

Reflective questions

He pātai hei whakaaro iho

Which assessments from our setting make valued mathematics visible to teachers, children, families, and whānau?

What opportunities for experiencing mathematics practices from the wider community are included in the children's assessments?

In what ways do our mathematics assessments and their contexts indicate that we are on the pathway towards bicultural practice?

How do teachers include in their assessments the mathematics practices the children are experiencing outside the centre?

What opportunities do children have for participating in mathematics learning through the routines and practices of maintaining our centre? Is this view of mathematics represented in our assessments?

Do our assessments reflect the contexts and opportunities included in the "te kākano" metaphor?

What aspects of assessment practices and of the wider *Te Whāriki* curriculum strands are represented in our mathematics exemplars?

Endnotes

Kōrero tāpiri

- 1 Ministry of Education (2007). *The New Zealand Curriculum for English-medium Teaching and Learning in Years 1–13*. Wellington: Learning Media, p. 26.
- 2 Ministry of Education (2001). *Curriculum Update*, no. 45. Wellington: Learning Media, p. 1.
- 3 Alan J. Bishop (1988). *Mathematical Enculturation: A Cultural Perspective on Mathematics Education*. Dordrecht: Kluwer. See also Bert van Oers (2001). "Educational Forms of Initiation in Mathematical Culture". *Educational Studies in Mathematics*, vol. 46, pp. 59–85.
- 4 A. Bishop, op. cit., p. 23.
- 5 *ibid.*, p. 43.
- 6 Barbara Rogoff (2003). *The Cultural Nature of Human Development*. Oxford: Oxford University Press, p. 256.
- 7 A. Bishop, op. cit., p. 57.
- 8 *ibid.*, p. 45.
- 9 One of these tools and systems is "pattern sniffing", an evocative expression included as a "habit of mind" in *Habits of Mind: An Organizing Principle for Mathematics Curriculum* by Al Cuoco, E. Paul Goldenberg, and June Mark (see www.edc.org/MLT/ConnGeo/HOM.html). Patterns in the Pacific are explored by Susanne Küchler and Graeme Were (2005). *Pacific Pattern*. London: Thames and Hudson. They comment, "While pattern is conservative, in as much as it functions through repetition, it is also a key aspect of innovation. Its reproduction will be more convincing when executed by the mind and tempered by its inevitable transformation. Abstract and, frequently, unspecific in nature, pattern is akin to a 'burial place of memory', where all pasts are equally present and where to recall means to transform. This is similar to the way in which classical poetry utilized the theme of the underworld to issue forth ever new, and yet instantly recognizable, versions of events that made history by being retold over and over again" (p. 173).
- 10 Glenda Anthony and Margaret Walshaw (2007). *Effective Pedagogy in Mathematics/Pāngarau: Best Evidence Synthesis Iteration [BES]*. Wellington: Ministry of Education.
- 11 Ministry of Education (1996). *Te Whāriki: He Whāriki Mātauranga mō ngā Mokopuna o Aotearoa/Early Childhood Curriculum*. Wellington: Learning Media, p. 78.

- 12 Maggie Haynes, Carol Cardno, and Janita Crow (2007). *Enhancing Mathematics Teaching and Learning in Early Childhood Settings*. Wellington: NZCER, p. 80. Available on www.tlri.org.nz See also Janita Crow and Maggie Haynes' 2007 paper in the Early Childhood Research Folio. (Specific title and reference for this folio is required)
- 13 Ministry of Education (1996), op. cit., p. 88.
- 14 *ibid.*, page 90.
- 15 *ibid.*, page 78.
- 16 *ibid.*, page 78.
- 17 For the value of connecting with the knowledge and ways of being in home communities, and the expression "funds of knowledge", see Norma Gonzalez, Luis C. Mol, and Cathy Amanti (2005). *Funds of Knowledge: Theorizing Practices in Households, Communities and Classrooms*. Mahwah, NJ: Lawrence Erlbaum.
- 18 *ibid.*, p. 78.
- 19 *ibid.*, p. 78.
- 20 *ibid.*, p. 78.
- 21 Ministry of Education (2007), op. cit., p. 26.
- 22 *ibid.*, p. 26.
- 23 Ministry of Education (1996), op. cit., p. 78.
- 24 Ministry of Education (2007), op. cit., p. 26.
- 25 *ibid.*, p. 26.
- 26 *ibid.*, p. 26.
- 27 A. Bishop, op. cit.