

## Re: Aaron Sloman's "The Irrelevance of Turing Machines to AI" article

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Eray Ozkural exa wrote:

[...]

- > *What's more interesting is how little attention is being paid to help*
- > *students develop these cognitive skills in their early education.*
- > *Instead they are being taught that they ought to concentrate on*
- > *unnecessary details, which can always be found in a book.*

[...]

Again, I used to think so, until this very attitude infected curriculum revisions at the primary/intermediate levels here in Ontario (and elsewhere in Canada.) The problem is, that if you don't know a pretty large amount of "unnecessary detail", it's very difficult to know where to start looking, and worse, it's even more difficult to judge the utility and relevance of what you do find.

I had already discovered that you can't learn "cognitive skills" without those messy details. It takes a lot of practice in sorting lots of details to learn how to build a classification tree, for example. And then, transferring those "cognitive skills" from one domain to another is surprisingly difficult. As someone said, "The devil is in the details." You may be an excellent classifier in domain A, but if you don't know enough details in domain B, your classification will be wrong. Reminder 1: Much scientific argument is about how to classify some object or phenomenon – IOW, it's an argument about details. Reminder 2: If you don't know enough details, you may not be able to tell that your classification may be wrong, let alone how to fix it.

Academics, who from a fairly early age have little contact with "average people" don't seem to understand this, because they tend to be better than average at "transfer of learning," and by the time they hit grad school, they have transferred a lot "cognitive skills" from one domain to another, so it seems easy to do. (Eray, I found your expression of pity for my students offensive, BTW.) One technique that works at least some of the time is explicit instruction and practice in applying skills learned in domain A to domain B — but both must be dealt with in all

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their messy detail.