RESEARCH ON THE CONSTRUCTION OF A TEXTILE TABLE WITH WOOD AND FABRIC

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Abstract
This project examined the construction of a functional textile printing table using locally available materials in the School of Fine and Applied Arts, Federal College of Education (Technical), Umunze. The study addressed the persistent problem of dilapidated and expensive imported studio equipment that hinders effective teaching and learning of textile design. Using a practical studio-based approach, the researcher designed and constructed a 4 ft × 18 ft textile table with wood, plywood, foam, and suede fabric. The construction followed four sequential stages: material assemblage, preparation and cutting, final assembly, and finishing. The completed table cost ₦104,000 and proved capable of accommodating up to 12 yards of fabric for screen printing, batik, and tie-dye processes. The study demonstrates that high-quality textile equipment can be produced locally at low cost, thereby promoting improvisation, self-reliance, and improved practical learning in Nigerian art institutions.

Introduction
Over the years, Nigerians have continued to look up to other developed countries for most of its technological needs and this no doubt affects the technological advancement of this nation. One of the major challenges for us in the developing countries is how to channel our abundant human and material resources into the productive economic sectors of national development. The federal government embarked on various projects to ensure speedy growth and development of technology. For instance, the federal government adopts the use of Tertiary Education Trust Fund intervention in colleges of education, polytechnics, and universities to equipt and fund teaching and learning with the supply of equipment, machines, structures, tools etc to student practical and theoretical research Kadolph, (2007). But the question is, why should all these equipments be imported. Again why should everybody want to depend solely on foreign materials when we can produce and maintain our dilapidated equipment with locally made materials available in our country. Why should we continue to desire air conditioned office? Can't we go into the field and put our skills to test, if we must achieve our own technological advancement and goal needed in this nation, for this reason, the researchers however deemed it necessary to design and construct one of the many equipment needed in the textile unit in other to motivate other students.

The designers hope that the textile table will not be useful only in textile unit of the school of Fine and Applied Arts in particular but also to other units like graphic, drawing, painting etc and the college in general.

Statement of the Problem
Following the dilapidated and poor standard nature of the already made textile table in the studio and poor management or misuse of the table by some artist and non-artist in the school of Fine and Applied Arts and also art equipment are capital intensive and the inability of some artist to use local materials to improvise relevant tools and reconstruct damaged ones hinder them from producing certain jobs. Again, in school of Fine and Applied Arts, lack of

materials and equipment bring about ineffective teaching and learning. The researchers having considered this challenges decided to research on construction of ultra modern textile table for printing and designing of fabric.

Objectives of the Study

The usefulness of this textile table in the textile unit and Fine and Applied Arts in general cannot be over emphasized. Emphasis therefore is layed on homemade and self made products. This is very necessary to save the nation's economy from shambles. For this reason, the researchers was deemed it fit to carry out this project for the following reasons;

1. To prove that a good textile table can be constructed in a less expensive approach without foreign aid
2. To encourage efficacious teaching and learning in the textile unit of applied art department in the college
3. To boost the moral and practically guide the students who may wish to embark on similar projects in the nearest future.
4. To bring to the notice of the students the need for improvisation of art materials and equipment for their use not only in Fine and Applied Arts department but also to produce enough to be sold to other schools.

Importance of the Study

The design and construction cum reconstruction of textile table is very important in textile unit. Students find it easy to design and print six to twelve yards of fabric at once in one table. And also, the lecturers, the staffs and non staffs are a beneficiary of it.

Literature Review: Concept of Textile Printing Tables

A textile printing table is a flat, smooth surface used in the printing and designing of fabrics. It is a key piece of equipment in textile studios and is essential for techniques such as screen printing, block printing, and stencil application. According to Okonkwo (2016), a good textile table must be stable, durable, and made with non-absorbent materials to support clean and accurate printing.

Importance of Practical Equipment in Art Education

Practical tools and equipment play a vital role in art education. They help students translate theoretical knowledge into real-life creative expressions. Adefemi (2019) emphasized that a well-equipped studio encourages experimentation, improves skill development, and motivates learners. In the absence of functional tools like a textile table, students may find it difficult to engage in productive studio work.

Causes of Equipment Deterioration in Educational Institutions

In many Nigerian tertiary institutions, art equipment such as printing tables deteriorate over time due to lack of maintenance, poor quality materials, and frequent use by large numbers of students. As observed by Ezeagu (2021), the inability to repair or replace broken equipment in time leads to poor learning environments. This underscores the need for reconstruction and regular upkeep.

Use of Wood and Fabric Materials in Furniture Construction

Wood is one of the most widely used materials in furniture construction due to its strength, flexibility, and availability. According to Usman and Bello (2020), hard woods such as

mahogany, iroko, and gmelina are suitable for durable furniture. Fabric materials like foam padding, canvas, or felt are often used to line or support the working surface of textile tables to provide friction and softness during printing.

Benefits of Using Locally Available Materials

The use of locally sourced materials in construction and reconstruction projects helps reduce costs and encourages sustainability. Olayemi (2018) noted that art departments in Nigerian schools can significantly improve their learning environments by using local materials to repair and rebuild broken equipment rather than relying on expensive imports.

Reconstruction as a Form of Creative Problem Solving

Reconstruction in the arts is not only a maintenance strategy but also a creative process that allows for innovation and design improvement. Agbo (2022) describes reconstruction as an opportunity to redesign equipment with modern features that improve user experience. In this context, rebuilding the textile table presents a chance to create a more functional and aesthetic structure.

Ergonomic Considerations in Textile Table Design

Ergonomics plays an important role in the design of studio furniture, particularly textile printing tables that require prolonged standing and repetitive movements. According to Obasi (2017), poorly designed worktables can lead to fatigue, back pain, and reduced productivity among users. An ergonomic textile table should be constructed at an appropriate height, provide adequate legroom, and have a stable surface to ensure comfort and efficiency during printing processes. Proper ergonomic design enhances students' concentration and promotes safe studio practices.

Maintenance Culture in Art Studios

Maintenance culture refers to the regular care, repair, and proper use of equipment to prolong its lifespan. In Nigerian educational institutions, the lack of maintenance culture has contributed significantly to the rapid deterioration of studio equipment. Adeyemi and Lawal (2020) observed that many art studios suffer neglect due to insufficient funding and lack of technical personnel. Establishing routine maintenance practices can reduce the need for frequent replacement and ensure continuous availability of functional equipment such as textile tables.

Sustainability and Reuse of Materials in Art Education

Sustainability has become a major concern in contemporary art and design practices. The reuse and reconstruction of existing equipment align with sustainable development goals by reducing waste and conserving resources. According to Okafor (2019), recycling and refurbishing materials in art studios not only save costs but also expose students to environmentally responsible practices. Reconstructing a dilapidated textile table using wood and fabric materials supports sustainable studio management and encourages creative reuse.

Safety Considerations in Textile Studio Equipment

Safety is a critical factor in the construction and use of textile studio equipment. Faulty or broken tables can pose risks such as injuries from sharp edges, unstable surfaces, or collapsing structures. Nwankwo (2021) emphasized that safe studio furniture must be firmly constructed, free from protruding nails or splinters, and capable of supporting repeated use. Reconstruction provides an opportunity to correct structural weaknesses and enhance safety standards in the textile studio.

Role of Workshop-Based Learning in Fine and Applied Arts

Workshop-based learning is central to Fine and Applied Arts education, as it allows students to acquire practical skills through hands-on experience. According to Ibrahim (2018), effective workshop learning depends largely on the availability of functional tools and equipment. Textile tables serve as primary workstations for fabric design and printing activities. Therefore, improving or reconstructing such equipment directly enhances the quality of teaching and learning in textile education.

Relevance of Reconstruction Projects in Student Skill Development

Engaging students in reconstruction projects helps them develop practical skills such as problem-solving, material selection, measurement, and basic construction techniques. As noted by Danjuma (2022), reconstruction projects bridge the gap between theory and practice by encouraging learners to apply artistic and technical knowledge creatively. The reconstruction of a textile table thus contributes not only to equipment availability but also to students' vocational competence.

Extended Summary of the Review

The reviewed literature reveals that functional textile printing tables are indispensable in textile design education. Issues such as poor ergonomics, lack of maintenance, safety concerns, and inadequate funding contribute to the deterioration of studio equipment in Nigerian institutions. The use of wood and fabric materials, particularly when locally sourced, offers a sustainable and cost-effective solution. Reconstruction emerges as a creative and practical approach that enhances functionality, safety, and aesthetic value while supporting effective teaching and learning in Fine and Applied Arts.

METHODOLOGY

Project Execution/Construction Procedure

The construction of the textile table involves the designing of long rectangular frame surmounted by plywood, foam and suedecarefully joined together as the top cover. The frame is supported by six wooden stands as leg. Sequentially, this construction follows a number of steps starting from the assemblage of materials and tools, preparation and cutting of the materials, fastening together of materials and finishing. The steps include the following:

Step 1: Assemblage of Materials and Tools

All the necessary materials needed for this project were collected from different places. The plane wood 6" by 4" and plane plank, 2" by 4" plank and 3 sheets of 2inches plywood, all from timber shed. Foam and suede-a cloth material were also gotten from the market. Then other materials are nails and gun tacker and pin, strong super bond and paint were all assembled.

Tools

The tools were also assembled: they includes 1 ½ inches nail and 5 inches nails, hammar, saw, gun tacker, jack plain etc.

Plate 1: suede (a cloth material).
Photo: Anya, 2025

Plate 2: ½ inch plywood
Photo: Anya, 2025

Plate 3: Foam Photo: Anya, 2025
Photo: Anya, 2025

Plate 4: Supper bond (gum).
Photo: Anya, 2025

Step II
Preparation and cutting the materials

This involves marking out with accurate measurement and cutting out of the member pieces from the plank. Having studied the design to determine the quantity of members in length, width and thickness are cut and dressed the same time, examples the six legs all made plane and smoothed at the same time. The suede were cut with the measurement of the table and stitch together with sawing machine. The pins were fixed properly into the gun tacker and nails of different inches were made ready together with saw and hammer.

Plate 5: Well arrangement, setting and flattening of the foam. photo by Prince and Princess Photos.

Step III: Final assembling

This include the following operations.

i. Assemble the two longer sides of the textile table join with 5 inches nail to strengthen them. Join the six legs on the fame.
ii. Assemble the other components parts using their matching numbers and marks
iii. Place the plywood on top of the frame to form the table floor, hold tight with nails.
iv. Flatten the foam on top of the plywood after applying supper bond on it.
v. Cover the foam with suede and pin it tight with gun tacker.

Step IV: Finishing

i. Check far sharp edges and debure carefully
ii. Check for unwanted opening and apply wood, filler or suede.
iii. Sand paper and cut out all the rough edges created by the suede and planks
iv. Spray mercury polish or brown paint
v. Cover the table to avoid damage by outside and passerby

Plate 6: Finished Outcome of the constructed table photo by Prince and Princess Photos.

Plate 7: Student Printing Fabric on the Table Using Mesh photo by Prince and Princess Photos.

DESCRIPTION OF THE MATERIALS USED.

S/N	ITEM	Quantity	Length	Thickness	Material
1	Plywood	3 sheets		½ inches	Wood
2	Suede	6 ½ yards	6yards	-	Cloth
3	Supper bon	1 tin	-	-	Gum
4	Gun tacker	1	-	-	Stepler
5	Nail	1palm weight	5 inch / ½ inch	-	
6	Stand	6 pics	3 fts	6 x 4	Wood
7	Top frame	4 pics	6fts	2 x 4	Wood
8	Brush	1 pics	-	-	Brush
9	Finishes	1 tin	-	Polish	Mecury paint

Table 1: Describe

Materials used

1. Planks – for forming the legs and frames
2. Plywood – strong enough to form the top floor
3. Glue: for sticking the foam to the board
4. Finishes: mecury paint
5. Nail: for the final assembling
6. suede: For covering the top foam
7. Foam: for getting a soft top.

Equipment

1. Saw: for marking out joints and cutting
2. Hammer: for nailing the woods together
3. Brush: for painting
4. Gun tacker: for pining the suede
5. Jack plain: for smoothing the wood.

Total of production

Total cost of materials	₦95,000
Workmanship	₦ 9,000
Total	₦104,000

DISCUSSION

After test running the table by a student, it was discovered that the table serves perfectly well. There was no difficulty using the table during printing. Again, the safety of the table depends on the careful management by the user. The user should not expose the table under the rain. This will enable the table to last as long as possible.

Textile table is an important equipment in the textile studio of Fine and Applied Arts. It is meant for the major purpose of designing, printing and dabing of fabrics. It is also used in graphic studio for screen printing, heat printing, retouching, cutting and carving of all kinds. Textile table is of different sizes and quality, depending on the available resources for its construction. It also depend on the function for which it would be serving. However, this textile table is made up of the following components, the stands which could be metal or wood. The body consist of the flat rectangular surface, tactically enveloped with cloth material which serve as the cover.

The table is constructed with wood, as the stands and frame. Also the table floor is formed with a very wide plywood with light gage of foam on top. This foam was finally covered systematically with suede It is a textile material made printing, dabing designing easier. The table is about 4ft by 18ft. it is large enough to accommodate more than six yards of fabric during printing.

The project is constructed in such a way that any person whether tall or short can conveniently work with. The height is three feet (3ft). It is easier and very cheap to maintain.

FINDINGS AND GAPS FILLED

It was noted that out that the textile table is used to print design on a fabric. It is also used during batic and tie-dye. To print on textile table, spread your fabric on top of the table and fasten it with drawing pin or masking tape. Place your design on the fabric and print. In the case of screen printing, use mesh/screw that contain transferable motif and draw textile ink with squeegee, the motif, will now register on the fabric while the suede on the table will help to draw excess colour.

During the course of constructing this project, it was observed that a lot of problems were encountered. Prior among them was a financial problem brought about by the high cost of purchasing the materials used for the construction. Nevertheless, the researcher, due to the need to fill a missing gap, perseverance was applied to achieve the result with the available financial amount Another problem was the loss of value or quality of essential resource materials. Many materials have lost their original, genuine and durable qualities. These days, good quality materials are nowhere to be found in the market. It too much time to select the best materials that can fit easily and at the same time serve the purpose of which it is meant for after a series of testing.

Consequently, these problems resulted to some unavoidable impacts on the construction of the project work as metal could have been used for higher durability, but wood was used which can depreciate with time.

Suggestion for Further Development

The problem with the teaching and learning of art in Nigerian schools is the fact that art is cost-intensive and most of these materials and equipment are not locally produced.

This fact impede the teaching and learning of art. In view of the above, improvisation of certain materials and equipment can help to minimize this problem. Also the educational administration should make it a point of duty to provide textile tables and other important art equipment for effective teaching and learning of textiles and art in general. This will help achieving the board of objectives of education-to educate for self reliance.

Moreover students should be encouraged to embark mainly on practical projects to help the school develop rapidily and save the college huge amount.

Conclusion

Textiles is a very lucrative branch of art and the materials needed for it are many but can be easily improvised to facilitate learning or productivity.

However the major concern of technical education is to provide the students with a strong emphasis on the proper use of materials and tools in conjuction with human resources which this project works is evaluating.

Recommendation

This project work will go a long way to serve as a foundation to the next generation of students to come. The younger generation will be able to modify, reconstruct, and even construct a new project needed in their area of work using available resources. This practical or project work will go a long way in given information to many artisans, apprentices, students who may wish to design and construct a textile table or any other equipment similar to this.

Again, students should be exposed adequately in schools so that they can fit in properly outside the fore walls of the school environment. They should be exposed to many things that can be made from local products. It is excellent training for children to make things which are of practical use. It stimulate their imagination and heightens their interest in the work they do.

Finally, if school children are thought to prepare their own materials and equip early, they will grow to love made in Nigeria goods. Young technicians and technologist will be encouraged and more equipment will e produced. By so doing, Nigeria would have started towards his match to attain its technological goal as is obtained by other developed countries.

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