



## **Effects of the Utilization of Instructional Materials on the Academic Performance of Senior Secondary School Students in Ikwuano Abia State**

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**Abstract:** *The study sought to analyze the effects of the accessibility and utilization of instructional materials by teachers on the academic performance of secondary school students in Ikwuano Local Government Area of Abia State, Nigeria. Multi-stage sampling procedure was used in the selection of the sample size. The sample size for the students was 120 students and 120 also for teachers. The instruments for data collection were the questionnaire, a pre-test and a post-test as applicable. Data collected were analyzed using mean and simple percentage. The findings were that the disposition of the teachers affected the accessibility and utilization of instructional materials, and that students who were taught with instructional materials performed better than those who were not. Based on the findings it was recommended that teachers should be made to undergo periodic trainings to update themselves on the modern trends in instructional technology. The local, state or national education resource centres should establish an instructional material bank within the reach of the teachers so that they could easily access one when the need arises. It was also recommended that there is the need to expand the scope of instructional materials from chart, pictures etc to overhead projectors, slides and web-based instruction for personalized learning which will involve the modern trends in information and communication technology.*

**Key words:** *Accessibility, Utilization, Instructional materials, Academic performance, Ikwuano, Abia State*

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### **Introduction**

Learning involves the acquisition of new knowledge, ideas, skills, values and experiences which enable the individual to modify and or alter his actions (NTI Manual, 2006). Learning is a gradual process and presenting any learning concept to learners must be done to appeal to students of varied interests and abilities, moving from the known to the unknown and encouraging active class participation. The teacher cannot be said to have achieved his instructional objectives until there is the desired change in the student's behaviour. Effective teaching and learning require a teacher to teach the students with instructional materials and use practical activities to make learning more vivid, logical, realistic and pragmatic (Akinleye, 2010). The teacher is therefore expected to use all within his/her reach to make the learner learn by using instructional materials.

Abdu-Raheem (2016) defines instructional materials as essential and significant tools needed for teaching and learning of school subjects to promote teachers efficiency and

improve students' performance. This definition is in tandem with Isola (2010) which states that instructional materials are objects or devices that assist teachers to present their lessons logically and sequentially to the learners, while Abiodun-Oyebanji and Adu (2007) add that instructional materials are all things that are used to support, facilitate, influence or encourage acquisition of knowledge, competency and skills. In addition to these definitions one can add that instructional materials are those things that a teacher or the learner uses in the course of learning to make learning simple, easy to understand, retain and recall whenever it is necessary. As good and necessary as instructional materials are, Enaigbe (2009) observed that basic materials such as text books, chalkboard, and essential equipment like computer, projector, television and video are not readily available in schools.

Instructional materials can be divided into three major categories, namely, audio, visual, audio-visual and ICT (Information and Communication Technology). Audio instructional materials are those that appeal to the auditory senses such as radio, audio tapes, VCDs, DVDs and others. Visual instructional materials appeal to the sense of sight and they come in the form of pictures, prints, real objects (models) etc. Audio-visuals combine the auditory and visual senses to appeal to the learner and heighten interest such materials take the form of films, television, audio-visual tapes and CDs. ICT has delivered several packages that can aid teaching and learning to achieve desirable learning objectives. These packages are found in mobile devices like smart phones, personal computers, internet facilities and the likes. ICTs provide a lot of learning experiences to students with varied interest and capabilities. Pictorial illustrations help to connect and relate abstract concepts with objective visual realities for the student to understand and grasp more easily the ideas represented by the invisible abstract concept. Projected visuals are able to convey information and specific experiences that are needed for the development of workable concepts. Films can modify motivations, interest, attitude and opinions. Relia (real objects) or three-dimensional models can be effective in teaching/learning as the student learns a great deal by examining and manipulating a model. Olumiran, Ajidagba and Jakeyinfra (2010) noted that instructional materials have direct contact with the sense organs. Onuekwusi (2005) accounts of what audio-visual materials can do are outlined below:

- (i) They heighten motivation for learning because of its concreteness.
- (ii) They foster continuity of thought when words are coupled with explanations in pictures and sounds.
- (iii) They provide freshness and variety.
- (iv) They appeal to students of varied interests and abilities.
- (v) They encourage active participation.
- (vi) They give need reinforcement.
- (vii) They widen the range of students' experience.
- (viii) They assure order and continuity of thought.
- (ix) They improve the effectiveness of other materials.

### **The Importance of Instructional Materials to the Teacher**

Instructional materials are vital to teaching and learning because they generate interest which in turn triggers learning and promotes technology transfer. Ibe-Bassey (1988) confirms that when in the classroom a teacher presents a stimulus, he consciously intends to evoke a positive behaviour, if he uses a model the students will learn. Obanya (2004) Observed that several studies carried out in some areas in Nigeria indicated that the results of senior secondary school certificate examinations were completely bad in nearly all subjects. This upholds the assertions of Ahmed (2003) that in most secondary schools in Nigeria, teaching and learning take place under a most uncondusive environment without access to essential materials. Ibitoye (2001) believes that the improvisation of instructional materials will certainly lead to the utilization of such materials. This implies that accessibility of instructional materials tantamount to its utilization. Utilization of materials aids the achievement of the stated objectives which in turn gives the teacher a sense of satisfaction and fulfilment. It is therefore expected that the teacher does all that is within his reach to enrich the instructional environment as it concerns the utilization of instructional materials. Eniyewu (2005) in his submission asserts that it is very important to use instructional aids for instructional delivery to make students acquire more knowledge and to promote academic standard. Resourceful and skilful teachers should improvise necessary instructional materials to promote academic standard in Nigerian schools (Abdu-Raheem and Oluwagbohunmi, 2015). This calls for commitment on the part of teachers, they have to improvise where and when there is none available. Ibitoye (2001) expressed that no matter how generous and rich the educational authorities might be they are generally not always in a position to provide their schools with all they need. The best way for teachers to make use of their manipulative skills is to improvise so as to achieve their lesson objectives at least to a reasonable extent (Oso, 2011). Therefore schools and teachers should make instructional materials accessible by making the most of what they can get or construct from available materials.

### **The Importance of Instructional Materials to the students**

Instructional Materials allow students to have relatively uniform attention and opportunities to practice and acquire skills. They make teaching experiences flexible and rich enough to meet individual pupils learning styles. students are able to use a combination of sense (smell, hearing, touch, taste and sight) for easier and better acquisition of concepts and facts they are being taught. Instructional materials enable students to see as a whole certain relationships that are difficult to conceptualize in parts. For instance students learn to identify and differentiate the shapes more accurately when they see the real shapes. It allows them to compare and contrast the shapes and make a mental note of their similarities and differences. The learning of certain concepts would simply have eluded the learner if not for the use of instructional materials which provide meaningful vicarious experiences. By the means of instructional resources, students could learn about things too dangerous, too small or not just expedient to bring to the classroom. E.g. a Lion or a waterfall or a mountain. Any of these can be effectively taught to the students in the classroom by the use of appropriate instructional materials. (Omojuwa J. O., 2000)

Instructional Materials help the teacher in the following ways:

- By providing him with the means of widening his students learning experience.
- Providing his students with meaningful source of information.
- Provide the teacher the means of exposing the students to a wide range of learning activities.
- They increase the efficiency of the teacher by providing tutorials and response guidance for individual students and small groups.
- They bring experts and learning resources to the classroom
- They allow members of a group or class to share equally from the same teaching experience.

Instructional Materials promote learning in the following ways:

- Provide increased interest in learning
- Hold the learners attention
- Provide the learners with opportunities of interacting with their social and physical environment (e.g. during excursion).
- Offer learners opportunity for independent and individualized learning.
- Supply concrete basis for conceptual thinking
- Offer opportunities for learners to develop their abilities and skills
- Promote of knowledge. (NTI Manual, 2006)

Despite the fact that instructional materials are essential tools that can make learning practical and knowledge acquisition easier, they are not readily available in Nigerian secondary schools leading to poor level of performance of learners in government examinations (Abdu-Raheed, 2014). The need for the utilization of low media technology cannot be over emphasized. It is the life wire of the instructional process and has far-reaching successful outcomes. The need for the utilization of low media technology cannot be over emphasized. It is the life wire of the instructional process and has far-reaching profitable outcomes.

### **Objectives of the study**

The broad objective of the study was to analyze the accessibility and utilization of instructional materials by secondary school teachers in Ikwuano Local Council Area of Abia State in Nigeria with the following specific objectives:

1. To determine the socio-economic characteristics of the respondents.
2. To ascertain the accessibility of the instructional materials by teachers.
3. To determine the level of utilization of the instructional materials in the teaching process.
4. To determine the effect of the utilization of instructional materials on the academic performance of students.

### **Methodology**

The study area was Ikwuano Local Government Area of Abia State, Nigeria. Ikwuano is located approximately 50 25' 60" degrees North of the equator and about 70 34' 0" degrees east of the

Greenwich meridian. It is bordered by Olokoro and Ibeku communities in the north and north-west, and by Bende in the East, Nkalu in the south-east; Obot Akara in the South and Ohuhu-Nsulu in the south and south-west.(Osondu Iheanyichukwu,2012)

**Sampling Procedure:** there are 14 secondary schools in the area. Multi-stage sampling procedure was used in the selection of the sample size. In the first stage, 4 schools were selected randomly out of the 14 secondary schools in the area, and 5 students were again randomly selected from the six streams bringing the sample size for the secondary schools to 120 students ( $4 \times 5 \times 6 = 120$ ). 5 teachers were selected from each stream of the 4 selected secondary schools, bringing the sample size for the secondary school teachers to 120 teachers ( $5 \times 6 \times 4 = 120$ ).

In determining the Socio- Economic Characteristics of the respondents, the responses of the respondents were analysed using simple percentage. To ascertain the accessibility of instructional materials to teachers, a questionnaire bearing a list of about 15 instructional materials grouped into three categories of visual materials, audio and audio-visual materials was given out to teachers of the sampled schools. Their responses were gathered and analysed using the mean (M). To determine the level of utilization of instructional materials in the teaching process, a 19 point questionnaire was used to capture objective 3. The 19 questions were divided into a 3 scale unit of high, medium and low. The data collected were analysed using simple percentage. For Prospects in the utilization of IM the 120 students in the sampled population were divided into two groups, one group was taught for two weeks with instructional materials and the other group was also taught the same lessons for two weeks without instructional materials. At the end of the two weeks, a simple test based on what was taught, was given to the two groups. The scores of the test were collected and analysed using the mean (M). The multiple response approach was used to capture the challenges faced by teachers in the utilization of IM and the data collected were analysed using simple percentage.

## Results and Discussion

**Table 1: Socio-Economic characteristics of teachers**

	Age		Sex		Marital status		Income(N'000)		Household size				
	f	%	f	%	f	%	F	%	F				
25-30	27	22.5	Male	42	35	Ever-married	104	86.6	40-60	27	22.5	2-4	20
35-40	52	44.3	femal e	78	65	Single	16	13.3	80-100	42	35	6-8	68
45-50	23	19.2	–	–	–	–	–	–	160-180	18	15	10-12	32
55-60	18	15	–	–	–	–	–	–	200-220	11	9.2	–	–

Total 120 100 120 100 120 100 \_ 120 100 \_ 120

Table 1 shows the distribution of the teachers in the secondary schools their by Socio-economic Characteristics. The result indicates that more than 65% of the teachers in the secondary schools are within the child bearing age (25 – 40), with 87% ever married and 65% female teachers among them. Those with income above ₦100,000 (one hundred thousand naira) account for 42.5% and 84% of the secondary school teachers have a house hold size of 6 – 12 members. The level of outside orientation is equally very low as just 19% have travelled out of their locality to other cities around them for more than 5 times.

From the result it can be explained that most teachers in the study area are married female teachers within the child bearing age and with fairly large family size with relatively low income and very little exposure. Ibitoye (2001) believes that the improvisation of instructional materials will certainly lead to the utilization of such materials. It can also be said that a teacher’s disposition is related to his resourcefulness and subsequent utilization of instructional materials. Improvisation requires resourcefulness and skill as indicated by Abdu-Raheem and Oluwagbohunmi, 2015, which in turn requires time, emotional stability and goodwill. These requirements may be affected by family pressures and societal demands confronting the teacher. Several studies have indicated the necessity for the improvisation and utilization of instructional materials whereas not many have considered the disposition of the teachers in relation to this.

**Table 2: Distribution of Respondents by Accessibility to Instructional Materials**

Accessibility	Visual materials		Audio materials		Audio-visual materials			
	frequency	mean	frequency	Mean	Frequency	Mean		
wall chart	45	0.38	Radio sets	42	0.35	Television	12	0.1
Shape board	52	0.43	Radio-cassette player	52	0.43	VCD/DVD player	10	0.08
Pictures	34	0.28	Cassettes/Tapes/Discs	60	0.5	Projector	1	0.01
Models	50	0.42	–	–	–	Computers	31	0.26
Maps	80	0.66	–	–	–	Satellite receiver	4	0.03
Graphs	50	0.42	–	–	–	Electronic board	0	0
<b>Total</b>	<b>311</b>	<b>2.59</b>	–	<b>154</b>	<b>1.28</b>	–	<b>58</b>	<b>0.57</b>

<b>Not-Accessible</b>	wall chart	75	0.63	Radio sets	78	0.65	Television	108	0.9
	Shape board	68	0.58	Radio-cassette player	68	0.56	VCD/DVD player	110	0.92
	Pictures	86	0.72	Cassettes/Tapes/Disks	60	0.5	Projector	119	1
	Models	70	0.58	–	–	–	Computers	89	0.74
	Maps	40	0.33	–	–	–	Satellite receiver	116	0.96
	Graphs	70	0.58	–	–	–	Electronic board	120	1
	<b>Total</b>	<b>409</b>	<b>3.4</b>	–	<b>206</b>	<b>1.71</b>	–	<b>662</b>	<b>5.52</b>

Table 2 shows the distribution of respondents by accessibility to instructional materials. The result indicates that a total mean of 2.59 of visual materials were accessible to the secondary school teachers, 1.28 for audio visuals and a mean 0.48 for audio-visual materials. Instructional materials not accessible had a higher mean of 3.4 for visuals, 1.7 for audio materials and 5.5 for audio-visual and ICT. This means that instructional materials were not adequately accessible to the teacher. This goes to affirm the assertions of Ahmed (2003) that in most secondary schools in Nigeria, teaching and learning take place under a most uncondusive environment without access to essential materials. The observations of Abdu-Raheed, (2014) that despite the fact that instructional materials are essential tools that can make learning practical and knowledge acquisition easier, they are not readily available in Nigerian secondary schools. The need for the utilization of low media technology cannot be over emphasized. It is the life wire of the instructional process and has far-reaching successful outcomes.

**Table 3: Level of Utilization of Instructional Materials by Secondary School Teachers**

Variable	Frequency	Percentage
High	8	6.7
Medium	34	28.3
Low	78	65
<b>Total</b>	<b>120</b>	<b>100</b>

Table 3 shows the level of utilization of instructional materials by Secondary school teachers. the result shows that there is a low utilization of instructional materials among the secondary school teachers with 65% low utilization against 6.7% high utilization. Hence generally, there is a low level of utilization of instructional material among the teachers. Pointers from Table 1 of the study highlight the socio-economic characteristics of the teachers as contributory factors to the result on the above table. The study showed that the majority of the teachers are men and women within the child bearing age, with the female folk having the higher population. With fairly large families the tendency to be distracted by other family demands that require attention cannot be overlooked and a seemingly inadequate and irregular salary can be less motivating. Again, the low level of outside orientation of the teachers(table1.1) inhibits utilization of instructional materials because knowledge and experience increases as one explores his environment. Modern trends in educational technology, the use of the internet to source information and the use of the cell phone for instructional purposes require some level of exposure to an elite’s world. While Eniayewu (2005) counsels that it is very important to use instructional aids for instructional delivery to make students acquire more knowledge and to promote academic standard. Akinleye (2010) also buttress the fact that effective teaching and learning requires a teacher to teach the students with instructional materials and use practical activities to make learning more vivid, logical realistic and pragmatic.

**Table 4: The Distribution of Respondents Taught with Instructional Materials**

Scores	mid-	Mathematics		English Language		Social Studies	
	point	F	fx	F	Fx	F	fx
10 – 20	15	5	225	3	45	2	30
25 – 30	30	9	270	7	210	3	90
40 – 50	45	12	540	10	450	12	540
55 – 65	60	48	2880	54	3240	51	3060
70 – 80	75	31	2325	28	2100	27	2025
85 -95	90	15	1350	18	1620	25	2250
<b>Total</b>		120	7590	120	7665	120	7995
<b>M</b>			<b>63.3</b>		<b>63.8</b>		<b>66.25</b>

Table 4 shows the mean scores of students who were taught with instructional materials in Mathematics, English Language and Social studies. The result shows the mean scores of 63.3, 63.8 and 66.25. This analysis explains the benefits that accrue when instructional materials are



incorporated into the teaching-learning process. It also gives credence to the assertions of Eniyewu (2005) that using instructional aids for instructional delivery will make students acquire more knowledge and promote academic standard. The performance of students at the end of the teaching-learning process determines the extent to which the instructional objectives have been achieved. To this extent, high performance indicates successful teaching and learning.

**Table 5: The Distribution of respondents taught without IM**

Scores	mid-point	Mathematics		English Language		Social Studies	
	X	F	fx	F	Fx	F	Fx
10 – 20	15	10	150	13	195	2	30
25 – 30	30	14	420	17	510	5	150
40 – 50	45	28	1260	35	1575	28	1260
55 – 65	60	38	2280	30	1800	44	2640
70 – 80	75	28	2100	21	1575	32	2400
85 -95	90	2	180	4	360	9	810
<b>Total</b>		<b>120</b>	<b>6390</b>	<b>120</b>	<b>6015</b>	<b>120</b>	<b>7290</b>
<b>M</b>			<b>53.25</b>		<b>50.13</b>		<b>60.75</b>

Table 5 shows the mean scores of students who were not taught with instructional materials in Mathematics, English Language and Social studies. The result indicates the mean scores of 53.25, 50.1 and 60.75 for Mathematics, English Language and Social studies respectively . Every teacher and learner looks forward to high academic performance which are products of any successful instructional process. This confirms the observation of Abdu-Raheed, (2014) that the ineffectiveness of the school system and poor performance of students in schools are due to the non availability and inadequacy of instructional materials.

### **Conclusion**

A teacher is assessed by the extent of the students’ success and the success of the instructional process hinges on the accessibility and utilization of instructional materials. Instructional materials are not adequately accessible to teachers in Ikwuano, Abia State, Nigeria. It was also observed that students in the study area who were taught with instructional materials performed better than those who were not. Again the socio-economic characteristics of the teachers in the study area affect their disposition to the accessibility and utilization of

instructional materials. This explains why the level of utilization of instructional materials in secondary schools in Ikwuano Local government Area is low. Instructional materials make the teacher's work easy, strategic and result orienting. A vital aspect in lesson preparation and presentation is the sourcing, preparation and utilization of instructional material and this is the teacher's pleasurable task.

## **Recommendations**

Based on the findings in this study the following recommendations were made.

- i. The success of the instructional process and the achievement of educational goals revolve around effective teaching and learning. The need for the utilization of instructional materials for teaching and learning can never be overemphasized. Therefore, teachers should be made to undergo seasonal trainings to acquaint themselves of the modern trends in instructional technology.
- ii. There should be an instructional material bank within the reach of the teacher so that he/she could easily access one at any point in time. This can be handled by the local, state or National Education Resource Centres.
- iii. With the modern trends in information and communication technology and its subsequent effect on instructional technology, there is the need to explore and expand the scope of instructional materials from chart, pictures etc to overhead projectors, slides and web-based instruction for personalized learning which will require internet services, satellite receiver, computer, television, electronic boards etc.

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