

Chapter Seven

RESULTS: OBSERVATIONAL DATA

7.1 Introduction

This chapter presents results obtained from two sources of observational data, the observational protocol and the program diaries of the teachers; each reports information about what occurred in the classrooms of the four JACs during the intervention period. Data from the observational protocol, described in Chapter Four (4.4.2.1.1) will be presented in Tables 7.1 to 7.6, and data from the program diaries (see Chapter Four, 4.4.2.2) of the three teachers implementing the programs in School A (music only), School B (story only), and School C (music and story) will be presented in Tables 7.7 to 7.12. As discussed in Chapter Four (4.4.2.1.1), details of categories used in the observational protocol and program diaries, and of the coding procedures, are appended (see Appendix C).

7.2 Observational data

Information about the location of the lessons, their organisation, the use of resources by teachers and by students in the lessons, and the instances of teachers speaking, and questioning during a lesson is presented in Tables 7.1 to 7.6.

7.2.1 Lesson location

Lessons were predominantly held in the JAC room at Schools A, B, C and D, with the students seated either on the floor

or at a desk. The proportion of time spent by the students in different locations in the classroom (floor, desk, moving) is given in Table 7.1 for the four schools.

It is evident in the data set out in Table 7.1 that, in School A, School B, and School C the students spent the majority of the lesson time either sitting or moving about on the floor of the classroom. The category designating moving, included any actions by the students about the classroom such as moving to a song in the music program or, participating in drama activities related to the story-telling program.

Table 7.1

Percentage of Time (Minutes) Spent by Students in Different Locations

Location	School					Total
	A (music only)	C (music)	B (story only)	C (story)	D (control)	
Floor	66	27	92	80	0	265
Desk	0	0	4	0	100	104
Moving	34	73	4	20	0	131
Total	100	100	100	100	100	500

Note. The values, rounded to the nearest integer, represent the proportion of time expressed as a percentage spent in the various locations.

As might be expected, more movement occurred with the students participating in the music program. Some movement by the students at School B (story only) was recorded as the students moved to and from their desks while carrying out a worksheet-activity, and at School C (story) when the students participated in drama activities in some story sessions. At the control school (School D) by contrast, the students spent all of the lesson time at their desks.

7.2.2 Lesson organisation

Information on classroom organisation of the lesson was obtained by recording the type of grouping (whole class, small group, partner, individual) occurring for each minute of the lesson. The different types of lessons for each of the four JACs are presented in Table 7.2.

During all of the lessons in each JAC, individual activity took place within the class as a whole group; that is, no students were withdrawn for individual tuition. In the music program, for instance, an individual activity would be one in which a student played a musical instrument to the class as a whole, created an activity such as the beat circle, or led the group in movement to a song. The responses of individual students to questions by the teacher to the whole class group, were recorded as individual activity during the story-telling program. At School D, the students' individual responses to the instructions on the tape-recorded program were recorded as individual activity. It can be seen that, in each JAC, a large percentage of the lesson time was spent in individual activity, or responses within the whole class.

Table 7.2

Percentage of Lesson Time by Type of Lesson

Lesson	School					Total
	A (music only)	C (music)	B (story only)	C (story)	D (control)	
Whole class	29	29	22	21	36	137
Group	2	5	0	3	0	10
Partner	6	3	1	0	0	10
Individual	63	63	77	76	64	343
Total	100	100	100	100	100	500

Note. The values, rounded to the nearest integer, represent the percentage of the lesson organisation (minutes).

7.2.3 Teacher-use of resources

The use of resources (tape, cards, chart, teacher-book, instruments, other) by the teachers varied according to the program they were implementing. In Schools A and C, tapes of recorded music associated with the music program were the most commonly used resource. The tape-recorded program was the predominant resource at School D, as was the teacher's book containing the stories for the story-telling program in Schools B and C. Table 7.3 gives the proportion of the lessons in which each type of resource was used.

The teachers implementing the music program used percussion instruments in many instances for listening activities with the

students. The regular use of charts for words of the songs by Teacher C with the students in the music program was apparent in four of the observations. In the story-telling program at School B, the use of picture cards for sequencing was evident in the first observation. Cards also were used in association with the tape-recorded program in one of the lessons observed at School D. Other resources used by the teachers at Schools A and B, included a picture associated with different sounds at School A, and a container of plastic animals used by Teacher B for a memorising activity with the students.

Table 7.3

Percentage of Time Used by Teacher with Resources

Resource	School					Total
	A (music only)	C (music)	B (story only)	C (story)	D (control)	
Tape	66	60	0	0	87	213
Cards	0	0	25	31	13	69
Chart	0	21	0	0	0	21
Teacher book	8	0	65	69	0	142
Instruments	23	19	0	0	0	42
Other	3	0	10	0	0	13
Total	100	100	100	100	100	500

Note. The values, rounded to the nearest integer, represent the percentage of time (minutes) in which a type of resource was used by the teacher.

7.2.4 Student-use of resources

The resources (cards, instruments, worksheets, student book) used by the students were associated with the program in which they participated. As can be seen from the data in Table 7.4, instruments (percussion) were the predominant resource used by the students in the music program.

Table 7.4

Percentage of Time Used by Students with Resources

Resource	School					Total
	A (music only)	C (music)	B (story only)	C (story)	D (control)	
Cards	12	0	71	0	0	83
Instruments	64	71	0	0	0	135
Worksheets	24	29	29	0	100	182
Student book	0	0	0	0	0	0
Total	100	100	100	0	100	400

Note. The values, rounded to the nearest integer, represent the percentage of time (minutes) in which a type of resource was used by the students.

Worksheets, adapted from the student book of the music program, were used at Schools A and C with the students for listening evaluation activities, and at School B as a follow-up

activity. At School D, worksheets were the major resource used by the students in all the lessons of the tape-recorded program. Cards for making story-sequences were used by the students at School B, and at School A to play the game of Musical Bingo.

7.2.5 Teacher-speech

The number of instances of speech used by each of the four JAC teachers was recorded for each minute of the observed lesson (see Table 7.5).

Table 7.5.

Distribution of (Average) Instances of Teacher-Speech

Teacher-speech	School					Total
	A (music only)	C (music)	B (story only)	C (story)	D (control)	
Task related						
minutes	13	13	10	11	10	57
instances	31	27	27	24	21	130
Non-task related						
minutes	6	5	5	6	7	29
instances	8	7	7	8	8	38

Note. The average duration of each observation was 15 minutes for the music only and music groups, and 12 minutes for story only, story, and control groups.

The minutes do not sum to the average of each schools duration of lesson due to some overlap between task related and non-task related teacher-speech.

The instances of teacher-speech were divided into two categories - the speech related to the lesson task, and the speech not related to the task such as interruptions to the lesson, for example, by a student's behaviour. The average number of task-related and non-task-related speech by each of the teachers is shown. In terms of the number of instances of teacher-speech and minutes of speech recorded, the data appear to indicate that there was a similar amount of time spent on task-related speech by the teachers during the lessons in each of the four schools. It also appears that a small (approximately 50%), but significant amount of time was spent by the teachers speaking about non-task related matters such as the behaviour of a student.

7.2.6 Teacher-questions

The number of questions asked by the four teachers in the course of a lesson was noted on the observational protocol. The questions recorded were those directed to both individual students and to the class as a whole group. The average number of questions per lesson was calculated for each teacher according to the average length of the observation time. The average question time of each teacher was then categorized into the average number of instances of low-level questions, query-type questions, and high-level questions asked by each of the four teachers. The distribution of these instances is given in Table 7.6.

Table 7.6

Distribution of (Average) Instances of Teacher-Questions

Teacher-questions	School					Total
	A (music only)	C (music)	B (story only)	C (story)	D (control)	
<u>Minutes</u>						
observation	15	15	12	12	12	66
questions	8	8	12	11	6	45
<u>Instances</u>						
low-level	11	7	28	25	2	73
query	6	6	8	4	11	35
high-level	0	1	5	2	0	8

Note. The values of the instances of different types of teacher-questions do not sum to the average of each schools question time due to some overlap between the types of questions asked.

At Schools B and C (story-telling), a higher number of low-level questions were asked by the teachers. These questions were predominately related to the story being read and required short answers from the students; for example:

Who is the girl in the story?

Who is the boy in the story?

How old is Elizabeth?

What did he see?

Where did they move the caravan? (Field & Walsh, 1989).

At Schools A and C (music), the low-level questions asked by the teachers were mainly task-related such as - "Is this a high or low sound?" Query-type questions asked by the teachers at all four schools also were predominantly task-related. The higher instances of these type of questions at School D related to the administration of the tape-recorded program as Teacher D frequently asked the students whether they would like the instructions on the tape to be repeated. There were few instances of high-level questions asked. This type of question was considered by the observer to be aimed at extending the students' knowledge; for example:

What do we buy at a newsagency? (Teacher B, third observation).

If there are too many dots for a beat circle what could we do? (Teacher C, first observation).

These high-level questions related to discussions concerning the sharing of news by the children in the story-telling sessions (Teacher B), and to a discussion prior to a music activity in a music session (Teacher C).

7.3 Program diary data

Information about the organisation of the lesson, the topics in the lesson and aspects of these, the use of resources, and the responses by the students and by the teachers to the lessons, is presented in Tables 7.7 to 7.12.

7.3.1 Program diaries

As discussed in Chapter Four (4.4.2.2), the three JAC teachers attached to Schools A, B and C completed a program diary sheet for each music and story lesson associated with the programs during the intervention period of 23 weeks. The return of the completed program diary sheets by the teachers is appended (Appendix D, Table 5.1), and reasons provided by the teachers for not completing a sheet are included in Chapter Four (4.4.2.2).

7.3.2 Lesson organisation

One question on the program diary sheet asked the teachers to record how their lesson time was organised; that is, as a whole class, in groups or partners, or as individual activity. The different types of organisation (given as a percentage of the total number of lessons undertaken by the teachers) are presented in Table 7.7. Most of the lessons were organised by the teachers as whole-class activities. The teachers recorded that within the whole-class activity, individual activities took place such as the students answering questions in the story-telling lessons, and playing instruments in the music lessons. The majority of group and partner activity occurred in Schools A and C (music), and consisted of, for example, one group of students playing percussion instruments while another group moved to the music. In partner activities, students composed beat circles and played these on percussion instruments to each other, or mimed each others movement to music. Some group and partner activity also occurred in Schools B and C (story) during the activities using sequencing cards and in the drama activities.

Table 7.7

Percentage of Lesson Time on Type of Lesson

Lesson	School				Total
	A (music only)	C (music)	B (story only)	C (story)	
Whole class	52	56	43	49	200
Group	4	11	7	5	27
Partners	6	9	1	4	20
Individual	38	24	49	42	153
Total	100	100	100	100	400

Note. The values, rounded to the nearest integer, represent the percentage of the lesson organisation (minutes).

7.3.3 Lesson topics

Lesson topics varied according to the intervention program being implemented and were distributed as indicated in Table 7.8. The focus of the music program was on the teachers presenting the musical components of beat, pitch, tempo, dynamics, tone, and form to the students through musical activities associated with listening, singing, the playing of musical instruments, movement and creating. The focus of the story-telling program was on the students learning to remember through listening, questioning and sequencing activities associated with the telling of stories by the teachers or assistants.

Table 7.8

Percentage of Distribution of Lesson Topics

Lesson topic	School				Total
	A (music only)	C (music)	B (story only)	C (story)	
Beat	8	8	0	0	16
Pitch	6	8	0	0	14
Tempo	4	8	0	0	12
Dynamics	2	2	0	0	4
Tone	2	0	0	0	2
Form	3	0	0	0	3
Listening	19	23	26	26	94
Singing	14	17	0	1	32
Playing	13	8	0	0	21
Moving	21	20	0	3	44
Creating	9	5	0	4	18
Remembering	0	1	26	25	52
Questioning	0	0	26	22	48
Sequencing	0	1	23	20	44
Total	101	101	101	101	404

Note. The values, rounded to the nearest integer, represent the percentage of distribution of topic in lessons over the intervention

period. The percentages do not sum to 100 due to some overlap in lesson topic.

It can be seen from Table 7.8 that the majority of the music and story lessons were concerned with listening, although at School A there appeared to be more of an emphasis on movement than on listening. As might be expected, considering the different orientations of each program, there was an apparent emphasis on movement by the teachers implementing the music program, and on the use of memory, questioning and sequencing strategies by the teachers implementing the story-telling program.

Insufficient time during the intervention period, due to implementing both the music program and the story-telling program, prevented Teacher C from presenting the musical components of tone and form. There was a similar distribution of the lesson component of memory however, over twelve weeks of the story-telling program recorded by Teacher C as that for the twenty three week period recorded by Teacher B.

7.3.4 Aspects of the lessons

One item on the program diary sheet requested information from the teachers about what the lesson involved such as introducing, revising and extending a topic, the teaching of a skill, practising previously learned material, or any other aspects related to the lesson. The percentages of lessons involving these features of the lesson are shown in Table 7.9. Often the lessons involved several aspects of teaching and learning a topic such as revising a skill, or previously learned material before extending it.

Table 7.9

Percentage of Distribution of Time Spent by Aspects of Lessons

Lesson topic	School				Total
	A (music only)	C (music)	B (story only)	C (story)	
Introduction	9	11	24	34	78
Extension	47	37	18	40	142
Revision	39	44	49	16	148
Skill	3	8	0	0	11
Other	3	0	10	10	23
Total	101	100	101	100	402

Note. The values, rounded to the nearest integer, represent the percentage of time spent on lesson activities.

The percentages in School A (music only) and School B (story only) do not sum to 100 due to some overlap in lesson activities.

The data in Table 7.9 indicate that a large proportion of the music lessons were spent by the teachers on the extension and revision of a topic. During Term Three, a decrease in the proportion of music lessons involving the teaching of skills was recorded by Teachers A and C and more lessons were spent extending a topic. Teachers B and C spent a large proportion of the lessons on introducing a new story and, in the case of Teacher B, on the revision of these stories. Teacher C recorded a larger proportion of

the lessons spent on extending the story; for example, discussing events in the story before reading it to the students. Other aspects were incorporated into the story-telling sessions such as drama activities by Teacher C, and the sharing of items of news by Teacher B.

7.3.5 Teacher and student use of resources

The most commonly used resource of the teachers implementing the story-telling program was the teacher's book which contained the stories read by the teachers to the students, and for the teachers implementing the music program, the tape recorder. Table 7.10 shows the percentage of the distribution of resources used by the teachers and by the students.

Multiple resources were often used during a lesson such as concrete materials, activity cards and worksheets. In the music lessons the concrete materials predominately used were percussion instruments, and in the first story-telling lessons objects were used such as assorted plastic items, in activities associated with "The Hiding Story". Activity cards were used by the students for sequencing activities in the story-telling sessions, and for Musical Bingo and beat circles in the music sessions at School A. Other resources used by the teachers included charts, reading cards, enlarged pictures, and story books.

Table 7.10

Percentage of Distribution of Resources Used by Teachers and Students

Resource	School				Total
	A (music only)	C (music)	B (story only)	C (story)	
Teacher book	24	1	61	46	132
Student book	4	2	0	0	6
Chalkboard	3	0	0	0	3
Activity cards	7	0	11	15	33
Tape recorder	34	49	0	0	83
Worksheets	4	6	1	0	11
Concrete materials	24	24	20	25	93
Other	1	18	8	15	42
Total	101	100	101	101	403

Note. The values, rounded to the nearest integer, represent the percentage of lesson resources distribution.

The percentages in School A (music only), School B (story only), and School C (story) do not sum to 100 due to some overlap in resources used in lessons.

7.3.6 Students response to lessons

The teachers were asked to evaluate the response of the students to each lesson; that is, whether the students were highly

motivated, interested, not responsive or restless. These perceived responses are given in Table 7.11.

Table 7.11

Percentage of Response by Students to Lessons

Response	School				Total
	A (music only)	C (music)	B (story only)	C (story)	
Highly motivated	19	29	13	27	88
Interested	72	57	74	61	264
Not responsive	6	6	2	6	20
Restless	3	8	11	6	28
Total	100	100	100	100	400

Note. The values, rounded to the nearest integer, represent the percentage of the students response to the lessons of the intervention programs.

Overall, the results set out in Table 7.11 suggest that the students were interested in the music and the story-telling sessions. The results would also suggest that a significant number of students were highly motivated during the music lessons at School A and the music and story-telling lessons at School C. Reasons provided by the teachers for the high motivation in the music lessons included active participation in activities such as creating beat circles, playing musical instruments, moving to songs, grasping

new concepts, and the extension and application of new knowledge learnt in musical activities into other activities. Teacher A gave such examples when she reported on the students being "highly motivated" for the entire week of Week 17 of the music program (see Appendix D, School A - Music Only Program). The students were recorded as "highly motivated" by Teacher C (see Chapter Five, 5.5) in the story-telling lessons when they grasped the sequencing activities, participated in the drama sessions, and when she was able to read the stories through without interruptions.

The reasons supplied by the teachers as to why the students were unresponsive or restless in the music sessions included non-active involvement, and difficulties with grasping concepts such as those of pitch. For the story-telling program the reasons included students' behaviour (Teacher C), and difficult stories and questions (Teacher B).

7.3.7 Teachers response to lessons

The teachers were asked to record their response to the lesson through two questions. The first question related to whether the teachers were happy with the lesson; the second to whether the lesson needed changing and, if it did, how would they change it. The responses of the teachers to these questions are shown in Table 7.12.

Table 7.12

Percentage of Responses by Teachers to Lessons

Teacher	School				Total
	A (music only)	C (music)	B (story only)	C (story)	
Happy					
Yes	97	82	90	75	344
No	3	18	10	25	56
Total	100	100	100	100	400
Change					
Yes	4	20	8	20	52
No	96	80	92	80	348
Total	100	100	100	100	400

Note. The values, rounded to the nearest integer, represent the percentage of the teachers responses to the lessons of the intervention programs.

From the data in Table 7.12, it would appear that the teachers were predominantly happy with the lessons in both the music and story-telling sessions. Many of the reasons given by the teachers as to why they were not happy with the lessons related to the response of the students through restless behaviour to difficult concepts, stories, and questions to answer. Teacher C also recorded

interruptions such as visitors to the classroom, on six occasions in the music sessions and on two occasions in the story-telling lessons, as a reason for being unhappy with the lesson.

There was no mention of the students' behaviour in the teachers responses to changing the lessons. All of the changes suggested by the teachers related to the activities in the sessions. Teacher A suggested more partner work and more active involvement by the students in the music activities such as students creating their own resources for an activity. She noted the difficulties some students were experiencing with understanding concepts, and suggested a change to a lesson involving the concepts of same and different sounds in Week 19 of the music program:

There needs to be more listening and discussion about how the sections are different to assist children in their listening before they are asked to distinguish between sections. Try again!

Teacher B experienced difficulties with sequencing activities and the introduction of new stories in the story-telling program, and suggested variations to the sequencing activities such as the students making their own story-sequencing activities, and the revision of difficult stories.

The music used in the music program for the evaluations of listening to high and low concepts of sound, were recorded by Teacher C as needing to be "more distinct" (Week 7). She introduced changes into the music lessons when the students found the music excerpts too long, or inappropriate such as in some of the initial musical activities associated with the music component of beat. As discussed in Chapter Five (5.5), Teacher C implemented various changes into the story lessons such as drama activities, and

suggested several changes to the stories; for instance, the use of names familiar to the children in the stories.

Occasionally, Teacher B and Teacher C responded that they were unhappy with the story session but did not suggest any changes, and on one occasion, Teacher A reported that although she was happy with the music session she wanted to change it by initiating a new activity.

7.4 Summary

This chapter has provided two different perspectives about the events that took place in the classrooms during the music and story-telling sessions; one through the observations of lessons by the researcher and the other through the program diaries of the teachers. The two sources of data have to be considered in relation to the proportion of time allocated to each source and need to be viewed as an approximation of what occurred during the sessions.

Examples illustrating differences between the two sets of data are the percentage of lesson time by types of lessons (see Table 7.2 & Table 7.7), and the use of resources (see Tables 7.3 & 7.4, & Table 7.10). In the first example, it would appear, despite the discrepancy in the figures presented, that the predominant type of lesson was whole class activity with individual activity occurring within this activity. In the second example, it was decided to record separately the use of resources by the teacher (Table 7.3) and by the students (Table 7.4) during the observations, for a more precise representation of how resources were utilised in the lessons. Data from the observational protocol suggest a similar distribution of frequently used resources to those recorded by the teachers in

their program diaries (Table 7.10). In the schools implementing the music program for instance, the most commonly used resource was the tape recorder, and in the story-telling program the teacher's book. The use of concrete materials recorded by the teachers related mainly to the use by the students of concrete materials such as percussion instruments in the music lessons, and objects for "The Hiding Story" in the story-telling sessions. The researcher noted during the observations, that the teachers also frequently used percussion instruments with the students during the music lessons in association with listening activities.

The data collected from the observational protocol and the program diaries of the teachers, need to be considered in conjunction with the information obtained from the teachers in the weekly interviews by the researcher discussed in Chapter Five and Chapter Six. This information also needs to be considered in conjunction with the data from the testing of the students in the four JACs in the ACT and the special class (contrast group) in NSW, to be presented in the following chapter.