

## **Numeracy: Teaching maths in context by Dave Tout**

*Reviewed by Andrew Kelly*

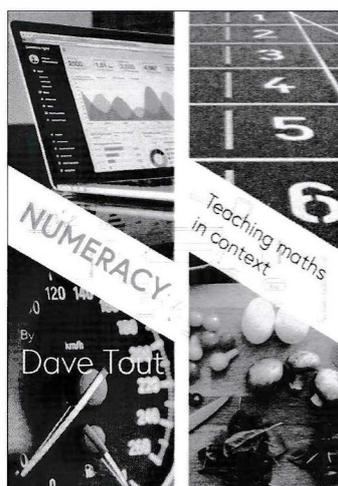
The title of this book neatly sums up the relationship between numeracy and mathematics, and describes the practical approach the author takes to teaching numeracy in a variety of educational institutions.

This book is written for thoughtful practicing teachers. It is neither a collection of photocopiable single page exercises, nor an academic review of current ideas in the areas of numeracy and mathematics education. Rather, it is an extensive guide to designing teaching programs in individual contexts. The first chapter provides a well-researched, clear background for the need for different approaches to numeracy teaching, where institutions should teach numeracy in context with applied learning. This introduction makes a strong case for local design of curriculum by teachers and students together, rather than traditional approaches using external texts and resources. There is an extensive list of references for the introduction, which could be useful as jumping off points for further reading. The list does demonstrate the substantial academic background of the author.

The author's practical background is more apparent in the remainder of the book. There is a general guide to designing teaching programs, which is very detailed and useful. A beginning teacher, or any teacher seeking new ideas as to how to set out and plan a program, would be well served by this guide. Not surprisingly, a key notion is negotiation of the program, and the case is clearly made that this approach is worthwhile—although perhaps initially more demanding than just using an off-the-shelf resource, such negotiated programs lead to much stronger engagement and more meaningful outcomes.

The remaining five chapters are detailed explorations of possible topics: meaning from mathematics (broadly, statistics), driving, aspects of algebra, cooking, and sports. Each chapter has an introduction, a guide to the mathematical areas covered, and examples of activities—see overleaf for a sample activity from the 'cooking' chapter. Any of these chapters could be the basis of an extensive unit, but they are not written as ready to use units, which would go against the clearly expressed philosophy of the author.

The activities included are thorough and appear to have their origins in actual classroom teaching. They would



generally suit use in a classroom after some examination and alteration. The activities as presented are often quite wordy, with small or few photos, and substantial blocks of text. All of these activities are provided as editable MS Word documents from the publisher's website. Providing these resources in this way is excellent. There is of course, a huge amount of resource material for all kinds of teaching on the internet, but the process of scanning, retyping, reformatting and so on can be so cumbersome that teachers avoid the critical aspect of tailoring such resources.

This book is a valuable guide to preparing units of work for VET and VCAL classes, and a copy would be very useful for any teacher beginning this process. It will certainly be used in this reviewer's own practice. There are many further resources listed in the text, both from the author's own extensive catalogue, and from other publishers. Many relevant websites are listed. Some of the author's own resources may be worth further examination—they appear to be further examples of units and topics from the author's own teaching experience.

As a current VCAL teacher, I will certainly be using this text both for inspiration and for practical examples. I would recommend it to new VET/VCAL teachers, and to teachers seeking clarity as to preparation of teaching strategies.

*Numeracy: Teaching maths in context* (2017) is published by Multifangled: <http://multifangled.com.au/wp/> (ISBN: 9780987328427)

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A sample activity from *Numeracy: Teaching maths in context* is reproduced below with permission from multifangled.com.au. See our review of this resource on p.39.

## End-of-year meal

### Investigation:

The class is to cater and cook a meal for the whole group for the end of the year lunch. Students are to work in small groups to prepare and cater for the meal, including drinks, at least three different types of food and some sweets or desserts. Once negotiated and agreed on what food is to be cooked, the students work out a timeline against tasks required to hold the function. Each group writes a shopping list for all the ingredients they need and cost the ingredients. The total cost is then calculated and students share the costs. Using the money paid into the kitty, the ingredients are purchased and the meal is prepared and cooked and the event undertaken. Each group writes a report on the food including any recipes and calculations they needed to undertake to purchase and make their part of the meal.

Steps	Possible mathematics skills
Decide on food for the meal	<p>Number:</p> <ul style="list-style-type: none"> <li>• use place value concepts for whole numbers and decimals to interpret and compare written numbers and metric measures</li> <li>• understand and estimate with common fractions and their use in practical contexts</li> </ul> <p>Measurement:</p> <ul style="list-style-type: none"> <li>• identify common notations for metric measurement</li> <li>• demonstrate a sense of common and standard metric units</li> </ul>
Establish ingredients required	<p>Number:</p> <ul style="list-style-type: none"> <li>• use place value concepts for whole numbers and decimals to interpret and compare written numbers and metric measures</li> <li>• calculate and estimate with decimals and common fractions and their use in practical contexts</li> </ul> <p>Measurement:</p> <ul style="list-style-type: none"> <li>• identify common notations for metric measurement</li> <li>• demonstrate a sense of common and standard metric units</li> <li>• calculate accurately and efficiently with decimals and fractions of metric measures</li> </ul>
Cost of meal	<p>Number:</p> <ul style="list-style-type: none"> <li>• use place value concepts for whole numbers and decimals to interpret and compare written numbers and metric measures</li> <li>• calculate and estimate with decimals and common fractions and their use in practical contexts</li> <li>• use number facts and rounding to give rough estimates of numerical calculations</li> </ul>
Work out timeline and tasks	<p>Measurement:</p> <ul style="list-style-type: none"> <li>• use and calculate with time.</li> </ul>
Purchase ingredients	<p>Number:</p> <ul style="list-style-type: none"> <li>• understand, calculate and estimate with money, decimals and common fractions and their use in practical contexts</li> </ul> <p>Measurement:</p> <ul style="list-style-type: none"> <li>• estimate and interpret mass and volume measurements</li> </ul>