



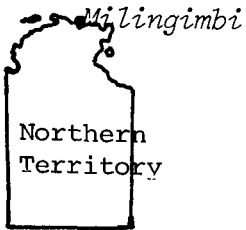
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THINKING ABOUT WRITING AN ABORIGINAL SCIENCE CURRICULUM

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LANGUAGE (Talking and Listening)

A child picks up all words by listening to somebody at home (relatives) or a teacher in school. Children first learn from their parents. Mother teaches children by saying words bit by bit until the children really can understand their own tongue and the meanings of these words. In the same way teachers write words on the black-board, say them and then explain to the children while the children listen.

This listening/hearing is the most important thing for the children. When teachers give a lesson they must first explain which part of the habitat they will talk about. Let the children listen to you carefully and give them a good explanation about these habitats around them. Prepare all the materials that you are going to use such as charts, pictures, slides, library books, if you are staying in the classroom. Prepare for an excursion if that is your lesson plan. Show these things, explain what you are talking about to give the children a better understanding, so they will remember this information.

The other important thing for the children to do, apart from listening, is for them to talk. There is only one way for the teacher to know if the children understand the lesson. The teacher must ask questions to see if the children know the answers. The teacher must ask the children to talk about the topic to see if they can memorize the information and use the science skills (see Skills section).

For deaf children there is a problem. These children learn by use of sign words. But today children are sometimes too lazy to listen and learn what their parents/teachers want them to. Children

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must understand they cannot survive by themselves. They need guidance/teaching/learning from their relatives and teachers. Only a few children want to learn in both tongues.

The teacher must be aware of the things the parents want their children to learn.

PARENTS

Parents are great helpers in the camp or at home, and hunting out in the bush. Parents show their authority to their children in a way that they can teach them to learn.

Children learn to hear people speaking and say the words at the same time. The children can easily pick up the word into their head and it remains there for all time. The children grow up filling up with knowledge.

As we know, parents are like the teacher in a school. Teachers teach things in school and parents play the same role at home. But it is a bit different. Teachers teach with written work but children learn from parents by -

seeing, hearing, smelling, tasting, feeling,
i.e. *The Senses*.

Parents are people who can understand all the skills in a Yolngu way. Parents communicate with the children and share their thoughts and help them understand the things they don't know.

Teachers must involve themselves in this part of the children's education. Teachers must communicate with communities in both camps.

Yolnju and Balanda staff cannot learn what to teach by themselves here at the school. Staff must talk to parents and learn more about Yolngu knowledge and about our ancestors' times.

It is very important for the children in this generation to know and learn as much as they can about the environment. They must learn to think of the future and how they will survive. If we, as teachers, really impress the importance of this subject for the children we must gather lots of information from the parents.

We can also let the parents come to school so that they can give a speech about this subject to the children. There are lots of

topics they can talk about, such as living things on land, sea or air. Things that can fly, crawl, hop, etc. Teachers must be aware of this subject like the parents at home.

Another important thing is that teachers get information about their ancestors and how they lived, learned and played in their daily life many years ago. If parents cannot come to the classroom, teachers can take a cassette player to the homes and ask parents with knowledge about ancestors and the environment to talk on the cassette. This will give interest to the children so they will listen and learn in the classroom.

Sometimes parents tell their children some bedtime stories or sing a song to make the children listen and go to sleep. Children can remember this in the classroom.

The parents are ready to help you all, both Yolngu and Balanda staff.

Parents are helpful in giving knowledge to children at home and they already have many ways of organising this knowledge to teach their own children.

STIMULATION

Children are happy to hear some history stories from a long time ago. Teachers can ask one of the parents to come to school to tell some story about what happened to their ancestors in the Dreamtime. Some children do not know what their great great grandparents did a long time ago and they cannot give you an answer to your question. The problem is that parents didn't share this knowledge with their children. History is something for them to learn both in the camp and at school. Children love to hear such surprising stories that were never told to them.

Teachers, take your class down to the camp and also bring tape and cassette with you so that you can take the voice into the cassette for the children to listen to back in the classroom. Then they can write the story and really memorize it. They can draw a picture too.

It's the same thing when you talk about Aboriginal Science. They are only new to this subject too. Children will really press to listen to what sort of lesson you are going to give them. They are really interested in both areas so be ready to help their needs. Take

them for excursions to the bush or one of the islands and spend a day there. Through their study they will then find that they can really cope well by themselves.

COMMUNICATION (Yolngu Teacher - Balanda Teacher/School - Community)

Both Yolngu and Balanda teachers can learn by having a lot of communication with other communities outside Milingimbi and also other groups inside Milingimbi by -

visiting, hunting, or talking (e.g. around the campfire).

The communities are quite happy to help both Balanda and Yolngu through their search to know what sort of things they would like to teach their children at school. Visiting is most important for both Balanda and Yolngu teachers. You can visit them during school hours, after school, or the Yolngu teacher can consult with the community, especially older Yolngu people, on behalf of the school staff.

Because the Aboriginal teachers understand what 'education' is and why there is an education program in their community, so they will be able to help parents to understand the education that their children are receiving. Balanda teachers should work closely with the Aboriginal teacher, and he/she should consult with the Aboriginal community and curriculum advisors as to what Yolngu children should learn. The Yolngu teacher will have a better understanding of local examples from the Yolngu culture.

The Yolngu teacher must take the lead in discussing teaching ideas, methods of programming the lesson, involving the community etc.

Yolngu teachers - stick to your work so that you will encourage non-Aboriginal teachers, because they cannot do without the Yolngu teacher. If you, as the Yolngu staff, do not know anything about the environment, then you are the one to visit people in the community and collect all the information, then you can pass it on to the school (by putting it in the Environmental Science Curriculum) or to the Curriculum advisors.

We all know it is hard to follow, but one day we might solve the problem.

SKILLS

The main skills to be taught in the Aboriginal Science program are:

1. Observing
2. Recalling
3. Classifying
4. Comparing
5. Contrasting
6. Generalizing
7. Inferring
8. Prediction
9. Hypothesizing
10. Analyzing
11. Synthesizing
12. Evaluating

These other skills should be also developed:

- measuring
- using space/time relationships
- communicating

The curriculum *content* is the information that you collect to teach the children. It is what is in the curriculum. While the children are learning this information and doing the activities that the teacher asks them, then the children should be learning these *skills*.

These skills are very important. Knowledge of how to use these skills makes a well educated child. If the child learns some knowledge but cannot use the knowledge to do these skills, then the child has missed out.

Here is an example of the use of content and activities to teach the first three skills in infants:

TOPIC - Shoreline (shells)

Activity - *Pre-school*

Walk to the beach, look at all the different shells. Collect them, put them in the classroom.
(*Skill - observing*)

TOPIC - Shoreline (shells)

Activity - *Transition/Year 1*

Walk to the beach. Look at different shells. Collect them, put them in the classroom. Teacher says the names - children remember 3 or 4 names.

*(Skills - 1. observing
2. recalling)*

Year 2/3

Walk to the beach. Collect different shells. Take them to the classroom. Teacher says the names and writes them. Children write them and say them. Ask the children to say the names again later by themselves. Children put all the shells that are good to eat together. Put the other ones together.

*(Skills - 1. observing
2. recalling
3. classifying)*

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