Ensures accurate formulation and consistency in paint production.

Types: Automated dispensing systems. Manual dispensing pumps.



CHAPTER THREE

3.1 ROLES AND RESPONSIBILITIES DURING THE TRAINING

During my SIWES training at Kapci Paint, I was assigned to the Production and Quality Control Department. My roles and responsibilities included:

1. Assisting in Paint Production:

- Participated in the mixing and formulation of paint products.
- Operated mixing tanks and grinding mills under supervision.
- Ensured raw materials were measured accurately according to formulations.

2. Quality Control Testing:

- Conducted tests on raw materials and finished products to ensure they met quality standards.
- Used apparatus such as viscometers, pH meters, and gloss meters.
- Documented test results and reported any deviations to supervisors.

3. Monitoring Production Processes:

- Observed and recorded production activities to ensure efficiency and adherence to safety protocols.
- Assisted in troubleshooting minor issues during production.

4. Inventory Management:

- Helped in maintaining records of raw materials and finished products in the storage area.
- Ensured proper labeling and organization of materials.

5. Safety Compliance:

- Followed safety guidelines and used personal protective equipment (PPE) such as gloves, goggles, and respirators.
- Participated in safety drills and training sessions.

3.2 LEARNING EXPERIENCE AND SKILLS ACQUIRED

The SIWES training at Kapci Paint was a transformative experience that allowed me to gain both technical and soft skills. Below are the key learning experiences and skills acquired:

Technical Skills:

Paint Formulation and Production:

- Learned the step-by-step process of paint production, from raw material mixing to packaging.
- Understood the importance of precise measurements and formulations.

Quality Control Techniques:

- Gained hands-on experience in using quality control equipment such as viscometers, pH meters, and colorimeters.
- Learned how to interpret test results and ensure compliance with quality standards.

Equipment Operation:

- Operated mixing tanks, grinding mills, and packaging machines under supervision.
- Understood the maintenance and safety protocols for industrial equipment.

Safety Practices:

- Learned about workplace safety regulations and the proper use of PPE.
- Understood the importance of hazard identification and risk mitigation.

Soft Skills:

Teamwork and Collaboration:

- Worked effectively with colleagues and supervisors to achieve common goals.
- Improved communication and interpersonal skills.

Problem-Solving:

- Developed the ability to identify and resolve minor issues during production.
- Learned to think critically and make decisions under pressure.

Time Management:

- Improved my ability to prioritize tasks and meet deadlines in a fast-paced environment.
- Learned to balance multiple responsibilities effectively.

Adaptability:

- Adapted to new challenges and learned to work in a dynamic industrial setting.
- Gained resilience and flexibility in handling unexpected situations.

3.3 CHALLENGES ENCOUNTERED

Despite the valuable learning experience, I faced some challenges during my training:

Technical Complexity:

- Initially, I found it difficult to understand the technical aspects of paint formulation and the operation of specialized equipment.
- Overcame this challenge by asking questions, observing experienced staff, and conducting independent research.

Fast-Paced Environment:

- The production environment was fast-paced, and it took time to adjust to the workflow.
- Improved my efficiency by organizing tasks and focusing on time management.

Safety Concerns:

- Working with chemicals and industrial equipment required strict adherence to safety protocols, which was initially overwhelming.
- Overcame this by participating in safety training and always using PPE.

Communication Barriers:

- At times, I faced difficulties communicating with some staff due to technical jargon or language barriers.
- Improved my communication skills by actively listening and seeking clarification when needed.

Physical Demands:

- The job required standing for long hours and handling heavy materials, which was physically demanding.
- Adapted by maintaining a positive attitude and staying physically active.

CONCLUSION

The Student Industrial Work Experience Scheme (SIWES) at Kapci Paint was an invaluable opportunity to bridge the gap between theoretical knowledge and practical application. Over the course of the training, I gained hands-on experience in paint production, quality control, and industrial safety practices. Working in the Production and Quality Control Department exposed me to the intricacies of paint formulation, equipment operation, and quality assurance processes.

I developed both technical and soft skills, including teamwork, problem-solving, time management, and adaptability. Despite facing challenges such as technical complexity, a fast-paced environment, and physical demands, I was able to overcome them through perseverance, continuous learning, and guidance from experienced staff. This training has not only enhanced my employability but also deepened my understanding of the paint manufacturing industry.

Overall, the SIWES program at Kapci Paint has been a transformative experience, equipping me with the skills and confidence needed to excel in my future career.

RECOMMENDATIONS

Based on my experience during the SIWES training, I would like to offer the following recommendations:

For Kapci Paint:

- Provide more detailed orientation and training sessions for SIWES students to help them better understand technical processes and equipment.
- Assign mentors to students to guide them throughout the training period and address their concerns.
- Organize workshops or seminars on emerging trends in the paint industry to enhance students' knowledge.

For My Institution:

- Increase the duration of the SIWES program to allow students to gain deeper insights into industrial practices.
- Collaborate with more organizations to provide students with diverse training opportunities.
- Conduct pre-SIWES training sessions to prepare students for the challenges of industrial work.

For Future SIWES Students:

- Be proactive in learning and seek clarification whenever necessary.
 - Take safety protocols seriously and always use personal protective equipment (PPE).
 - Build good relationships with colleagues and supervisors to enhance the learning experience.
 - Keep a journal to document daily activities, challenges, and lessons learned.
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REFERENCES

Industrial Training Fund (ITF) Guidelines for SIWES.

SIWES Handbook, Kwara state polytechnic