Linking SNAP 2006 to the Curriculum
Linking SNAP to Speakers of Aboriginal English

Linking SNAP to Speakers of Aboriginal English suggests strategies for teaching the numeracy skills and understandings required to demonstrate achievement in a range of subjects. It also provides information about Aboriginal English and teaching Aboriginal students.

Secondary teachers, who participated in research to identify effective ways of teaching Aboriginal English speakers, suggest that teachers incorporate:

- a greater variety of teaching strategies, including less copying and less independent reading
- more language-based activities
- more emphasis on language
- a greater amount of talk between teacher and student in the lesson (this teaching strategy also influences rapport and enhances the teacher–student relationship)
- independent feedback on lessons (an outside view with added cultural perspective is beneficial)
- highly reflective teaching practices which create structured lessons with a definite purpose and need, so that students see relevance because learning is steered towards their academic strengths or weaknesses.

Bidialectal approach to teaching Standard Australian English, 2003–2004

Inducting Aboriginal English speakers into Standard Australian English

Understanding the language of each subject is an essential skill for numeracy development. Teachers need to consider terminology that students might find difficult to understand and explicitly teach the concepts represented by the language of the subject they are teaching.

Department of Education and Training requirements

The Department of Education and Training requires that Aboriginal English speakers are to be taught so that they can make effective oral and written language choices appropriate to contexts and specific situations at home, in the community and at school.

The Aboriginal Education Policy, NSW Department of Education and Training, 1996, states that curriculum, teaching and assessment programs will be challenging and culturally appropriate through acceptance of and provision for Aboriginal English in culturally appropriate teaching and assessment programs.

Providing additional support to develop understandings

When contexts and concepts represented in subject-specific language are unfamiliar, students have difficulty making sense of what they listen to, read and view. This is the case for Aboriginal students who can often read words and visuals but do not seem to be able to make sense of or 'comprehend' what they mean.

Aboriginal students who are not familiar with contexts and concepts embedded in subject-specific language need additional support prior to being asked to participate in class tasks. They need to be introduced to the knowledge and understandings about what they are learning, the contexts addressed in numeracy concepts and the language used to describe them. These new contexts and concepts also need to be linked to what students already know and understand. Explicit teaching prior to class tasks will assist students to make sense of subject-specific language and prepare them to engage in class tasks.
What is Aboriginal English?
Standard Australian English and Aboriginal English are dialects of English used in Australia. Aboriginal English is an appropriate dialect to use in many contexts. However, students need to be taught Standard Australian English because it is required to demonstrate achievements and success at school.

Aboriginal English dialects often incorporate Standard Australian English words that are used to mean different things. Aboriginal English differs from Standard Australian English in certain aspects of grammar (language structure), semantics (meanings) and phonology (sounds).

The way people talk is an important part of their culture and identity. Teachers who understand, accept and respect Aboriginal English as an appropriate dialect can help Aboriginal students engage in learning and to succeed at school.

Body language is an important aspect of Aboriginal English because it often substitutes for meanings that are made in spoken or written forms in Standard Australian English.

An example of a major difference between cultures is the use of questioning. In schooling, questioning is often used as a teaching strategy, to find out what students know, to confirm learning and even to introduce information. Questioning, however, is often used in different ways by Aboriginal English speakers. Aboriginal parents often use statements combined with actions to guide their children’s learning.

Teaching Aboriginal English speakers
Working with Aboriginal people and understanding the nature of local Aboriginal English will assist teachers when selecting explicit teaching strategies to introduce required subject-specific language to Aboriginal students in ways that affirm their Aboriginality, their identity and their use of Aboriginal English.

When selecting strategies to teach Aboriginal students, teachers may find it useful to plan their support at three different levels, ie modelled, guided or independent teaching strategies. These could be considered as strategies to ‘teach students to notice’ (modelled), strategies to ‘prepare students to practise’ (guided) and strategies to ‘support students to use’ (independent).

The suggested strategies in this document focus on supporting students who did not demonstrate achievement in SNAP and therefore focus more on examples of modelled teaching strategies.

Teaching strategies
Modelled teaching strategies for Aboriginal students are those that allow students to take notice of what is going on and prepare them to engage in what they are about to do. Modelled teaching strategies for Aboriginal students would include the following:

- orienting students into the specific context they are working in
- inducting students into the contexts they need to learn about
- introducing concepts
- focusing on subject-specific language
- showing how subject-specific language represents content being taught.

Suggested teaching strategies for numeracy development include:

- introducing new concepts by establishing understandings of the contexts in which subject-based language is used and why
- ensuring that Aboriginal English speakers understand forms of English that are new to them, such as technical language, Standard Australian English, numeracy concepts and language
- working with Aboriginal English speakers in the classroom (parents, caregivers and community members) whenever possible.

People working with Aboriginal English speakers in the classroom need to validate home language and make lesson instructions easier for students to understand. Students’ achievements can be enhanced through cooperative learning experiences which recognise Aboriginal English and which explain Standard Australian English use in ways Aboriginal students understand.
Questions 7, 8 and 9

Some Aboriginal students have difficulty with:

- interpreting information organised in tables
- understanding the structure of a table (name or title, horizontal and vertical labels etc)
- effective strategies for using the information provided in a table
- understanding the specific meaning of the instructional language used.

Students gain an understanding of how a table works if they understand the need for certain structures within the table. Students gain this understanding through constructing and communicating their own information using tables.

Opportunities should be provided for students, either individually or in small groups (3–5), to:

- identify issues with reading tables through exposure to tables from various sources including textbooks and newspapers
- use given, or collected, raw data relevant to the subject and their interests.

The following activities address essential learning for students which include:

- reading the table name
- reading horizontal and vertical labels
- interpreting the information presented horizontally and vertically
- interpreting instructional language used in the questions such as compare, contrast, more than, less than, find the pattern.

### Teaching strategies

1. Provide students with data/information on a topic being studied in class.
2. In groups ask students to organise the information into a table and design a worksheet containing challenging questions for the rest of the class to attempt.
3. Organise for groups to present their worksheets to the class, or for different groups to exchange and complete the worksheets. After the worksheets are completed have the class discuss the strengths and weaknesses of the worksheets and suggest changes.
4. Throughout the discussion identify and document the essential elements of a table and effective strategies for interpreting them. Display elements and strategies on a wall poster.
5. Distribute to the groups butchers paper and a variety of table worksheets requiring different strategies.

Note: The following are examples of tables in SNAP 2006 that require different skills for analysis.

- Section 1: Task 1 – Q4 and Q7–9
- Section 2: Practice C & D, Q5, Q10, Q15, Q19, Q33, Q35, Q44
- Section 3: Q2, Q3, Q 4.

6. Ask each group to:
   - write a sentence on the butchers paper describing the information contained in the table
   - complete their worksheet using the butchers paper
   - present to another group or the class and answer questions from the group
   - hang the ‘poster’ on the class wall.

Students will now have a learning environment with displays of a range of elements and strategies that assist them to understand tables.
Question 38

Some Aboriginal students experience difficulty with:

- understanding the structure of graphs and the different types of graphs
- understanding the structure of linear time graphs
- reading and analysing information presented in this form
- understanding distance/time graphs as a type of map.

Activity concept

1. To establish the validity of using diagrams as a means of organising information.
2. To present distance/time graphs as a model for representing travel.
3. To introduce skills useful in interpreting information presented on a number plane.

Teaching strategies

The aim of the activities is to develop students’ skills in successfully reading and constructing graphs. In part A, students translate a word story into a diagrammatic representation. In part B, students translate a ‘there and back again’ story onto a distance/time graph.

Part A – Establishing diagrams as a means to organising information

1. Organise students in pairs (storyteller and recorder) with butchers paper to relate stories on an area of their choice, or on a topic specific to a KLA.
2. Outline the task as the storyteller tells a story or series of events to the recorder. The story could summarise an episode of their favourite TV show, identify key points in the life of a famous person or character or event, or any topic or theme relevant to the subject being taught that the students are familiar with.
3. Discuss time frames (length of activity) and appropriateness of story with students.
4. Explain that the recorder’s role is to diagrammatically record the story told by the teller. If appropriate, inform students that they might like to consider using cartoon mode. The idea could also be reworked into the making of a script for a movie or TV show.
5. Inform students that after the telling of the story, the recorder retells the story to the teller and the draft diagram is worked on until the storyteller is happy with how the information is represented. The process is then to be repeated with the roles reversed. Inform the students of time limits for the activity.
6. Ask pairs to form bigger groups (4–6) for each recorder to retell their teller’s story, based solely on the diagrammatic representation.
7. Ask students to identify the common features or rules of the diagrams and produce a poster which sets out these rules for display in the classroom. Inform the students that the poster would need to include all the things that are essential in presenting a diagram and include features such as a meaningful title and ways of representing the passage of time.

Part B – Introducing distance/time graphs as a model for representing travel

1. In pairs ask students to tell a story about a journey that starts and ends in the same place. Introduce the concept of a time/distance graph by modelling a ‘personalised’ story, for example ‘my yesterday’ where you, as the teacher, develop a time/distance representation of your ‘yesterday’ such as leaving home to go to the shops, then to school and then to the movies before going home. Technical terminology and concepts such as ‘variables’ should be explicitly explained and demonstrated where appropriate.
Teaching strategies (cont'd)

2. Allocate the following tasks to the recorders:
   - represent the story on a two variable 'time/distance' graph
   - create a set of questions that can be answered from the graph. The questions must require the student to give details of the journey based solely on the information provided in the line graph.
     eg. When did he/she begin the journey?
     How far did he/she walk?
     How long did he/she rest for?

3. Ask students to repeat the process outlined in Part A where the teller and recorder swap roles to work on the new story and relevant questions. Explain that each pair is required to:
   - develop two worksheets containing graphs and questions
   - swap their worksheets with another pair to complete.

4. Invite the two pairs of students to present their responses to the group.

5. Lead students in discussing the responses and modifying the graphs where necessary.

6. Establish class rules on 'how to make and read a line graph' and produce a wall chart of these rules.

7. Present questions from your particular KLA to the group to test the 'rules'.

Extension activities

- Construct a distance/time graph with questions from a story that starts at home and finishes at your Aunty's house.
- Construct a distance/time graph with questions from a story that starts at your Aunty's house and finishes at home.
- Construct a distance/time graph with questions from a story about what both you and your cousins did on Saturday if you started from different places and met up in town.
- Present a light-hearted 'stress/time' graph about the teacher's stress yesterday without explaining the graph and get students to write, tell or act out your story, justifying their version by referring to the graph.
- Investigate the use of instructional language in the construction of questions related to graphs, eg SNAP Section 2 Question 50 asks, 'What was the change in temperature between the 4th and 7th minute?'

Technology: Graphic calculators, motion detectors and OHP

The connection between distance and time can be demonstrated using real data through the use of handheld motion detectors attached to either handheld graphic calculators (connected to an OHP) or attached to a computer with suitable software.

The technology is accessible to schools as several manufacturers have a lending program of class-sets.
Question 1

Some Aboriginal students experience difficulties with:

- connecting maps to a sense of place
- connecting distance, space and direction between maps and the real world
- determining and using scale and compass bearings.

Activity concept

1. To establish a physical connection between a map and a geographical place.
2. To establish a sense of orientation.

Activity Summary

In their classroom, students working in small groups will identify and measure a defined square on a map of their school. The groups will then go into the playground and physically define and describe this actual area. The outside activities might be done over several days. Students then return to class to debrief about the activities.

Teaching strategies

Part A – ‘In classroom’ activity

Each group will need a scale map of their school with a large ‘street directory’ grid superimposed on it (not a ‘number plane’ grid). If the school is in Sydney it may be possible to print off a photo of the school using earthgoogle.com. Each group will need a unique copy of the map. Each unique map should have a different square ‘whitened out’. Within this square, the location of two prominent features of the school should be indicated by crosses. It is a good idea to produce the maps on A3 paper and adjust the scale so the ‘map’ feels more like a real map.

Divide students into groups of 3–4. Each group is given a map with a different square ‘whitened out’. The students complete these ‘in classroom’ tasks:

- Find the actual dimensions and area of the real square from the map, using the scale and a ruler. Discuss with the groups how they did this and have the students record their process.
- Accurately indicate the centre of the square on the map using a ruler. Discuss with your groups how they did this and have the students record their process.
- Write down detailed strategies of how they will accurately locate their square area in the playground.
- Compare and contrast the concepts of ‘street directory’ coordinates and ‘number plane’ coordinates. Students to write down their findings.

Part B – Outdoor activity

Each group will need the following equipment:

- a blank square of paper approximately 20 cm by 20 cm
- ruler
- roll of paper tape, long enough to go around the outside square
- set of four ‘witches hats’
- directional compass
- measuring tape
- note paper, pens and lead and coloured pencils.
Teaching strategies (cont'd)

Describe these activities in detail before the students go outside.

- Have students mark the centre of their square paper using a ruler.

- Finding the square

Each group locates their square area in the playground using their strategies from the ‘in classroom’ activity and plots the corners of their square with witches hats. Direct students to attach one end of the tape to a witches hat and run the tape around the boundary of the square.

Students use the tape measure to accurately find the centre of the square area. Discuss with your students how they would do this and get the students to record their process.

Students measure the dimensions of the square, find the area of the square (comparing this with their ‘in classroom’ calculation) and determine the actual scale of the map. Discuss with your students how they would do this and have the students record their process.

- Making and using a map

Students place their blank paper at the centre of the square area. Using lead and coloured pencils, students draw a detailed map of their area.

- Describing directions

Using a compass and a ruler students draw a north–south line through the centre of the square, then add the east–west line. Students write down all visible physical features that are NE, SE, NW and SW of the centre.

Students place their A3 map at the centre of the square and orientate the map, aligning the centre of the blank on their map with the centre of the square enclosure. Students use a compass to draw a north–south line through the centre of the blank square on the map and determine the compass bearings of the feature points on their map. Discuss with your students how they would do this and have the students record their process.

On completion of the activities, groups pack their equipment and clean their areas. In the classroom discuss what the groups have learnt, eg the purpose of maps, map coordinates and number plane coordinates, scale, bearings and compass directions, finding centres and areas of squares. Create a wall display using the A3 map and the 20 cm by 20 cm student-made maps of their areas.

Extension activity

Students can design their own orientation course or treasure hunt, using compass bearings to indicate directions and scale to determine distance before changing direction. Students research traverse and plane table surveys to do a survey of the school.