



Effects of the Higher Order Thinking Strategy of Story Impressions on the Written English Performance of Students in Kano State, Nigeria

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ABSTRACT

As a result of the inability of senior secondary school III students to write coherent essays that criticize, describe or make adequate evaluation. This study was conducted to study the Effects of higher order thinking strategy of Story Impressions on written English performance of secondary school students in Kano State. The study employed a quasi-experimental pre-test post-test research design and randomly selected two intact SS III classes in a senior secondary school in Kano State. Intact classes were randomly assigned to control and experimental groups in each of the sampled schools. The treatment was in the form of the Narrative Essay Test, which was a modifications of the 2018 Kano State Senior Secondary School Qualifying Examination (SSQE) while the 2018 NECO English language examination was employed at the post-test stage. Results were analyzed using independent samples t-test. With the help of SPSS. The results revealed that there is a significant difference in the performance of the experimental and control groups' performances stemming from the positive impact of the study's treatment administered on the experiment group. The intervention received by the experiment group led better performances in the three essay writing skills tested. The study recommended the inclusion of higher order thinking strategies in the English language essay writing curriculum.

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INTRODUCTION

Thinking permeates the lives of human kind. There are many studies about the teaching of thinking which all suggest a direction and general guidance about how to teach students to become critical and effective thinkers. A central goal of education and learning is the acquisition of the right strategies for critical thinking. Psychologists (Dewey, 1969; Piaget, 1969) have pointed out the role that higher order or critical thinking plays in child development and have recognized the value of experiences that boost a learner's cognitive structures. It is a mental faculty believed by philosophers and psychologists that makes the difference between man and beast. Education, too, is replete with thinking: we read and digest or think over and react to what is read; we write our thoughts and feelings on paper. It is

widely believed that thinking can be good or bad. In the scholarly realm, thinking- despite being unresearched enough (Hyland, 2004)- has been classified broadly into two distinct categories: lower order thinking and higher order thinking; both have their accompanying skills that date back to the Socratic days up to the days of Bloom (1956), Marzano(2018) and many more.

The literature on both higher and lower order thinking unanimously view rote learning or memorization of facts to be regurgitated on demand as the hallmark of lower order thinking while higher order thinking (HOT) is generally regarded as being characterized by independent analysis, evaluation and application of knowledge or skills in real life circumstances, outside the classroom, beyond the school. There are teachers who revel in seeing their students memorize all the



facts taught in the classroom only to discover that those facts have no applicability in the real world outside the classroom. Most scholars attribute this impasse to the relegation of assessing higher order thinking performance in teaching writing, reading, and other school subjects (Hyland, 2014; White, 1993; Park, 2013; de Waelche, 2015).

Assessing performance in higher order thinking skills (HOTS) could be done through multiple choice, essay or portfolio assessment tests (White, 1993). Higher order thinking skill tests are widely regarded as 'not comprehensive' as they miss much that is significant in critical thinking (Hayes and Devitt, 2008). Hove (2018) believes that assessment of higher order thinking should be 'used in a wide variety of subjects, contexts, and educational levels. Paul and Nosich (2019) opine that assessing higher order thinking skills 'entails proficiency in the examination of ... elements of thought implicit in all reasoning-purpose, problem or question-at-issue, assumption... objections from alternative viewpoints and frames of reference'.

Langer and Applebee (1985) believe evidence has shown that activities involving writing increase comprehension, connections, and recall better than activities that rely on reading and studying. The study drew its inspiration, at the national level, from the performances of students in public examinations like WAEC, NECO as well as in teacher-made tests which seem to suggest an absence of higher order thinking and a mastery of memorized facts which may not stand such students in good stead outside the school, later in life.

Many scholars, in contrast, believe that higher order thinking skills do not occur randomly; it takes plenty of structured, deliberate, and repetitive exposure and practice for students to develop insightful thinking (Paul & Nosich, 2019). Considering this statement, one would agree that all learners must be able to think critically, but higher order thinking skills seem to be rarely taught in Nigerian public schools and this could possibly be what Mendelman, (2007) referred to when he wrote about 'ill-equipped students that could not adapt to a rapidly changing world.' More and more students grow up engaged with primarily passive activities, making the teaching of higher order thinking skills an important but difficult

burden in the classroom. If students are not exposed to, and do not master, higher order or critical thinking, they will be unable to compete in a modern, global economy (Hill & Flynn, 2008; Marzano, 2018; McPeck, 1990).

In addition, the study is inspired by the global fact that most countries believe that the 21st century students will require higher order thinking abilities- like inference, evaluation, interpretation, creativity- for critical thinking. Higher order thinking skills require doing something with facts learnt by the students. When these skills are employed correctly by students, understanding becomes manifest and students can find connections between facts then use them in new ways as well as apply them to solve problems. This entails positive performance in the language learning skill to be tested.

Research Questions

1. What is the effect of the higher order thinking strategy of Story Impressions (SI) on performance in the expression skill of senior secondary school students in narrative essay writing?
2. What is the effect of the higher order thinking strategy of Story Impressions (SI) on performance in the content writing skill of senior secondary school students in narrative essay writing?
3. What is the effect of the higher order thinking strategy of Story Impressions (SI) on performance in the organization skill of senior secondary school students in narrative essay writing?

LITERATURE REVIEW

Story Impressions (hereinafter referred to as SI) is a higher order thinking strategy (Denner, McGinley & Brown, 1989; Waters, 2010; Gunning, 2010) in which 'the reader uses significant phrases that have been extracted from the text to compose a story while relying on his schema of story grammar to make meaning' (Waters, 2010). 'Story grammar', according to Waters (2010), refers to 'narrative story structure: the setting, main characters, problem, events, solution...' The purpose of Story Impressions strategy is to enhance the students' ability to comprehend specific information collected from



the narrative through a series of relevant clues relating to the main ideas that have been established at the outset as well as to establish purpose for reading (Hyland, 2014; Waters, 2010). The corresponding or subsequent written response in essay form being an indicator of the student's inference-making ability.

The originators of the Story Impressions higher order thinking strategy postulate that it can be used to assist students in predicting and anticipating textual content by requiring students to make predictions and inferences using bits of related information sequenced into an organizational framework that serves as a scaffold for meaning construction (Elser, 2018; Waters, 2010; Fisher, Jackson, & Kinloch, 2005; White, 1993). Waters (op cit.) offered a three-step implementation plan for teaching any higher order thinking strategy- with the emphasis being on reading and writing skills. The first step is labeled 'modeling' of the phrases to be taught, the second step titled 'guided practice' and the last step called 'application'. Each step contains specific activities for the teaching of predicting events or situations in a passage. This study borrowed the contents of the Story Impressions strategy for use in data collection about the construction of meaning out of a reading passage by SS III students as well as adopt it to determine how it can improve students' performance in writing essay content.

The narrative essay is a written account of connected events (Waters, 2010); it is an essay that is told from a defined point of view, often the author's, so there is feeling and specific sensory details provided to get the reader involved in the elements and sequence of the story (Waters, 2010). This mode of expository writing, more than any other, offers the best chance for the display of higher order thinking in students' essays because it is a type of essay wherein the writer or students get the opportunity to think and write about their experiences or about a given task. It is also the 'least formulaic expository pattern of writing that uses fiction techniques like setting, plot, characters and dialogue and, unlike fiction, is purely written to make a point rather than to entertain readers' (Hyland, 2004).

The narrative essay makes a point that is often defined in the opening sentence but can be found as the last sentence in the opening

paragraph. Since this type of essay relies on personal experiences, all the conventions of story-telling: plot, characters, setting, climax and ending should be included (Halpern, 2003). To teach narrative essay to students using higher order thinking instructions, carefully selected details that explain, support, or embellish a story should be included so that all the details should relate to the main point the student will attempt to make in the essay.

Narrative essays are generally written in the first person singular. However, the third person singular (he or she or it) can be used also (Brookhart, 2017). Vivid and precise verbs are used as narrative essays rely on concrete, sensory details to convey their points. The details should create a unified, forceful effect, a dominant impression, and should include the story conventions of plot, including setting and characters, a climax and an ending. For teaching setting and characterization, Hyland (2004) suggests setting the narrative in 'a specific time and place' at the story's beginning and using three-dimensional characters for the protagonist(s) and/or antagonist(s), with the introduction containing the setting, characters, and opening situation.

There are narrative techniques or literary devices that can be used to make the reader appreciate the literary narrative elements of theme, story structure, plot, and characterization. Wegerif (2018) and Waters (2010) point to the use of figures of speech (simile, metaphor, personification, and many more) to embellish the narrative and add class to the writer's style. For improving the plot and the sequence of events in the narrative essay, the techniques of flashback, flash forward and foreshadowing, according to most of the sources reviewed, generally come in handy.

A good narrative essay also employs imagery. This, as proffered by Wegerif (2018), assists the reader to visualize the story better. Imagery can be used to appeal to the five senses (seeing, smelling, tasting, feeling, and hearing) and make the narrative mature or realistic. None of the literature reviewed frowned upon the use of the first person 'I' in composing a narrative essay. However, majority of the sources reviewed recommend the avoidance of verbiage, clichés,



and bland statements. Generally, the literature reviewed suggest that the language of narration should 'be carefully, particularly, and artfully chosen' (Godfrey, 2011).

METHODOLOGY

The study employed the pre-test post-test quasi-experimental research design in its attempt to assess the effects of higher order thinking strategy of Story Impressions on the writing performances of SS III students in selected senior secondary schools in Kano State. The population for this study consists of all SS III students in government-owned secondary schools in Kano State. This quasi-experimental study requires making informed generalizations on a large population; it, therefore, randomly sampled two senior secondary schools apiece from the thirty-eight senior secondary schools in Kano Municipal local government area. One intact class apiece was randomly assigned to control group (n=62) in the first school and an experimental group (n=60) in the second school. This figure is consistent with Nworgu's (1991) and Creswell's (2018) recommendation that two distinct entities could be employed as samples.

To assess the effects of the Story Impressions higher order thinking strategy on the performances of SS III students in essay writing tasks, essay questions from the 2018 NECO examination were selected for the posttest while the Kano Educational Resource Department (KERD) Senior Secondary School Qualifying Examination (SSSQE) 2018 English language question paper (which contains reading comprehension and essay writing questions and which qualifies students who passed it for payment of NECO examination registration fees by the state government) was used at the pre-test stage. Both instruments had been subjected to reliability and validity tests by the institutions administering the examinations. Students were required to answer one essay question at both the pre-test and posttest stages.

The Narrative Essay Test for HOTS (NET) instrument was designed, based on the evidenced-based works of Collins & Gunning (2010), by the researcher to cover three essay writing skill areas: content, organization, and expression. The instrument was a modification of

the NECO 2018 question paper and was designed to use Story Impressions strategy to examine and improve students' content, organization and expression skills.

The instruments involved writing tasks that would demonstrate the participants' level of mastery of the three essay writing skills of content, organization, and expression present in the students' compositions. All the participants were familiar with essay writing tasks.

The COE (which is short for: content, organization, and expression) marking scheme, adapted slightly from the NECO mark scheme, was used. For content, the maximum mark awarded by NECO is ten (10) marks; its assessment covers the 'relevance of ideas to the topic and its specific audience and purpose. Appropriateness and relevance of the language to the central theme and its development, as well as the adequacy of the treatment of the subject matter are given prominence, just as originality in approach (NECO, 2018). In addition, the assessment will focus on what the question asked students to write about, i.e., the theme.

Organization also has ten (10) marks in the NECO marking guide. These marks are awarded based on correct use of the formal features of good paragraphing, appropriate use of emphasis and arrangement of ideas. There is emphasis on logical coherence, chronology and spatial arrangement, suitable opening, adequate development, links between paragraphs, balance, and unity also attract marks here. Expression is worth twenty (20) marks and covers vocabulary choice that takes into consideration the general audience and format of the written composition, diction, cohesive devices, and grammar. For the purpose of this research, the written compositions by all the participants were marked differently, to allow for ease of statistical analysis. Content and organization were given thirty marks apiece while expression (which, traditionally, gets the most marks in public examinations) was given forty marks, giving a total of one hundred marks, altogether.

Data collected for this study went through the following procedures:

1. A pre-test was given to the control and experimental groups in all the sampled



- schools with the aim of assessing their homogeneity and entry level.
2. Participants in both the control and experimental groups were randomly selected for an eight-week treatment with the higher order thinking strategy of Story Impressions, with the control group receiving a placebo treatment.

The data collected from the post-test were analyzed through the Statistical Package for

Social Sciences' (SPSS) descriptive statistics; specifically, the t-test was employed for the analysis of the data collected; this is because of the consensus in statistics that the t-test can be reliably used to determine whether there is significant statistical difference between the means of two groups (Siegle, 2019). Each of this study's research question was analyzed using the independent samples t-test. The significance level for the analyses is 0.05.

DATA ANALYSIS AND RESULTS

Table 1: Posttest Story Impressions Scores in Expression in Narrative Essay Writing

Group	N	Mean	Sd	Sem
Experimental	60	18.02	3.95	0.51
Control	62	13.34	3.68	0.46

The independent samples t-test for the two groups' Story Impressions performance in expression in narrative essay point to a markedly better performance by the experimental group ($m=18.02$; $SD=3.951$) with the control group

recording a lower means score ($m=13.34$, $SD=3.684$). Performance in the expression skill by the experimental group indicates a performance that is consistent across the other two skills of content and organization.

Table 2: Posttest Story Impressions Performance Scores in Content in Narrative Essay Writing

GROUP	N	MEAN	SD	SEM
Experimental	60	19.53	4.99	0.65
Control	62	12.82	3.61	0.46

The table above indicates a higher means scores for the experimental group (19.53 , $SD= 4.996$) than the control group's ($m=12.82$, $SD= 3.606$). This indicates a positive trend that

points to the functionality of the Story Impressions strategy in improving the content in students' narrative essays and provides a satisfactory answer to the study's second research question.

Table 3: Posttest Story Impressions Performance Scores in Organization in Narrative Essay Writing

Group	N	Mean	Sd	Sem
Experimental	60	18.68	5.46	0.7
Control	62	12.74	3.82	0.48

The group statistics data in the table above reveal that the experimental group performed significantly better in essay organization ($m= 18.68$, $SD=5.466$) which is considerably higher than that of the control group's ($m= 12.74$, $SD=3.828$). This data

adequately answers the study's third research question.



DISCUSSION

Summary of the Experiment Group's Story Impressions Narrative Essay

Question: Write a story to illustrate the saying: 'A bird in hand is worth two in the bush'. (NECO, 2018).

Sample Essay

Scores

<p>SAMPLE 1: Once upon a time, my friend <i>say he want</i> to buy car and stop driving his motor cycle. My <i>friend moto</i> cycle was bought for him by his father and my friend is a student like me. I asked him how he <i>plan</i> to buy car and he said he <i>know</i> one man who <i>make</i> money for people. He will sell the <i>moto</i> cycle and give the money to the man who will give him <i>plenty money</i> to buy ten cars. I told my friend not to sell his <i>moto</i> cycle and that he must tell his father first...He <i>become</i> angry and told me to shut up. He said two boys near his house <i>sell</i> their phones and gave the money to the man and he gave them money to buy <i>motorcycle</i>. The boys <i>tell</i> him about it so he <i>intends</i> to sell his <i>moto</i> cycle and get money to buy car.</p> <p>After a week, I saw him crying. I <i>ask</i> him what <i>happen</i> and he said he sold his <i>motorcycle</i> and the man who <i>make</i> money collected the money and has disappeared. I told him that a bird in hand is worth two in the <i>bush</i>, if you remember I told you not to sell your <i>motorcycle</i>.</p>	<p>Content = 19; Organization = 16; Exp. = 23. Total = 58.</p>
<p>SAMPLE 2: My grandmother told me a story about a bird in hand and the two <i>bird</i> in the bush. She said the bird in hand is the group of people who we know and trust from home and that the two birds in bush are the strangers we meet outside. She said I <i>am</i> too young to understand. I told her I <i>understand</i> and that I will tell her a story about my friend who was <i>deceived</i> by wicked people. My <i>friend Ali</i> trust people too much. When he met two strangers, they told him to give them him <i>money</i> they will multiply it for him. That was how he lost his money.</p>	<p>Content = 10; Organization = 23; Exp. = 22. Total = 55.</p>

Sample 1 of the experimental group's narrative essay contains three paragraphs that narrate a story relevant to the essay question. There is evidence of creativity in the narration and the packaging of the ideas succinctly. The expression side of the essay reveal concord errors ('...he plan...'; '...he know...'; '...who make...') but these are not as replete as in the control group's samples just as the spelling errors in Sample 1 of the experiment group's narrative essay ('moto cycle') are not as numerous as in the control group's essays sampled in Table 4.8.

Sample 2 of the experiment group's narrative essay is only two paragraphs long but contain ideas that are relevant to the topic. There is also good treatment of the subject-matter. This is an indication that the student knew the relevance and purpose of paragraphs in the organization of essays. The sample also contains a plot that is both creative and relevant to the

essay question. The narrative in the essay is told in a clear, inductive way that was a little bit marred by errors of spelling ('decievd'; 'freind'), grammar ('My friend Ali trust...'; '...give them him money...').

The experimental group's sampled essays contain elements of storytelling (Once upon a time...), cataphoric reference (After a week...) as well as some creative expression: '...plenty money to buy ten cars'. These are indicators of the positive effect the Story Impressions strategy had on the experiment group at the posttest.

Summary of the Control Group's Story Impressions Narrative Essay

Question: Write a story to illustrate the saying: 'A bird in hand is worth two in the bush'. (NECO, 2018).



Sample Essay	Scores
SAMPLE 1: The bush is plenty of birds. Birds in bush are difficult to catch <i>when you trow stones they flied</i> away into the bush. <i>If you are not hunter</i> you cannot catch <i>two bird</i> in the bush. <i>Mr hunter he caught two bird</i> in the bush but they <i>flied</i> away <i>before he go</i> to house. This is why a bird in hand is worth two in bush. <i>My friend Abu he get bird in house in cage. It never run away becouse he give</i> it food in the morning, evening and <i>nihgt</i> . The <i>bird happy</i> for this and <i>sing</i> when <i>he see</i> Abu. <i>It don't</i> smile or sing when the brother and sister of Abu come to it <i>becouse</i> they don't give food and water to the bird.	Content = 5; Organization = 12; Exp. = 20. Total = 37.
SAMPLE 2: <i>i accompany</i> my brother to the farm one day and he told me about a bird in hand is worth two in the bush. I <i>dont</i> see a bird in his hand and <i>i tell</i> him. <i>He laugh</i> and say it is a <i>figurative espresion</i> . My brother <i>he love</i> to speak English to me <i>becouse</i> he <i>want</i> me to get credit in WAEC and <i>neco</i> . I <i>happy</i> every time <i>he talk</i> to me in English and he <i>also happy</i> when I <i>reply</i> him. <i>i don't</i> know what <i>figurative espresion</i> mean so he <i>translate</i> to Hausa. I <i>tell</i> him I will remember the <i>figorotive espresion</i> and ask my <i>englis</i> <i>techer</i> in school.	Content = 6; Organization = 10; Exp. = 14. Total = 30.

The first sample is replete with grammatical errors of concord ('...he see Ali'; 'he don't smile'). Spelling errors are also present ('becouse'; 'nihgt', 'trow') as well as double marking of the subject ('Mr. Hunter he caught...'; 'My friend Abu he get bird...'). Moreover, the posttest essay is a manifestation of the incorrect mastery of the past tense forms of verbs, due to overgeneralization ('caught', 'flied'). The entire sample was without a paragraph but there is evidence of comprehension of the type of essay required of the student to write.

The second sample reveals wrong spellings of words ('figorotive'; 'espression', 'englis'; 'techer'; 'don't') as well as use of wrong tenses ('I accompany...'; 'Heloove...'; 'He talk...'). These are errors that relate to expression. The length of the essay sample also indicates that the student's idea of an essay is something not more than a paragraph in length. It also reveals a digression from the essay's topic.

RECOMMENDATION

This study recommends the inclusion of the MRP (Model, Reflect, and Practice) model in the teaching of essay writing as the model assists in helping students to demonstrate their understanding of a modelled essay task. This, according to Waters (2010), can greatly reduce stress and enhance better essay writing performance.

REFERENCES

- Abed, A. & Dori, Y. J. (2013). Inquiry, chemistry understanding levels, and bilingual Learning. *Educacion Quimica*, 24(1):37-43.
- Bloom, B. S. (1956). *Taxonomy of educational objectives: The classification off educational goals. Handbook I: Cognitive Domain*. New York: David McKay
- Brookhart, S. M. (2017). *How to assess higher order thinking skills in your classroom*. Alexandria, VA: ASCD.
- Cheng, M.Y. (2011). Infusing creativity into eastern classrooms: Evaluation from student Perspectives, *Thinking Skills and Creativity*, 6(1), 67-87.
- Collins, G. & Gunning, P. (2010). *Building struggling readers' written competence*. Newark: USA
- Denner, T., McGinley, J. & Brown, A. (1989). The effects of Story Impressions on teaching thinking in primary schools. *British Journal of Educational Psychology*, 79(2), 329-351.
- De Waelsche, S. (2015). Critical thinking, questioning and student engagement in Korean University English courses. *Linguistics and Education*, 32(2015), 131-147.



- Dewey, T. (1969). Activating children's thinking skills (ACTS): The effects of an infusion approach to teaching thinking in primary schools. *British Journal of Educational Psychology*, 79(2), 329-351.
- Elsner, C. (2018). The role of writing: Increasing higher level thinking for all students. Retrieved from www.scholarworks.uni.edu
- Fisher, P. (2005). Learning about literacy: From theories to trends. *Teacher Librarian*.
- Godfrey, R. (2017). Higher order thinking strategies for language lessons. Retrieved on 2nd January, 2021 from, www.artsci.utoronto.com
- Halpern, D. F. (2003). *Thought and knowledge: An introduction to critical thinking*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Hayes, K. & Devit, A. (2008). Classroom discussion with student-led feedback: A useful activity to enhance development of critical thinking skills. *Journal of Food Science Education*, 7(4), 65-68.
- Hill, J. D. & Flynn, K. (2008). Asking the right questions. *Journal of Staff Development*, 29, 46-52.
- Hove, G. (2018). Developing critical thinking skills in the high school English classroom. Retrieved from www.scirp.org
- Hyland, K. (2004). *Second language writing*. Cambridge: Cambridge University Press.
- Hyland, K. (2014). *Feedback in second language writing contexts and issues*. Cambridge: CUP
- Langer, J. A., & Applebee, A. N. (1985). How writing shapes thinking: A study of teaching and learning. NCTE Research Report No. 22. Urbana, IL: NCTE.
- Marzano, R. (2018). A theory-based meta-analysis of research on instruction. Retrieved from www.peechworks.org
- Marzano, R. (2003). *What works in schools*. Alexandria, VA: ASCD.
- McPeck, J. E. (1990). Critical thinking and subject-specificity: A reply to Ennis. *Educational Research*, 19(4), 10-12.
- Mendelman, L. (2007). Critical thinking and reading. Retrieved from www.literacyworldwide.org
- National Policy on Education. (2013). Federal Ministry of Education, Nigeria.
- Paul, R. & Nosich, G. (2019). A model for national assessment of higher order thinking. Retrieved from www.criticalthinking.org
- Piaget, J. (1969). *The child's conception of the world*. New York: Norton.
- Waters, K. (2010). Strategy instructions and lessons learned in teaching higher level thinking skills in an urban middle school classroom. In J. L. Collins and T. G. Gunning: *Building Struggling Students higher level literacy. Practical ideas, powerful solutions*. Newark: IRA.
- Wegerif, R. (2018). Towards a dialogic theory of how children learn to think. *Thinking Skills and Creativity*, 6(3): 179-190.