

## Chapter 18

# Technology–Assisted Reading: Challenges and Opportunities in a Developing Country

**Gerda van Wyk**

*Reading Zone and University of Johannesburg, South Africa*

**Arno Louw**

*Reading Zone and University of Johannesburg, South Africa*

### ABSTRACT

*This chapter presents the findings of a comparison between two different computer reading programmes with the aim of compiling a minimum set of requirements for such a programme in a third world educational environment. It further examines the challenges, benefits and limitations of implementing technology assisted reading on a wide scale. The results of this study are used to formulate strategies to best obtain results in reading difficulties. Consequently, reading difficulties are a world- wide problem and therefore require new and innovative ideas to be effectively addressed. Moreover, reading difficulties do not exist in isolation, and should be addressed in small groups with a holistic approach to ensure the best chance of successfully addressing the problem. The facilitator – learner ratio is important to ensure individual attention to learners. The flexibility and adaptability of the software are therefore important aspects during software implementation. When deciding on effective reading software, the applicability of assistive technology as part of an intervention strategy in reading difficulties should be considered as the most important aspect.*

### BACKGROUND

It has been well documented in academic literature that South African learners are amongst the poorest in the world (Van Wyk & Louw, 2008:[online]). The poor level of reading skills across the world is a daunting phenomenon. Van Wyk and Louw (*op. cit.*)

reported their research results on technology assisted reading for learners in South Africa in 2008, and concluded that computer based reading programmes play an important role in the improvement of reading skills for young learners. Learners identify with the electronic medium and it can therefore be utilised to re-create a love for reading.

However, a third world country faces many challenges in addressing reading difficulties as so

DOI: 10.4018/978-1-61520-909-5.ch018

many factors play a role in introducing Reading interventions. These include poverty and lack of financial and structural resources, lack of computer literacy in learners and teachers and high crime rates which increase the costs to safeguard computer laboratories. Furthermore, government education departments place restrictions on the software to be installed at schools according to their own standards. Experts in the field of technology assisted reading are seldom part of decision making in terms of the reading software to be implemented. It is nevertheless a fact that technology is the medium of instruction for the future and should be utilised within the limitations it presents. However, reading difficulties do not exist and cannot be treated in isolation and any intervention programme should therefore be holistic in nature.

## **FOLLOW-UP RESEARCH**

Van Wyk and Louw envisaged follow-up research in the efficacy of different computer reading programmes with the aim of compiling a minimum set of requirements for such a programme in a third world educational environment. Furthermore, this paper will present the findings of a study that was collected over a period of two years and reflects the reading results of learners who followed two different computer reading programmes over a period of seven months each. Moreover, this paper aims to examine the challenges, benefits and limitations of implementing technology assisted reading programmes on a wide scale. It will also include the results of a research study where technology was used as an aid with other intervention strategies. This study will include qualitative as well as quantitative data. The results of this study will be used to formulate strategies to best obtain results in reading difficulties. The obstacles will be identified and conclusions will be drawn as practical and usable solutions.

The lack of reading skills in higher education in South Africa often discards reading difficulties

as the reason for unsuccessful studies. Strategies and the use of modern technologies attempt to bridge the gap in academic literacy. In this regard, we will draw on the work of Siragusa, Dixon and Dixon, who state that: "The development of effective online learning environment that meet these pedagogical needs require the application of appropriate instructional design principles. The literature suggests that there are gaps between the bodies of knowledge relating to learning theories, instructional design principles and student learning in higher education" (Siragusa, Dixon & Dixon, 2007, pp.923).

## **ASSISTIVE TECHNOLOGY AS A PART OF READING INTERVENTIONS**

The Landmark College (2006:[online]) proposes a strategy for the initiation of technology assistive reading for learners. These strategies largely impose interventions from stakeholders. These stakeholders mainly include a teacher that provides space for learning, the computer software as well as the reading material (Pearson, Ferdig, Blomeyer and Moran (2005:2). The recommended strategy is:

- The appropriate learning material must be selected;
- Learners skim through the text after the purpose and steps of skimming have been explained ;
- Main topics and sub-topics are highlighted with respective colours, copy and pasted, and read from a new document. However, the author claims that this can only be performed if the related software allows for this function;
- The content information is then processed by asking the following questions:
  - What is the main idea?
  - What are the sub-topics?
  - What questions will you expect to be answered in the reading?

17 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/technology-assisted-reading/42545](http://www.igi-global.com/chapter/technology-assisted-reading/42545)

## Related Content

---

### Active Learning with Multiple Views

Ion Muslea (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition* (pp. 6-11).

[www.irma-international.org/chapter/active-learning-multiple-views/10790](http://www.irma-international.org/chapter/active-learning-multiple-views/10790)

### Multiple Hypothesis Testing for Data Mining

Sach Mukherjee (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition* (pp. 1390-1395).

[www.irma-international.org/chapter/multiple-hypothesis-testing-data-mining/11003](http://www.irma-international.org/chapter/multiple-hypothesis-testing-data-mining/11003)

### Literacy in Early Childhood: Multimodal Play and Text Production

Sally Brown (2020). *Participatory Literacy Practices for P-12 Classrooms in the Digital Age* (pp. 1-19).

[www.irma-international.org/chapter/literacy-in-early-childhood/237410](http://www.irma-international.org/chapter/literacy-in-early-childhood/237410)

### Data Mining for Fraud Detection System

Roberto Marmo (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition* (pp. 411-416).

[www.irma-international.org/chapter/data-mining-fraud-detection-system/10853](http://www.irma-international.org/chapter/data-mining-fraud-detection-system/10853)

### Discovery Informatics from Data to Knowledge

William W. Agresti (2009). *Encyclopedia of Data Warehousing and Mining, Second Edition* (pp. 676-682).

[www.irma-international.org/chapter/discovery-informatics-data-knowledge/10893](http://www.irma-international.org/chapter/discovery-informatics-data-knowledge/10893)