# TITLE PAGE

**TECHNICAL REPORT ON STUDENT INDUSTRIAL WORK EXPERIENCE SCHEME (SIWES)**

**CARRIED OUT AT**

**ICT UNIT, FEDERAL POLYTECHNIC,**

**MUBI, ADAMAWA STATE**

**FROM: 4TH JANUARY, 2023**

**TO: 4TH MAY, 2023**

**BY**

**MOLAKE, BENEDICT AGAJI**

**ST/CS/ND/21/072**

**SUBMITTED TO THE DEPARTMENT OF COMPUTER SCIENCE, IN PARTIAL FULFILLMENT FOR THE REQUIREMENT OF THE AWARD OF NATIONAL DIPOLMA (ND) IN COMPUTER SCIENCE, SCHOOL OF SCIENCE AND TECHNOLOGY, FEDERAL POLYTECHNIC MUBI ADAMAWA STATE.**

**JUNE, 2023**

# DEDICATION

This report is dedicated to my beloved parent in person of Mr. and Mrs. Molake Sylvanus and to God Almighty for sparing my life throughout the period of my industrial training.

# ACKNOWLEDGEMENT

My sincere heartfelt gratitude goes to the Almighty God the creator and sustained of all mankind for keeping me to see this day.

I wish to express my profound gratitude to those people who have in one way or the other way assisted me to the successful completion of my (SIWES) attachment.

I owe a very big gratitude to my industrial based supervisor Mr. Bashir Ibrahim Tukur for his support and encouragement.

My warm gratitude goes to the entire members of Federal Polytechnic Mubi for their tremendous contribution and kind gesture during my stay with them.

I am also indebted with thanks to all members of my humble family for their moral, financial and material support throughout my program.

I also wish to thanks my fellow SIWES colleagues for their support and advices.

**ABSTRACT**

*The awareness of the general work place has been developed in me and I have acquired a great behaviour and interpersonal skills with the opportunity given to me, to get a feel of working environment and exposure as the student of computer science. As a student of federal polytechnic Mubi, department of computer science. I have been able to attain the most relevant and effective practical in the industrial training and experience in the duration of my four (4) months student industrial work experience scheme (SIWES) having been exposed to practical on the site situation.*

**TABLE OF CONTENTS**

[TITLE PAGE i](#_Toc135315121)

[DEDICATION ii](#_Toc135315122)

[ACKNOWLEDGEMENT iii](#_Toc135315123)

[CHAPTER ONE 1](#_Toc135315124)

[1.0 INTRODUCTION 1](#_Toc135315125)

[1.1 BACKGROUND OF SIWES 1](#_Toc135315126)

[1.2 BRIEF HISTORY OF SIWES 1](#_Toc135315127)

[1.3 AIMS AND OBJECTIVES OF SIWES 2](#_Toc135315128)

[2.1 BRIEF HISTORY OF THE FEDERAL POLYTECHNIC, MUBI 3](#_Toc135315129)

[2.2 ORGAMNZATIONL CHART OF ICT UNIT FEDERAL POLYTECHNIC MUBI 4](#_Toc135315130)

[CHAPTER THREE 5](#_Toc135315131)

[EXPERIENCE ACQUIRED 5](#_Toc135315132)

[3.1.1 Relational Database 5](#_Toc135315133)

[3.1.2 SQL Syntax 5](#_Toc135315134)

[3.1.3 Creating a Database 6](#_Toc135315135)

[3.1.4 Creating a Table 6](#_Toc135315136)

[3.1.5 Inserting Data in Table 7](#_Toc135315137)

[3.1.6 Selecting Data from Table 8](#_Toc135315138)

[3.2.1 HTML Element Syntax 10](#_Toc135315139)

[3.2.2 HTML Document Web Pages 11](#_Toc135315140)

[3.2.3 HTML Basics 12](#_Toc135315141)

[3.2.4 HTML Headings 12](#_Toc135315142)

[3.2.5 HTML Comment 13](#_Toc135315143)

[3.2.6 HTML Paragraph 13](#_Toc135315144)

[3.2.7 HTML Text Formatting 14](#_Toc135315145)

[3.2.8 HTML Attributes 14](#_Toc135315146)

[CHAPTER FOUR 15](#_Toc135315147)

[4.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS 15](#_Toc135315148)

[4.1 SUMMARY 15](#_Toc135315149)

[4.2 CONCLUSION 15](#_Toc135315150)

[4.3 RECOMMENDATIONS 15](#_Toc135315151)

# CHAPTER ONE

## 1.0 INTRODUCTION

The concept behind industrial training schemes is to acquire practical, knowledge in addition to what has been learn institution. The four months mandatory supervised industrial attachment is program instituted by the federal government to help student for their different field of studies.

## 1.1 BACKGROUND OF SIWES

It aims at exposing student to the practical and the actualization of work situation which they may meet after graduation and the learning is meanly expected to produce graduate qualification to meet man power of employments of (ITF), there was growing concern amount the industrialist that graduate of higher learning do not passes adequate background student for the opinion that theoretical education going higher institution was responsive enough to meet the need of employers of the labour as a requirement of national board for technical education (NBTE) polytechnic training before obtaining the National Diploma (ND).

Experience scheme (SIWES), is a National programme introduced by Government in 1974 for student in tertiary institution.

## 1.2 BRIEF HISTORY OF SIWES

**SIWES** was established by **ITF** in 1973 to solve the problem of lack of adequate practical skills preparatory for employment in industries by Nigerian graduates of tertiary institutions.

The program “Student industrial work experience scheme” is a pure skill-acquisition program structured for the tertiary institutions as a complementary and enhancement program to the theoretical education, laboratory and workshop practices engaged in by student in different higher institutions. The SIWES was initiated to improve the student’s technical abilities (performance/knowledge) and expose them to industrial culture thereby preparing them to be acquainted with the roles to play towards the technological advancement of the nation.

It is there for a practical aspect of the academic works, which the students may not be opportune to carry out throughout their stay in the higher institutions. Based on this fact, the Federal Government decided to establish a body (regulatory) which engages in the training of the technical manpower. The body is named industrial Training Fund (ITF). The government also undertook to make up for the deficiencies by structuring and established Students Industrial Training (SIT) as it was then called but in 1973 the SIWES was formed which is the subsidiary.

## 1.3 AIMS AND OBJECTIVES OF SIWES

1. One of the objectives of SIWES is to create an avenue for students to acquire industrial skills to complement their theoretical knowledge and improve their experiences in their course of study.
2. The program prepares the students for industrial working conditions prior to their graduation.
3. To enable the students to learn personal relationship with employers and co-employees on graduation.
4. It exposes the student to working methods and techniques in handling equipment and machinery.
5. It develops the student in make critical and realistic approaches to solving problem.
6. It serves as a way of improving the abilities of the students and to contribute to the growth of the nation.
7. It gives the students the opportunity to practice what they have been taught in various disciplines.
8. The SIWES program strengthens the employer’s involvement in preparing the students for employment.

**CHAPTER TWO**

2.1 BRIEF HISTORY OF THE FEDERAL POLYTECHNIC, MUBI

The Federal Polytechnic Mubi is one of the seven (7) Federal Polytechnic established by Decree No.33 of 1979.It stated at August of the same year as the federal polytechnic Yola. At a picture location on the rocky side of the north bank of Benue River. Following a presidential directive, the polytechnic relocated to Mubi in October, 1982 but still maintain its site in Yola as consultancy service unit.

In Mubi the institution inherited the building of the defunct Federal School of Arts and Sciences. At present the infrastructures so inherited are being renovated and refurbished to suite Polytechnic requirement. More recently however, completely new science and engineering laboratories, workshops and studios have sprung up with heavy machines telling the tales of modern technology. A standard lecture theatre, a library complex, a duplex office block for the School of Business and General Studies, a block of offices and classrooms for the department of Basic and Applied science, Agricultural Science complex, Food Science and Technology complex and additional female hostel block among others, are now also in place.

The Federal Polytechnic, Mubi, the foremost educational institution of its type in the north-east sub-region, school system running various programs in several disciplines at the level of Higher National Diploma, Higher Diploma, National Diploma and Certificate. There are also Sandwich Programs offered during the long vacation addition to the planned Bachelor of Technology (B.Tech.) degree program. The polytechnic has six (6) schools and a centre of Entrepreneurship Education.

Since inception the polytechnic endeavoured to empower so many with both the technical and entrepreneurial skills needed to fight and alleviate poverty. Federal Polytechnic Mubi is determined to keep striding forward.

## 2.2 ORGAMNZATIONL CHART OF ICT UNIT FEDERAL POLYTECHNIC MUBI

|  |
| --- |
| RECTOR |

|  |
| --- |
| DIRECTOR |

|  |
| --- |
| DEPUTY DIRECTOR |

|  |
| --- |
| SECRETARY |

|  |
| --- |
| STAFF |

|  |
| --- |
| STAFF |

Figure 2.1: Organizational Chart

# CHAPTER THREE

## EXPERIENCE ACQUIRED

**3.1 STRUCTURED QUERY LANGAUGE (SQL)**

SQL stands for Structured Query Language. SQL is a standard programming language specifically designed for storing, retrieving, managing or manipulating the data inside a relational database management system (RDBMS). SQL became an ISO standard in 1987.

SQL is the most widely-implemented database language and supported by the popular relational database systems, like MySQL, SQL Server, and Oracle. However, some features of the SQL standard are implemented differently in different database systems.

SQL was originally developed at IBM in the early 1970s. Initially it was called SEQUEL (Structured English Query Language) which was later changed to SQL (pronounced as S-Q-L).

As you already know SQL is used to communicate with the database, so before you start experimenting with SQL, you need access to a database system first.

## 3.1.1 Relational Database

A relational database is a database divided into logical units called tables, where tables are related to one another within the database. Relational database allows data to be broken down into logical, smaller, and manageable units for easier maintenance and better performance.

Tables are related to one another through common keys or fields in a relational database system, that's why even though the desired data may exist in more than one table, you can easily join multiple tables together to get combined data set using a single query.

## 3.1.2 SQL Syntax

SQL Statements

SQL statements are very simple and straightforward like plain English but with specific syntax.

An SQL statement is composed of a sequence of keywords, identifiers, etc. terminated by a semicolon (;). Here is an example of a valid SQL statement.

SELECT \* FROM tablename;

## 3.1.3 Creating a Database

Before doing anything with the data we must need to create a database first. We're assuming that you already have a MySQL, or SQL Server available for your use, as well as you've all the necessary privileges.

The **SQL CREATE DATABASE**statement is used to create a database.

The following SQL statement creates a database named ***demo***:

CREATE DATABASE demo;

Creating a database does not select it for use. So, before moving further we must need to select the target database with the **USE** statement. For example, the **USE** demo; command sets the ***demo*** database as target database for all future commands.

**Selecting the Database**

Type the following command and press enter. You will see the output *"Database changed"*. Now our *demo* database is selected as default database for all future operations.

mysql> **USE** demo;

## 3.1.4 Creating a Table

In the previous chapter we have learned how to create a database on the database server. Now it's time to create some tables inside our database that will actually hold the data. A database table simply organizes the information into rows and columns.

The SQL CREATE TABLE statement is used to create a table.

Syntax

The basic syntax for creating a table can be given with:

CREATE TABLE *table\_name* (

*column1\_name data\_type constraints,*

*column2\_name data\_type constraints,*

....

);

To understand this syntax easily, let's create a table in our *demo* database. Type the following statement on MySQL command-line tool and press enter:

-- Syntax for MySQL Database

CREATE TABLE persons ( id INT NOT NULL PRIMARY KEY AUTO\_INCREMENT, name VARCHAR(50) NOT NULL, birth\_date DATE, phone VARCHAR(15) NOT NULL UNIQUE );

The above statement creates a table named persons with four columns id, name, birth\_date and phone. Notice that each column name is followed by a data type declaration; this declaration specifies that what type of data the column will store, whether integer, string, date, etc. Some [data types](file:///C:\My%20Web%20Sites\Republic\www.tutorialrepublic.com\sql-reference\mysql-data-types.html) can be declared with a length parameter that indicates how many characters can be stored in the column. For example, VARCHAR(50) can hold up to 50 characters.

## 3.1.5 Inserting Data in Table

We've created a table named *persons* in our *demo* database. Now it's time to insert some data inside our newly created database table.

The INSERT INTO statement is used to insert new rows in a database table.

**Syntax**

The basic syntax for inserting data into a table can be given with:

INSERT INTO *table\_name* (column1,column2,...) VALUES (value1,value2,...);

Here the *column1*, *column2*,..., etc. represents the name of the table columns, whereas the *value1*, *value2*,..., and so on represents the corresponding values for these columns.

Let's insert some records into the *persons* table.

**Adding Records to a Table**

The following statement inserts a new row in *persons* table.

INSERT INTO persons (name, birth\_date, phone) VALUES ('Peter Wilson', '1990-07-15', '0711-020361');

Did you notice, we didn't insert any value for id field? Because, if you remember from the [create table](file:///C:\My%20Web%20Sites\Republic\www.tutorialrepublic.com\sql-tutorial\sql-create-table-statement.html) chapter, the id field was marked with AUTO\_INCREMENT flag, which tells MySQL to automatically assign a value to this field if it is left unspecified.

## 3.1.6 Selecting Data from Table

In the above mentioned we've learned how to insert data in a database table. Now it's time to select the data from existing tables using the SQL query.

The SELECT statement is used to select or retrieve the data from one or more tables. You can use this statement to retrieve all the rows from a table in one go, as well as to retrieve only those rows that satisfy a certain condition or a combination of conditions.

**Syntax**

The basic syntax for selecting the data from a table can be given with:

SELECT *column1\_name*, *column2\_name*, *columnN\_name* FROM *table\_name*;

Here, *column1\_name*, *column2\_name*, ... are the names of the columns or fields of a database table whose values you want to fetch. However, if you want to fetch the values of all the columns available in a table, you can just use the following syntax:

SELECT \* FROM *table\_name*;

Let's put these statements into real use. Suppose we've a table named *employees* in our database.

**Select All from Table**

The following statement will return all the rows from the *employees* table.

#### **Example**

SELECT \* FROM employees;

After execution, the output will look something like this:

+--------+--------------+------------+--------+---------+

| emp\_id | emp\_name | hire\_date | salary | dept\_id |

+--------+--------------+------------+--------+---------+

| 1 | Ethan Hunt | 2001-05-01 | 5000 | 4 |

| 2 | Tony Montana | 2002-07-15 | 6500 | 1 |

| 3 | Sarah Connor | 2005-10-18 | 8000 | 5 |

| 4 | Rick Deckard | 2007-01-03 | 7200 | 3 |

| 5 | Martin Blank | 2008-06-24 | 5600 | NULL |

+--------+--------------+------------+--------+---------+

**3.2 HYPERTEXT MAKE-UP LANGAUGE (HTML)**

HTML or Hypertext Mark-up Language is the standard mark-up language used to create web pages. HTML is written in the form of HTML elements consisting of tags enclosed in angle brackets (like <html>). HTML tags most commonly come in pairs like <h1> and </h1>, although some tags represent empty elements and so are unpaired, for example <img>. The first tag in a pair is the open or start tag, and the second tag is the close or end tag (they are also called opening tags and closing tags). A web browser can read HTML files and compose them into visible or audible web pages. The browser does not display the HTML tags, but uses them to interpret the content of the page. HTML describes the structure of a website semantically along with cues for presentation, making it a mark-up language rather than a programming language. HTML elements form the building blocks of all websites. HTML allows images and objects to be embedded and can be used to create interactive forms. It provides a means to create structured documents by denoting structural semantics for text such as headings. It can embed scripts written in languages such as JavaScript which affect the behaviour of HTML web pages. HTML is relatively **easy to learn,** with the basics being accessible to most people in one sitting; and quite **powerful** in what it allows you to create. It is constantly undergoing revision and evolution to meet the demands and requirements of the growing Internet audience under the direction of the organisation charged with designing and maintaining the language.

## 3.2.1 HTML Element Syntax

1. An HTML element starts with a start tag/opening tag.
2. An HTML element ends with an end tag/ closing tag.
3. The element content is everything between the start and the end tag.
4. Some HTML elements have empty content.
5. Empty elements are closed in the start tag.
6. Most HTML elements can have attributes.

**What is HTML?**

HTML is language for describing webpages.

1. HTML stands for **H**yper **T**ext **M**arkup **L**anguage.
2. HTML is not a programming language; it is a **markup language**.
3. A markup language is a set of **markup tags.**
4. HTML uses **markup tags** to describe web pages.

**HTML Tags**

HTML mark-up tags are usually called HTML tags.

1. HTML tags are keywords surrounded by **angle brackets** like <html>.
2. HTML tags normally **come in pairs** like <p> and </p>.
3. The first tag in a pair is the **start tag,** the second tag is the **end tag.**
4. Start and end tags are also called **opening tags** and **closing tags.**

## 3.2.2 HTML Document Web Pages

1. HTML documents **describe web pages.**
2. HTML documents **contain HTML tags** and plain text.
3. HTML documents are also **called web pages.**

The purpose of a web browsers (like Internet Explorer) is to read HTML documents and to display them as web pages. The browser does not display the HTML tags, but uses the tags to interpret the content of the page:

**Example Explained**

1. The text between <html> and </html> displayed the web page.
2. The text between <body> and </body> is the visible page content.
3. The text between <h1> and </h2> is displayed as a heading.
4. The text between <p> and </p> is displayed as a paragraph.

## 3.2.3 HTML Basics

HTML Basics are as follows HTML Headings, HTML Paragraphs, HTML Links and HTML Images.

**HTML Links**

HTML Links are defined with the <a> and</a> called anchor tag.

<a href=”http://www.googlechrome.come”>This a link</a>

The <a> tag contains an attribute (href) to provide the link address.

**HTML Images**

HTML images are defined with the <img> tag.

<img src=” PhotoApp\_29052017\_151639.jpg” width=”200” height=”50”>

The name of the image and size are provided as attributes.

## 3.2.4 HTML Headings

HTML headings are defined with the <h1> to </h6> tags an example is given below:

<h1>heading 1</h1>

    <h2>heading 2</h2>

    <h3>heading 3</h3>

    <h4>heading 4</h4>

    <h5>heading 5</h5>

    <h6>heading 6</h6>

**Importance of Headings**

HTML Headings tags are used only for headings. Headings are recommended not to make something **Big** or **bold.** Search engines use your headings to index the structure and content of your web pages. Since users may skim your pages by its headings, it is important to use headings to show the document structure. H1 headings should be used as main headings, followed by H2 headings and less important H3 headings and so on.

## 3.2.5 HTML Comment

Comments can be inserted in the HTML code to make it more readable and understandable. Comments are ignored by the browser and not displayed. Comments are written like this:

<! --This is comment in HTML -->

## 3.2.6 HTML Paragraph

HTML documents are divided into paragraphs. Paragraphs are defined with the <p> (opening tag) and </p> (closing) tag.

Example:

<p> this is a first paragraph </p>

<p> this is a second paragraph </p> Most browsers will display paragraph correctly even if any of the above closing tag is forgotten. But don’t rely on it.

**HTML Line Breaks**

There is a unique tag for line breaks in HTML written as <br> that is if you want a line break (a new line) without starting a new paragraph:

<p> This is<br>a para<br>graph with line breaks</p> The <br> tag is an empty tag. It has no end tag like </br>.

<p>Federal Polytechnic Mubi (F.P.M)</p>

## 3.2.7 HTML Text Formatting

**This text is bold**

This text is big

*This text is italic*

**HTML Formatting tags** HTML uses tags like <b> and <i> for formatting output, like **bold** or *italic* text. These HTML tags are called formatting tags. Refer to the bottom of this page for a complete reference.

## 3.2.8 HTML Attributes

Attributes provide additional information about HTML elements. Those attributes are as follows:

1. HTML elements can have attributes.
2. Attributes provide additional information about element in a page.
3. Attributes are always specified in the start tag.

**Attribute Syntax**

Attributes always come in name/value pairs like this:

Name=”value”.

Examples

Border=”1”

href=”<http://google.com>”

bgcolor=”yellow”

**Attributes Example 1:**

<table> defines an HTML table. <table border=”1”>

The **border attribute** defines a border type for the <table> element.

# CHAPTER FOUR

## 4.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

## 4.1 SUMMARY

Student Industrial Work Experience Scheme (SIWES) was established by ITF in 1973 to solve the problem of lack of adequate practical skills preparatory for employment in industries by Nigerian graduates of tertiary institutions. The Scheme exposes students to industry-based skills necessary for a smooth transition from the classroom to the world of work. It affords students of tertiary institutions the opportunity of being familiarized and exposed to the needed experience in handling machinery and equipment which are usually not available in the educational institutions.

## 

## 4.2 CONCLUSION

I would conclude that the Student Industrial Work Experience (SIWES) has been of great benefit to me for it enables me acquiring more experience. I have successfully finished my attachment. I was able to put the theory acquired (in school) into practical during the four (4) months attachment.

Finally, I want to use this opportunity to thank the federal government of Nigeria for organizing the student industrial Work Experience Scheme (SIWES) program for the benefit of the Nigeria science students.

## 4.3 RECOMMENDATIONS

As a student who has undergone the SIWES program, the following recommendation is made:

1. The school should make SIWES programmed available to all department in the institution to give every student the opportunity to acquire practical knowledge of his idea of study.
2. The school should ensure that student on the SIWES is attached to organization or division relevant to their course of student.
3. The government should pay more attention or priority on the SIWES programmed because through such programmed students experience what they have learnt in the labour market.
4. I equally suggest that schools should ensure that supervisors sent to supervise student on SIWES programmed get to every nook and cranny of the country, this is to enable them know actually if student are really partaking in the programmed.

**REFERENCES**

Edward, B. M.D (2003). The Effect of SIWES on a student, Federal Ministry of Works, Lagos. Nigeria.

John, Doe (2008). Introduction to web development: responsive designs, McGraw Print New York.