

# GraphoGame as a Reading Acquisition Tool in Namibian Classrooms

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In this study, 202 grade 1 students were divided to three groups: a GraphoGame group, A GraphoMath group, and a control group with teaching as usual. Those playing computer-based games (especially GraphoGame) improved their reading skills to a greater extent than those in the control group.

**Author: Pamela J. February**

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In this study, the effectiveness of a digital reading tool called GraphoGame Afrikaans that could be used as one of the solutions to poor reading results in Namibia was investigated. Participants were 202 grade 1 students divided to three groups: a GraphoGame group, a GraphoMath group, and a control group with teaching as usual. Those playing computer-based games (especially GraphoGame) improved their skills to a greater extent than those in the control group.

- Becoming a skilled reader with the ability to decode and comprehend written language is an important prerequisite

for full participation in modern society.

- National and international reading assessment scores indicate that Namibia's learners are not faring as well as expected.
- Letter knowledge and phonological awareness are strong predictors of reading and spelling skills.

### **What is phonological awareness?**

- This refers to a child's language sensitivity at a phonological level and their ability to discriminate and manipulate sounds in a spoken language;
- the ability to detect letter sounds; and
- phonological awareness that can predict reading and spelling skills.

### **What is letter knowledge?**

- This refers to the ability to recognise and name the letters of the alphabet.
- Children may find upper case letters easier than lower case letters.
- Letter knowledge predicts reading and spelling skills.

### **What is GraphoGame?**

- This is an adaptive computer-based tool to support reading and reading instruction.
- Letters and sounds are at the core of the training.
- The child plays the game by listening to letter-sounds and syllables and then responding by clicking on the correct letter or syllable.
- This is a serious, research-based learning game.

## How do children become skilled decoders? Five developmental phases by Ehri 1989:

- *Pre-alphabetic phase*: children begin to participate in a literacy environment, by acquiring oral language skills, and identifying printed signs from their environment.
- *Partial-alphabetic phase*: children start attending to some letter-sound relationships to aid word recognition.
- *Full-alphabetic phase*: child can use complete connections between letters and sounds they see in words; they can also decode unfamiliar words.
- *Consolidated-alphabetic phase*: children begin to operate with multi-letter units in words, such as affixes, onsets, or syllables, whilst storing the orthography and spelling patterns of words in their memory.
- *Automatic phase*: words and text are read proficiently with high automaticity and speed.



### The study

The aim of this study was to investigate the effectiveness of the GraphoGame Afrikaans game in supporting grade 1 learners' reading acquisition in a regular classroom.

Research questions:

- *Is GraphoGame an effective reading acquisition tool in Namibian classrooms?*
- *Does the effectiveness of reading with a computer-assisted game transfer to other computer-assisted games that are not related to reading?*

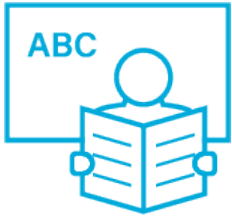
**Participants** The study included 202 grade 1 students in

Namibia divided into 3 groups: one group played the GraphoGame (n = 82), a control group had class as usual (n = 40), and the third group played the GraphoMath game (n = 80), a computer-assisted mathematics game.



## Findings

- Mean assessment scores for all three groups increased after the intervention, except for phonological awareness in the control group.
- Learners improved their skills in letter sounds, reading, spelling, and mathematics during the study period (September to November 2013).
- The gain scores for the GraphoGame group were higher than the two other groups, meaning that their skills improved by the greatest extent.
- There were no differences between the GraphoGame group and the GraphoMath group in terms of improvement in spelling and mathematics skills; however, the GraphoGame group did differ in terms of phonological awareness and reading. It also differed from the control group in terms of improvement in all skills.
- The GraphoMath group also had higher gain scores than the control group in all assessment tests, except for word reading.
- These results suggest that playing a computer game was beneficial to the development of these skills.



**Implications** Playing computer-assisted games increased children's skills more than regular teaching. This was especially evident when they played GraphoGame. Thus, GraphoGame may be a way to provide individualised teaching to learners in large sized classes in Namibia, helping support teachers in their work and improving the children's skills.