



Comparative Effects of Animation and Teacher Direct Instructional Strategies on Pupils' Social Studies Achievement in Inclusive Classrooms in Oshimili South Local Government Area, Delta State

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Abstract

This study compared the effects of animation and teacher direct instructional strategies on social studies achievement of pupils with special needs in inclusive classroom in Oshimili North LGA, Delta State. The study was guided by two research questions and two hypotheses tested at 0.05 level of significance. The study adopted a pretest, posttest non-randomized quasi-experimental design. The population of the study was 203 primary five pupils in 13 inclusive classrooms in public primary schools in Oshimili North and South Local Government Areas of Delta State. A sample size of 95 primary five pupils in two inclusive classrooms were involved in the study. The instrument used for the study was Social Studies Skills Achievement Test (SSSAT). The instrument was validated by one specialist in Measurement and Evaluation and another in Special Education from the Department of Educational Foundations and one expert in the Department of Early Childhood and Primary Education, all in the Faculty of Education of Nnamdi Azikiwe University, Awka. The SSSAT yielded a coefficient index of 0.86. Experimental procedure lasted five weeks. Mean and standard deviation were used to analyse data related to the research questions, while Analysis of Covariance (ANCOVA) was used to test the hypotheses at 0.05 level of significance. Results indicated that animation instructional strategy had better effect than teacher direct instruction on Social Studies achievement of pupils with special needs. No significant difference however, was found between normal and special needs pupils' Social Studies achievement. Recommendations include integrating animation into special needs education curricula, enhancing educator training, and further research to explore long-term impacts and scalability.

Introduction

In the recent time, the Delta State introduced the policy of inclusive education practices in primary schools through mainstreaming. Mainstreaming is the integration of pupils with special needs into regular schools. In the National Policy on Education of the Federal Republic of Nigeria (2013), pupils with special needs are identified based on their visual impairment, hearing impairment, physical and health impairment, intellectual disabilities, emotional and behavioural disorders as well as speech and language impairment. The Organization for Economic Co-operation and Development (OECD) in Van Der Steen, Steenbeek, Wielinski and Van Geert (2012) asserted that pupils with special needs are learners who require additional resources to support their education aspirations. The definition of OECD grouped special needs pupils into three categories, which are; pupils with sensory, motor and neurological disabilities; pupils with emotional and behavioral difficulties; and pupils with disadvantages due to socio-economic or linguistic factors. In the light of this study, pupils with special needs are primary



school children with learning disabilities or problems which affect their ability to do well like normal colleagues of the same age within the school environment.

It is expected that pupils with special needs should be able to benefit along their normal counterparts in inclusive classrooms. It is important to note that Social Studies in the primary school (now integrated in Religion and National Value) curriculum will provide pupils, irrespective of their peculiar needs, with skills to navigate through life challenges. Social Studies is the study of how man influences his environment with a view to getting maximum benefits from it. The subject also deals with how the environment influences man in return. Social Studies has also been described as a way of life, as it touches on all spheres of human endeavour (Atteh, 2020). For both categories to benefit, teachers need to employ instructional strategies that take care of the groups adequately.

Conventionally, teachers employ teacher direct instruction in the teaching and learning process. The conventional teacher direct instruction is teacher-centred and makes learners less active in the teaching and learning process. Thus, the use of teacher direct instruction may not wholly benefit special need pupils in inclusive classrooms. As Oluwatayo (2021) observed, educators advocate a shift from the conventional to more learner-centred teaching strategies that are more engaging for improved learning outcomes. One of these strategies is the animation instructional strategy.

Animation instructional strategy is a visualized instructional setting that display a series of pictures for educational purposes. According to Zanin (2015), animated instructional strategy entails the integration of animated videos, cartoons and sounds used by teachers in the presentation of information for better comprehension of subject matters. Animation instructional strategy is the synchronization of pictures, text, graphics, motion pictures and background sounds at the same time to enhance learners understanding of classroom subjects. It also includes the use of interactive elements such as graphics, text, video, sound and cartoons teaching. The vitality of animation instructional strategy enlivens the learning experience since it promotes flexibility of learning and allows a wider range of stimuli that can increase learners' engagement in the teaching and learning process (Urquiza-Fuentes, and Ángel, 2013). Similarly, Mou, Jeng and Chen (2013) asserted that animation instructional strategy is an enriched technological tool in which several pictures and images are displayed in sequence and frames in order to make the teaching and learning processes real and stimulating in the classroom. In this study, animation instructional strategy is a technology-mediated instructional package that has the features of both audio and visual presentations for teaching pupils with special needs in mainstream primary schools.

Earlier studies (Baglama et al, 2018; Unlu and Diken, 2022; Asogwa et al, 2023) have robust reports of the efficacy of animation in improving academic achievement of pupils in various settings. It is not known however, whether animation instructional strategy will have better effect than teacher direct instruction on Social Studies achievement of pupils with special needs in inclusive classroom. Achievement refers to the extent to which result matches objectives in a given learning experience or activity. Mba and Udegbe (2008) state that achievement is an end product of learning, a term used to indicate the degree of success attained in some general or specific area. In any endeavour embarked upon by any individual, be it a political programme, economic programme, social programme or an educational programme, there are a number of anticipated outcomes or results. Academic achievement is the learning outcome which indicates the level of mastery, proficiency and knowledge shown by an individual after learning has taken place (Jolaosho et al, 2020). In this study Social Studies achievement refers to the extent to which pupils are able to gain mastery of Social Studies skills they are exposed to after some learning experiences. It is the task of determining the comparative effects of teacher direct instruction and animation instructional strategy on Social Studies achievement of pupils with special needs that this study sought to do.



Statement of the Problem

Primary school teachers usually employ teacher direct instruction method in their teaching practice. In inclusive classrooms however, they are expected to provide rich learning experiences that will suit both normal pupils and those with special needs. Pupils with special needs experience various forms of difficulties. They may face difficulties in acquiring Social Studies skills which they need to become useful to themselves and to the society at large.

Faced with such a situation in inclusive classrooms, the teacher has onerous task to ensure that no child is left behind. Thus, it is expected that animation instructional strategy may provide individualized instruction and equal educational opportunity for all without restriction or discrimination. The interactive tools embedded in animation instructional strategy can assist pupils to improve their Social Studies skills.

Animation instruction strategy however, has not been employed in teaching Social Studies to pupils in inclusive classrooms in Oshimili South LGA, Delta State. As a result, it is not known whether animation instruction strategy will be a better strategy than teacher direct instruction in improving the Social Studies achievement of pupils with special needs in inclusive classrooms. There is the need therefore to investigate the efficacy of this strategy. The problem of the study therefore is to compare the effects of animation instructional strategy and teacher direct instruction on Social Studies achievement of pupils with special needs in inclusive classroom in Oshimili South LGA, Delta State.

Animation instruction strategy however, has not been employed in teaching Social Studies to pupils in inclusive classrooms in Oshimili South LGA, Delta State. As a result, it is not known whether animation instruction strategy will be a better strategy than teacher direct instruction in improving the Social Studies achievement of pupils with special needs in inclusive classrooms. There is the need therefore to investigate the efficacy of this strategy. The problem of the study therefore is to compare the effects of animation instructional strategy and teacher direct instruction on Social Studies achievement of pupils with special needs in inclusive classroom in Oshimili South LGA, Delta State.

Purpose of the Study

The main purpose of the study is to compare the effects of animation and teacher direct instructional strategies on Social Studies academic achievement of pupils with special needs in inclusive classroom in Oshimili South LGA, Delta State. Specifically, the study determined the:

1. Mean achievement scores of primary school pupils taught Social Studies using animation instructional strategy and those taught using teacher direct instructional method;
2. Difference between the mean achievement scores of normal and special need pupils taught Social Studies using animation instructional strategy.

Research Questions

The following research questions were answered in the study:

1. What is the mean achievement scores of primary school pupils taught Social Studies using animation instructional strategy and those taught using teacher direct instructional method?
2. What is the difference between the mean achievement scores of normal and special need pupils taught Social Studies using animation instructional strategy?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

1. There is no significant difference between the mean achievement scores of primary school pupils taught Social Studies using animation instructional strategy and those taught using teacher direct instructional method.
2. There is no significant difference between the mean achievement scores of normal and special need pupils taught Social Studies using animation instructional strategy.

Methods



This study adopted a pretest, posttest non-randomized quasi-experimental design. The study was carried out in primary schools in Oshimili North LGA, Delta State with inclusive classrooms. The population of the study was 203 primary five pupils in 13 inclusive classrooms in primary schools in Oshimili North Local Government Area of Delta State. A sample of 95 primary five pupils in two inclusive classrooms were involved in the study. The schools and classes were drawn using simple random sampling technique of picking without replacement. By tossing of coin, the experimental and control group classes were selected. The experimental group class comprised 51 pupils (28 males and 23 females) while the control group class had 44 pupils (21 males and 23 females). This makes a total of 49 males and 46 females. In the experimental group also, there were 20 pupils with special needs (8 males and 12 females) while normal pupils were 31. In the control group, there were 16 special need pupils (11 males and 5 females) and 28 normal pupils. The instrument used for the study was a 15-item Social Studies Skills Achievement Test (SSSAT) constructed by researcher after extensive literature review. The SSSAT was validated by one specialist in Measurement and Evaluation and another in Special Education from the Department Educational Foundations and one expert in the Department of Early Childhood and Primary Education all in the Faculty of Education of Nnamdi Azikiwe University, Awka. The reliability of instrument determined with Kuder-Richardson formula (KR-20) yielded a coefficient index of 0.86. Experimental procedure lasted five weeks. Researchers took steps to control extraneous variables that may affect research. Mean and standard deviation were used to analyse data related to the research questions, while Analysis of Covariance (ANCOVA) was used to test the hypotheses at 0.05 level of significance.

Results

Research Question 1: What is the mean achievement scores of primary school pupils taught Social Studies skills using animation instructional strategy and those taught with teacher direct instructional method?

Table 1: Mean Achievement Scores and Standard Deviation of Primary School Pupils Taught Social Studies Skills with Animation Instructional Strategy and Those Taught with Teacher Direct Instructional Method

Descriptive Statistics				
	N	Mean	Std. Deviation	Mean Difference
Pupils in Experimental Group	51	34.29	2.79	11.02
Pupils in Control Group	44	23.27	3.93	

Data in Table 1 show the mean achievement scores of primary school pupils taught social studies skills using animation instructional strategy (experimental group) with those taught using teacher direct instructional method (control group). The pupils in the experimental group (who were taught using the animation instructional strategy) has a higher mean achievement score of 34.29. The pupils in the control group (who were taught using the traditional teacher direct instructional method) has a lower mean achievement score of 23.27. The standard deviation for the experimental group is 2.79, indicating relatively low variability in the scores among pupils taught with animation. The standard deviation for the control group is 3.93, showing greater variability in the achievement scores among pupils taught



with the traditional method. The mean difference between the two groups is 11.02 in favour of the experimental group. This indicates that, on average, pupils taught with the animation instructional strategy score 11.02 points higher than those taught with the teacher direct instructional method.

Research Question 2: What is the difference between the mean achievement scores of normal and special need pupils taught Social Studies skills using animation instructional strategy?

Table 2: Difference in the Mean Achievement Scores of Normal and Special Need Pupils Taught Social Studies Skills with Animation Instructional Strategy

	Descriptive Statistics			
	N	Mean	Std. Deviation	Mean Difference
Scores of Special Need Pupils	20	34.05	2.37	0.4
Scores of Normal Pupils	31	34.45	3.06	

Data in Table 2 show the mean achievement scores of special need pupils and normal pupils taught social studies skills using the animation instructional strategy. The special need pupils who were taught using the animation instructional strategy has a mean achievement score of 34.05. The normal pupils who were taught using the same animation instructional strategy has a slightly higher mean achievement score of 34.45. The standard deviation for the special need pupils is 2.37, indicating that their scores are relatively consistent with low variability. The standard deviation for the normal pupils is 3.06, showing a slightly higher variability in scores compared to the special need pupils. The mean difference between the scores of special need pupils and normal pupils is 0.4 in favour of the normal pupils. This difference is minimal.

Ho1: There is no significant difference between the mean achievement scores of primary school pupils taught Social Studies skills using animation instructional strategy and those taught using teacher direct instructional method.

Table 3: ANCOVA Analysis of difference between the achievement scores of pupils in animation instructional strategy and those taught using teacher direct instructional method
Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	23.621 ^a	16	1.476	2.00	.000	1.000
Intercept	1.069	1	1.069	1.00	.000	1.000
PreTest	.000	1	.000	.000	1.000	.000
PostTest	23.202	15	1.547	2.00	.000	1.000
Error	5.114E-30	78	6.556E-32			
Total	44.000	95				
Corrected Total	23.621	94				

a. R Squared = 1.000 (Adjusted R Squared = 1.000)



The results in Table 3 present the ANCOVA (Analysis of Covariance) analysis of the difference in achievement scores between pupils taught using the animation instructional strategy and those taught using the teacher direct instructional method. The F-value is extraordinarily high (225,186,228,470.00), and the p-value of .0, indicates that the differences between the groups are statistically significant. The analysis reveals a statistically significant difference in the achievement scores between pupils taught with the animation instructional strategy and those taught using the teacher direct instructional method. The p-values for all relevant factors are .000, far below the typical alpha level of 0.05, indicating that these differences are not due to chance.

Ho2: There is no significant difference between the mean achievement scores of normal and special need pupils taught Social Studies skills using animation instructional strategy.

Table 4: ANCOVA Analysis of difference between the achievement scores of normal and special need pupils taught social studies skills using animation instructional strategy

Tests of Between-Subjects Effects						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3.007 ^a	9	.334	1.497	.182	.247
Intercept	.086	1	.086	.385	.538	.009
PreTest	.389	1	.389	1.744	.194	.041
PostTest	2.511	8	.314	1.407	.223	.215
Error	9.150	41	.223			
Total	31.000	51				
Corrected Total	12.157	50				

a. R Squared = .247 (Adjusted R Squared = .082)

The results in Table 4 present an ANCOVA (Analysis of Covariance) analysis examining the difference in achievement scores between normal and special needs pupils taught social studies skills using the animation instructional strategy. The F-value is 1.497, and the p-value (Sig.) is .182. The analysis reveals that there is no statistically significant difference in the achievement scores between normal and special needs pupils taught social studies skills using the animation instructional strategy. The p-values for the corrected model, pretest, and posttest are all above the typical alpha level of 0.05, indicating that these differences are likely due to chance rather than a true effect.

Discussion of the Findings

The pupils taught with animation instructional strategy had a higher mean achievement score compared to those taught with the teacher direct instructional method. The mean difference is significant, with an 11.02-point advantage for the animation instructional strategy. The significant difference in mean scores suggests that the animation instructional strategy is more effective in enhancing Social Studies achievement compared to the teacher-direct instruction method. Animation engages pupils more effectively, leading to better understanding and retention of material. Finding is consistent with research by Baglama, et al (2018) who found that multimedia instructional strategies, including animation, enhance students' understanding and retention of complex concepts by providing visual and auditory cues that aid cognitive processing. Additionally, Unlu and Diken (2022) suggested that animations can make abstract ideas more concrete, leading to better learning outcomes.



The ANCOVA results reinforce the findings from the descriptive statistics, confirming that the animation instructional strategy is significantly more effective than the teacher-direct instructional method. The high level of statistical significance underscores the reliability of this conclusion. The effectiveness of animation in instructional design is well-documented. For instance, Baglama et al (2018) found that animations can enhance understanding and retention of information by providing visual representations that make abstract concepts more concrete. This aligns with the higher improvement and more consistent performance observed in the AIS group. While direct instruction is effective for teaching factual knowledge and basic skills, it may not be as engaging or effective for all learners, especially those with special needs. Similarly, Unlu and Diken (2022) noted that direct instruction, while structured and clear, can sometimes fail to engage students or address their individual learning styles, which might explain the lower improvement seen in the control group.

Furthermore, the mean achievement scores of special needs pupils and normal pupils taught with animation instructional strategy are very similar, with a mean difference of only 0.4 points. The small mean difference between the two groups suggests that the animation instructional strategy is equally effective for both special needs and normal pupils. This indicates that the strategy is inclusive, supporting the learning needs of a diverse pupil population. Animated instructional materials have been shown to support diverse learners, including those with special needs, by reducing cognitive load and providing clear, engaging content. Asogwa, et al (2023) highlighted that animation, when used appropriately, can cater to diverse learning needs and styles, which is particularly beneficial for special needs pupils.

The ANCOVA analysis shows no significant difference in the achievement scores between normal and special needs pupils taught Social Studies skills using animation instructional strategy. The lack of significant difference implies that the animation instructional strategy is equally effective for both normal and special needs pupils. This suggests that animation can serve as an inclusive teaching tool, capable of addressing the diverse needs of learners. This finding aligns with studies that emphasize the universal design for learning (UDL), which advocates for flexible instructional strategies that cater to diverse learners (CAST, 2011). Animated instructional content, in particular, has been shown to be accessible and engaging for students with different learning needs (Meyer et al, 2014).

Conclusion

It can be concluded from the findings that the animation instructional strategy significantly enhances the achievement of pupils in Social Studies skills compared to the teacher-direct instructional method. This strategy also is effective for both normal and special needs pupils, demonstrating inclusivity and accessibility. Overall, the animation instructional strategy proves to be a superior method for improving Social Studies skills among primary school pupils.

Recommendations

In view of the findings and conclusion, the following are recommended:

1. School authorities should offer professional development opportunities for teachers and special education professionals on how to effectively utilize animation tools.
2. Policymakers, and government agencies should formulate policies that support the adoption of technology-enhanced instructional methods, such as animation, in special needs education.
3. Teachers should foster collaborative learning environments where special needs pupils can engage with animated content.



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