

https://dspace.org/

The language factor in teaching mathematics

Kambule, T.W. (Wilkinson “Wilkie” Thamsanqa).

1984-03
Johannesburg College of Education
http://hdl.handle.net/10539/17932
Kambule, T.W. (1984, March). The language factor in teaching mathematics. Lengwitch: [The Journal for Language Across the Curriculum], pp. 15-17.

Downloaded from a DSpace repository. https://dspace.org/

T W Kambule

THE LANGUAGE FACTOR IN TEACHING MATHEMATICS

In mathematics language usage plays a major role in clarifying or obscuring the subject. This fact is often overlooked by mathematics teachers. Only experience has made me realise that mathematical ideas are readily understood if the language used, in this case English, is rendered more comprehensible.

Definitions which are basic to the understanding of mathematical concepts are futile if not preceeded by an explanation of the meanings of the terms used or defined. Defining 'obtuse' or 'acute' angles in geometry will not succeed if the meanings of 'obtuse' and 'acute' in everyday English have not been given initially.

Afrikaans serves as an interesting example in this connection since its terms are self-explanatory. Teaching through the medium of Afrikaans would greatly facilitate conceptualisation. Terms such as 'obtuse' angle or 'acute' angle are respectively 'stomp' (blunt) and 'skerp' (sharp) and these words are readily understood by the pupils. Further examples are: 'diagonal' ('hoeklyn' - literally a line joining corners) and 'parallel' ('ewewyd' - equally

spaced). In English 'diagonal' or 'parallel' do not convey anything to children. They are just terms that have to be learnt.

Most pupils are ensnared by the language rather than by the mathematics hidden therein. Once the language is analysed the rest is far from being abstruse. This is particularly true when teaching problems leading to equations. As an example consider word problems leading to the teaching of equations. The teacher should spend come ten minutes teaching the relevant language (phrases and words) before delving into the problems. Algebraic equivalents to the phrases must be given, e.g.

The excess of p over q $(p-q)$

A number n and its reciprocal $(\frac{1}{n})$

A number of two digits x and y $(10x + y)$

A number obtained by reversing the digits $(10y + x)$

By the time the problems are tackled, the pupils will be familiar with the language. The 'gogga' part of the exercise will have been eliminated and the abtruseness done away with.

Numerous students, especially in matric, find the discourse on concurrency frightful. But if the groundwork of teaching the meaning of the term concurrent is tackled just before introducing the theoretical work, citing suitable examples

and showing figures then teaching the theorems becomes a mere formality.

Once the language factor is taken into consideration in the teaching of mathematics astounding results can be achieved. I have succeeded in rehabilitating hundreds of students by recognising this fact over the years whilst doing remedial teaching.

IN THE FIELD

The Language and Learning across the Curriculum (LLAC) Project at the Johannesburg College of Education is set for an active year in 1984. Various sub-committees have committed themselves to such tasks as:

(a) Providing specialised help in language skills to first year students who wish to take advantage of this service;
(b) Revising and extending the basic LLAC workbook which was published last year and which aims to introduce students to the language skills required for academic purposes;
(c) Writing an advanced LLAC workbook, covering such skills as reporting research;
(d) Running staff seminars and conducting mini research projects on different aspects of the role of language and learning;
(e) Producing Lengwitch.

In response to a request from the LLAC committee, several college departments have analysed the language requirements of their subject and have planned for the teaching and assessment of these skills. This is an exciting step forward in the implementation of LLAC policy at JCE.

HONEY GLUCKMAN (LLAC Chairman)