

## What would David Wheeler tweet?

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What would David Wheeler tweet? First, would David Wheeler tweet? I contend that, yes, David Wheeler would use Twitter. Let me explain. The current editor, in his perusal of David Wheeler's editorials from the early years of FLM, noted in 31(1) that "one recurring issue stands out: [Wheeler's] strong desire that FLM provide a place for the exchange of ideas, for dialogue, for discussion, for interaction" (p. 1). In similar vein, Twitter's co-founder, Jack Dorsey, wanted to provide a platform for the exchange of ideas, dialogue, discussion and interaction. Barring the immediacy associated with social media and Twitter's 140-character limit, David Wheeler's desires for FLM are similar to (some of) those of Jack Dorsey's for Twitter and, for that matter, founders of other social media platforms. David Wheeler would definitely tweet. Of course, this is a metonym for Wheeler's desires for FLM being similar (*i.e.*, idea exchange, dialogue, discussion and interaction) to the central tenets for a variety of social media platforms. Alternatively stated, using today's parlance, David Wheeler, in 1981 (over a decade before the advent of social media) wanted his platform, FLM, to have a user-generated social component comprising one quarter of the journal's content (see the Editorial in 1(2)).

Based on my reading of CMESG Newsletter 17(1), dedicated "To the Memory of David Wheeler," Wheeler's tweets would, no doubt, possess sharp wit, humour and (based on Sandy Dawson's piece) perhaps a picture of a cat (or two). To get a better sense of what Wheeler would tweet, I decided to see how prominent members of the mathematics education research community use social media. Simply put (barring a few exceptions), they do not. This was a surprise. Prominent members of the mathematics community (Timothy Gowers, Terence Tao, Marcus du Sautoy, John Allen Paulos, Keith Devlin, Steven Strogatz and many others) have fully embraced social media. Why not prominent mathematics educators? Looking further into the matter, I found that the mathematics education research community, as a whole, is very late to the game when it comes to the use of social media. Certain mathematics education organisations have adopted social media: ICMI is on Facebook, NCTM and PME-NA use Twitter, as have a handful of individuals (@joboaler, @mathombre, @mathedresearch, @rmosvold and others). For the most part, however, the majority of mathematics educators has not embraced social media.

Based on these findings, I have a new contention: David Wheeler, like the majority of mathematics educators, would not tweet. Indeed, David Pimm (2000), discussing how Wheeler's name rarely appeared in the pages of FLM, notes, "He had a short editorial on page 1 together with a few briefly-worded questions and comments in his interview/discussion with Caleb Gattegno in issue number 1, and a second editorial to end things off in issue number 50. And that's it" (p. 8). David Wheeler would definitely not tweet. Of course, this is a metonym for Wheeler being more involved in the creation/development of a platform, where a community (or network) of individuals are given the opportunity to

exchange ideas, dialogue, discuss and interact (akin to Dorsey being known for Twitter and not for his tweets).

Which platform then, the social component of FLM or one of the (multitude of) social media sites, would truly provide the best opportunity for an exchange of ideas, for dialogue, for discussion and for interaction on mathematics education? Previously, for mathematics educators, there was little doubt in the answer to this question: comments, such as these, would be submitted with the hopes of being published in a journal and, ultimately, warrant a follow up response in a subsequent issue (and thus an additional line on the vitae). Times have changed. Instead of submitting these comments to a paywalled journal (like FLM and others), submitting to an open access journal could, potentially, increase the number of individuals who would read them and, thus, increase the potential for the exchange of ideas, dialogue, discussion and interaction. Extending the argument further, not submitting these comments to a paywalled journal or to an open access journal, but, rather, posting them on a social media site (*e.g.*, Scribd or Tumblr) could increase, even further, the number of individuals reading them and, thus, the social component potential. What to do?

Of the choices presented above, I have, in the end, decided to submit these comments with the hopes they grace the pages of (what I call the "social component" of) FLM and, in doing so, provide a prompt for user-generated content on the following topic: Would David Wheeler embrace social media for mathematics education? Will you? I look forward to the opportunity to exchange ideas, for dialogue, for discussion and for interaction concerning these comments—wherever that ends up taking place.

### References

Pimm, D. (2000) David Wheeler and the FLM adventure. *CMESG Newsletter* 17(1), 8-9.

## Writing for the learning of mathematics

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For the learning of mathematics ... Just five brief words. Without much ado, without formality or pomposity, this brief phrase leaves no doubt as to what motivates those who write on these pages: it is mathematics that they have in mind, and it is its learning that they hope to promote. But do they indeed? Or should it rather be *we*, not *they*? After all, I am among this journal's occasional contributors. So, let me rephrase: are we really writing and publishing for the learning of mathematics? Am I doing this? Are you, the FLM reader and writer? And even if we do write for the learning of mathematics, are we passionate enough about this goal to pursue it with undivided attention and in a truly effective manner?

These questions, of course, should be asked about any mathematics education journal, not just FLM. Still, the answers for FLM may be special. Indeed, FLM differs from the majority of mathematics education journals in several important ways. This anniversary issue is the place to celebrate this difference, and it is my aim to do so. To this end, however, I must devote much of the allotted space to the context.

Many FLM readers and writers will probably agree with me if I say that, in general, the state of our professional writing is far from satisfactory. Its most widely and loudly deplored feature is its inaccessibility to those for whom it is purportedly meant, the practitioners. As dwellers of the proverbial ivory tower, we are indulging in a discourse that most outsiders see as impermeable. And whereas the problem of the wall that separates academia from the rest of the world is probably as old as educational research itself, so are our qualms and complaints about it. Today, the unrest around this issue seems greater than ever. In these times of communicational explosion, when one is bombarded with way too many messages to ponder for long on any of them, there is little tolerance for obscurity, and opaqueness is no longer forgiven, let alone revered, as a sign of knowledgeability.

Against this background, it may be surprising to find out that in the current issues of our various journals, the research-practice divide appears as alive and well as ever. This impressive resilience implies that strong change-inhibiting forces must be at work. I can see two such forces, one of them inherent in our research endeavor, and thus unavoidable; the other one generated by the social context of our work as researchers, thus theoretically removable, but, in practice, as strong and harmful as an uncontrollable force can be. Whereas the first of these coercive factors leads to afflictions that are relatively easy to cure, the other one may cause damage beyond repair.

The first force originates, somewhat paradoxically, in our genuine intention to do something helpful for the learning of mathematics. If you are a researcher, this wish is accompanied by the desire to be convincing and accountable for what you say. Some would call this latter factor “the concern for scientific reliability” and some others would refer to it as “trustworthiness.” To do your job as researcher properly and shape practice in responsible ways, you need to communicate more effectively and with greater precision than everyday discourses make possible. Colloquial words are ambiguous and may carry unwanted entailments, so you cannot do without specialized, operationally defined vocabulary. And you would not be able to produce ever new stories without periodic structural changes that condense the discourse, thereby increasing its expressive power and making it possible to say more with less. No discourse-squeezing mechanism is more effective than the transformation known as reifying, that is, rewriting stories about processes as narratives about objects. In addition, the controlled, unambiguous, precise form of arguments enabled by the rigorous use of words and strict adherence to the rules of logic is necessary if you wish to be able to stand behind your words and to defend your findings whenever necessary. When you observe all these principles, you may be losing in accessibility, but you are gaining in accountability.

The most important thing, therefore, to note about this first force is that a certain inaccessibility in our scholarly writing is an almost inevitable side-effect of our wish to do our job as well as possible. Fortunately, this problem is tractable, at least in theory. First, we can minimize the side-effects of “scientificity” by observing a number of simple principles: restricting the use of specialized vocabulary to the necessary minimum, avoiding long compound sentences, helping oneself with such literary devices as metaphors and analogies

and, above all, eschewing objectification whenever possible. Academic text composed according to these rules may be a work of art. From my experience, it is much easier to find exemplary pieces of such writing in FLM than in any other mathematics education journal. The principles I have just listed seem to have been written into FLM’s DNA by David Wheeler. Wheeler’s successors are to be applauded for their ability to guard this genetic trait against mutation, a task which, for reasons to be explained in a moment, becomes more and more difficult as time goes by.

Another doable step in our attempts to counteract the side-effects of “scientificity” is to always make sure that the academic publications are followed by their more widely accessible versions. This is, at least, what I keep reminding myself: as long as I am publishing in academic journals only, my job remains half done.

The second divide-preserving force is at play whenever one is motivated by the prospects of being published more than by the desire to contribute to the learning of mathematics. Unfortunately, this order of preferences seems to be increasingly common these days. More generally, our fight against the research-practice separation wall is frustrated by a certain discord between our two goals, that of improving mathematics education on the one hand and that of nurturing our own academic identities on the other. The constant tension between these two desires prevents any substantial move.

At first sight, this claim may appear surprising. On the contrary, the two objectives may be expected to support and reinforce one another. In our recent struggle to institutionalize research in mathematics education, our crowning argument was that the academic status would have a beneficial impact on our ability to make a difference. The underlying assumption appeared self-evident: if placed in the university and turned into a regular academic discipline, mathematics education would grow in depth, quality and prestige, thus improving our ideas and increasing our executive power. Today, however, when our struggle for academization is well behind us, it turns out that our painstakingly earned nobility is a double-edged sword.

Nowhere is the move-fettering tension between our different goals more visible than in publishing, around which our academic lives revolve. In this enterprise, we are torn between two audiences, and these audiences’ differing expectations push us in different directions. While writing for the learning of mathematics, and genuinely so, we converse with people “out there” and try to make sure that the stories we tell contribute to the worldwide effort of bringing mathematics closer to everybody’s minds and heart; while writing for the publication in a prestigious journal such as FLM, we risk addressing only the closed community of academics, and our academic identities may then become our principal concern. Thus, in order to sustain our double role of practice shapers and of academics, we need to alternate between two different, possibly incompatible sets of rules.

It is not easy to live among all these pulls and pushes, and understandably, many of us make a choice. Most of those who do seem to opt for nurturing their academic identities. Some go so far as to banish anything practical from their lives altogether. Indeed, it is only natural for the *does-not-benefit* to turn into *does-not-befit*. Having read hundreds, if not thousands, of academic texts in mathemat-

ics education, I conclude that all too often, those who write do not seem to care about the question of whether their papers will be translatable into a helpful, reliable advice for practitioners. The British sociologist Michael Billig seems to be of a similar opinion. In his recent book devoted to academic writing (Billig, 2013), he lists numerous discursive characteristics indicative of the fact that today's academic writers are preoccupied with their identities more than with the state of the objects of their study. In a nutshell, if one aims at a real-world impact and has been working hard to understand the relevant phenomena, this person is likely to make the utmost effort to communicate her findings and conclusions clearly, exactly and unambiguously. This will show in the precision of her language, in the relative simplicity of her sentences, and in the recurrent attempts to explain things. If, on the other hand, the writer allows herself to use words that not many can understand, and is writing with complexity much greater than necessary, this can only mean that she is not really trying to communicate ideas. For me, the ultimate evidence of the writer's don't-care-about-ideas attitude is that however hard I try as a reader—and believe me, I do not give up easily—my search for a comprehensible message ends in fiasco.

In this latter case, I sadly conclude that the author, in spite of her explicit declarations, was saying something about herself rather than about the learning of mathematics. By using “heavyweight” words the only function of which is to mark her “heavyweight intellect” (Billig, 2013, p. 45) and by constructing intricate sentences, this writer was trying to convince the reader that she was a competent, perhaps even outstanding player of the game known as “academic writing”. Mathematics education researchers for whom their identity as academics is the primary concern are comparable to those mathematics learners who put a premium on performance rather than understanding, and thus have recourse to memory and imitation. In both cases, the person performs rituals instead of aiming at a genuine exploration, tries to meet other people's expectations rather than following her own goals, and strives at making an impression rather than at getting wiser or solving a problem. It seems natural to call the resulting genre *scholarly scribble*, or *schoribble*, for short.

What is the reason for the current epidemic of the *schoribble*? The main culprit, it seems, is the new game that has been overtaking academia practically all around the globe. The title of Billig's book, *Learn to Write Badly: How to Succeed in Social Sciences*, tells much of the story. More specifically, our academic identities are now built almost exclusively of numbers. No longer unified by beliefs in higher forces or in the ultimate truth, we hold to numbers as the last avatars of the phantom-like creature called “objectivity”. In effect, these are quantities, not qualities, that tell us who is good enough to stay in academia. And since numbers are almost all we are forced to care about, everything around us must become measurable, just as everything around King Midas had to become golden. In many journals, quantifiability and comparability are secured by strict templates, to be used by anybody who wishes to see her name among the published authors. For instance, the *question-method-findings-discussion* pattern, even if meant to help in preserving scientific rigor, inevitably encourages ritualization. Add to this the overgrown peer review proce-

dures, by the end of which authors feel obliged to cut off anything that may antagonize any of the reviewers, and you can be sure that everything and everybody will end up fitting into the same mould. Most importantly, when one tries to adjust to a collectively produced Cinderella shoe, outstanding ideas tend to fall victim at the outset (provided there were such ideas in the first place). After all, in the constant effort to insert our CVs into the Guinness Book of Records, we may not have time to fill our words with content, and the reviewers may not have time to notice.

If I have chosen to write about these distressing phenomena in the anniversary issue of FLM, it is because I believe that to fully appreciate FLM's qualities, one needs to see it against the general landscape. When considering FLM in this overall context, you realize how unusual and far from self-evident they are. FLM is the journal to turn to whenever one needs a break from the *schoribble*. It is here that I usually find what I am looking for when reaching for a mathematics education journal: inspiration and food for thought. There are no templates here that would filter out original ideas; the editorial team is small enough to never lose the freedom of movement; and the amount of seriousness is just right to ensure good quality without its being mistaken for humorlessness.

Considering the present business-like atmosphere in academia, I see all those singular features of FLM as ever more precious with every passing day. Aware of how difficult it is to struggle with headwinds in the longer run, I have just one wish to make for the future of FLM: let this gem of a journal stay the way it is, and let us, as a community, continue being inspired by FLM in our work for the learning of mathematics.

## References

Billig, M. (2013) *Learn to Write Badly: How to Succeed in the Social Sciences*. Cambridge, MA: Cambridge University Press.

## Is FLM an enactivist journal?

DAVID A. REID

Any consideration of FLM must begin with a fundamental principle: FLM is David Wheeler's journal. For the first fifty issues he edited, managed, promoted and defined the journal. Since that time, the editors have been given the difficult task of maintaining the character of the journal as it was under David Wheeler's editorship. So the character of the journal is not defined by the personality of its current editor (unlike some journals), but instead by the personality of its founding editor. It could be said that in FLM a part of David Wheeler's personality lives on.

The editors chosen for this difficult task are not selected because they lack strong personalities of their own. This is clearly not the case. Rather they are selected because they have the capacity to understand a wide range of perspectives while remaining true to their own. This allows them to see what FLM's authors intend to say, to feel if it fits in David Wheeler's FLM, and to do so from a solid foundation in their own thinking.