

# ICC TEACHERS WORKSHOP



# WHAT IS THE ICC PROJECT?

- ◆ ICC stands for Implementing Curriculum Change
- ◆ It is implementing curriculum change in Mathematics and Science to reduce poverty and improve gender equity

# Research Question

- ◆ *“How can curriculum change in science and mathematics education be implemented in a way that is most relevant for South Africa, Rwanda and Pakistan particularly focusing on eradicating poverty and on promoting gender equity?”*

# Sub Questions

- ◆ *What conceptual skills of both educators and learners would allow for an appropriate implementation of the curriculum?*
- ◆ *What specific approaches would be most advantageous for situations of poverty and gender equity?*
- ◆ *What conditions enable these practices to be rolled out from the original core sites to similar contexts?*
- ◆ *How can learners, teachers, parents and district officials be engaged to support curriculum change?*
- ◆ *In what ways can policy makers and curriculum implementers be engaged to participate in the mainstreaming of the strategies developed in this project?*

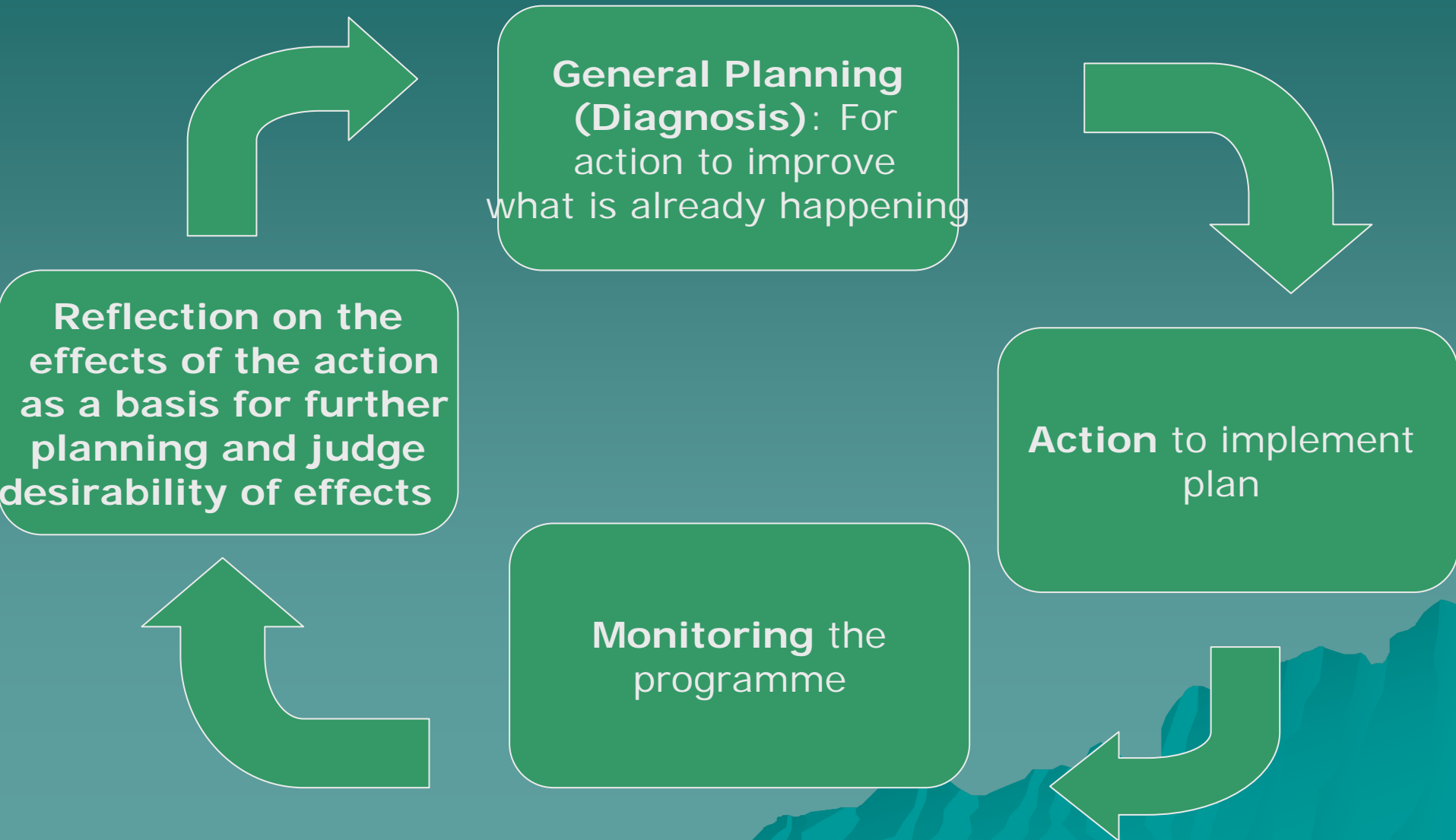
# Rationale for the research

- ◆ South Africa's relatively recent Revised National Curriculum Statement (RNCS) stresses the importance of problem solving, critical thinking and argumentation skills. There has been little, if any, sustained research, however, that aims to identify appropriate tools and strategies through which this aspect of the new curriculum can be implemented. The project aims to support and feed into this knowledge gap.

# THE RESEARCH METHODOLOGY



# COLLABORATIVE ACTION RESEARCH




# WHY COLLABORATIVE ACTION RESEARCH?

- ◆ A collaborative approach involving teachers, support officials, policy-makers and education stakeholders
- ◆ teachers together with the researchers identify problems and challenges in their own practice
- ◆ Teachers are supported to develop strategies to deal with these problems and challenges.
- ◆ Teachers are also supported to develop a critical, reflective approach to the development of their practice
- ◆ Teachers develop effective strategies within their own practices to share with others
- ◆



- ◆ Teachers also develop critical thinking skills so that they are better able to develop their practice independently, and are better able to evaluate and modify other people's strategies to suit their own circumstances.

# ICC ACTIVITIES

- ◆ Identifying schools
  - ◆ Identifying mathematics and science teachers
  - ◆ Engaging with the schools and community
  - ◆ Develop research instruments
  - ◆ Start research in the classrooms
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# ACTIVITIES IN THE SCHOOLS

- ◆ Needs analysis – identify effective instructional approaches
- ◆ Collaborative lesson preparation –hinging on identified effective instructional approaches
- ◆ Observations of lessons – pre- and post-lesson observation conferences
- ◆ Data is collected throughout the activities
- ◆ Data is analysed – Action Research approach cycles followed


# APPROACHING THE NEW CURRICULUM


- ◆ ACTIVITY 1
- ◆ Seat in groups of 4
- ◆ 1. Write down a list of 10 advantages of the New Mathematics and Science curriculum
- ◆ 2. What concerns you about the New Mathematics and Science curriculum?
- ◆ 3. How can teachers improve the New Mathematics and Science curriculum?
- ◆ 4. What are the indicators of an effective instructional approach in the New Curriculum?

# TEACHERS' PROFESSIONAL DEVELOPMENT


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# REASONS FOR PROFESSIONAL DEVELOPMENT

- ◆ To improve the job performance skills of an individual teacher or group of staff
  - ◆ To extend the job performance of an individual teacher for career development or promotion
  - ◆ To develop the professional knowledge and understanding of an individual teacher
  - ◆ To extend the personal or general education of teachers
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- ◆ To make teachers feel valued
  - ◆ To promote job satisfaction
  - ◆ To develop an enhanced view of the job
  - ◆ To enable teachers to participate and prepare for change
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Professional development deals with human resource development, which, according to Eraut (1994), has two major aspects to it,

- ◆ Ensuring an adequate supply of appropriately trained and prepared people for all positions in the systems and
  - ◆ Maximising the potential of all current personnel, their capability, resourcefulness and capacity to adapt and adopt (investment in human capital)
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- ◆ It has also become generally accepted that the rate of social change and educational change make pre-service training an inadequate basis for long term professional competence and that continuous professional development programmes informed by teachers needs are essential instruments for upgrading and updating those in the profession.

# MODELS OF PROFESSIONAL DEVELOPMENT PROGRAMMES

- ◆ Off site – Programme organised at a teachers center, or university
- ◆ School based- Programme organised at a school for other schools too
- ◆ School focused- Programme organised at a school focused solely on the issues of that one school


# DESIGNING A PROFESSIONAL DEVELOPMENT PROGRAMME

- ◆ A good professional development programme must be developed from a needs assessment.

## REASONS FOR NEEDS ANALYSIS

- ◆ It is a fair way of deciding upon priorities for teacher development.
- ◆ It can lead to innovative and creative priorities and solutions, for instance in one study (Luneta, 2003) the prospective mentor teachers were quite innovative in determining the sort of training they needed in practicum supervision.
- ◆ It can be a very efficient procedure of determining the pedagogical and content needs of teachers.
- ◆ It is a valuable technique for getting different groups, schools or subject teachers to discuss issues and to agree upon shared values and mutual support.

QUICK SUMMARY OF  
DEVELOPING A PROFESSIONAL  
DEVELOPMENT PROGRAMME  
FOR MATHEMATICS AND  
SCIENCE TEACHERS

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