

Beyond Worksheets

Making math meaningful

A recent numeracy project, undertaken by Tom Ciancone, Flora Hood and Joy Lehmann, and sponsored by the Metro Toronto Movement for Literacy, advocates approaching numeracy as social practice and teaching in a holistic way.

The team asked themselves, "What is the most important numeracy need for adults in literacy/numeracy programs? Is it the obvious one of learning rules and completing worksheets? Or is it the need to develop numeracy awareness and confidence?" They concluded that the primary educational goal must be a shift in identity to make meaning of the world through mathematics, not merely to acquire skills. The methodology should generate mathematics in context, not only apply abstract formulae and procedures. The approach is outlined in the report, *Beyond Worksheets: A Social And Holistic Approach To Numeracy*, which will soon be published. The approach has been, to varying degrees, part of practice in Ontario for some time.

In February of 2005, Ciancone, Hood and Lehmann shared this approach with literacy practitioners in Toronto in two workshops. *Literacies* asked a few people who attended the "Beyond Worksheets" workshops to share what they learned.

Sent: March 23, 2005

From: Bert Providence
Toronto Public Library,
Maria A. Shchuka Branch, Toronto

I was given the responsibility of coming up with a numeracy assessment package to be used in our programs. In doing so I came up with a bunch of exercises and worksheets to assess certain skills. So the first thing that really stood out for me [in the workshop] was the 'blank page assessment'. At the session I attended, Flora modelled this with one of the attendees. I was able to see how this gentle, guided conversation allowed the real numeracy needs of the learner to emerge and gave the practitioner valuable information on what and how to teach and what resources to use.

I like this approach because it attends to the particular needs in the learners' lives and does not try to fit the learner into some predetermined structure. As much as we espouse "learner-centredness," there is still not enough attention given to the whole learner. Numeracy is indeed social practice, so finding out the contexts within which learners need to apply numeracy skills is crucial.

I think this approach allows the practitioner to focus more quickly on the learners' more immediate numeracy goals. It is not enough to take our learners through a numeracy assessment process that assesses their mastery of a multitude of concepts and skills. We need to consider how relevant those skills are in the learners' lives. After this workshop, I will certainly spend more time on the blank page assessment.

I also liked the emphasis on building up learners' confidence. I believe this is an important aspect of competence in math or numeracy.

Sent: March 14, 2005

From: Judy Perry
Beat the Street, Toronto

I really liked the 'blank page' numeracy assessment interview that Flora used. It gave me a better picture of how someone uses numbers and number concepts to get through their life, rather than what math skills they have (or don't have). For example, asking someone how they figured out how much paint to buy when they didn't measure the room told me how that person uses estimation skills, and how confident they are in their skills. The interviewee was able to go to the paint store and figure out how much paint to buy, and ended up with enough—if I remember correctly. This assessment technique really addresses numeracy as social practice, taking the whole person into account.

One thing that struck me during the workshop was the way that I teach numeracy training to new

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tutors. When I teach them how to teach reading and writing, I emphasize the pre-, during, and post-reading/writing activities that we, as competent readers do unconsciously. I emphasize all the things the learner brings to the text, how to teach the learner to interact with the text as they read. Yet I don't think about that when I'm teaching numeracy! It's just math—I teach the formulae and the learner practices the skill. The Beyond Worksheets approach has challenged me to think about numeracy as a reflective action.

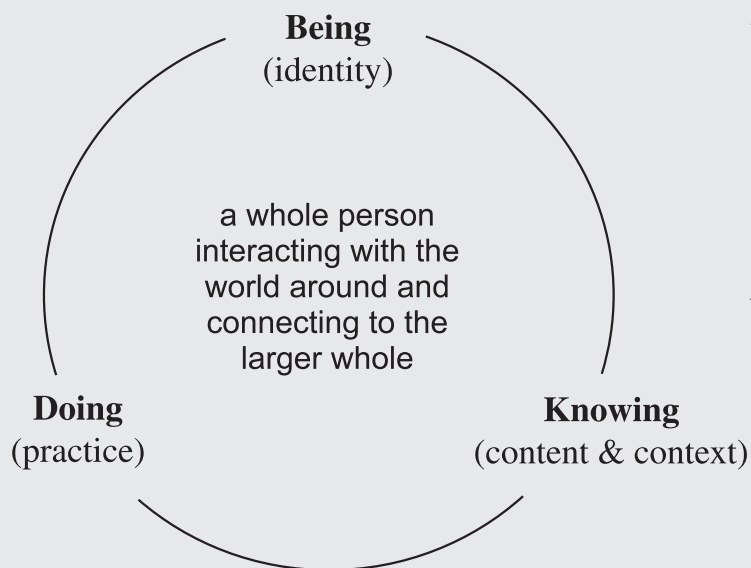
I was also struck by the way that we use numeracy skills to make meaning of our world. It is more than just mathematics, it involves ideas of space and time and distance—things that adults think about and are familiar with. ■



Group leaders at a factory in British Columbia discuss a metric chart. These men are participating in Team Time™ training, which integrates literacy, numeracy and teamwork with learning lean manufacturing concepts. To learn more about the Canadian Manufacturers and Exporters Team Time™ program, go to www.nald.ca/fulltext/teamtime/phase3/cover.htm.

A holistic approach to numeracy

from *Beyond Worksheets: A social and holistic approach to numeracy* by Tom Ciancone, Flora Hood and Joy Lehmann. Available soon at www.nald.ca.



Being (identity)

- becoming self-aware in using mathematics
- gaining confidence as a 'numerate' person
- making personal connections throughout the learning process

Doing (practice)

- choosing relevant information
- applying appropriate skills and strategies
- reflecting on the learning and the results
- creating meaning in daily activity

Knowing (content & context)

- generating mathematical problems, skills or procedures
- employing mathematical content and techniques that
 - vary according to the situation
 - depend on the purpose and context in which the numeracy takes place