Journal of Research in Education and Society, Volume 15, Number 3, December 2024
ISSN(p): 2141-6753 ISSN(e): 2795-3033
Published By
International Centre for Integrated Development Research, Nigeria
In collaboration with
Copperstone University, Luanshya, Zambia

Promoting Reading Engagement among First Year National Diploma Students through Scrol Metacognitive Strategy in Akwa Ibom State Polytechnic, Ikot Ekpene, Akwa Ibom State, Nigeria

Akpan, Fidela Cosmas
Department of General Studies
Akwa Ibom State Polytechnic, Ikot Osurua,
Ikot Ekpene, Akwa Ibom State. Nigeria
E-mail: cosmasf19@gmail.com

ABSTRACT

This study investigated the impact of the SCROL (Survey, Connect, Read, Outline, and Look back) metacognitive strategy on reading engagement among first-year National Diploma students at Akwa Ibom State Polytechnic, Ikot Ekpene. Reading engagement is essential for academic success; many first-year polytechnic students in Nigeria exhibit low engagement with academic texts. A quasi-experimental design with 100 participants (50 for the experimental and 50 for the control) was employed. Data were collected through pre- and post-tests, reading engagement surveys, and qualitative feedback. Results revealed that students taught with SCROL demonstrated significantly higher levels of cognitive, emotional, and behavioral engagement compared to the control group ($t = 7.22$, $p < .01$). Qualitative feedback indicated increased motivation, improved comprehension, and more active participation in academic tasks. The study concludes that SCROL is effective in promoting active reading engagement among polytechnic students. It recommends incorporating metacognitive strategies into reading instruction to improve comprehension and academic success.

Keywords: *SCROL strategy, metacognition, reading engagement, comprehension, polytechnic education*

Introduction

Reading engagement is a cornerstone of academic achievement, especially in higher education, where students must process complex academic texts (Guthrie & Wigfield, 2000). Engaged readers are not merely passive consumers of information but active participants who interpret, connect and reflect on what they read (Alexander, 2012). In Nigeria's polytechnic system, however, students often show limited interest in reading

academic materials, leading to low comprehension and poor academic performance (Aina, 2019).

First-year National Diploma (ND) students at Akwa Ibom State Polytechnic frequently encounter challenges related to motivation, reading habits, and study strategies. Many approach reading passively, focusing on memorization rather than understanding (Okebukola, 2021). This lack of active engagement affects not only comprehension but also students' ability to apply learned concepts in practical, technical contexts.

To address this, metacognitive strategies such as SCROL (Survey, Connect, Read, Outline, and Look back) have been proposed as effective tools for improving reading engagement and comprehension (Schraw & Dennison, 1994). SCROL trains students to plan, monitor, and evaluate their reading process, turning reading into an active, reflective act. Despite evidence of its success in other contexts, research on SCROL in Nigerian polytechnics remains limited (Ogunyemi, 2020). This study, therefore, explores how the SCROL strategy can enhance reading engagement among first-year ND students at Akwa Ibom State Polytechnic.

Akwa Ibom State Polytechnic, Ikot Ekpene, offers a variety of programs designed to prepare students for technical and professional careers. However, instructors often report that students exhibit low interest in reading course materials beyond class notes (Udo, 2021). This challenge is compounded by large class sizes, resource constraints, and a weak reading culture prevalent in many Nigerian institutions (Nwogu & Okoro, 2018).

Reading disengagement manifests as surface-level reading, lack of persistence with texts, and poor retention of information (Abidoye, 2020). These behaviors undermine students' ability to think critically and perform effectively in their studies. By integrating a metacognitive framework such as SCROL, students can become more strategic learners who regulate their comprehension and develop a more positive attitude toward reading (Flavell, 1979).

Statement of the Problem

Despite the recognized importance of reading for academic success, many first-year polytechnic students remain disengaged from academic reading. They often read only to pass examinations, neglecting comprehension and reflection (Adebayo, 2017). Traditional reading instruction methods emphasize rote memorization rather than active engagement (Ajayi, 2019).

There is a lack of structured interventions designed to help students become self-regulated readers who take ownership of their learning. The absence of such strategies

leads to low comprehension, poor academic outcomes, and limited transfer of knowledge to real-world contexts. The SCROL metacognitive strategy provides a potential solution by encouraging purposeful, reflective reading behavior.

Purpose of the Study

The purpose of this study was to examine the impact of the SCROL metacognitive strategy on promoting reading engagement among first-year National Diploma students at Akwa Ibom State Polytechnic. Specifically, it aimed to:

- Assess students' current levels of reading engagement.
- Examine the effectiveness of SCROL in improving engagement and comprehension.
- Explore students' perceptions of SCROL.
- Recommend ways to integrate metacognitive strategies into polytechnic curricula.

Research Questions

- What is the current level of reading engagement among first-year ND students?
- How does the SCROL strategy affect students' reading engagement?
- To what extent does SCROL enhance reading comprehension?
- What are students' perceptions of SCROL?
- How can SCROL be integrated into the curriculum to foster academic success?

Theoretical Framework

This study draws on Metacognitive Theory (Flavell, 1979) and Cognitive Load Theory (Sweller, 1988). Metacognitive Theory emphasizes learners' awareness and control over their cognitive processes. By planning, monitoring, and evaluating their reading, students enhance comprehension and retention (Schunk & Zimmerman, 2012). SCROL aligns with this theory by helping students manage their reading strategies effectively.

Cognitive Load Theory posits that learning is optimal when the cognitive load is manageable. SCROL reduces cognitive overload by structuring reading into smaller, purposeful stages: Survey, Connect, Read, Outline, and Look back, thus enhancing comprehension (Paas & Sweller, 2014).

Journal of Research in Education and Society, Volume 15, Number 3, December 2024
ISSN(p): 2141-6753 ISSN(e): 2795-3033
Published By
International Centre for Integrated Development Research, Nigeria
In collaboration with
Copperstone University, Luanshya, Zambia

Concept of Reading Engagement

Reading engagement encompasses cognitive, emotional, and behavioral investment in reading (Guthrie & Wigfield, 2000). Engaged readers apply strategies, sustain interest, and relate texts to prior knowledge (Afflerbach et al., 2013). Conversely, disengaged readers tend to skim texts superficially (Grabe & Stoller, 2011). Research links high reading engagement with academic achievement (Trowler, 2010). However, Nigerian students often lack effective reading habits due to inadequate strategy instruction and limited access to reading materials (Ilogho, 2020).

Metacognition and Learning

Metacognition, "thinking about thinking", involves awareness of one's cognitive processes (Flavell, 1979). It enhances self-regulated learning and comprehension (Zimmerman, 2002). In reading, metacognitive strategies such as summarizing, questioning, and connecting information improve retention and understanding (Baker & Brown, 1984).

The SCROL Strategy

SCROL (Survey, Connect, Read, Outline, Look back) guides students through pre-reading, reading, and post-reading phases (Schraw et al., 2001).
Survey: preview the text structure.
Connect: relate content to prior knowledge.
Read: engage actively with meaning-making.
Outline: summarize key ideas.
Look back: review and consolidate understanding.
Studies have shown SCROL's positive impact on reading comprehension in diverse educational contexts (Pressley & Afflerbach, 1995; Ogunyemi, 2020).

Challenges to Reading Engagement in Nigerian Polytechnics

Key barriers include lack of reading culture, large class sizes, outdated materials, language difficulties, and limited study time (Aina, 2019; Udo, 2021). Addressing these challenges requires structured interventions that promote reflective reading and active learning.

Journal of Research in Education and Society, Volume 15, Number 3, December 2024
ISSN(p): 2141-6753 ISSN(e): 2795-3033
Published By
International Centre for Integrated Development Research, Nigeria
In collaboration with
Copperstone University, Luanshya, Zambia

METHOD

Research Design
A quasi-experimental pretest-posttest non-equivalent control group design was used. The experimental group received SCROL training, while the control group continued with traditional reading practices.

Participants
100 first-year ND students (50 experimental, 50 control) were drawn from three departments—Business Administration, Computer Science, and Electrical Engineering. Participants volunteered and provided informed consent.

Instruments
- Reading Engagement Survey (adapted from Guthrie & Wigfield, 2000).
- Reading Comprehension Test (discipline-based passages).
- Open-ended Questionnaires and Interviews for qualitative feedback.

Procedure
The SCROL intervention lasted six weeks:
Week 1: Orientation and SCROL training workshop.
Weeks 2–4: Guided practice with academic texts.
Weeks 5–6: Independent application and reflection.
Control group students used traditional reading methods.

Data Analysis
Quantitative data were analyzed using descriptive statistics, paired t-tests, and ANCOVA to determine differences between pre- and post-tests. Qualitative data were analyzed thematically to identify students' perceptions of SCROL.

RESULTS

Reading Engagement Scores
Experimental Group: Mean engagement improved from 3.2 (SD = 0.65) pre-test to 4.5 (SD = 0.42) post-test.
Control Group: Mean engagement changed marginally from 3.3 (SD = 0.70) to 3.4 (SD = 0.68).

Journal of Research in Education and Society, Volume 15, Number 3, December 2024
ISSN(p): 2141-6753 ISSN(e): 2795-3033
Published By
International Centre for Integrated Development Research, Nigeria
In collaboration with
Copperstone University, Luanshya, Zambia

Paired t-tests showed significant improvement for the experimental group ($t = 10.24$, $p < .01$).

Reading Comprehension

The experimental group showed higher comprehension gains than the control group, though challenges with vocabulary and complex texts persisted.

Qualitative Feedback

Students in the experimental group reported:
Increased confidence in reading technical texts.
Better organization and understanding of material.
Greater motivation to read outside of class.
Instructors observed improved participation, critical questioning, and comprehension among SCROL-trained students.

Discussion

The findings confirm that the SCROL strategy significantly enhances reading engagement. This aligns with studies linking metacognitive strategies to improved comprehension and motivation (Schraw & Dennison, 1994; Zimmerman, 2002). SCROL encouraged students to be reflective and self-regulated, promoting deeper interaction with academic texts. Despite improvements, challenges such as limited vocabulary and time constraints remained. These findings suggest that SCROL should be complemented with vocabulary development and access to simplified instructional resources (Nwogu & Okoro, 2018). The results also reinforce Guthrie and Wigfield's (2000) model, which associates engaged reading with motivation, strategy use, and persistence. Integrating SCROL into reading instruction can therefore cultivate lifelong learning habits and enhance academic performance among polytechnic students.

Conclusion and Recommendations

The SCROL metacognitive strategy proved effective in promoting reading engagement among first-year ND students at Akwa Ibom State Polytechnic. By fostering active, reflective reading, SCROL increased students' motivation, comprehension, and academic confidence. Based on the results, the following were recommended:

- Curriculum Integration: SCROL should be introduced in General Studies courses to build foundational reading skills.
- Instructor Training: Teachers should be trained in metacognitive instruction.

- Resource Provision: Polytechnics should improve access to relevant, simplified, and digital reading materials.
- Vocabulary Support: Reading programs should include vocabulary-building activities.
- Time Management: Students should be guided on balancing practical and reading tasks effectively.

The adoption of SCROL and similar metacognitive strategies can transform reading practices in Nigerian polytechnics, preparing students to become autonomous and competent lifelong learners.

REFERENCES

Adebayo, T. (2017). *Reading Habits and Academic Performance among Nigerian Students.* Lagos: Spectrum Press.

Aina, J. K. (2019). Enhancing Reading Culture among Tertiary Students in Nigeria. *African Educational Review*, 11(3), 122–133.

Ajayi, L. (2019). Rethinking Reading Instruction in Nigerian Tertiary Institutions. *Journal of Education and Practice*, 10(2), 45–54.

Abidoye, J. (2020). Students' Reading Engagement in Polytechnic Education. Nigerian *Journal of Educational Research*, 9(1), 56–68.

Afflerbach, P., Pearson, P. D., & Paris, S. G. (2013). Clarifying differences between Reading Skills and Reading Strategies. *The Reading Teacher*, 61(5), 364–373.

Alexander, P. A. (2012). Reading into the future: Competence for the 21st Century. *Educational Psychologist*, 47(4), 259–280.

Baker, L., & Brown, A. L. (1984). *Metacognitive Skills and Reading*. In P. D. Pearson (Ed.), *Handbook of Reading Research* (pp. 353–394). Longman.

Flavell, J. H. (1979). Metacognition and Cognitive Monitoring. *American Psychologist*, 34(10), 906–911.

Grabe, W., & Stoller, F. L. (2011). *Teaching and Researching Reading* (2nd ed.). Pearson.

Guthrie, J. T., & Wigfield, A. (2000). Engagement and Motivation in Reading. *Handbook of Reading Research*, 3, 403–422.

Ilogho, J. E. (2020). Reading Culture and Learning Outcomes in Nigerian Higher Institutions. *International Journal of Literacy Studies*, 8(2), 90–102.

Nwogu, U., & Okoro, C. (2018). Reading Culture and Academic Achievement in Nigerian Polytechnics. *Nigerian Journal of Technical Education*, 6(1), 32–48.

Ogunyemi, A. (2020). The Effectiveness of Metacognitive Strategies on Students' Reading Comprehension in Tertiary Institutions. *Nigerian Educational Review*, 12(3), 201–214.

Okebukola, P. (2021). Educational Reforms and the Challenge of Reading Engagement in Nigeria. *West African Journal of Education*, 14(2), 65–79.

Paas, F., & Sweller, J. (2014). Cognitive Load Theory: A Broader View on the Role of Memory in Learning. *Educational Psychology Review*, 26(2), 191–195.

Pressley, M., & Afflerbach, P. (1995). *Verbal Protocols of Reading: The Nature of Constructively Responsive Reading.* Lawrence Erlbaum.

Schraw, G., & Dennison, R. S. (1994). Assessing Metacognitive Awareness. *Contemporary Educational Psychology*, 19(4), 460–475.

Schraw, G., Crippen, K. J., & Hartley, K. (2001). Promoting Self-regulation in Science Education. *Research in Science Education*, 36(1–2), 111–139.

Schunk, D. H., & Zimmerman, B. J. (2012). *Motivation and Self-regulated Learning: Theory, Research, and Applications*. Routledge.

Sweller, J. (1988). Cognitive Load during Problem Solving: Effects on Learning. *Cognitive Science*, 12(2), 257–285.

Trowler, V. (2010). Student Engagement Literature Review. *The Higher Education Academy*, 11(1), 1–15.

Udo, M. B. (2021). The Challenge of Academic Reading among NIGERIAN Polytechnic Students. *Journal of Contemporary Education*, 8(4), 89–101.

Zimmerman, B. J. (2002). Becoming a Self-regulated Learner. *Theory into Practice*, 41(2), 64–70.