Maths In Indigenous Contexts Project

Morunya Public School

Years K - 2

2006

Woodcarting
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Tree Climbing Race

Treetop

Dice and figures are placed on the grid to indicate positions.
Woodcarting

- ashes
- wood-blocks
- axe
- saw-chain saw
- trailer
- load of wood
- campfire

- gloves - carrying
- safety procedures
- carving
- licence
- tools

- logs
- fire
- rocks
- kindling
- stumps
- leaves
MORUYA PUBLIC SCHOOL
SCHOOL CONTEXT

• Demographics

• Moruya Public School

Staff

Students
SCHOOL VISION/PURPOSE

• Provide a quality education highlighted by the achievement of academic excellence at each individual’s level
• Help students achieve success through a collaboration of staff, students, parents and community
• Ensure individual learning needs are met in an environment of equal opportunity
• Develop high levels of leadership skills, mutual respect and self worth to encourage positive social interaction
• Encourage a positive and welcoming environment where everyone feels safe and happy
• Foster a love of life-long learning that nurtures each child’s individuality enabling them to reach their full potential
MORUYA PS TARGETS

2006-8

Numeracy
For 85% of year 3 students to achieve band 3 or above in numeracy (BST).

Two year timeframe:
First year 80% / Second year 85%.
BOS PROJECT

Indigenous Context

Innovative Strategies

Embracing ‘home’ language
Woodcarting is a Contextual Mathematics Unit developed in consultation with our local Indigenous community three years ago. This project will:

- Review and refine the Woodcarting unit;
- Include the Number Strand;
- Embed the quality teaching framework into all programming and practice.
IDENTIFYING STARTING POINT FOR STUDENTS

Strategies

• Project Team members identify target students

• Each teacher selects no more than four Indigenous students from their class. If a teacher does not have that many Indigenous students, other non-Indigenous students may participate in the project.

• Sena Testing of each target student

• Development of an IEP for each target student in line with Dare to Lead Guidelines.
Evidence of Growth

"I'm not counting by ones, I just knew it..."

"Did you know 31 comes after 30?"

"I don't need to use my fingers!"

"I'm counting on..."

"I'm counting back..."

"I grouped the numbers by 10's first..."

"I've divided them..."

"I'm much quicker now!"
ROLE OF AEA

Mr Darryl Cruise is the newly appointed AEA at Moruya Public School. He has a strong background in Juvenile Justice working in Wagga Wagga. He grew up in the Narooma/ Wallaga Lake area.

Darryl’s role extends further than Welfare issues, seeing him fully involved in a range of classroom as well as whole school initiatives. His positive, enthusiastic outlook inspires all students and staff. His commitment to partnerships with community is very strong, and this is his main role in our project. Darryl makes significant contributions to class discussions and various “hands on” learning experiences. The students respond positively to Darryl and he has established a very good rapport with all stakeholders.
STRATEGIES USED TO WORK WITH COMMUNITY

Awareness Raising

• Principal followed up initial planning of BOS Project with an information session at MPS Aboriginal Community Meeting.
• Support was positive and those present were keen to learn more about the project.
• Robyn Rennie (DET Maths Consultant) provided two workshops. One for staff, including AEA and Aboriginal tutors, and one for local community members and parents. The focus for these workshops was knowledge and understanding of the Number Framework.
• Individual teachers met with parents of students participating in the project. This meeting allowed joint development of IEP’s to meet each student’s needs, and informed parents of the project’s targets.
Informal Strategies

- Information regarding the project and an open invitation for all parents to participate in Contextual Mathematics lessons was advertised in the weekly MPS Newsletter.

- Project Team teachers invited parents of targeted students and other community members to participate in weekly Contextual Mathematics lessons.

- Parents of targeted students were invited to have an input in the Erebus Evaluation Meetings.
Our NAIDOC Celebrations

• As part of our NAIDOC Celebrations all classes participated in “Drop Everything and NAIDOC” activities. At a whole staff meeting a selection of the Number Games developed as part of this project were offered to all staff as a possible activity.

• As a celebration/ culmination of the Woodcarting Unit a campfire was built in the school grounds. All classes involved in the project and various community members enjoyed making Johnny Cakes and exploring traditional use of fire.

• THE CHILDREN HAD FUN AND SO DID THE ADULTS!!!!!!
NEW LEARNING FROM WORKING WITH COMMUNITY

Teachers

Rich oral language is used at home and it is important to emphasise, encourage and value this language within the classroom. The contextual unit allowed this “home” language to emerge and gave teachers an insight into student’s mathematical understandings, as well as the opportunity to explicitly link/teach the correct Mathematical terminology.
Kinaesthetic learning experiences are effective in consolidating student’s knowledge and understanding in all areas. Darryl was extremely impressed with the impact of “hands on” Number activities for the Indigenous students participating in the project. The local community has proved to be difficult to motivate, despite Darryl’s tireless efforts to encourage more positive participation.
Students

- Students are more confident and so able to contribute to discussions. They have developed a rich Mathematical vocabulary that assists them in connecting Mathematics to real-life situations. Mathematics can be fun, relevant and meaningful.
Community Members

Those who were involved in the project were positively affected by the student’s enthusiasm for Mathematics. This enabled them to provide support at home with their children’s learning. There was recognition of “home’ language and its value.
Aspects of language

Due to the significance of the context for this unit of work, all students – but particularly our Indigenous students found meaning in their learning. Connections to real-life situations were readily made and the associated aspects of language that were highlighted, consolidated the explicit learning in mathematics.
Project Achievement

Number Learning Sequence
(Early Stage One – Stage 3)

Whole Number
Addition & Subtraction
Multiplication & Division
Where to next?

• Complete learning sequences in other strands (2007).

• Establish Buddy classes (a current Project Team member and another staff member) and trial new unit (2007).

• Implementation of new unit across whole school (2008).
The Dreaming Track

What is dreaming?
Stories from long ago.
Pass down stories.
To tell people how things are made.
Aboriginal stories from local areas.
Dhurga Language spoken in local area.

What would we see on the track?
- Bush tucker: Indigenous food
- Aboriginal paintings
- Plants for baskets
- Plants for medicine
- Middens

What Maths might we do on the track?
- Mapping
- Length
- Measuring
- Mass
- Time
- Distance
- Counting
- Estimating
- Tides

Bingi
Bingi: Food in tummy
Bingi means Stomach
Nonaqa
Nonaqa: Uluru

Sanstone song along the Track