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The Māori flag, haka, hangi and maths.
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Culturally Responsive Pedagogy (CRP): Collaborative development and resource design

In the project, we proposed a pedagogical approach that brings together three domains that rely on students' knowledge and experiences of everyday contexts, engaging mathematics tasks, and culturally relevant pedagogy (CRP). Culturally relevant pedagogy (Ladson-Billings, 1995; Lewthwaite, et al., 2014; Sarra, 2014) intersects culture with teaching and the curriculum. The domains worked to inform the poster series. In doing so, and in line with Sarra (2014) and Tuhiwai Smith (2013), the teachers and students contributed to the focus of the posters—thus benefiting the participants. Students' cultural funds of knowledge and experiences were identified through informal discussions and classroom observations which were used to inform and guide the designing of the posters. Through coming to learn about students' culture, the teachers were afforded opportunities to start connecting the “what”, the content of mathematics with the “how”, the teaching of the content—engaging and challenging tasks (Boaler, Munson & Williams, 2018). The text presentation of the posters adopted a Reading to Learning strategy (Rose, 2018) which supported the range of reading levels of students that were identified by their teachers. We explored and addressed current learning and teaching practices, and development needs at the Centre school including culturally responsive resources related to Indigenous perspectives. This stepped collaborative approach involved:

- Observations of teachers teaching maths to identify the pedagogy adopted, students' engagement and inclusion of Indigenous perspectives;
- Semi-structured interviews and focus groups with teachers to identify the extent of their cultural awareness and knowledge of embedding Indigenous perspectives into the maths curriculum;
- Focus group discussions with students to identify their preferences for how they might learn maths;
- Poster development which adopted a reading to learn strategy (David Rose, 2016) combined with Indigenous perspectives and engaging maths tasks;
- Poster presentation to teachers to collaborate and gather feedback in order to refine further;
- Trial in classrooms involving teachers and students to gather feedback and to refine posters;
- Refined posters presented to teachers to trial in classrooms and feedback provided; Posters refined for a third time in preparation for graphic design work and publishing.