

Re: Pure-cardinal approach \*is\* possible! (was: Mathematical concepts)

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- *From:* [hrrubin@xxxxxxxxxxxxxxxxxxxxxx](mailto:hrrubin@xxxxxxxxxxxxxxxxxxxxxx) (Herman Rubin)
  - *Date:* 2 Sep 2005 10:22:24 -0500
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In article <REM-2005sep01-003@xxxxxxxxxx>, Robert Maas, see <http://tinyurl.com/uh3t> <rem642b@xxxxxxxxxx> wrote:  
>> From: hru...@xxxxxxxxxxxxxxxxxxxxxx (Herman Rubin)  
>> it is necessary to separate the understanding of the concepts from  
>> the ability to produce proofs.

>I agree. But how would you propose testing whether a child really does  
>understand a concept, before declaring this lesson finished and moving  
>on to the next lesson that teaches a different concept?

>> >Which is one reason why I don't advocate even mentioning anything  
>> >infinite, not even the set of natural numbers, on the first day of  
>> >introductory pre-school cardinality and ordinality.

>> Then they will have difficulty later.

>That's fine with me.

Unlearning is the HARDEST part.

Your alternative seems to be to push an entire  
>graduate-level foundations course

It is FAR less than that. Also, one can have rigor  
without having completeness; concepts can be understood  
without going through all the proofs.

at a 3-yr-old the very first day they  
>ever hear of the concept of cardinal numbers, so they get so frustrated  
>they give up already and never want to ever try any mathematics of any  
>kind ever again.

This is highly questionable if done correctly. Right  
now, they come out of high school UNABLE to learn  
mathematics. It is not necessary to do everything at  
once, but do things in such a way that misconceptions  
do not occur.

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This looks like teaching base 4. It is much the way I would teach the idea of base. However, other than the Sumerian invention of base 60 and the Mayan of base 20, it seems that only base 10 was ever used, and until the Indian numbers, these base 10 systems had different symbols in different places.

I would use tick marks instead of popsicle sticks, but it would not be much different.

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This address is for information only. I do not claim that these views are those of the Statistics Department or of Purdue University.  
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• **References:**

- ◆ **[Re: Pure-cardinal approach \\*is\\* possible! \(was: Mathematical concepts\)](#)**

◇ From: Robert Maas, see <http://tinyurl.com/uh3t>

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