

# MAINTENANCE-CULTURE PRACTICES OF FOOD AND CLOTHING LABORATORY TECHNOLOGISTS FOR SUSTAINABILITY OF HOME ECONOMICS EDUCATION IN NIGERIA

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## **Abstract**

The study investigated Maintenance-Culture Practices of Food and Clothing Laboratory Technologists for Sustainability of Home Economics Education in Nigeria. The study adopted survey research design. Four research questions guided the study; the area of the study was South-East of Nigeria. The population for the study was all the food and clothing laboratory technologists in the ten Federal and State Tertiary Institutions offering Home Economics Education in South-East of Nigeria. Questionnaire was used for collection of data. Mean was the instrument used for data analysis. The findings of the study include: poor maintenance-culture practices on the part of food and clothing laboratory technologists; ten factors militating against maintenance-culture practices of the food and clothing laboratory technologists; ten effects of maintenance-culture practices of food and clothing laboratory technologists on the sustainability of Home Economics Education in Nigeria and five ways to improve the maintenance-culture practices of food and clothing laboratory technologists. Based on the findings, recommendations were made which include: employment of knowledgeable/skilled and adequate staff is necessary to fulfill facility maintenance; renewal *and repair needs*.

**Key-Words:** Home Economics Education, Maintenance-Culture, Sustainability, Technologists.

Home Economics Education is an interdisciplinary field of study which helps families and individuals in the society to understand and adapt to the effects of social, economics, cultural and technological changes. According to Agwasim (1995) in Aliyu (2009) Home Economics Education has the philosophy which aims at utilizing modern science to improve home making, humanity to improve family life, the development of sound education to promote intellectual thinking and the use of research to increase information on the facts of life and the use of all resources to make home and family life effective parts of the social living. It is therefore, a unique subject and a functional education which is needed in this present dispensation where Nigeria is looking towards being one of the 20 largest economies in the world by the year 2020.

Home Economics Education can thus be the key to national development. It will unlock the economic potentials of the people, empower and equip the individual in the society to participate in and benefit from their national economy, facilitate economic development and provide the basis for social transformation in the country (Aluwong, 2008)

According to Anyakoha (1993), Home Economics is a practical oriented subject gearing towards tackling the challenges of our dynamic society by equipping people with practical skills and competences necessary to be self-reliant. Thus, for this dream to be achieved and sustained with the present trend of technological advancement, modern infrastructures/facilities and maintenance cultures are needed in the Home Economics food and clothing laboratories which are the engine powers of the course. Active and functional laboratories are essential in the study of Home economics. It is in these laboratories that the learner/trainee and the teacher/trainer test, construct, disassemble, bake, roast, grill, cook, mix, sew, repair, design, create, cut, imagine and study. Thus, the effectiveness of any laboratory depends on the quality of the facilities it is equipped with. Facilities are those buildings, utensils, tools, equipment, machines, furniture, electricity, etc, which enable a skillful teacher achieve a level of instructional effectiveness that exceeds what is possible when they are not provided. They are the essential ingredients in a teaching and learning situation (Castaldi: 1997 in Miller, 2006).

Today, most institutions are concerned with procurement of new facilities but are not bordered with maintaining the existing ones. Experiences have shown that lack of maintenance culture in our educational institutions has greatly affected the teaching, learning and economic growth of the institutions. The poor management of these physical assets has continued to pose huge threat to our educational institutions. Most of these facilities are used for some years after delivery without adequate arrangement/planned provision for servicing or maintenance. These facilities are allowed to suffer wear and tear to the detriment of the longevity and sustenance of educational development in the country.

Maintenance is a combination of actions carried out to retain an item, machines, equipment, tools etc in order to restore it to an acceptable working condition (Aroro and Goyal: 2008) . The purpose of maintenance is to increase the system availability and to keep the facilities in conditions that will meet normal operating requirements. Maintenance is the art of imbining maintenance attributes such as routine checks, repairs, servicing, renovating, taking preventive measures, inspection, lubricating and cleaning, lighting fixtures, dusting, tightening of nuts, etc to prevent equipment breakdown and malfunctioning through early detection and repairs of the causes that would lead to such failures. Maintenance- culture, on the other hand, involves drafting a time-table where the art of maintenance is carried out on a regular basis; a kind of programme of carrying out maintenance practices. For instance the plan may be such that the last day of the month is devoted to carrying out maintenance exercises on tools of work; or at the production of a certain quantity of output the machines/tools may be shut down until maintenance exercise is carried. The extent to which practice is upheld and sustained then to that extent maintenance-culture has been established in the organization.

Maintenance activities are supposedly the daily or weekly tasks of laboratory minders (the technologists). Laboratory technologists are specialists in technology that use scientific means and mechanical arts to provide objects necessary for human sustenance and comfort. In Home Economics they are the people in-charge of the food and clothing laboratories. They see to the day-to-day care,

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management and maintenance of the laboratories, facilities and for the execution of students' practical exercises. In other words, they are the custodians of food and clothing laboratories in every department of Home Economics in the institutions that offer the course. They are familiar with the facilities and can identify the components and systems with the utmost immediate maintenance needs, identify new facility utilization needs in the laboratories based on their observation. When maintenance-culture of facilities are imbibed and applied by these technologists, sustainability is assured in Home Economics Education. This is a known fact because according to Puyate (2002), availability, maintenance and effective use of facilities for the training or instructing of students in the university enhances vital process of skill acquisition which in turn empowers the beneficiaries to be productive after graduation. Therefore, if students are well trained before leaving the institution, they become good products of the institutions and by so doing, sustainability is assured. This paper looked at the maintenance-culture practices of food and clothing laboratory technologists for the sustainability of Home Economics Education in Nigeria.

**Purpose of the Study**

The general purpose of the study is to investigate into the maintenance- culture practices of food and clothing laboratory technologists for the sustainability of Home Economics Education in Nigeria. Specifically, the study tried to:

1. ascertain the level of maintenance-culture practices of food and clothing laboratory technologists
2. find out the factors militating against maintenance-culture practices by food and clothing laboratory technologist.
3. determine the effect of maintenance-culture practices of food and clothing laboratory technologists on the sustainability of Home Economics Education in Nigeria.
4. find ways to improving the maintenance-culture practices of food and clothing laboratory technologists

**Research Questions**

The study answered the following questions:

1. What are the levels of maintenance-culture practices of food and clothing laboratory technologists?
2. What are the factors militating against maintenance-culture of food and clothing technologist?
3. What are the effects of non maintenance-culture practices of food and clothing laboratory technologists on the sustainability of Home Economics education in Nigeria?
4. What are the ways to improve maintenance-culture practices of food and clothing laboratory technologists?

### **Research Methodology**

**Design:** The study employed a survey research.

**Area of the Study:** The area of study was South-East of Nigeria. It is one of the six geo-political zones in the country. It is made up of five states namely: Anambra, Abia, Ebonyl, Enugu and Imo. There are thirty federal and state owned tertiary institutions that offer Home Economics in the area.

**Population for the Study:** The population for the study is made up of all the food and clothing laboratory technologists in the federal tertiary institutions that offer Home Economics in the South-East zone of the country

**Sample/Sampling Technique:** Simple random sampling technique was used to select thirty technologists from the institutions that offer Home Economics.

**Instrument for Data Collection:** The instrument for data collection was questionnaire designed by the researcher. The instrument was divided into two main sections. Section A was structured to obtain personal data of the respondents. Section B was subdivided into parts 1-4 and sought information aimed at providing answers to the four research questions. A four point rating scale of “Strongly agree”, “Agree”, “Disagree” and “Strongly disagree” was used.

The instrument was subjected to both content and face validation by two experts in Home Economics/Hospitality Management and Tourism and one in measurement and evaluation Department of Michael Okpara University of Agriculture, Umudike, Abia-State, Nigeria. The instrument was pre-tested using 10 technologists who are not part of the sample for the study. Cronbach Alpha reliability index was used to arrive at a coefficient value of .82 which showed a good reliability.

**Technique for Data Collection:** A total of 30 copies of questionnaire was administered to all the respondents with the help of two research assistants. A period of two weeks was given for administration and retrieval of the copies of the questionnaire. There was 100% return rate.

**Analysis Technique:** Data collected were analyzed using Mean statistics. The researcher used 2.5 as the level of agreement. Hence, any item with a mean rating of 2.50 and above was regarded as agree, while any item with a mean below 2.50 was regarded as disagree.

### **Research Findings**

The tables below show the analysis of data related to each research question.

**Research Question 1:** What are the levels of maintenance-culture practices of food and clothing laboratory technologists?

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**Table 1:** Mean Ratings of Respondents on the level of maintenance-culture practices of food and clothing laboratory technologists.

S/N	Item	SA	A	D	SD	x	Decision
1	Dusting and cleaning before settling down to work for the day	6	14	3	7	2.63	Agree
2	Identifying and tightening loose nuts	2	4	23	1	2.20	Disagree
3	Servicing tools and machines as at when due	-	2	26	2	2.00	Disagree
4	Repairing faulty tools and equipment in the laboratory	-	3	27	-	2.10	Disagree
5	Keeping facilities in their appropriate places	4	16	2	8	2.50	Agree
6	Greasing machines as at when due	2	-	27	1	2.10	Disagree
<b>Grand mean</b>						<b>2.25</b>	

Table 1 reveals that all the respondents disagree on four out of the six items listed. This implies that the level of maintenance culture of food and clothing laboratory technologists is poor and not encouraging.

**Research Question 2:** What are the factors militating against maintenance-culture of food and clothing technologist?

**Table 2:** Mean Ratings of Respondents on factors militating against maintenance-culture practices of food and clothing laboratory technologists

S/N	Items	SA	A	D	SD	X	Decision
1	Lack of skills and expertise by technologists	20	6	4	-	3.53	Agree
2	Ignorance of job schedules	2	21	5	3	2.80	Agree
3	Lack of working tools	4	15	8	3	2.66	Agree
4	No motivation of staff towards innovative practices	25	4	1	-	3.80	Agree
5	Non involvement of staff in equipment procurement processes	-	18	10	2	2.53	Agree
6	Unwillingness and reluctance to support innovation	2	20	7	1	2.76	Agree
7	No clear job description for staff	10	12	6	2	3.00	Agree
8	No training and retraining programmes of the laboratory technologists	14	10	4	2	3.20	Agree
9	Inadequate number of personnel to man laboratories	10	12	6	2	2.67	Agree
10	Acts of indiscipline on the part of the staff	9	13	3	5	2.86	Agree
<b>Grand mean</b>						<b>2.98</b>	

Table 2 reveals that all the respondents agree to all the items listed. All the items had mean ratings above 2.5. This implies that all the items are factors militating against maintenance-culture of food and clothing laboratory technologists.

**Research Question 3:** What are the effects of non maintenance-culture practices of food and clothing laboratory technologists on the sustainability of Home Economics education in Nigeria?

**Table 3:** Mean Ratings of Respondents on the effect of maintenance-culture practices of food and clothing laboratory technologists on sustainability of Home Economics Education in Nigeria

S/N	Items	SA	A	D	SD	X	Decision
1	Persistent equipment break down	10	14	2	4	3.00	Agree
2	Frequent shortage of materials and spare parts in the laboratories.	10	11	3	6	2.83	Agree
3	Unsafe and non-efficient working environment for teachers and students.	30	-	-	-	4.00	Agree
4	Production of half- baked graduates	25	5	-	-	3.83	Agree
5	Stunted growth and economic rot of the system	10	10	3	7	2.76	Agree
6	Lack of interest in the study of Home Economics	4	15	8	3	2.66	Agree
7	Incidents of laboratory hazards/accidents	14	10	4	2	3.20	Agree
8	Poor performance of graduates in the field	10	12	6	2	2.67	Agree
9	Poor teaching-learning efforts	14	12	2	2	3.33	Agree
10	Unabated unemployment rate	-	18	10	2	2.52	Agree
<b>Grand mean</b>						<b>3.08</b>	

Table 3 above reveals that the entire items scored above the cut off point of 2.5. The respondents therefore, agree that the listed items are effects of non maintenance-culture of food and clothing laboratory technologists on the quality of Home Economics Education in Nigeria.

**Research Question 4:** What are the ways to improve maintenance-culture practices of food and clothing laboratory technologists?

**Table 4:** Mean Ratings of Respondents on ways to improve the maintenance culture practices of food and clothing laboratory technologists.

S/N	Items	SA	A	D	SD	X	Decision
1	Motivation of the maintenance personnel	26	4	-	-	3.86	Agree
2	Monthly report by the technologists on adherence to maintenance practices and implementation of cost-cutting initiatives	18	5	7	-	3.36	Agree
3	Sending the staff on training to update their skills and knowledge	16	12	1	1	3.43	Agree
4	Involving the staff at the procurement stage	3	20	4	3	2.76	Agree
5	Providing maintenance tools and facilities for the personnel	8	16	4	2	3.00	Agree
<b>Grand mean</b>						<b>3.28</b>	

Table 4 above reveals that all the respondents agree to all the items listed. All the items had mean ratings above 2.5. This implies that all the items are ways of improving maintenance-culture practices of food and clothing laboratory technologists.

### **Discussion of the Findings**

The findings in table 1 revealed that the level of maintenance-culture practices of food and clothing laboratory technologists is too poor and thus not encouraging. One can easily deduce from the findings that they lack the competencies required of laboratory technologists. They only agreed to items 1 and 5 which are simple tasks any body can handle. This further confirms that a product can not be better than the system that produced him.

The data presented in table 2 reveals the factors militating against maintenance-culture practices of food and clothing laboratory technologists to include: Indiscipline and ignorance on the part of the staff, utilization of poor technology, no incentives to encourage staff towards innovative maintenance, Lack of skills and expertise by the technologists, non involvement of the staff at the procurement level. These are in line with the findings of Olaitain (1989) in Agbataekwe (2003), which stated that lack of training and retraining of staff in the laboratory, indiscipline and ignorance, lack of incentives/rewards for maintenance staff are militating factors against effective maintenance of infrastructure/facilities in Nigeria.

The findings in table 3 show that there are serious effects of maintenance-culture practices of food and clothing laboratory technologists on the sustainability of Home Economics Education in Nigeria. Such effects include: persistent equipment break down, unsafe and non-efficient working environment for the teachers and students, stunted growth and economic rot of the system, production of half baked graduates, etc. These are in line with the view of Aladatan (2011), when he said that poor maintenance culture had impacted negatively on the country's development and had resulted in the stunted growth pervading each sector and the system.

Table 4 revealed the ways to improve the maintenance culture practices of food and clothing laboratory technologists to include: provision of motivation/rewards for the maintenance personnel, organizing workshops and conferences for the staff, sending the staff on training to update their skills and knowledge, providing maintenance tools and facilities for the personnel, etc. These findings agree with the findings of Ede and Adio (2011), who stated that incentives/rewards, organizing workshop and conferences, provision of maintenance tools and facilities are ways to improve the maintenance practices of laboratory custodians.

### **Conclusion**

Based on the findings, the following conclusions are drawn

- 1 The level of maintenance-culture practices of food and clothing laboratory technologists is poor and not encouraging.
2. There are factors militating against maintenance-culture practices of food and clothing laboratory technologists which include: indiscipline and ignorance of work schedules on the

part of the staff, not employing adequate personnel to man the laboratory, Lack of professional expertise in the technical field, lack of motivation/rewards for maintenance staff.

3. There are serious effects of non maintenance-culture practices of food and clothing laboratory technologists on the quality of Home Economics Education in Nigeria. Such effects include; persistent equipment break down, unsafe and non-efficient working environment for the teachers and students, stunted growth in the system, production of half baked graduates, etc.
4. Ways to improve the maintenance-culture practices of food and clothing laboratory technologists include: provision of motivation/rewards for the maintenance personnel, organizing workshops and conferences for the staff, sending the staff on training to update their skills and knowledge, providing maintenance tools and facilities for the personnel, etc

### **Recommendations**

The following recommendations are made based on the findings of this study:

1. Sufficient budgetary allocations for maintenance should be provided by the departments and the institutions at large.
2. Employment of skilled staff in adequate numbers is necessary to achieve facility maintenance, renewal and repair needs.

### **References**

- Agbataekwe, M.O (2003).Maintenance of engineering infrastructure for economic development in Nigeria: Constraints and Strategies. *Nigeria journal of arts, science and technology (NIJAST)* (1).162.
- Aladetan, P. F (2011). The impact of effective maintenance culture in TVET Institution on Sustainable National Development” *Proceedings of the 24<sup>th</sup> Annual National Conference. pp. 381-388, Umunze, Nigerian Association of Teachers of Technology (NATT).*
- Aliyu, R (2009) .Vocational Home Economics Education as an instrument for economic Advancement. *Journal of Vocational Education*, (1).
- Aluwong W.S (2008), ‘Vocational and Technical education: A veritable tool for achieving the millennium Development Goals in Nigeria. *Vocational Technical Education for Achieving Millenium Development Goals*. Kontagora; Unique Press.
- Anyakoha, E. U (1993). Emerging challenges for Home economics in Nigeria: implication for self-reliance, in E. U. Anyakoha & E. C Osuala (eds) *Vocational Technical Education and Self-reliance. Journal of Nigeria, Vocational Association.1.*
- Aroro, C, & Goyal, M (2008).*The Hotel Maintenance*. London, Heinemann.



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- Ede, E.O & T.A Adio, T.A (2011). Maintenance of Infrastructural/Facilities for Sustainable Industrial development”, *Proceedings of the 24<sup>th</sup> Annual National Conference*. Pp. 532-537, Umuze, *Nigerian association of teachers of technology (NATT)*.
- Miller, O (2006). Effective management of educational facilities in colleges of education (Technical): Implication for effective technology education for national technological growth. *A paper presented at the 19<sup>th</sup> National Conference of Teachers of Technology (NATT) held at Ilorin Kwara State, November 6<sup>th</sup>-9<sup>th</sup>*.
- Puyate, S.T (2002). Survey of vocational education facilities in government technical colleges in Rivers State. *Journal of Nigeria association of teachers of technology (NATT)*.4 (1), 175-176