

MATHEMATICS TEACHING & LEARNING IN RURAL TANZANIA
RESEARCH IN TEAMS REPORT
23rit013

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Sunday, October 15 to Sunday, October 22, 2023

GRATITUDE

We express our gratitude for the support of BIRS for the 7 days and for the support of the Centre for Mathematics Science and Technology Education, Faculty of Education, University of Alberta in order for our Research Team to meet together. The team used 6 days at BIRS due to travel arrangements; we arrived on Sunday October 15 and departed Saturday October 21, 2023.

PURPOSE OF RESEARCH IN TEAMS MEETING

The purpose of the one-week research team working session was to make significant progress on a book manuscript that explores the ways in which a Global Affairs Canada development project was designed to build capacity for primary school mathematics teaching and learning in rural areas in Tanzania. The book outlines the ways in which the project was designed and implemented, and reframes how sustainability of such international development projects can be re-conceptualized in terms of the ways in which participants continue to live and enhance their mathematical, professional, and personal learnings.

OBJECTIVES OF THE MEETING

The objectives for the week: concentrated time for review of data from project baseline and endline studies, data from post-project studies, and to make significant progress on a book manuscript.

OUTCOMES OF THE MEETING

This time together focused our work on the data we collected from our studies in relation to how sustainability of such international development projects can be

re-conceptualized in terms of how participants continue to live and enhance their mathematical, professional, and personal learnings. The week long meeting time provided the team an opportunity to develop a shared understanding of the audience for the book; revisit data collected and reports written throughout the 5 year project; revisit data collected from post-project data collection; thoroughly discuss table of contents and themes; identify and practice strategies for collaborative writing and reviewing so that the book can be successfully completed; identify potential reviewers and the steps needed to prepare a book proposal; outline a timeline for the work; establish team meeting dates; and draft a table of contents. A description of the proposed table of contents follows.

PROPOSED TABLE OF CONTENTS

PART 1	Will respond to the question, “how was the project planned to build sustained capacity for mathematics teaching in rural and remote communities in Tanzania?”
CHAPTER 1	DESIGN OF THE GLOBAL AFFAIRS CANADA PROJECT - This chapter will focus on the proposed project and will describe the intentions of the Global Affairs Canada (GAC) Project.
CHAPTER 2	EXPERIENCES PRE PROJECT - This chapter will focus on pre-project experiences, prior to the development of the GAC proposal. It will outline the research that had been conducted in Tanzania prior to the development of the GAC proposal and will describe the relationships that were built and the learnings from the experiences.
CHAPTER 3	THEORETICAL PERSPECTIVES - This chapter will focus on the theoretical underpinnings of the work, complex learning systems, Indigenous ways of knowing, being and doing, and a theory of cognition known as enactivism. This will be tied back to chapters 1 and 2 to illustrate the ways that the theories were evident within the proposal and the pre-project experiences.
CHAPTER 4	VALUES & COMMITMENTS - This chapter will conclude part 1 and describe the authors’ personal values and commitments in relation to the project; each of the authors were involved in the implementation of the GAC project.
PART 2	EMERGENCE OF HISABATI NI MAISHA/MATHEMATICS IS LIFE: This part will focus on the pragmatics of implementing the GAC project and how it became known as <i>Hisabati Ni Maisha (Mathematics is Life)</i> .
CHAPTER 5	PRINCIPLES - This chapter will describe the principles that

	emerge from the theoretical perspectives that the GAC project implementation team ascribed to - such as embracing emergence; valuing local knowing; valuing multi languages - use of Swahili, English, and different tribal languages; ongoing engagement of project participants.
CHAPTER 6	THE LIVING PROJECT 1 - This chapter will focus on the organizational, pedagogical, and mathematical dimensions of implementing the project - tying these dimensions back to the theoretical underpinnings, the values, and the principles.
CHAPTER 7	THE LIVING PROJECT 2 - This chapter will focus on the features of the project that were sustained over time in the implementation: e.g. distributed decision making and interaction among participants; the concept of resourcing; and the importance of a unifying slogan / concept.
PART 3	HISABATI NI MAISHA DAIMA (Mathematics is life forever). This section will focus on illustrations of sustained capacity post project implementation.
CHAPTER 8	STATEMENT OF CAPACITY/IMPACT - This chapter will focus on data collected in post project studies to describe the ways that participants have illustrated the impact of the project. We see this notion of capacity / impact in the participants' views as a transition to reframing the notion of sustainability.
CHAPTER 9	SUSTAINABILITY - The chapter will focus on describing sustainability as it is related to through the roles and actions of participants post project and their spheres of influence. This chapter will build on the in depth interviews with select project participants 5 years post project implementation.
CHAPTER 10	ADJACENT POSSIBLE - Evidence of the ways that the project has shaped and continues to influence the Tanzanian mathematics educational system - through the use of project participants and project strategies.
CHAPTER 11	HISABATI NI MAISHA: AGENT OF SUSTAINABILITY - This chapter will draw from chapters 8, 9, and 10 to propose that the implemented project is an agent of sustained capacity for mathematics teaching in rural and remote communities of Tanzania.
PART 4	LESSONS LEARNED - This section will respond to the question, "What lessons did we learn from the development work - what are the key takeaways for sustained capacity?"

CHAPTER 12	This chapter will describe lessons such as mechanisms for building capacity in relation to this project: e.g. the actors involved; the relationship with mathematics; ongoing engagement with and among project participants; and will return to the theoretical perspectives, the values, and the principles described earlier.
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