

ENGLISH VS / CUM KANNADA? Teaching science and mathematics

Some educationists believe that mother tongue as the medium of instruction will help in understanding the subject matter. They think that even difficult ideas of science and mathematics can be more easily explained by the teacher and more easily grasped by the student if the matter is in the mother tongue. I am not disputing these dogmas

I share with the readers my experience in a few schools. I'll give a few examples which will show that it is better sometimes to know just the technical word in English; sometimes the translated Kannada terms would help the English medium students

The following examples are from 10th STD (Karnataka state) lessons:

In the chapter on electromagnetic induction , Fleming's rules describe the directions of three quantities under consideration. It says: if a current carrying wire is placed in a magnetic field a mechanical force or motion is induced.

On the other hand if a mechanical force is applied to an ordinary wire which is in a magnetic field electricity is generated.

Fleming used left and right hands to explain the directions. Students usually find it difficult to see Fleming/s elegant method (teachers could help, do they?)

In Fleming/s rules the three are represented by thuMb, ForeFinger and mIddle finger – where the highlighted letters indicate the three quantities,

M- MOTOIN- MECHANICAL FORCE

F- FIELD- MAGNETIC FIELD

I- CURRENT – ELECTRIC CURRENT

Corresponding Kannada words do not have any such clues. It is advantageous for Kannada medium students to learn the highlighted English words.

[The newer English textbooks have made this even simpler. They use Main finger for thumb- and Centre finger for mIddle finger so that the first letters themselves could be used for memory .]

Similarly it is in their own interest that Kannada medium students should understand and explain formulas through English.

e.g. $E = mc^2$ (squared) where $E = \dots$ $M = \dots$ $c = \dots$

Benzene = C_6H_6 where $C = \dots$ $H = \dots$

LET US NOW FLIP THE COIN.

Sometimes the translated Kannada terms could help English medium students.

Two types of plants are mentioned in the books: a) gymnosperms b) angiosperms. The simple meanings of these are (a) plants having naked seeds (b) plants whose seeds are enclosed.

But these meanings are not obvious because usually the technical terms are derived from Latin and Greek. (Teachers could help. Do they?) The corresponding Kannada terms

are; (a) anavritta beeja sasya (b) aavritta beeja sasya. One can see that these terms are self explanatory.

Let us take ONE EXAMPLE FROM MATHS

In mathematics, sequences such as $\{ 1,2,3,4,.....\}$; $\{ 2,5,8,11, \}$ are called arithmetic progressions (A.P). The name does not automatically suggest the nature of the sequence. Its Kannada version samaanaanthara shredi is self explanatory. With a little help from Kannada grammar it can help better – split the sandhi as samaana + anthara.

Similarly G.P. is geometric progression $\{ 1, 3, 9, 27, ... \}$; $[2,4,8,16, ...]$. The Kannada version gunotthara shredi explains the meaning - guna+ utthara = multiplied result .

I sometimes throw in some extras to the students [like this] :

In the Kannada word gunotthara, a+ u = o . Which sandhi is this? This could be a good example to give to Kannada teacher herself.

Readers who have such throw-in matter! Can we get together?

My email:

Thus, 3 points emerge from this article

1. In schools where both k and e mediums are taught occasional combined review sessions help both the types of students
2. While teaching Kannada medium , the teacher could point out the eng terms. This helps both teaching and learning .
3. Explanations in mother tongue always help eng medium students.