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## The Effectiveness of Individualized Instruction Strategy in Clothing Construction and Alteration

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By

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### **Abstract**

*Clothing Construction and Alteration is one of the major courses of Home Economics Education. It equips students with saleable skills that will enable them secure jobs in the area of clothing construction. Students can be interested in this course only when the teaching approaches are effective. The study was aimed at finding out the effectiveness of the individualized instruction method in the teaching of Clothing Construction and Alteration. The 2008/2009 second year students of Home Economics Education Department of Federal College of Education (Technical) Asaba were students for the study. The students were eighty (80) in number. ANCOVA, Mean and Standard Deviation were used to analyze the data for the two hypotheses generated for the study. The results of the study revealed among other things that the Individualized Instruction Method was a viable method for teaching Clothing Construction and Alteration.*

### **Background of the Study**

Educators believe that their major functions include instilling attitudes towards learning and developing effective learning skills in students. Yet an examination of actual practices in school reveals that current teaching strategies block learning and promote uniformity, which prevents the establishment of appropriate objectives for each student. It is necessary, therefore, to propose drastic instructional and organizational changes, which will improve the teaching and learning process. It is not enough for teachers to know that students differ; teachers must also seek ways to teach different students in different ways in order to educate all students to the best of their abilities (McKeachie, 1978 in Onogwuwe, 1990).

In clothing construction and alteration, many topics have been taught in the traditional lecture and demonstration methods, although the notion of individual differences and characteristics had long been recognized by educators. In Colleges, a

combination of lecture and demonstration methods continue to be the popular mode of instruction. It is not surprising therefore, that students are now requesting that instruction be individualized to cater for their needs, rate of learning and abilities (Onwunedo, 1996). Students believe that the individualization of instruction will remove the feeling of frustration experienced by those with knowledge in a topic who are forced in a typical lecture-demonstration classroom to stay idle, waiting for other students with no previous knowledge, to master the concept being taught (Onogwuwe, 1990).

The feeling of frustration may be especially pronounced where students in a particular class differ in ability tremendously. In a typical clothing class, there may be younger students who may have graduated recently from secondary schools and have earned the West African School Certificate (WASC) or National Examination Certificate (NECO). There may be experienced students who are teachers, who have come to upgrade themselves so that they can earn higher qualification as a guarantee for better salary, better conditions of service, and better positions. These later groups could be classified as adult learners (Mckeachie, 1998). Not only are there ranges in ages, but there are also extremes in academic level as well as learning habits. The problem therefore, is to design learning environment that would accommodate these differences.

The Nigerian government has proposed the following actions to help it provide quality education for its citizens (National Policy on Education (NPE, 2004).

- 1) Education and training facilities will be multiplied and made accessible in order to afford the individual more choice,
- 2) Educational activities will be centered on the learner for maximum self-development and fulfillment,
- 3) Modern educational techniques will be increasingly used and improved upon at all levels of the education system and
- 4) The educational system will be structured to develop the practice of self-learning.

Therefore, the Federal Government of Nigeria, through the National Policy on Education (NPE, 2004) has mandated educational institutions to provide the best individualized kind of instruction possible.

### **Individualized Instruction Strategy**

The idea behind the individualized instruction method (I.I.M) is to shift from teacher centered method used as the central focus to student or learner centered method. Ideally, the instructor constantly adapts to the progress of the learner. The individualized instruction method can be approached through Programme Instruction (PI), Computer Management System (CMS) media and resources audio-tutorial (AT) self-pacing, or flexible grouping among others (Kaiser and Davidson, 1992).

The I.I.M. has many advantages for classroom use. The teacher works with students individually. Preparation time for each unit is less because the instructor does not have to set up demonstration materials for each unit or class period. At each stage, students evaluate themselves and thus, take responsibility for their learning.

Other characteristics of I.I.M. were summarized as follows:

- 1) The students must be active rather than passive,
- 2) The goals of learning must be clear and explicit to the learner,
- 3) Small lesson units (called learning modules) in which objectives can be specified and reinforced can be identified and provided are desirable,
- 4) Frequent testing is necessary so that correct responses are recognized and rewarded and
- 5) Self-pacing is essential so that the learner takes responsibility for his/her progress.

The above characteristics according to Kaiser and Davidson (1992) have been recognized by educators as essential for effective teaching, geared towards presenting instructional materials in a way that is maximally useful to the learner.

The following however are some of the disadvantages among others:

- 1) The concept is not familiar to the majority of either learners or teachers. Therefore, they must learn about it as well as about their topics,
- 2) An instructor of I.I.M must have a good knowledge of the subject matter and technique for every stage of the course because all students are more likely to work on different units at any given time,
- 3) Students may be absent from classes more often than with traditional methods. They also tend to lag behind,
- 4) Initial cost is tremendous in time, money and personnel and
- 5) Factors that need to be fulfilled for I.I.M to be effective make higher demands on the teacher, like:
  - (a) Teachers who are to implement it need to understand its nature and have positive attitude towards it,
  - (b) A good knowledge of the student's status in the class is necessary,
  - (c) Organization is important so that the classroom situation is orderly and
  - (d) Scheduling should be flexible so that students are able to work at their own pace leaving the teacher free to assist individual students (Ohwovoriole and ugeru, 2000).

### **Purpose of the Study**

The purpose of the study was to compare two methods of teaching clothing construction and alteration in a College of Education in Nigeria. The traditional lecture/demonstration method was compared with the individualized instruction method.

### **Hypotheses**

- The study aimed at testing the following hypotheses at 5% level of confidence:
- i) There is no significant difference between the performances of students in the experimental group (those who learned clothing construction and alteration through individualized instruction method) and that of students in the control group (those who learned through the traditional lecture/ demonstration method).
  - ii) There is no significant difference in clothing construction and alteration achievements between the experimental and control group after three months of instruction.

### **Population and Sample**

The 2008/2009 second year students of Home Economics Education Department of Federal College of Education (Technical), Asaba were the students of the study. The students were eighty (80) in number.

### **Methodology**

The eighty (80) students were randomly shared into three groups to form one control group and two experimental groups. The students were expected to demonstrate measurable skills in the adaptation of skirt block to give inverted pleats front and back. The three groups were observed before and after they were taught. The control group was taught using the traditional lecture/demonstration method. The first experimental group was taught with the individualized instruction method and members of the group worked at their own pace. The second experimental group was also taught with the individualized instruction method but they worked at the group pace i.e. flexible group pace. All the groups were taught the same topics each week and pretesting attitude surveys, performance tests and post test were the same. At the end of the three months of instruction, the achievement of all the students was measured.

### **Result of the Control and Experimental Groups**

The performance of the three groups using the teaching strategy and their pre-attitude and post test scores were compared using the ANCOVA, Mean and Standard Deviation which is shown in table 1 and 2.

**Table 1: Summary of ANCOVA on Teaching Strategy and Post-test for the three Groups**

<b>Source</b>	<b>SS</b>	<b>DF</b>	<b>MS</b>	<b>F</b>	<b>Sign of F</b>
Error term	7,000	70	99.1	-	-
Regression	10.0	1	10.5	-107	72
Group	6.2	2	3.1	0.31	97
Total	7,161.1	73	95.4	-	-

**Table 2: Summary of Mean and Standard Deviation for Variables**

	G1 = TM	G2 = IIMP	G3 = IIMGP	Total Group
Variable	N = 24	N = 28	N = 28	
	Mean SD	SE Mean SD	SE Mean SD E	
Pre-attitude	27.4 4.3	9 27.8 3.3	6	
Pre-attitude	27.4 4.3	9 27.8 3.3	6 28.6 4.1 8	U = 27.9 SD = 3.9 SE = 4.4
Post attitude	27.8 3.1	6 27.8 3.3	6 28.6 4.1 8	U = 27.9 SD = 3.9 SE = 4.4
Rating of teaching strategy	49.5 6.2	1.3 49.3 6.2	1.3 49.3 6.7	SE = 75.2
GEFT	1.0 1.9	0.4 1.8 1.9	0.4 3.1 23.5	U = 2.0 SD = 0.22 SE = 0.3
Pre-test	3.4 2.3	0.5 2.9 1.7 .3	2.5 1.7 0.3	U = 3.0 SD = 2.0 SE = 0.2
Post-test	31.8 2.5	.1 32.3 10.7 2.1	32.7 8.3 1.6	U = 32.3 SD = 9.8 SE = 1.1

Note: TM = Traditional method

IIMP = Individualized Instruction Method Self Paced

IIMGP = Individualized Instruction Group Paced

SD = Standard Deviation

SE = Standard Error Decimals were rounded off

## Results

The result of this study showed increased scores for attitude and subject area achievement, which attests to the fact that Individualized Instruction Method is a viable method for teaching adaptation of skirt blocks to give inverted pleats front and back, creating new and improved design on the skirt block. When the groups were compared, no teaching strategy was superior as shown by group means for post-testing, post attitude or students ratings of the strategy they used.

The three groups expressed favourable attitude towards the course before and after instruction. The favourable attitude increased for all groups. Table 3 shows the result from an analysis of covariance used to compare the three groups, with teaching strategy as the independent variable, pre-attitude as the covariate and post attitude as the dependent variable. The results were not significant at the 0.05 level ( $F = 1.993, P = 144$ ).

**Table 3: Summary of ANCOVA for Post-Attitude with Pre-Attitude by Groups**

Source	SS	DF	MS	F	SIGN <sup>^</sup>
Error term	583.2	72	8.1	-	-
Regression	4.8	1	48.8	6.0	0.2
Group	32.3	2	16.1	1.993	0.1444
Total	664.3	75	8.9	-	-

### **Discussion of Results**

In the United States of America, examples showing the use of individualized instruction strategy in teaching Home Economics course abound. The model from Montana State University was only chosen to illustrate that the strategy could also be used to teach a theoretical topic (Onigwuwe, 1990).

In 1990, the faculty at Montana State University developed six modules for teaching the development of research skills to junior level Home Economics students, (equivalent of third year students in Nigerian Universities). Following students' reactions after it was first used, the modules were revised to include among other things, one hour discussion period per week, as well as the independent study times that individualized instruction demands. The present version being used reduced instructional time and proved to be a thrifty investment (Kasser and Dandon, 1992). The authors concluded that the strategy may be an effective addition to the approaches used to teach development of research skills to students because there was no significant difference between those who used the traditional method and the individualized instructional method. Secondly, with the individualized instruction class, instruction time decreased while student time increased.

Considering students favourable response to the attitude surveys used for this study, it is recommended that individualized instruction be adopted in teaching clothing construction in Colleges of Education in Nigeria, since these students are likely to desire high standards in their educational achievements, and more so clothing construction, a course most students find difficult from the researcher's experience as a lecturer in College of Education for eighteen years. Also the students need to keep up with modern technological developments and so benefit from innovations in education. These needs call for alternative methods of studying. Individualized instruction may also reduced the effects of students being absent from class, because students will be responsible for what they have missed and will take the same examination at the end of the course.

Individualized instruction will make students love and have interest in the course and it reduces the incidence of failures. Individualized instruction can also help to solve the problem of scarcity of textbooks, as textbooks will be replaced to a great extent by learning packages.

The individualized instruction method is recommended not because it is superior to the traditional lecture and demonstration methods but because it teaches habits that will be useful for life long learning. It also encourages maximum utilization of available human resources. For example, a teacher who has developed instruction modules for a class will have time for remedial teaching while still having other students gainfully engaged in learning.

Ideally, more than one objective may be important in clothing construction and alteration, so there need to be a combination of teaching strategies experienced by students during the course of study of clothing construction and alteration to facilitate the achievement of varied objectives. Sometimes, teachers use different media, while at other times, they adopt different approaches to transmit new information. Individualized instruction can be used either on it's own or in combination with other methods because no single method can be said to be globally effective. Because of differences in learner preferences and interest, combining the individualized instruction method with other methods will increase the possibility that instructors will be reaching more students and helping them to develop their maximum capabilities (Onogwuwe, 1990).

Individualized instruction has limitations and so should be adopted with caution. Initial cost could be excessive compared to the lecture and demonstration methods. Therefore, it would not be advisable to adopt individualized instruction where lecture and demonstration method can do the job equally well and where there are enough teachers.

When the individualized instruction method is adopted, instructors should ensure that opportunities for social interactions between students are planned. Time should be allotted for both students and teachers to learn the approach.

As a transition from lecture and demonstration to individualized instruction, the flexible grouping approaches may be adopted initially, to provide for peer support and cultivation of self confidence. Training session should be organized to help teachers become familiar with the assets and limitations of individualized instruction, and with how to handle the learner's environment when the method is employed for teaching.

A communication network should be established, such as newsletter, seminars and workshops for colleges to share their experiences about the new instructional strategies. The teacher's preparation programmes should not only expose student teachers to individualized instruction but create opportunities for students to have practice on it's usage in their methodology classes during student teaching.

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