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## REVIEWER'S REPORT

Manuscript No.: IJAR-58150

**Title: IMPACT OF APPRENTICESHIP TRAINING ON SKILLS ACQUISITION AND WORKFORCE READINESS AMONG TECHNICAL EDUCATION UNDERGRADUATE STUDENTS IN UNIVERSITIES OF EDUCATION IN SOUTH-WEST, NIGERIA.**

### Recommendation:

Accept as it is .....

**Accept after minor revision.....**

Accept after major revision .....

Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality		√		
Techn. Quality	√			
Clarity		√		
Significance		√		

Reviewer's ID: JPR- 212

### Detailed Reviewer's Report

This manuscript presents a comprehensive investigation into the impact of apprenticeship training on skills acquisition and workforce readiness among technical education undergraduate students in South-West Nigerian universities. The study addresses a significant and timely issue—the persistent gap between academic training and workplace readiness in developing economies. The research is well-conceptualized, methodologically sound, and offers valuable empirical evidence that contributes to the growing body of knowledge on Technical and Vocational Education and Training (TVET).

#### 1. ORIGINALITY (Rating: Good)

##### Strengths:

- The study addresses an underexplored area: the specific impact of apprenticeship training on both skills acquisition AND workforce readiness simultaneously within Nigerian universities of education
- The focus on South-West Nigeria provides regional-specific evidence that is currently limited in the literature
- The integration of three outcome variables (skills acquisition, workforce readiness, and self-reliance) offers a holistic assessment framework
- The conceptual framework effectively illustrates the relationship between apprenticeship training and desired outcomes

##### Areas for Improvement:

- While the study contributes to existing knowledge, the findings largely confirm what previous studies have established (Akinsolu & Fagbohun, 2023; Okoye & Edokpolor, 2021)
- The novelty could be strengthened by exploring moderating or mediating variables that explain *how* and *under what conditions* apprenticeship training is most effective
- Limited engagement with contemporary global debates on apprenticeship models (e.g., digital apprenticeships, hybrid learning approaches)

## REVIEWER'S REPORT

**Recommendation:** The originality is adequate but could be enhanced by offering more unique theoretical contributions or exploring previously unexamined contextual factors specific to Nigerian universities of education.

### 2. TECHNICAL QUALITY (Rating: Good)

#### Strengths:

- **Research Design:** The descriptive survey design is appropriate for the research objectives and allows for examination of existing conditions and relationships
- **Sampling:** The multi-stage sampling technique (purposive, stratified, and random) demonstrates methodological rigor
- **Sample Size:** With 200 respondents, the sample is adequate for the statistical analyses employed
- **Instrumentation:** The questionnaire (ATSAWRQ) was developed specifically for the study with proper validation procedures
- **Reliability:** The Cronbach's alpha coefficient (0.78) exceeds the acceptable threshold
- **Statistical Analysis:** Appropriate use of descriptive statistics (mean, standard deviation) and inferential statistics (t-test, regression, chi-square) at 0.05 significance level
- **Theoretical Framework:** The integration of Experiential Learning Theory (Kolb, 1984) and Human Capital Theory (Becker, 1964) provides solid theoretical grounding
- **Recent References:** The literature review incorporates current sources (2020-2025), demonstrating currency

#### Areas for Improvement:

##### a) Sample Size and Generalizability:

- While N=200 is adequate, the justification for this sample size could be stronger. The authors mention Cochran's formula and Krejcie and Morgan (1970) but do not show the actual calculation
- The population size is not clearly stated—how many total students comprise the four universities? This information is needed to assess representativeness
- The sample is heavily skewed toward males (85%), which may limit insights into gender-specific impacts

##### b) Statistical Rigor:

- The study reports t-test, regression, and chi-square results but does not mention checking for assumptions (normality, homogeneity of variance, multicollinearity)
- Effect sizes are not reported for any of the statistical tests, limiting the interpretation of practical significance
- The regression model (Table 5) shows R<sup>2</sup> value is not reported, only beta coefficient—readers cannot assess how much variance is explained

##### c) Methodological Limitations:

- The study relies solely on self-reported perceptions rather than objective measures of skills acquisition or workforce readiness
- The cross-sectional design limits causal inferences; the authors use causal language ("impact," "effect") that the design cannot fully support
- No control group or comparison group was used to establish baseline differences
- Potential common method bias (all data from same source at same time) is not addressed

##### d) Data Collection:

- The data collection process is described briefly; more detail on training of research assistants, administration procedures, and response rate would strengthen transparency
- No mention of handling missing data or non-response bias

**Recommendation:** Technical quality is solid but could be enhanced by:

1. Reporting effect sizes and confidence intervals
2. Including R<sup>2</sup> and model fit statistics for regression analysis

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## REVIEWER'S REPORT

3. Acknowledging the limitations of self-report data more explicitly
4. Providing detailed sample size justification with actual population numbers
5. Adding a limitations section that addresses these methodological concerns

### 3. CLARITY (Rating: Good)

#### Strengths:

- **Structure:** The manuscript follows a logical progression from introduction to conclusion
- **Abstract:** Concise and comprehensive, covering purpose, methods, findings, and recommendations
- **Language:** The writing is generally clear, formal, and appropriate for academic publication
- **Tables:** Tables 1-6 are well-organized and clearly present the findings with appropriate decisions
- **Conceptual Framework:** The conceptual framework (page 8) effectively visualizes the relationships under investigation
- **Literature Review:** Well-structured with clear conceptual definitions of key terms

#### Areas for Improvement:

##### a) Organization Issues:

- Some sections are poorly numbered. Pages 15-16 show duplicate numbering (537-544) and inconsistent formatting
- The "Discussion on Findings" section is dense and could benefit from clearer subsection organization
- The methods section would benefit from clearer subheadings to separate sub-sections

##### b) Wording and Grammar:

- Several minor grammatical errors throughout (e.g., "chosen usingmultistage" on page 1, missing space)
- Some sentences are overly long and complex, affecting readability
- Inconsistent use of terms (e.g., "employability" vs. "workforce readiness" are used interchangeably but are distinct concepts)

##### c) Table and Figure Clarity:

- Table 3 shows a confusing numbering issue (537-544 repeated from previous page)
- Table 6 formatting is unclear; the chi-square table appears in text rather than proper table format
- Missing figures that could visualize the conceptual framework more effectively

##### d) Key Concepts:

- The distinction between "skills acquisition," "employability," and "workforce readiness" could be clarified more explicitly
- The relationship between these concepts could be better articulated

##### e) Page and Formatting Errors:

- Pages 15-16 contain duplicate numbering (537-544 repeated), likely a formatting error
- The "Acknowledgement" section on page 19 is unusual for a research article and may be better placed in a cover letter

**Recommendation:** The manuscript requires minor editing for consistency, grammar, and formatting. A thorough proofreading would resolve most clarity issues.

### 4. SIGNIFICANCE (Rating: Good)

#### Strengths:

- **Practical Relevance:** The study addresses a critical issue—graduate unemployment and skills mismatch in Nigeria—which has significant economic and social implications
- **Policy Implications:** The recommendations (strengthened university-industry collaboration, curriculum reform, improved funding, enhanced supervision) are actionable and relevant for policymakers

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- **Regional Focus:** Providing empirical evidence from South-West Nigeria fills a gap in the regional literature
- **Contribution to TVET Discourse:** The study reinforces the importance of experiential learning in technical education, supporting global best practices
- **Theoretical Contribution:** The application of Experiential Learning Theory and Human Capital Theory to a Nigerian context extends theoretical application
- **Practical Recommendations:** The eight specific recommendations provide clear guidance for stakeholders

### Areas for Improvement:

#### a) Limited Innovation:

- While the study confirms existing theories and findings, it does not challenge or extend them significantly
- No new theoretical frameworks or models are proposed

#### b) Contextual Depth:

- The study could explore why apprenticeship training is particularly important in the Nigerian context (e.g., high unemployment, informal sector dominance)
- Limited discussion of how cultural factors in Nigeria influence apprenticeship effectiveness

#### c) Broader Implications:

- The study does not discuss implications for other developing countries or for other educational levels
- Limited attention to how digital transformation and Industry 4.0 affect apprenticeship training requirements

#### d) Sustained Impact:

- The cross-sectional design limits understanding of long-term impacts of apprenticeship
- No longitudinal evidence on whether apprenticeship training leads to sustained employment outcomes

**Recommendation:** The significance is substantial but could be enhanced by:

1. Discussing implications for other developing African countries
2. Addressing how apprenticeship training must evolve for Industry 4.0
3. Proposing a model or framework based on findings
4. Including a section on theoretical contributions and practical implications

## SPECIFIC RECOMMENDATIONS FOR REVISION

### MAJOR REVISIONS REQUIRED:

#### 1. Strengthen Methodological Rigor:

- Report effect sizes (Cohen's d, eta-squared) for all statistical tests
- Include R<sup>2</sup> and adjusted R<sup>2</sup> for the regression model
- Check and report on statistical assumptions
- Discuss limitations of self-report data more explicitly
- Consider including a social desirability bias assessment

#### 2. Clarify Conceptual Distinctions:

- Clearly distinguish between "workforce readiness" and "employability" throughout
- Explain how the three dependent variables (skills acquisition, workforce readiness, self-reliance) relate to each other
- Consider presenting a path model showing relationships

#### 3. Address Sample Limitations:

- Provide population figures for each university
- Calculate and report the actual response rate
- Address the gender imbalance in the sample (85% male) and its implications

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- Justify sample size with actual calculations using Cochran's formula

### 4. Improve Discussion Section:

- Organize the discussion into clear thematic subsections
- Include a section on "Theoretical Contributions"
- Include a section on "Limitations and Future Research Directions"
- Compare findings with international studies more explicitly

### 5. Add a Comprehensive Limitations Section:

- Address the cross-sectional design limitation explicitly
- Discuss the limitation of relying solely on self-report measures
- Mention the lack of a control group
- Address the limited generalizability beyond the South-West region
- Discuss the gender imbalance limitation

## MINOR REVISIONS REQUIRED:

### 1. Formatting and Grammar:

- Correct all spacing errors (e.g., "usingmultistage" → "using multistage")
- Fix duplicate numbering on pages 15-16
- Ensure consistent formatting for tables
- Standardize use of South-West, South-West Nigeria, etc.

### 2. Table Improvements:

- Present Table 6 in proper formatted table format
- Ensure all table headings are complete and clear
- Add interpretation notes where needed

### 3. Language and Style:

- Reduce overly long sentences
- Ensure consistent use of technical terms
- Move the "Acknowledgement" section to a separate cover letter or footnote

### 4. Reference List:

- Ensure all in-text citations appear in the reference list and vice versa
- Check for consistency in referencing style
- Consider adding more recent citations for methodological standards (2023-2026)

### 5. Abstract Enhancements:

- Include specific effect sizes or statistical findings
- Briefly mention limitations
- Ensure all variables mentioned in abstract are operationalized in the study

## ADDITIONAL COMMENTS

### Strengths of the Manuscript:

1. Comprehensive and well-structured literature review
2. Strong theoretical foundation integrating Experiential Learning Theory and Human Capital Theory
3. Appropriate and rigorous statistical analyses
4. Clear and actionable recommendations based on findings
5. Important contribution to the Nigerian TVET literature
6. Good sample size and appropriate sampling technique
7. The instrument demonstrated acceptable reliability
8. The conceptual framework effectively illustrates relationships among variables

### Areas for Enhancement:

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- Impact Measurement:** The study measures perceptions rather than actual skills acquisition. Consider including objective measures (e.g., practical assessments, employer evaluations) in future research.
- Mediating Variables:** The study does not explore mechanisms through which apprenticeship works. Are there mediating factors (e.g., supervision quality, duration, industry type)?
- Moderating Variables:** What factors influence the effectiveness of apprenticeship? Consider institutional support, student motivation, or curriculum alignment as potential moderators.
- Comparative Analysis:** A comparison between students who completed apprenticeship and those who did not would strengthen causal claims.
- Industry Perspective:** Include employer perspectives on graduates' skills and readiness for a more comprehensive assessment.
- Longitudinal Design:** Follow students post-graduation to assess actual employment outcomes and workforce performance.

### **DECISION: Accept After Minor Revision**

The manuscript makes a significant contribution to understanding apprenticeship training's impact on technical education outcomes in Nigeria. The research is methodologically sound, theoretically grounded, and offers valuable practical recommendations. However, several revisions—primarily minor formatting issues and clarification of methodological limitations—would strengthen the manuscript for publication.

#### **Required Revisions Summary:**

- High Priority:**
  - Formatting corrections (duplicate numbering, spacing errors)
  - Present Table 6 in proper table format
  - Include effect sizes for statistical tests
  - Add a comprehensive limitations section
- Medium Priority:**
  - Clarify conceptual distinctions between key variables
  - Include  $R^2$  for regression analysis
  - Discuss assumptions checking for statistical tests
  - Strengthen discussion with subsections
- Low Priority:**
  - Add more recent methodological citations
  - Consider including figures for conceptual framework
  - Enhance abstract with specific statistical findings

#### **Reviewer's Final Comment:**

This is a well-executed study that addresses an important issue in Nigerian technical education. With minor revisions to address the methodological limitations more explicitly and improve formatting consistency, this manuscript would make a valuable contribution to the literature on apprenticeship training and workforce readiness in developing economies. The findings have practical significance for policymakers, educators, and industry stakeholders seeking to improve graduate employability and self-reliance