

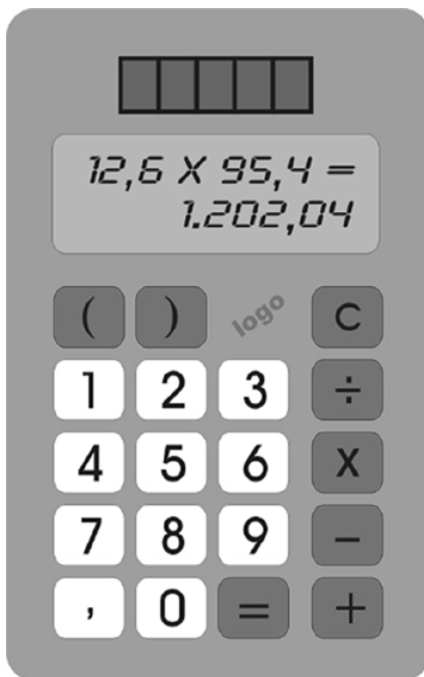
PLEA FOR A SIMPLE CALCULATOR IN PRIMARY SCHOOLS

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One of the goals in Dutch primary education (age 12) is about the electronic calculator: “Students are able to use a calculator with understanding”. The additional description “with understanding” means that the teaching should be focussed on developing such an attitude that the students can decide themselves about the help of using the calculator in a specific arithmetical problem. The calculator is a very helpful tool in applications with difficult numberdata (decimals, percentages), but it is not useful if the student doesn’t know how to organise a method of calculation. There are also lots of problems in which the use of a calculator could work in a counterproductive way (The train leaves A at 10.37. Arrival in B at 12.11. How long does this trip last?). At last, the students should not use the calculator for simple problems like $12,3 \times 100$ and $1002 - 999$. Mental computation and estimation activities are highly recommended in the Dutch curriculum (age 6 -12). These abilities are important conditions for a sensible use of the calculator.

At the moment calculators with very specific functions have come into the market. Texas Instruments now recommends for primary education a calculator with more than 50 functions. We think that this is a too sophisticated and too complicated apparatus with respect to the goal, mentioned before. What we need for the Dutch situation is a simple four-function calculator, but with a display that represents the formula that has been typed in.

That is why Van den Brink, Moerlands, De Moor and Vermeulen have written a report, in which they state their arguments and make a proposal for a very simple model, as represented in the picture below (Vermeulen 2001). During this oral communication I will explain this report in some detail.



Literature

Brink, J. van den, F. Moerlands, E. de Moor and W. Vermeulen. Voorstel voor een nieuw model rekenmachine voor het realistisch reken/wiskundeonderwijs (Proposal for a new model of a calculator for realistic math education (unpublished report).

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Vermeulen, W. Naar een nieuwe rekenmachine voor het basisonderwijs. (Towards a new calculator for primary schools.) In press: Tijdschrift voor nascholing en onderzoek van het reken-wiskundeonderwijs 19(4), 2001. Freudenthal Instituut, Utrecht.