

Instructional Media Production for Early Childhood Education: A. B. C. Jig-Saw Puzzle, a Model

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ABSTRACT

In this paper, a. b. c. jig-saw puzzle was produced for early childhood education using local materials. This study was a production based type of research, to serve as a supplemental or total learning resource. Its production followed four phases of development referred to as information, design, production and evaluation. The storyboard cards, lesson activities plan as well as drafts of the phases were reviewed and re-reviewed by experts and adjustments were made based on their suggestions. These documents were woven to bring about a blueprint which was translated and produced to become an instructional resource. The product (a. b. c. jig-saw puzzle) was evaluated by twenty (20) Educational Technology experts. The means as well as percentages of experts' assessment were used to determine product suitability. The results show that the package was purposeful, appropriate, suitable, standardized and with high quality overall. The product was tested on five different children of early childhood age and found to have the capabilities of motivating them, creating interactions in an open relationship, building and sustaining attention and bringing about self-discovery and self-actualization. It is recommended that more concepts should be coded and produced for the early childhood stage children, in order to cater for their needs. They might fully participate in learning experiences put together for them in an interesting pattern fashioned as a game. The instructional resource should be replicated and used in early childhood education. Also, seminars and workshops should be organized for teachers at this level of education constantly, to give them the competence required to manipulate instructional resources and teach adequately at this crucial stage of education.

Keywords: *Information; Design; Production; Evaluation; Jig-Saw; Puzzle; Interaction; Relationship and Self Actualization.*

INTRODUCTION

The foundation of everything in life is always very crucial and important to be taken very seriously, paid proper attention to, pursued with vigour and adequately provided for (Anderson & Baskin, 2002). Hence, if the foundation of any sort is faulty, whatever is built on it will in no doubt crack, crash, and crumble. Ozigi and Canham (1979) defined early childhood education as education of children within the ages of two to five years where they are taught with a view to developing independence and versatility. Also, it is to bring about the ability to do creative problem solving and to function effectively both personally and socially. This stage of education is also referred to as pre-primary education where learners at this stage learn rudiments of numbers, letters, colors, shapes, among others; they also learn good character and good health habits through play (Federal Republic of Nigeria, 2004).

Little or no attention is paid to the early childhood education in the under-developed and most of the developing countries of the world. This neglect has brought about the dwindling and retrogressive impact on every facet of life of the people. It is so because, the future of these societies is not properly taken care of;

for the youngsters of today are leaders of tomorrow. The children who are not properly educated will in turn ruin the state of affairs of that nation. There has not been a particular policy or regulatory framework implemented to cater for this cadre of education. It is also sad to note that no regulatory body is saddled with the responsibility to map out or chart how the ladder of education should be run. Researchers are not helping matters; this is because majority of research studies are tailored to the Primary through to the Tertiary level, to the detriment of early childhood education which is the platform where those focused stages would be built (Olanrewaju, 1995, 2003, 2005).

In all the areas of neglect and nonchalant attitude of stakeholders at this level of education, a particular note is in the aspect of instructional materials production and provision. This is very crucial because learners at this stage are in the world of motor activity. Their learning principle is mainly through play-way method which is activity oriented. To produce, in order to provide for this level of education therefore, it must be seen very important and pursued vigorously following instructional practice specifications thoroughly (Eyadat & Alodiedat, 2010; Florida State University, 2011). This is seen in matching the needs as well as the interests of the learners together with their age among others (Fakomogbon, 1997; Fomichov & Fomichova, 1998; Olanrewaju, 2003). Also, production procedural specifications must be adhered to, after satisfying the learner potentials and capabilities. The material (product) to be produced must also be capable of assisting learners to learn individually regarding their pace and otherwise (Hackbarth, 1996; Heinich, Molenda, Russell, & Smaldino, 2002; Olanrewaju, 2003, 2005).

Many models in producing instructional materials exist which can be used for any setting. Some of them are that of ADDIE, Dick and Carey and other ISD models. The major concepts or procedures to follow are broken into phases as determined by various models. A chosen model or more can be woven together in actualizing the product intended. The vital procedures include: Information; Design; Production and Evaluation stages. All these stages are to be thoroughly observed and followed in order to attain the purpose(s) set (Hackbarth, 1996; Olanrewaju, 2003; Viecek & Wiman, 1989).

Olanrewaju (2005) described the information stage as the phase where notes are taken on account of why to produce; what to produce; who to produce for and where to produce. Other considerations are: where to use the product; how to produce it; materials to produce it and how to evaluate the product to be produced. All these are pertinent issues must be settled properly if any meaningful instructional material is to be produced and fulfil the intended purpose. They are probing and provoking thoughts put down in writing to adequately prepare one for the onerous production task. This phase is also referred to as the pre-planning stage where diverse requests can be forwarded, trips made (visitations), vital documents collected and snapshots made, among others (Viecek & Wiman, 1989).

Seels and Glasgow (1998) posited that the design stage is where the real planning begins. In this phase one puts on paper the actual materials to be used, methods and the draft of the product. It must be noted that the whole idea about what to produce will be put in a blueprint to guide the production of the intended media (Olanrewaju, 2003, 2005).

The production stage is where the picture (blueprint) is implemented by putting together the materials as identified under the information stage. Here, the contents are matched with the materials to attain the objectives set. At this juncture, resource persons could be involved in order to bring about the qualities expected in the product. Also in this stage, procedural specifications are followed without compromise (Olanrewaju, 1995, 2003, 2005).

Then comes the final and very crucial stage called evaluation where experts would adjudge or give validity to the quality and use of media produced. Teo (2012) stated that this stage is a very important one where specialists assess all areas of the product to confirm whether it meets its purpose. This phase is mainly about product quality and standardization. It could also be seen as a review and amendment stage in terms of advice to remove or add some aspects to further improve product quality as in formative evaluation (Achacoso, 2003; Grabe & Grabe, 2001; Olanrewaju, 2003, 2005; Viecek & Wiman, 1989). It must be noted that no stage of the production should be glossed over if the desired outcomes are to be attained, achieved and maintained in all cases.

Statement of the Problem

Almost all researchers focused on Primary, Secondary and Tertiary levels of educational settings thereby leaving early childhood out totally to suffer neglect in terms of control and provision of learning materials. Many researchers neglect to delve into instructional provision for this stage, possibly because of lack of awareness of the diminishing and degraded state of facilities and materials at this level (Neo, Neo & Leow, 2011). In another instance, it is because of the stakeholders and government's nonchalant attitude to promote and cater for this level in all.

Therefore, it is desirable to shift attention to this level, for it is the bedrock and foundation where all other levels are built. If this level is neglected, educational policy statements would be defeated and goals would not be attained. It is crucial to produce instructional materials for early childhood education, to instil in the learners activity orientation which is the major method for developing self-discovery and self-actualization. A game in manipulation of letters of the alphabets would be appropriate. Hence, the production of a.b.c. jig-saw puzzle to serve as an interactional and or manipulative mode of learning among children in early childhood education was necessary.

Research Questions

The following research questions are answered in the study.

RQ 1: Can locally sourced materials be used to produce instructional media for early childhood education?

RQ 2: What are the steps for producing the a. b. c. jig-saw puzzle?

RQ 3: How do experts assess the instructional media (a. b. c. jig-saw puzzle)?

Scope and Methodology

In producing the a. b. c. jig-saw puzzle, the four (4) stages identified earlier were followed. They are: Information, Design, Production (implementation) and Evaluation (formative). Twenty (20) experts in Educational Technology were involved in assessing the instructional resource. The areas of assessment included the objectives, technical as well as aesthetic values and overall quality of the media.

Resource persons (an artist and a carpenter) were also involved in producing the package. The artist designed the font type and size of the letters of the English alphabet used. In the case of the carpenter, he cut to shape the designed letters on wood using diverse saws in wood cutting. Also, he fixed the letters appropriately into a compartment, drove nails and hooks perfectly to match and varnish the instructional material as directed by the researcher. Thereafter, the researcher gave the instructional media to the experts one after another for their assessment. After assessment by the experts, the package underwent pilot testing among five children of early childhood age to measure its effectiveness.

RESULTS

Research Question 1: Can locally sourced materials be used to produce instructional media for early childhood education?

Yes, locally sourced materials can be used to produce instructional media when such ones are capable of bringing about the intended purpose. Also, the materials to be sourced locally should meet the criteria of accessibility, suitability, affordability, manageability, practicability among others. The product should be able to compete favorably with the commercially produced ones in all areas.

Research Question 2: What are steps for producing a. b. c. jig-saw puzzle?

The steps to follow in producing the a. b. c. jig-saw puzzle are the following:

Step 1: The idea of English letters of the alphabet to produce in a jig-saw puzzle was born and the draft made. All information about producing the package and possible materials to be used were written phase by

phase. The document was passed on to the experts for review. Suggestions were made and subsequently, the blueprint was developed after the amendments.

Step 2: An artist was a resource person involved in the research in order to design (determining and dimensioning) font type and size. Also, to translate the design (blueprint) of the letters of the alphabet on to the soft wood ready for cutting out by the carpenter involved in producing the package. The carpenter marked and cut out all the tablets; that is letters of the alphabet from the soft wood and fixed them appropriately in a compartment designed to house those tablets. He made a base board to house the tablets and lead as a cover, nailed as well as put hooks to match the package for safe storing. This is also to prevent the tablets from falling off from the casing. He also sandpapered and varnished the package inside and out which made it look very attractive and dignified. All the directives were given by the researcher as a participant observer. After the production processes at this stage, the media was subjected to expert evaluation.

Research Question 3: How do experts assess the instructional media?

Table 1: Experts' Overall Quality Assessment of the Package (a. b. c. Jig-Saw Puzzle)

Experts	No. of Items	Mean	%
20	15	4.73	94.6

Table 1 reveals the experts' assessment of the overall quality of the instructional resource with a mean of 4.73 points out of a maximum of 5.0 points. The average percentage of the experts stand at 94.6%. It can be deduced that the overall quality of the package was overwhelmingly adjudged very high by all the experts.

Table 2: Experts' Assessment of the Objectives of a. b. c. Jig-Saw Puzzle

Experts	No. of Items	Mean	%
20	7	4.72	94.4

Table 2 shows the objectives of the product as assessed by the experts and it reveals that all of them had an average mean of 4.72 points out of the maximum of 5.0 points in all the items. Also, they had an average percentage of 94.4%. This is an overwhelming assessment as evaluated by the experts.

Table 3: Experts' Assessment of the Technical Values of the Media

Experts	No. of Items	Mean	%
20	20	4.80	96

Table 3 presents the experts' assessment of the technical values of the package with a mean of 4.80 points out of 5.0 maximum points. The average percentage stands at 96% so it can be said that the technical values were adjudged to be standardized by the experts as shown.

Table 4: Experts' Assessment of the Aesthetic values of the Package

Experts	No. of Items	Mean	%
20	20	4.68	93,6

Table 4 shows the experts' assessment of the aesthetic values of the instructional media. Their mean stands at 4.68 points out of the maximum of 5.0 points and the average percentage is 93.6%. This indicates that the product is rated as highly attractive, motivating and capable of sustaining attention by the experts' evaluation.

Overall, therefore, the a. b. c. Jig-Saw Puzzle was overwhelmingly adjudged by the experts as being purposeful, suitable, appropriate, standardized and of very high quality. They also maintained that the media was easy to manipulate, capable of building interactional relationship in order to bring about self-discovery and self-actualization in children of early childhood age.

CONCLUSION AND RECOMMENDATIONS

The production of a. b. c. Jig-Saw Puzzle as adjudged by the experts in its overall quality was found to be highly standardized which means it followed procedural specifications in all cases. Also, its eventual testing brought about its effectiveness in the attainment and actualization of the purposes of its production. Its uniqueness was also attested to by being able to sustain attention and brought about an all involving experience by the early childhood age learners.

Therefore, based on the findings and conclusions drawn in this study, a. b. c. Jig-Saw Puzzle is recommended for use in early childhood education for improving reading proficiency at this stage. When this is done, it would assist in building a strong basis for learning for the child's future progress in society. It should be mass produced and even spread to all schools. Researchers should also delve into early childhood education and undertake diverse research to give this level the prompt attention and development it deserves.

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