

# Production and Usage of Three-Dimensional Tools for Learning in Lower Primary Section (A Case Study of Joy and Jolly Nursery School Namungoona)

NANYOMBI JAUHARAH

Metropolitan International University

**Abstract:** *Everybody wants to see the transition of children from pre-primary to primary level go as smoothly as possible so that a child can maximize their academic potential through an effective educational process. However, there are a number of difficulties that learners and educators must overcome in order for the transition to go smoothly, and these difficulties are entirely contingent upon the availability of developing teaching methods and resources. In light of this context, the study investigated the creation and application of three learning aids in the lower primary division at Joy and Jolly Nursery School, Namungoona. Data from 76 respondents, including students, instructors, and school officials, were gathered via questionnaires. Data obtained was presented in tabulation form and analysed using frequency and percentages. The study's results stated that local educational tools are not used to their full potential; as a result, it was suggested that local and recyclable materials be used as an alternative to purchasing basic multi-instructional materials in schools, especially at the primary level. Teachers should take on the responsibility of creating clear and efficient teaching tools to improve students' understanding and grasp of subjects covered in lower primary school.*

**Keywords:** production and three-dimensional tools

## Background of the study

Teaching tools are the facilities and materials, both human and inhuman, that can be used to facilitate, support, enhance, and advertise teaching and learning activities, according to Remillard and Heck (2014). These are any tools or resources applied to the process of instruction. Teaching aids are defined as educational resources used to enhance students' knowledge, skills, and abilities to monitor their assimilation of information and contribute to their overall development and upbringing in the great Soviet Encyclopedia.

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Teaching aids, usually referred to as visual aids, are efficient instruments that "invest the past with an aura of authenticity," according to (Rather, 2004). Graphic aids provide the students with accurate data, retaining their interest and assisting in the comprehension of the wonders of antiquity. Through the visual and aural senses, they make demands on the mind. One of the factors that roots student engagement in the class is the use of three-dimensional items as teaching aids because when students look at a visual model or assistance, it is regarded as a form of participation. Also, the introduction of visual aids encourages movement and could improve control.

## Statement of the problem

The deteriorating state of our educational system is quite worrisome. Today teachers and students encounter a problem of inadequate teaching and learning materials yet are to be brought into play along the line to enhance educational achievement whenever they are properly used. Nevertheless, it has been realized that there is a need for a coordinated source of information for pre-service teachers on the preparation and utilization of instructional materials. This will help to reduce most of the problems in the teaching and learning process. In spite of this, the problem associated with this instructional material is the procurement of the instructional materials.

## Objectives of the study

1. To develop three dimensional tools for learning in the lower primary section.
2. To assess the utilisation of three-dimensional tools in lower primary section.
3. To examine the impact of using three dimensional tools in teaching lower primary section.

## Studio guiding questions

1. What materials are suitable for developing three dimensional tools for learning in lower primary section?
2. How can three dimensional tools be utilised in the lower primary section?
3. What impact does use three dimensional tools have on learning in lower primary section?

## Methodology

### Research Design

According to (Ling, 2006), a research design is a strategy, plan, or strategy used to produce solutions to research challenges. The case study was a part of the research design, which also employed quantitative and qualitative methods. With surveys and interviews, the researcher was able to focus on a particular target group and gather primary data using the case study design. Also, the researcher gathered secondary data by reviewing books and other library resources as well as other types of publications.

### Population of the Study

Ngechu (2004), defined population as a well-defined or set of people, services, elements, and events, group of things or households that are being investigated. The study population consisted of the key stakeholders such as administrators, teachers, other staff members and students.

### Sample Size

A Sample is a finite part of a statistical population whose properties are studied to gain information about the whole. When dealing with people it can be a set of respondents selected from a large population for the purposes of this survey. According to Mugo (2002), sampling is the designated process to choose appropriate target respondents that can represent the whole population. Hence, the relevant method was used to minimize bias findings in sample size selection.

### Sampling Techniques

#### Simple Random Sampling

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#### Purposive sampling technique

(Tellis, 2014), states that purposive sampling is when the participants are sampled basing on the satisfactory of the research needs. Purposive judgment of sampling will be used in choosing respondents. However, purposive sampling technique was used to identify specific category of people who would provide most relevant information regarding this study.

### Data Collection Methods

#### Questionnaire method

(Daniel, 2018) described a questionnaire as a predetermined list of questions which are answered by a subject respondent without supervision or explanation by the interviewer. This will be used by the researcher to get Information especially from the administrators. Both open and closed questions will be sent to widen the chance of response.

Open ended questions enabled respondents to express themselves as they answer the set questions. Closed ended questions enabled the respondents to choose the right answer of their choice to questions.

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#### Interview method:

(Kelly, 2007) defined an interview as a face to face conversation between an interviewer and respondents conducted for the purpose of obtaining Information. The researcher used the interview method and this involved face to face encounter between the researcher and all targeted respondents like administrators, teachers, other staff members and students.

#### Data analysis

Before quantitative data analysis, the collected data was coded, entered in SPSS, edited and verified to ensure accuracy, completeness and consistency.

## RESULTS

### Respondent's Particulars

#### Gender of respondents

**Table 1: Showing the gender characteristics of respondents**

Gender	Frequency	Percentage
Female	43	56.6
Male	33	43.4
Total	76	100

Source: Primary Data, November, 2022

Table 1 indicates that 56.6% of the respondents were female as compared to male who constituted 43.4%. They all responded to the questionnaires given to them in the study. According to the research, more questionnaires were given to the females because most of them were lower primary teachers who could give appropriate data.

### Education level of respondents

Table 2: Showing the education level of respondents

Education Level	Frequency	Percentage
Primary	20	26.31
Certificate	30	39.47
Diploma	14	18.42
Bachelors	07	9.21
Masters	05	6.58
<b>Total</b>	<b>76</b>	<b>100</b>

Source: Primary, Data, January, 2022

Table 2's findings show that the majority of respondents' responses regarding their educational backgrounds indicated that 39.47% of them had a certificate, as the majority of those interviewed were grade three teachers, and 26.31% had a primary education, as they had been chosen at random from their primary school.

Since some of the teachers interviewed had been promoted to grade V, 18.42% of the group held diplomas, followed by 9.21% of those with bachelor's degrees and 6.58% of those with master's degrees, mostly school administrators.

The general finding was that the participants who were questioned came from a wide range of educational backgrounds, providing adequate data.

### Occupation background of respondents in terms of years

Table 3: Showing the occupation background of respondents in terms of years

Occupation	Frequency	Percentage
Above 10 years	30	39.5
05-09 years	26	34.2
00-04 years	20	26.3
Total	80	100

Source: Primary Data, November, 2022

In table 3, the study indicated that 39.5% were above ten years, 34.2% were between 05-09 years since majority of the respondents were experienced long serving teachers, 26.3% were the pupils and newly required teachers into the service. The researcher noted that there is a need for the government to come up with more programs to help both teachers and pupils to make three-dimension teaching aids although there are two-dimension teaching aids like charts are used at Joy and Jolly Nursery School Namungoona.

### Whether three-dimension teaching learning aids are utilised in teaching

**Table 4: Showing responses on whether three-dimension teaching learning aids are utilised in teaching**

Responses	Frequency	Percentage
Yes	10	13.2
No	52	68.4
Not sure	14	18.4
Total	76	100

Source: Primary Data, November, 2022

The results in table 4 show that 68.4 percent of the respondents indicated that three-dimension teaching learning aids are not used in teaching in the lower section at Joy and Jolly Nursery School Namungoona, 13.2 percent indicate that three-dimension TLs are used while 18.4 percent were not sure.

### Responses on the materials used during teaching learning process

**Table 5 Responses on the materials used during teaching learning process**

Material	Frequency	Percentage
Textbooks	21	27.6
Chalk board	14	18.4
Real objects	12	15.8
Slates	08	10.5
Charts	15	19.7
3D tools	06	7.9
Total	76	100

Source: Primary Data, November, 2022

From the interview of 76 respondents, 27.65% indicated that textbooks are mainly used during teaching learning as TLs for teaching, 19.7% indicated use of charts as it was ranked second, 18.4% indicated the use of chalk board, 15.8% of the respondents indicated the use of real objects, 10.5% of the respondents indicated the use of slates while 7.9% indicated the use of 3D tools and was ranked with the smallest percentage indicating that it was not being effectively utilised in the area of study.

### Responses about the utilisation of teaching learning aids

**Table 6: Showing responses about the utilisation of teaching learning aids**

Use	Frequency	Percentage
Reading and writing	40	52.7
Reciting and conveying ideas	26	34.2
Visual perception	10	13.2
Total	76	100

Source: Primary Data, November, 2022

In table 4, the study indicated that 52.7% indicated that TLs are used for reading and reading purposes and was ranked highest, 34.2% of respondents indicated reciting and conveying ideas while 13.2% of the respondents indicated visual perception

### The impact of teaching aids as they were aired out by respondents.

**Table 7 Reveals the possible solutions that were aired out by respondents.**

Response	Frequency	Percentage
Boosts creativity	35	46.1
Makes the lesson practical	18	23.7
Marital counselling	15	19.7
Strengthen gender/ church	08	10.5
Total	76	100

The greatest proportion, 46.1%, was obtained for faithfulness, suggesting that in order to prevent issues, couples must be faithful to one another.

such as fraud and the spread of illnesses like HIV/AIDS.

joining religious organizations for spiritual support

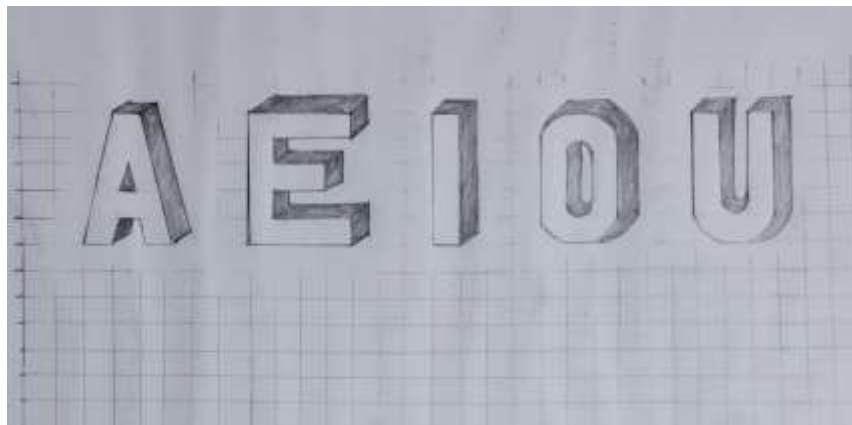
This perspective received a score of 23.7%.

Because all religions stress the need of being present and supportive to family and spouse "in good or bad times," it was inferred that divorce would be less common in homes whose members fear God.

19.7% of respondents suggested pre- and post-marital counseling as a way to prevent divorce.

Several respondents admitted they entered marriages without understanding what happens in marriage institutions.

**Production and Usage of Three Dimensional Tools for learning in lower primary section (A case study Joy and Jolly Nursery School Namungoona)** the study findings here indicate the researcher produced Three Dimensional Tools for Learning in lower primary section at Joy and Jolly Nursery School Namungoona for use during teaching learning process. The illustration included counting numbers from 1-5 as shown in the developmental stages show in figure below. They were installed for use in the lower primary section for (A case study Joy and Jolly Nursery School Namungoona)





*Figure:6 Three-dimension Teaching learning Aids*

*Source: A researcher, November,2022*

## Conclusions

The research also revealed that our immediate environment is endowed with various resources that can be a great resource for addressing schools instructional resource needs in the country and also enable schools and their local communities to collaborate effectively in utilizing the tools and materials available in their local environments.

## Recommendations

Ministry of Education should infuse more practical skills acquisition into the study of subjects to develop the skills needed for teachers to design and develop appropriate instructional materials for classroom instruction.

## REFERENCES

Adeyanju, G.A. (1977); *Creativity Learning and Learning Styles*. Zaria: Nigeria. Isola Ola & Sons.

Atkinson, R. K. (2000). *Learning from Examples: Instructional principles from the worked Examples Research*. Mississippi: Mississippi State University.

Babayomi A. A. (1999). *Comparative study of the Teaching and Learning Resources in Private and Public Secondary Schools in Lagos State*. Master's Thesis, Department of Educational Administration, University of Lagos, Nigeria.

Fuller, (1994). *Raising School Effects While Ignoring Culture? Local Conditions and the Influence of Classroom Tools, Rules, and Pedagogy*. *Review of Educational Research*. 64(2): 119 – 157.

Glewwe and Kremer (2006). *School Quality Trends in the Third World (mimeo)*, By B. Fuller. Washington DC: World Bank, Education and Training Department.

Hanushek, Eric, S. Rivkin, and L. Taylor (1996) "Aggregation and the Estimated Effects of School Resources, *Review of Economics and Statistics*; 78(4): 611-27, November.

Mugenda, O. M. and Mugenda, A. G (2003). *Research methods*. Nairobi: African Centre for Technology Studies (ACT).