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# Waikato Journal Of Education

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## The nature of conversation of primary students in technology education: Implications for teaching and learning

Unpublished Ph.D thesis, Faculty of Education, The University of Waikato

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The University of Waikato

Classroom conversations are core to establishing successful learning for students. This research explored the nature of conversation in technology education in the primary classroom and the implications for teaching and learning. Over a year, two units of work in technology were taught in two primary classrooms. Most data was gathered in Round 2 during the implementation of the second unit titled 'Props for the School Production'. It used qualitative methodology and an ethnographic approach using participant observations, stimulated recall interviews with autophotography, semi-structured interviews with participants and their teachers, and students' work samples to develop a rich description of classroom conversation in technology.

Initial data identified four significant stages of learning within the second technology unit; these included Stage 1 Character and Function, Stage 2 Planning, Stage 3 Mock-up and Stage 4 Construction. Four over-arching elements of conversation, each with various sub-elements, were identified as flowing through the classroom conversations. These were Funds of Knowledge, Making Connections and Links, Management of Learning, and Technology Knowledge and Skills. These elements describe the sources and the purpose of conversation. For example, conversations identified as Funds of Knowledge showed students brought knowledge and/or skills learned from home and their community to their technology learning. In Making Connections and Links, students implemented knowledge from school-based learning. Management of Learning included classroom conversations initiated by both teachers and students that enhanced or managed students' learning in some way. In the fourth element, technological knowledge and skills learned were evidenced.

Further analysis of the elements identified three over-arching themes of conversations. The first, 'Deployment', describes knowledge and skills brought by students to their technological practice and included the elements Funds of Knowledge and Making Connections and Links. The second, 'Conduit', described techniques and strategies used by teachers and students to maximise learning opportunities acting as a conduit between other knowledge and technological knowledge, and was mainly situated within the Management of Learning element. The third theme, 'Knowledge',



showed the exact nature of technology learning obtained by the students though the bringing together of the first two themes, rather like a set of interconnected cogs.

The study makes a significant contribution to understanding how students learn in technology education. It develops current understanding of the nature of talk and the role it plays in learning technology. It also presents new findings on the Funds of Knowledge students bring to technology and it challenges existing findings on students' ability to transfer knowledge from one domain to other. Finally, it identifies a gap in existing research into students' abilities to investigate and select appropriate materials for intermediate and final outcomes.