Discussion Panel

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A Political Statement
Content Instead Of Devices

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– press release of the German Mathematical Society (DMV)
November 15, 2017
Translated from https://dmv.mathematik.de/index.php/aktuell-presse/presseinformationen
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[...] Experience of an overwhelming majority of mathematicians has shown that blackboard, paper and classroom discussion are better suited [to teach theoretical foundations than digital media].
Why remove tools?

• The press release of the DMV reveals a fundamental misunderstanding of digital tools.
  
• Tools are not meant to replace thinking/learning, but can be used enhance / promote / motivate / ... thinking and learning.
Computer - the Swiss Army Knife Of Mathematics

- Digital tools are ultra-versatile
- Applications are endless
- (Mathematical) Software is the key (FMC ´99)

http://www.msri.org/workshops/133
• Choosing the right tool is difficult!
• Always consider the context
• It depends on what you want to do!
• “Use the giant Swiss army knife” is **meaningless**
Law of the instrument

“I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail”

- Abraham Maslow (1966)

_The Psychology of Science_

(many other references, including the “Birmingham Screwdriver”)

See also [https://en.wikipedia.org/wiki/Law_of_the_instrument](https://en.wikipedia.org/wiki/Law_of_the_instrument)
Paper, blackboard and classroom discussion are the Birmingham Screwdrivers of the overwhelming majority of mathematicians.
Let us show them what digital tools can do!

- Motivate
- Visualize
- Restrict actions to help to develop mental models
- Hands-on experience with abstract models
- Act as a referee
- Give hints and guidance
- Allow for customization
- Show the need for analyzing structures
- many, many more educational design patterns

Instead of a Demo…

Please visit cindyjs.org!

Follow-up project of Cinderella…