

CORINNE JETTÉ, JIM BARTA AND DAWN WISEMAN, Concordia Native Access Engineering Program,
State University of Utah, Concordia Native Access Engineering Program
Until the Numbers Dance: Indigenous Cultures, Educational Perspectives, Science and Mathematics / Jusqu'à ce que les nombres dansent: cultures indigènes, perspectives en éducation, science et mathématiques

In many First Nations languages there exists no single word for mathematics. Rather mathematics is described in the activities of daily living where it is used. First Nations students often struggle in our westernized educational programs because of the cultural mismatches that occur between the worldview of the teacher and that held by the student, family, community, and/or Nation. Our Aboriginal students hold vast potential that we must help them realize as we learn to create culturally inclusive instruction. Our lessons must be framed in familiar contexts to the students, namely their lived experiences. This familiarity must encompass aspects of traditional beliefs and values. Native Elders must play a significant role in helping develop and guide what and how this knowledge and wisdom is shared. Once this contextual foundation is established we can build conceptual bridges of understanding between indigenous cultures and traditions and contemporary society and its modern demands.

Our working group discussions will incorporate perspectives on First Nations education and an explanation of the tension between western and indigenous worldviews particularly as each relates to mathematics instruction. We will demonstrate examples we are generating of instructional materials focusing on engineering and mathematics, which connect the information we must share in schools with the cultural identities reflected by our students. Our Native students should not, in fact they must not be asked to forget who they are as Native people to be successful in the world at large. These students greatest contributions to society will occur not in spite of their Native identities and wisdom but because of these.