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# Gas Welding Skills Preparedness of Students in Technical Colleges Akwa Ibom State for Technopreneurial Exploits

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***Abstract***
*This study examined the extent of gas welding preparedness by students of Fabrication and welding Technology in Technical Colleges in Akwa Ibom State for Technopreneurial exploits. The gas welding preparedness variables are: Gas welding skills, Workshop Safety Practices, and Strategic Planning Skills. Three (3) research questions and null hypotheses coined from the Three (3) specific objectives were stated to guide the study. The population of the study consists 86 Senior Technical Two (ST2) students offering Welding and fabrication technology in the nine (9) Technical Colleges in Akwa Ibom State. Purposive sampling technique was adopted to select all the 86 (ST2) students as sample for the study. The researcher developed instruments titled- "Gas welding skills preparedness by students for Technopreneurial exploits"(GWSPSTE) questionnaire was used to collect data for the study. Cronbach Alpha Formula was used to calculate the reliability coefficient of the instrument which gave a value of 0.86. One sample t-test was used to test the null hypotheses at .05 alpha level. Findings of the study revealed that students possess significant Workshop Safety Practices skills, to a great extent, to equip them with competencies for Technopreneurial exploits. However, students lacked gas welding skills and strategic planning skills which hinder their Technopreneurial preparedness. Based on the findings, it is concluded that students do not have a complete set of gas welding skills needed to enhance their Technopreneurial exploits. It is recommended that school authorities should collaborate with the local master artisans and industries to help students develop adequate skills in gas welding and Strategic Planning, which are key generic skills essential for employment.*

**Keywords:** Gas welding skills, safety practices skills, Strategic Planning Skills, preparedness Technopreneurial exploits

## Introduction

Technical colleges play a crucial role in providing students with the skills and information needed to succeed in the metalworking and associated sectors. This is especially true for fabrication and welding technologies. The goal of the extensive training offered in the Welding and Fabrication Engineering technology is to create highly qualified artisans who are adept at using the tools, supplies, methods, and safety precautions needed in the fabrication and welding of metal projects. The programme's emphasis on skill development and practical application highlights its aim of equipping students for prosperous careers in the metalworking industry.

The importance of practical and hands-on training is shown by the focus that the country's Technical Colleges place on students gaining the skills necessary for work in the welding and fabrication fields as well as for independence (Visa *et al*., 2017). Students who have mastered these fundamental abilities are considered skilled welders and fabricators who can perform a variety of jobs related to the joining and maintenance of different metal parts. These people are not only ready for jobs, but they may start their own businesses in the welding and fabrication industry.

In order to ensure that students are well-rounded and ready to take on the variety of challenges found in the metalwork industry, the programme covers a number of skill areas, including gas welding skills, Workshop Safety Practices skills and strategic planning skills. The Federal Government of Nigeria (2013) and the National Board for Technical Education (NBTE, 2008) have established directives that emphasize the development of competencies in sheet metalwork, gas welding, cutting, metal arc welding, and structural steelwork. The integration of these skills is in accordance with these directives. This comprehensive training ultimately enables graduates to be well-equipped for the demands of the modern workforce and positions them for success in the welding and fabrication industry.

Gas welding is a versatile and widely used welding process that relies on the controlled combustion of a fuel gas, such as acetylene, and oxygen to generate a high-temperature flame. This flame is directed onto the workpiece, allowing the operator to heat and melt the parent metal, as well as the filler rod, to create a strong and durable joint. Achieving a sound weld in gas welding requires precise control over the size and shape of the flame, as well as the proper selection of filler material and an appropriate torch movement technique.

Oxy-acetylene welding, a specific type of gas welding, uses a flame generated by the combustion of acetylene and oxygen. The high-heat, high-temperature flame produced by this process is capable of melting various types of metals, making it a valuable method for joining and fabricating metal components. The acetylene and oxygen gases are stored in pressurized steel cylinders, with regulators controlling the flow and pressure of the gases. These gases are then fed through flexible hoses to the welding torch, where the welder can further adjust and

control the flow as needed. During the welding process, the filler rod is often used to facilitate the melting and joining of two or more metal pieces. However, it is also possible to achieve fusion between metal pieces without the use of a filler rod, depending on the specific requirements of the welding project.

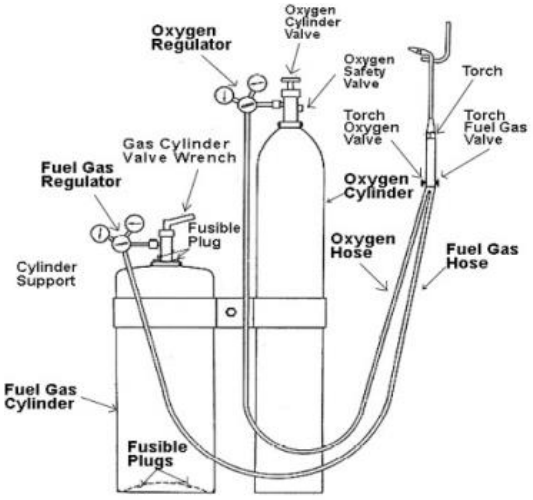


**Figure 1: Diagram Showing Gas Welding Equipment**
**Source: Ashutosh (2020)**

In oxy-acetylene welding, the three primary types of flames are the carburizing or reducing flame, the neutral or balanced flame, and the oxidizing flame. Each of these flames has distinct characteristics in terms of their chemical composition, as well as their structure and shape. The carburizing or reducing flame is characterized by an excess of acetylene. Unlike the other two flame types, the carburizing flame involves three stages of combustion, with an additional stage known as the intermediate feather. The flow rate of acetylene can be adjusted to control the length and intensity of this intermediate feather, allowing for precise manipulation of the flame for different welding applications.

The length of the intermediate feather in the carburizing or reducing flame is often used as a measure to gauge its characteristics. This flame typically contains unburnt carbon, resulting in a temperature that is lower than that of a neutral or oxidizing flame. If the excess carbon in the flame interacts with the molten metal, it can lead to a visibly boiling weld puddle.

The presence of unburnt carbon during the welding process can cause the solidified weld to have a pitted surface along its length. Additionally, the weld bead can become excessively hard and brittle due to the higher carbon content. Despite these effects, the carburizing flame is well-suited for welding high carbon steel and cast iron, where the additional carbon can be beneficial for achieving the desired metallurgical properties.

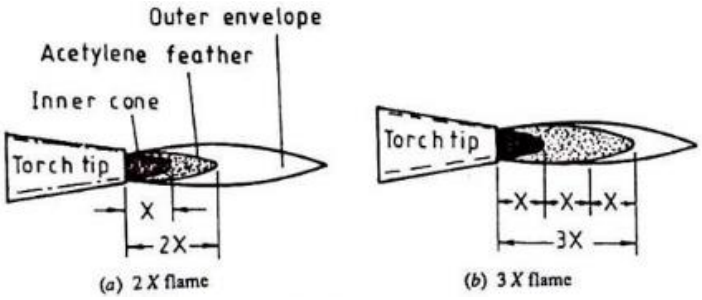


**Figure 2: Structures of a carburizing flame in items of inner cone length**
**Source: Ashutosh (2020)**

The Neutral flame is characterized by its balanced composition of acetylene and oxygen, typically having a nearly one-to-one volume ratio. Structurally, it consists of two distinct parts—the inner cone and the outer envelope. The inner cone is clear and well-defined, suggesting that the combustion process is complete. This type of flame emits a distinct hissing sound and is commonly utilized for welding various metals.

The neutral flame is widely favored for welding applications as it generally does not significantly impact the chemical composition of the weld metal. Welds created using a neutral flame typically exhibit a clean appearance and possess properties that are comparable to those of the base metal. It is commonly used for welding low carbon structural steels and aluminum, where a precise and controlled heat input is crucial for achieving high-quality welds.

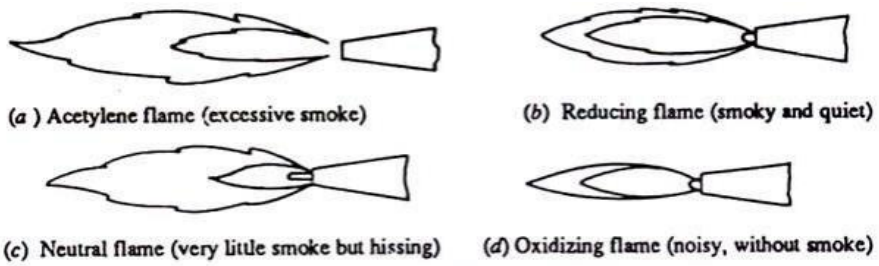


**Figure 3: Structures of Different Type of Oxy-Acetylene Flames**
**Source: Ashutosh (2020)**

The **Oxidizing flame**, characterized by an excess of oxygen over acetylene, is the highest temperature flame attainable from an oxy-fuel gas source. Structurally, it comprises a very short pointed white inner cone along with a shorter outer envelope. When in operation, the oxidizing flame emits a loud roaring sound. The reduction in the length of the inner cone is a direct indicator of the excess oxygen present in the flame. Welds created using an oxidizing flame may appear scummy or dirty due to potential oxidation of the metal in the weld pool.

An oxidizing flame is particularly suitable for welding certain metals, including copper base alloys, zinc base alloys, as well as a selection of ferrous metals such as manganese steel and certain cast irons. When welding these types of metals, the oxidizing flame promotes the formation of a protective base metal oxide layer, which helps prevent the evaporation of low melting point alloying elements. For instance, when welding brass, the formation of a copper oxide layer on the weld pool surface serves to hinder the loss of zinc through evaporation.

Safety guidelines are essential protocols that help impart skills to students without exposing them to hazards. In technical programs, these guidelines play a pivotal role in conducting practical work, task-oriented jobs, and classroom demonstrations. Akpan (2008) emphasized the importance of enforcing safety practices in the following areas of operations:

i. Assisting students in recognizing situations involving hazards.
ii. Regularly demonstrating the proper use and maintenance of personal protective equipment and basic hand tools.
iii. Providing instruction on the maintenance of laboratory tools, machines, and other trade equipment.
iv. Taking personal responsibility for all students using machine or hand tools while in the laboratory.
v. Ensuring that all hand tools are kept clean and in safe working condition.
vi. Enforcing prescribed rules regarding the wearing of protective clothing and equipment during laboratory work.
vii. Providing sufficient instruction and demonstration on operating fire extinguishers to students.
viii. Prohibiting running or horseplay in the workshop at all times.
ix. Arranging for the sweeping of laboratory floors at least once, preferably at the end of workshop activities.

According to the OSHA Guide (2005), a safety program should include a system for communicating with employees in a manner easily understood by all affected individuals, addressing occupational safety and health concerns. It is essential for workshop assistants to communicate with employees in a language they understand. If an employee cannot read in any language, oral communication in a readily understandable language is necessary. OSHA (2005) emphasized that training programs, posters, bulletins, and newsletters devoted to safety are effective communication tools. The safety officer must communicate about safety to all levels of management.

According to the 2005 OSHA Guide, ensuring safety through proper instruction and training involves comprehensive coverage of topics, such as the effective utilization of personal protective equipment (PPE). It emphasized the necessity of educating each student or employee who utilizes PPE, focusing on the following key aspects:

i Identifying the specific personal protective equipment required for the task at hand.

ii. Understanding the situations and circumstances that necessitate the use of personal protective equipment.

iii. Demonstrating the correct method of wearing personal protective equipment to maximize its effectiveness.

iv. Recognizing the limitations inherent in the personal protective equipment to ensure proper risk assessment.

v. Emphasizing the importance of appropriate care, maintenance, optimal lifespan, and responsible disposal of the personal protective equipment.

Furthermore, the Institute of Applied Technology (2010) provided comprehensive guidelines encompassing personal safety protocols, proper tool usage, maintaining workshop cleanliness, and implementing effective fire precautions.

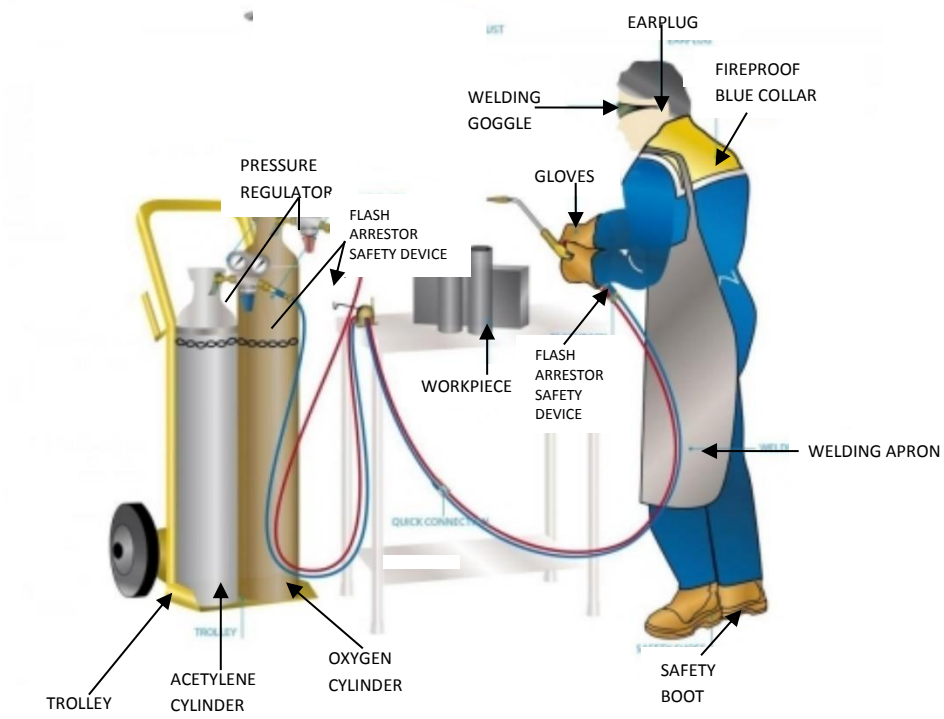


**Figure 4: Diagram Showing Gas Welding Equipment**
**Source: Ashutosh (2020)**

**(A)**. Ensuring Personal Safety

**i.** Attire Awareness: Avoid wearing loose clothing that could potentially get entangled in moving machinery. Opt for properly fitting overalls to minimize risks.

ii. Eye Protection Protocol: Prioritize wearing protective goggles consistently during workshop activities to safeguard your eyes.

iii. Jewelry and Accessory Caution: Mitigate the risk of accidents by removing ties, watches, rings, and other jewelry that might get caught in machinery.
iv. Hair Safety Measures: Take measures to secure or trim long hair as it poses a risk of entanglement in the machinery.
v. Appropriate Footwear: Never wear open-toed shoes or soft footwear in the workshop, as they offer minimal protection against falling objects. Opt for safety shoes, such as steel-toe shoes, to shield your feet from potential hazards.
**(B).** Proper Tool Usage Become proficient in using various tools and machinery within the workshop. Seek guidance from your instructor before operating any machinery for the first time. Adhere to the safety instructions provided by the teachers.
**(C).** Maintaining Workshop Cleanliness Maintaining a clean and organized workshop is crucial. A tidy workspace not only saves time but also helps prevent accidents. Always return tools to their designated places after use. Avoid leaving tools scattered on workbenches or the workshop floor, as it may lead to accidents.
**(D).** Fire Safety Measures Mitigating fire hazards is essential. Exercise caution when storing flammable materials and ensure careful electrical maintenance to minimize the risk of fire outbreaks in the workshop.

Strategic Planning is a vital management process that revolves around setting objectives for a company's future trajectory and determining the necessary resources to accomplish those objectives. Makinde and Asikhia (2017) opined that Organizations have adopted the use of strategic planning to identify the strategies that have resulted in increased outcomes and competitive advantage. They further stressed that the use of strategic planning has been adopted by the management world as a tool for achieving organizational performance. In addition to the forgoing, Doyle, (2021) expressed that strategic planning is a critical competency for various roles, including management consultants, business developers, corporate developers, strategic breaking it down into feasible, incremental goals. Gutterman, (2023) in his opinion sees strategic planning as a process of carefully and thoughtfully aligning the strengths of a company's business to the opportunities that are available to the company in its chosen business environment. He added that strategic planning process allows managers to be proactive in identifying and responding to changes in the company's business.

Strategic planning involves the formation of long, future term goals and objectives for the company and the selection of strategies to achieve these goals and objectives in the light of the uncertain future and external environment in which the firm must operate (Adekunle,*et al,*2017*).* Professionals specializing in strategic planning play a pivotal role in defining objectives, charting the course of action for employees, and assisting them in reaching these goals. This process helps clarify the purpose of the business and sets a definitive direction. In order for strategic planning process to be successful and meaningful, there must be active and

enthusiastic participation from multiple levels of management within the firm in order to bring most experience to the planning process. And ensure that plans are made based on the full and current information about the operational activities of the firm and condition in the market place (Gutterman, 2023).

This strategic planning encompasses the definition of company objectives and the identification of resources essential for their attainment. Managers, in order to realize these goals, must develop comprehensive marketing and operational strategies that align with key organizational values, such as the vision, mission, and culture. Common components of a business plan include external and internal analyses, marketing and branding strategies, investment considerations, resource allocations, supplier and production processes, as well as competitive and research development aspects. Adegbie and Fakile (2013) declaered that, strategy is grounded in the array of competitive moves, and business management of an organization depends on how to produce successful performance. They further asserted that Strategy in effect is management's game plan for strengthening the organization's position, pleasing customers, and achieving performance targets.

Effective planning facilitates organizational efficiency and precision by coordinating efforts and managing time efficiently. Moreover, the planning process fosters insightful discussions among the various managerial stakeholders, providing a shared context for subsequent management activities

The planning process is fundamentally concerned with defining a company's objectives and ensuring that these objectives are achieved through well-coordinated efforts aligned with a comprehensive organizational plan. This necessitates the consistent deployment of strategies supported by staff members at all levels. Business plans are devised not only to achieve set targets but also to enhance and reshape public perceptions of the company's brand. Proper execution of planning should yield key outcomes, including focus, coordinated action, control, and efficient time management (Sharma, 2018). Successful business operations hinge on the adept utilization of management skills and the development of a robust and effective business plan. Planning, therefore, remains integral from the inception of a business until the entrepreneur attains their intended goals, with a strong emphasis on proactive management and strategic forecasting in all facets of the business.

**Statement of Problem**

The pressing issue of unemployment faced by school leavers and fresh graduates in Nigeria, particularly in Akwa Ibom State, has reached alarming levels. This persistent challenge has led to the proliferation of various social ills among the youth population, including drug abuse, cultism, kidnapping, street children issues, and militancy in the Niger Delta, among others. To address these critical challenges and mitigate their adverse effects on society, the government must establish a conducive technological ecosystem and allocate

resources to foster technopreneurship, thereby engaging the youth and fostering entrepreneurship growth in Nigeria. The lack or insufficiency of technopreneurial preparedness skills among graduates specializing in fabrication and welding from Technical Colleges is a clear indicator of their reluctance to engage in technopreneurial exploits after graduation. This issue primarily arises from the inadequate training received by students in the domain of welding and fabrication technology.

The lack of comprehensive proficiency in various aspects of fabrication and welding practices poses a significant obstacle for students intending to delve into technopreneurial exploits. Despite the state government's efforts to establish educational standards and Technical Colleges as skill training centers across Akwa Ibom State, it is evident that students still face limitations in skill acquisition and self-development, forcing many to seek employment in the labor market. The substandard state of facilities in Technical Colleges has emerged as a critical pedagogic impediment not only for the students but also for the education sector at large.

The question raised at this juncture is: To what extent do gas welding preparedness skills equip welding and fabrication students in Technical Colleges in Akwa Ibom with competencies for technopreneurial exploits? This query serves as a critical starting point for evaluating the effectiveness and adequacy of the current curriculum and educational resources in Technical Colleges, thereby shedding light on the gaps that need to be addressed to enhance the students' preparedness for technopreneurial exploits

**Research Questions**

The study is designed to provide answers to the following research questions:

i. To what extent do gas Welding Skills preparedness of welding technology students in Technical Colleges in Akwa Ibom State equip them for technopreneurial exploits?
ii. To what extent do workshop safety practice skills preparedness of welding technology students in Technical Colleges in Akwa Ibom State equip them for technopreneurial exploits?
iii. To what extent do strategic planning skills preparedness of welding technology welding technology welding technology students in Technical Colleges in Akwa Ibom State equip them for technopreneurial exploits?

**Research Hypotheses**

i The extent of influence of gas welding skills preparedness of welding technology students in Technical Colleges in Akwa Ibom State does not significantly equip them for technopreneurial exploits.

ii The extent of influence of workshop safety practices skills preparedness of welding technology students in Technical Colleges in Akwa Ibom State does not significantly equip them for technopreneurial exploits.

iii The extent of influence of strategic Pslanning skills preparedness of welding technology students in Technical Colleges in Akwa Ibom State does not significantly equip them for technopreneurial exploits.

**Research Hypothesis 1:** The extent of influence of gas welding skills preparedness by Welding Technology students in Technical Colleges in Akwa Ibom State does not significantly equip them for technopreneurial exploits.

**Table 1: Summary of one sampled t-test on the extent to which Gas Welding Skills preparedness of Welding Technology students in Technical Colleges in Akwa Ibom State equip them for technopreneurial exploits.**

| No/S | gas welding Skills | $\bar{X}$ | SD | t-cal | p-value | Decision |
|---|---|---|---|---|---|---|
| **1** | familiar with gas welding process in readiness for the world of work. | 2.66 | 1.23 | 27.17 | 0.113 | **N.S |
| **2** | selecting appropriate flame for a particular job to show my competency | 2.69 | 1.30 | 25.98 | 0.066 | ** |
| **3** | Using gas flame to cut heavy metal to show my proficiency in gas welding. | 2.78 | 1.30 | 26.79 | 0.231 | ** |
| **4** | setting gas-welding process independently to prove my skills readiness. | 2.73 | 1.26 | 27.22 | 0.111 | ** |
| **5** | fabricating to specification using gas welding to show proficiency. | 2.60 | 1.28 | 25.53 | 0.711 | ** |
| **6** | purchasing the welding materials on my own for any job to get used to prices of materials. | 2.78 | 1.28 | 27.19 | 0.113 | ** |
| **7** | substituting acetylene gas for carbide-water preparation in order to carry out gas welding. | 2.66 | 1.20 | 27.69 | 0.111 | ** |
| | **Cumulative Mean** | **2.62** | **1.18** | **26.80** | **1.456** | ** |

*N.S-Not Significant at P<.05.001

Table 1: presents the summary of one sample t-test on the extent to which gas welding skills preparedness of welding technology students in Technical Colleges in Akwa Ibom State equip them for technopreneurial exploits. The result shows all the items have probability values greater than the alpha level of 05. Since the p-values is greater than .05 (P<.05.1.456), the result is statistically not significant. Hence, the extent of influence of gas welding skills preparedness of welding technology students in Technical Colleges in Akwa Ibom State does not significantly equip them for technopreneurial exploits

**Research Hypothesis 2**

$Ho_{2.}$ The extent of influence of workshop safety skills preparedness of welding technology students in Technical Colleges in Akwa Ibom State does not significantly equip them for technopreneurial exploits.

**Table 2: Summary of one sampled t-test on the extent to which workshop safety Skills preparedness of Welding Technology students in Technical Colleges in Akwa Ibom State equip them for technopreneurial exploits.**

| No/S | workshop safety practice Skills | $\bar{X}$ | SD | t-cal | p-value | Decision |
|---|---|---|---|---|---|---|
| **1** | wearing protective devices while working to protect myself against accident | 3.58 | 1.04 | 42.93 | .001 | *Sig |
| **2** | keeping the workshop clean to get rid of dangerous materials. | 3.96 | 0.34 | 147.08 | .001 | * |
| **3** | avoiding using tools wrongly in order not to damage the work. | 3.47 | 1.15 | 37.69 | .001 | * |
| **4** | Keeping flammable materials away from the workshop to avoid fire outbreak. | 3.94 | 0.29 | 168.52 | .001 | * |
| **5** | operating fire extinguisher in the workshop in case of fire outbreak. | 3.57 | 0.94 | 47.42 | .001 | * |
| **6** | observing safety rules in the workshop to avoid unpleasant occurrence. | 3.83 | 0.49 | 97.74 | .001 | * |
| **7** | I do observe safety regulations when handling equipment to avoid accident. | 3.97 | 0.23 | 221.33 | .001 | * |
| | **Cumulative Mean** | **3.76** | **0.64** | **108.96** | **.001** | ***** |

*Sig-Significant at $P<.05_{.001}$

Table 2, gives the summary of the one sample t-test. The result shows all the items have probability values less than the alpha level of 05. Since the p-values is less than .05 ($P<.05_{.001}$), the result is statistically significant. Hence, the extent of influence of workshop safety skills preparedness of welding technology students in Technical Colleges in Akwa Ibom State to equip them for technopreneurial exploits is significant.

**Research Hypothesis 3:**The extent of influence of strategic planning skills preparedness of welding technology students in Technical Colleges in Akwa Ibom State does not significantly equip them for technopreneurial exploits.

**Table 3**: **Summary of one sampled t-test on extent to which strategic planning Skills preparedness of welding technology students in Technical Colleges in Akwa Ibom State equip them for technopreneurial exploits.**

| No/S | Strategic Planning Skills | $\bar{X}$ | SD | t-cal | p-value | Decision |
|---|---|---|---|---|---|---|
| **1** | I can strategize ways of executing jobs with ease | 2.46 | 1.48 | 20.84 | 0.071 | **N.S |
| **2** | I can coordinate people who are versatile in skills for execution of specific task | 2.42 | 1.47 | 20.66 | 0.06 | ** |
| **3** | I can control both materials and human resources for optimum gain | 2.13 | 1.46 | 18.27 | 0.103 | ** |
| **4** | I can change public perception regarding my business because I have the skills | 2.28 | 1.42 | 20.15 | 0.103 | ** |
| **5** | I can successfully execute decisions without the help of others to show that I understand the business. | 2.11 | 1.45 | 18.19 | 0.111 | ** |
| **6** | I can advertise my business to attract customers for high productivity. | 2.34 | 1.41 | 20.81 | 0.103 | ** |
| | **Cumulative Mean** | **2.29** | **1.45** | **19.82** | **0.111** | ** |

**N.S- Not Significant at P<.05.111

Table 3, gives the summary of the one sample t-test on the extent to which strategic planning skills preparedness of welding technology students in Technical Colleges in Akwa Ibom State equip them for technopreneurial exploits.. The result shows all the items have probability values less than the alpha level of 05. Since the p-values is less than .05 (P<.05.001), the result is statistically significant. Hence, the extent of influence of strategic planning skills preparedness of welding technology students in Technical Colleges in Akwa Ibom State to equip them for technopreneurial exploits is significant.

**Summary of Findings**

The findings of the study are hereby summarized as follows

i. The extent of influence of gas welding Skills preparedness of students in Technical Colleges in Akwa Ibom State to equip them for technopreneurial exploits is not significant.

**ii.** The extent of influence of tools and workshop safety skills preparedness of students in Technical Colleges in Akwa Ibom State to equip them for technopreneurial exploits is significant.

**iii.** The extent of influence of Strategic Planning Skills preparedness of students in Technical Colleges in Akwa Ibom State to equip them for technopreneurial exploits is significant.

**Discussion of Findings**

The findings of the study are hereby discussed under relevant subheadings:

**Gas Welding Skills Preparedness of Students**

The result shows that all the items have mean responses below 3.0, the weighted mean. Furthermore, the cumulative mean is 2.62. This shows that students have moderate gas welding skills in fabrication and welding which is not enough to equip them with competencies for technopreneurial readiness. The corresponding hypothesis test indicates that the extent of influence of gas welding Skills possessed by fabrication and welding students in Technical Colleges to equip them with competencies for technopreneurial readiness is not significant. The finding of the study id corroborated by Bala *et al.* (2022) who examined technical skills needed by gas welding and fabrication craftsmen in metal related industries in Jigawa State. The findings revealed that there is inadequate knowledge: in the ability to light the touch appropriately, shutting off the torch following appropriate procedure, skills in welding dissimilar metals with gas and ability to adjust the nozzles to relevant welding flame among welding craftmen.

**Workshop Safety Practice Skills Preparedness of Students**

The result shows that all the items have mean responses above 3.0, the weighted mean. Furthermore, the cumulative mean is 3.76, showing a great extent. This shows that students do possess workshop safety practice skills in fabrication and welding enough to equip them with competencies for technopreneurial readiness. The corresponding hypothesis test shows that the extent of influence of tools and workshop safety skills possessed by fabrication and welding students in Technical Colleges to equip them with competencies for technopreneurial readiness is significant. This finding is in line with Akpan and Michael (2012) who researched on personal protective equipment application in Technical Colleges in Akwa Ibom State. The result showed that students' use of personal productive equipment had significant relationship with their effective skill acquisition. This finding is also supported by Otuo (2014) who established an influence of safety practices on students' performance in automobile mechanics craft practice.

**Strategic Planning Skills Preparedness of Students**

The result shows that all the items have mean responses below 3.0, the weighted mean. Furthermore, the cumulative mean is 2.29, indicating little extent. This shows that students have moderate Strategic Planning skills in fabrication and welding which is not enough to equip them with competencies for technopreneurial exploits. The related hypothesis test indicates that the extent of influence of Strategic Planning Skills preparedness by fabrication and welding students in Technical Colleges to equip them with competencies for technopreneurial exploits is not significant.

The findings of the study is supported by Makinde and Asikhia, (2017) who investigated the relationship between strategic planning and SMEs performance while also considering the moderating effect of entrepreneurial characteristics on the relationship between these two variables

in Lagos state. The findings of the study revealed that there is positive relationship between strategic planning and performance in SMEs and is really needed to exhibit influence on the performance of SMEs.

**Conclusion**

Based on the findings of the study, it is concluded that the level of preparedness by students of welding and fabrication in technical colleges do not offer a complete set of Gas welding skills needed to enhance their technopreneurial exploits. The outcome of the study shows that technical students seem to have skills in workshop safety practices, but needs to develop more skills in gas welding and strategic planning to enhance their technopreneurial exploits.

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