

First Nations and Métis Learners and Mathematics

This document explains cultural differences and the role of the teacher in supporting First Nations and Métis learners of math.

Supporting Kindergarten

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It is important for teachers to realize that First Nations and Métis children, like all children, come to mathematics classes with a wealth of mathematical understandings. Within these mathematics classes, some First Nations and Métis children may develop a negative sense of their ability in mathematics and, in turn, do poorly on mathematics assessments. Such children may become alienated from mathematics because it is not taught to their schema, cultural and environmental content, or real life experiences. A first step in actualization of mathematics from First Nations and Métis perspectives is to empower teachers to understand that mathematics is not acultural. As a result, teachers then realize that the traditional ways of teaching the mathematics are also culturally-biased. These understandings will support the teacher in developing First Nations and Métis children's personal mathematical understandings and mathematical self-confidence and ability through a more holistic and constructivist approach to learning. Teachers need to consider factors that impact the success of First Nations and Métis children in mathematics: cultural contexts and pedagogy.

It is important for teachers to recognize the influence of cultural contexts on mathematical learning. Educators need to be sensitive to the cultures of others, as well as to how their own cultural background influences their current perspective and practice. Mathematics instruction focuses on the individual parts of the whole understanding and, as a result, the contexts presented tend to be compartmentalized and treated discretely. This focus on parts may be challenging for children who rely on whole contexts to support understanding.

Mathematical ideas are valued, viewed, contextualized, and expressed differently by cultures and communities. Translation of these mathematical ideas between cultural groups cannot be assumed to be a direct link. Consider, for example, the concept of "equal", which is a key understanding in this curriculum. The Western understanding of "equal" is 'the same'.

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In some First Nations and Métis communities, however, “equal” is understood as meaning ‘for the good of the community’. Teachers need to support children in uncovering these differences in ways of knowing and understanding within the mathematics classroom. Various ways of knowing need to be celebrated, which will support the learning of all children.

Along with an awareness of children’s cultural context, pedagogical practices also influence the success of First Nations and Métis children in the mathematics classroom. Mathematical learning opportunities need to be holistic, occurring within social and cultural interactions through dialogue, language, and the negotiation of meanings. Constructivism, ethnomathematics, and teaching through an inquiry approach are supportive of a holistic perspective to learning. Constructivism, inquiry learning, and ethnomathematics allow children to enter the learning process according to their ways of knowing, prior knowledge, and learning styles. Ethnomathematics also shows the relationship between mathematics and cultural anthropology. It is used to translate earlier forms of thinking into modern-day understandings. Individually, and as a class, teachers and children need to explore the big ideas that are foundational to this curriculum and investigate how those ideas relate to them personally and as a learning community. Mathematics learned within contexts that focus on the day-to-day activities found in children’s communities support learning by providing a holistic focus. Mathematics needs to be taught using the expertise of elders and the local environment as educational resources. The variety of interactions that occur among children, teachers, and the community strengthen the learning experiences for all.