Statement of Integration

Abrams, Taylor & Guo state that “For 20 years, mathematical and scientific literacy for *all* students has been the goal for many of the national and international reforms for mathematics and science” (p. 1). Particularly for indigenous students who are still underachieving in the areas of these abovementioned key learning areas. (Abrams et. al., 2012). They also add that mathematics and science learning takes place within “socially and culturally laden contexts” (p.2). Therefore, in order to close the gap in relation to science learning for indigenous students it is imperative that teachers teach science and mathematics in a manner in which Abrams et. al., (2012) state is “culturally relevant pedagogy” (p.2). There are many ways that teachers can cater to the individual needs of their students. The following criteria was met by Racquel, Kirsty and Jessica within their lessons in the following points utilizing indigenous perspectives, and illustrate guidelines for best practice.

As a group, the following resource was chosen: “Primary Connections: Change Detectives- Incorporating Indigenous Perspectives” (Australian Academy of Science, 2008). This resource was used to assist in designing: Lesson Plan #6 entitled, “Dancing Raisins.” The Australian Academy of Science provides an “Indigenous Perspectives Framework” (Xi) which the lessons are underpinned by. The AAS stipulates that “the program accelerates indigenous and non-indigenous students and teacher’s awareness and understanding of indigenous perspectives” (Xi). It caters to individual needs of students where the AAS encapsulates a strong emphasis on “relationships and partnerships, cultural diversity, quality and teaching and learning, students worldwide views, teacher’s worldwide views and curriculum” (Xii).

Eleanor et. al., (2012) explain that Indigenous Science (IS) and Western Modern Science (WMS) are underpinned by completely different views. (IS) could be described as a “holistic, contextualized process with high regard for nature in relation to humanity” (p. 2). “Alternatively, (WMS) is based on logical empiricism and universal principles, it has emphasis on control and manipulation of nature” (p. 2). Therefore, the two science approaches appear to be conflicting with one another. It is imperative that teachers reflect upon this evidence in order to cater to all children’s educational needs.

Ideally, teachers should become “Familiar with indigenous lifestyles, people and integrate it into the curriculum” (p. 2). Therefore, Racquel Kirsty and Jessica catered to needs of indigenous students by:

* Providing time and a safe, inclusive environment for verbal discussion and group-work, with opportunities for students to choose a role that suits them (Lesson #6.)
* All lessons provided the students hands-on opportunities for engaging in science (Lesson #1through to Lesson #5), (Sterenberg, 2012).
* Recording the experiences by taking photos (Lesson # 5) which provides visual communication, acknowledging other means to communicate (Sterenberg, 2012).
* Recognizing that “learning from place means indigenous students have a strong connection to the land, and this is deeply respected in the community” (Sterenberg, p. 94, 2012).

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