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Integrating Mathematics into Science Inquiry: Teaching Environmental Crisis

The Australian education system and curriculum has a strong emphasis on Mathematics and Science education. However, there is limited research in studying the outcomes of integrating Mathematics into Science through Science Inquiry process in the early years educational setting. Previous research reported that children who developed an interest in learning Mathematics and Science early in life were more likely to exhibit continuous interest in learning these subjects. This research aims to study my attempt to integrate teaching Mathematics into Scientific inquiry through a contemporary environmental crisis lesson.

The nature of this research is a self-study studying my own teaching practices as a teacher researcher role. Three critical friends were invited to discuss and provided feedback on my teaching practices based on my professional reflection journal. A multi-staged data generation approach was used in this study. A sustainability topic on the bushfire crisis was used for the scientific inquiry process to align with my students' interest. A significant improvement in my ability to integrate Mathematics into Scientific Inquiry is evidenced through this research. The discussion with my critical friends contributed to my shown improvements.

Through the integration of Mathematics into Science Inquiry, it allowed me, as a teacher, to support multiple children's learning needs and enabled their learning through an authentic and meaningful lesson. Moreover, the incorporation of a sustainability topic also allowed me to guide and promote a sense of agency and nurture the responsibility in children through play and inquiry process.

Therefore, the integration of Mathematics into scientific inquiry allows mathematical concepts and Science knowledge to interact and exchange viewpoints outside its original area. This is particularly meaningful for me as an early childhood teacher researcher to understand how the marriage between Mathematics and Science can improve my teaching practices.

My positive self-study experiences could be an exemplar that encourages other early childhood teachers and educators to integrate Mathematics into Scientific Inquiry focusing on sustainability topic crises in their practices.