Frequencies and kinds of inaccuracies in children's sightreading.

David Sell

NEMP (Music) – University of Canterbury Research Consultancy

December 1998

Introduction.

When notes are mostly correct, though not always, in sightreading tasks, in what respects are they most often wrong?

This study has sought to identify some types of sightreading inaccuracies, at both Year 4 and Year 8 levels, as revealed through the following tasks:

Sing Song	1/48/O	
Keyboard	3/48/O	Sightreading tasks

Both sets of tasks involved the children attempting to sing, or to play on a keyboard, a number of tunes that they heard sung or played twice, and for which they had the notation before them.

The small amount of overlap in this focus with the work of Sue Braatvedt in her study of *The role of singing in the NEMP tests* submitted as Focus 1 is more apparent than real, but reference is occasionally made to the findings of Sue Braatvedt, where any aspects of her study are particularly relevant to this study. There are a number of respects in which this study deals with some aspects of Sue Braatvedt's work in finer detail, as in the breaking down of tessitura inaccuracy into flat and sharp. Conversely, Sue Braatvedt studies each of the individual tasks of Sing Song and Vocal Sizzle with respect to first note accuracy, and it can be helpful to consider these in relation to findings of this focus.

In the NEMP assessments the Sing Song tasks were marked as -
mostly or fully in tune
mostly or fully in time
not attempted.

The Keyboard sightreading tasks were marked in the NEMP assessments as -
notes mostly/always accurate
timing moderately/very accurate
not attempted.

After viewing a number of the tapes, the following factors were identified as being worth more detailed study:

In Sing Song 1/48/O:

- Pitch correct
- Pitch sharp

- Pitch flat
- Pitch correct, but with some wrong notes
- Pitch unrecognisable, or spoken
- Rhythm correct
- Rhythm nearly correct
- Rhythm wrong, but with a recognisable pattern
- Rhythm unrecognisable

For one group of 43 Year 8 tapes, the pitch category of Sing Song was further broken down to include:

- Pitch differences evened, ie. highs were flattened & lows sharpened
- Isolated wrong pitch(es)
- Mispitched note(s) that put out subsequent pitching

The Keyboard 3/48/O (Sightreading) tasks were less productive, mainly because, being optional, relatively few attempted them. However, the following factor was noted (Other information relating to pitch and rhythm patterning was obtained, this being included in Focus 6.):

- Awareness of pitch direction

When the original sample of 54 Year 4 tapes was found to provide insufficient useful information, another sample of 46 tapes was obtained (Of these 2 didn't contain the sightreading exercises, so the number was effectively 44). From this sample, a piece of additional information was gained:

- Attempts at using two hands together in tasks 2, 3 and 4

Finally, although it was not strictly a part of this focus, it was decided to pick up an aspect of the abandoned focus 2, and study the four pitch exercises in Keyboard - 3/48/O with respect to direction and pitch accuracy. This is included as a supplementary section.

Format and Content of the Study

The study was carried out at both year 4 and year 8, and involved both singing and keyboard sight reading tasks.

Samples of videos of four different one-to-one tasks results were viewed as follows:

Year 4

Task Title	Reference Number	Group	No. of tapes viewed	% of total sample
Sing Song	MUS/1/48/O/1996	A	100	20%
Keyboard	MUS/3/48/O/1996	A	98	20%

Total viewed 198

Year 8

Task Title	Reference Number	Group	No. of tapes viewed	% of total sample
Sing Song	MUS/1/48/O/1996	A	85	20%
Keyboard	MUS/3/48/O/1996	A	43	10%

Total viewed 128

It was not the concern of the NEMP markers to determine what musical factors resulted in a child being marked as having "some success" rather than "success throughout" in a task other than that it was not quite right. It is to identify some of these musical factors, to identify in what way a task performance is wrong, that is the concern of the present study.

Data from each task area in the main part of this study is presented in the following format:

Year 4
- Description
- Table(s)
- Column graph(s)
- Comments

Year 8
- Description
- Table(s)
- Column graph(s)
- Comments

Sing Song - 1/48/O Group A

Note: In the tables below, The numbers will not necessarily add up laterally to the total n. This is because some children will register in more than one category as, for example "Pitch flat" and "Isolated wrong notes".

Pitch characteristics, Sing Song 1/48/O Batch 1, Year 4

Description:

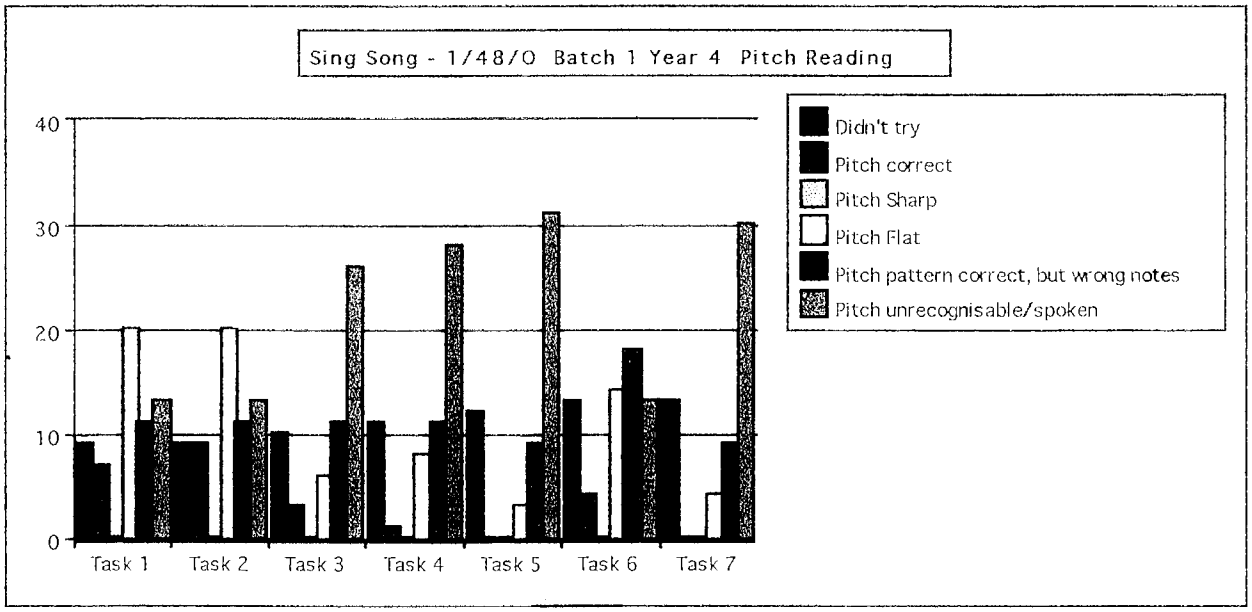
Pitch characteristics in the taped performances were noted as follows:

- The pitch of the melody is sung accurately
- It is at a wrong tessitura (flat or sharp)
- Some notes are wrong while the general tune is recognisable. Examples of this
  are -
  (1) the melodic contour is contracted, i.e. lower notes are sharpened and/or higher notes flattened
  (2) mispitched note(s) put out subsequent pitch accuracy
  (3) individual notes are mispitched
- Pitch is unrecognisable in relation to the given tune, or is spoken

The findings of the first batch are given in Table 1 below.

Table 1 - Sing Song 1/48/O Batch 1 Year 4 Pitch reading n = 54

	Didn't try	Pitch correct	Pitch Sharp	Pitch Flat	Pitch pattern correct, but wrong notes	Pitch unrecognisable/spoken
Task 1	9	7	0	20	11	13
Task 2	9	9	0	20	11	13
Task 3	10	3	0	6	11	26
Task 4	11	1	0	8	11	28
Task 5	12	0	0	3	9	31
Task 6	13	4	0	14	18	13
Task 7	13	0	0	4	9	30



Comments:

1. Children who *didn't try* the first task remained in that category throughout, others joining them as the tasks increased in difficulty
2. A very small proportion sang the pitch of even the simplest of the tunes correctly, tasks 4, 5 and 7 being found particularly difficult
3. The virtual absence of children who sang sharp, but the large number that sang flat is noteworthy. This is made worse when it is recognised that the decrease in the *Pitch flat* category in tasks 3, 4, 5 and 7 is mainly a result of the large proportion in the *Pitch unrecognisable/spoken* category - mostly at least 50%. I propose that the reason is simply inexperience in singing, and the lack of accurate models at home or at school. Related to this is that what singing experience most children have had will have been in groups, whereas the NEMP tasks required them to sing solo. However, this seems to go contrary to the findings of Goetze (1986) who found that primary children are more likely to sing in tune individually than in a group. Their lack of experience in this was evident in the large number who displayed embarrassment, even to the degree of incapacitation at having to sing alone.
The large number of children who sing at a lower pitch is indicative of lack of confidence in most cases, rather than that they have natural low voice levels.
4. The children placed in *Pitch pattern correct, but wrong notes* category ranged from those who sang just one wrong note to those who sang most notes wrong, but who retained some sense of pitch pattern. This category is that into which even relatively experienced singers would fall when sight reading. It is, of course, common to make a mistake or two, and subsequently correct it. It should be observed that many children in this category were also in the *Pitch flat* category.

5. Many children gave up early in the tasks and either sang on a monotone or simply spoke the words. The latter were mainly those who had difficulty reading the words, indicating that they could not cope with the double problem of reading the words and singing the tune, so cut off one, and tried to cope with the other. Virtually no children in the samples gave up on the words and sang the tune on a single syllable. Note should be taken of Sue Braatveld's comments in the first paragraph of the Conclusion in her Thesis (page 44). The problem of coping simultaneously with rhythm, pitch and words in sight singing at primary school level is one about which there has been very little research, though a number of texts on teaching singing at primary school have good advice founded on successful experience.

Rhythm characteristics, Sing Song 1/48/O Batch 1 Year 4

Description:

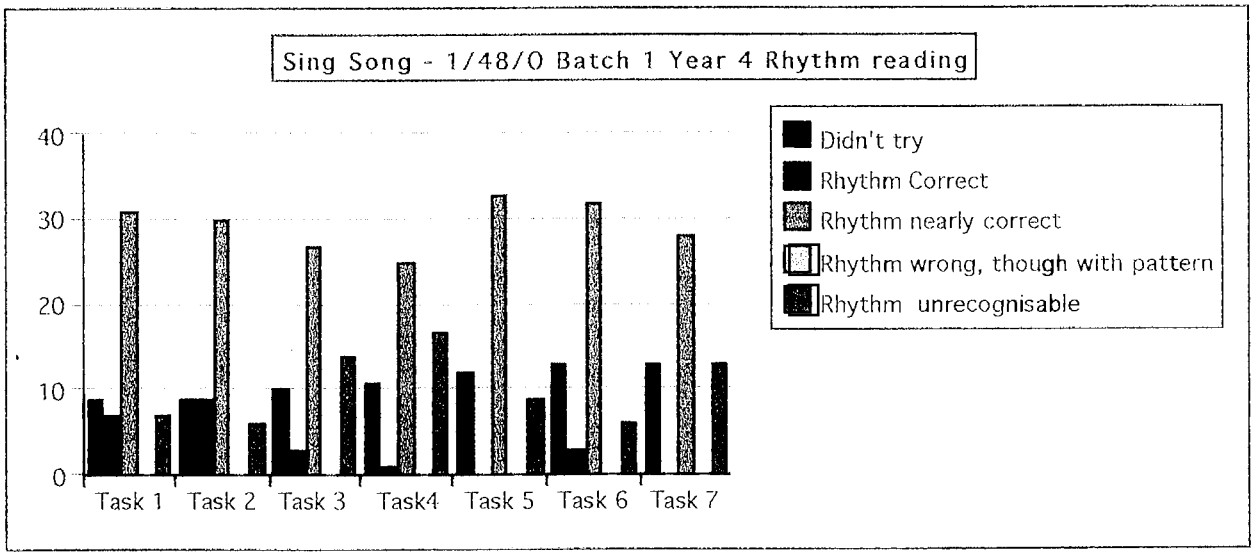
Rhythm characteristics in the taped performances were noted as follows:

- The rhythm is sung accurately
- It is generally correct, but with some inaccuracy
- Rhythm is unrecognisable.

The data is presented in Table 2.

Table 2 - Sing Song 1/48/O Batch 1 Year 4 Rhythm reading n = 54

	Didn't try	Rhythm Correct	Rhythm nearly correct	Rhythm wrong, though with pattern	Rhythm unrecognisable
Task 1	9	7	31	0	7
Task 2	9	9	30	0	6
Task 3	10	3	27	0	14
Task4	11	1	25	0	17
Task 5	12	0	33	0	9
Task 6	13	3	32	0	6
Task 7	13	0	28	0	13



Comments:

1. The *Didn't try* category is the same as for table 1.
2. Few children got the rhythm fully accurate, and it can be seen that the numbers with *Pitch accurate* are almost identical. Not revealed in the tables is the fact that it was the same children who were correct in pitch as in rhythm. This suggests that accuracy in the one generates accuracy in the other. The same results appear in Batch 2, Year 4 and in Year 8.
3. *Rhythm nearly correct* covers those who made isolated errors, or perhaps were hesitant in singing or speaking a generally accurate rhythm. The words of most of the tasks could suggest their own rhythms. In such cases the children didn't necessarily sight read musically, but verbally.
4. *Rhythm wrong, but with pattern* aimed to identify those who failed to sing or speak the rhythms as given in the task, but who sang or spoke an identifiable rhythmic pattern of their own. The zero result for each task speaks for itself.
5. Many of those who sang or spoke in unrecognisable rhythms were those who could make no sense of the words. These tended to be children with very incomplete understanding of English.

Sing Song 1/48/O, Batch 1 Year 4 Totals

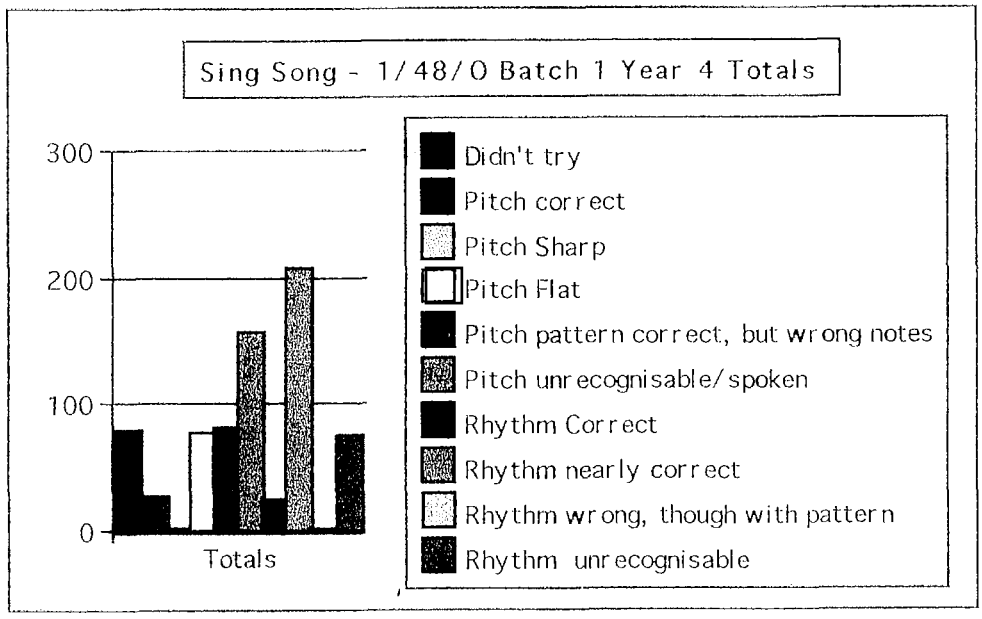
Description:

Table 3 offers a convenient overall comparison of the various pitch and rhythmic factors. Taking the possible maximum total in any category as 378 (n x (the number of tasks))

Table 3 - Sing Song 1/48/O Batch 1 Year 4 Totals n = 54

	Didn't try	Pitch correct	Pitch Sharp	Pitch Flat	Pitch pattern correct, but wrong notes	Pitch unrecognisable /spoken
Totals	77	24	0	75	80	154

Rhythm Correct	Rhythm nearly correct	Rhythm wrong, though with pattern	Rhythm unrecognisable
23	206	0	72



Comments:

1. By adding *Rhythm correct* and *Rhythm nearly correct,* it can be seen that more than double the number of children could read the rhythm factor than the pitch dimension (obtained by adding *Pitch correct* to *Pitch pattern correct, but wrong notes.* This is roughly consistent with the NEMP results.
2. The proportion of those whose attempts at pitch and rhythm respectively were unrecognisable is also about 1:2.

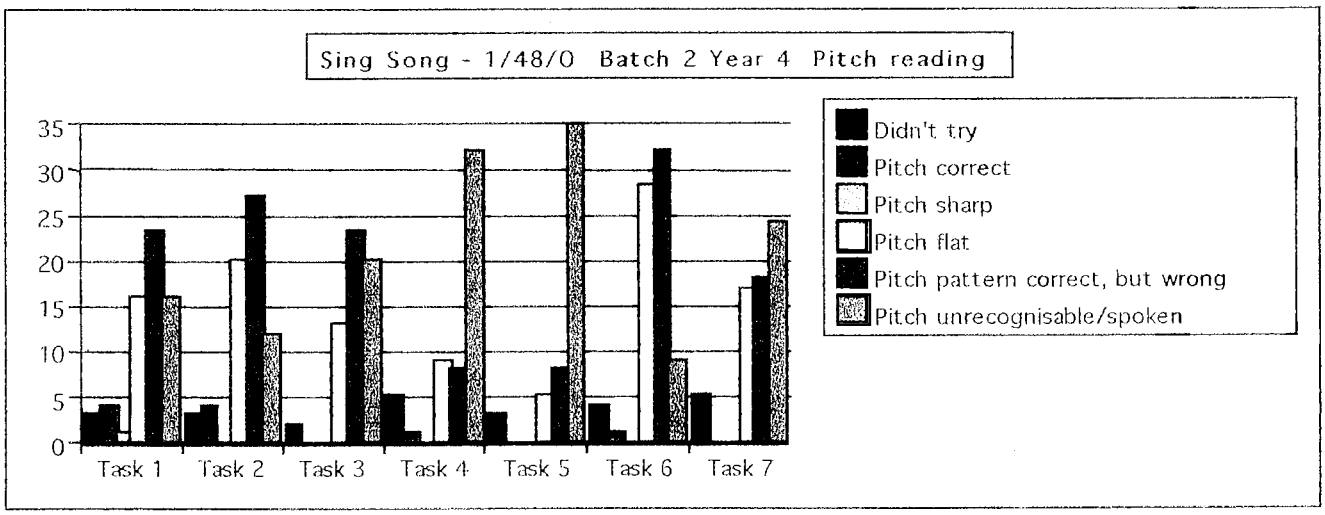
Pitch characteristics, Sing Song 1/48/O Batch 2, Year 4

Description:

Because of some concern that the first sample was insufficient to produce a reliable result, a second batch of tapes was requested. The were viewed on the same basis as described for Batch 1.

Table 4 - Sing Song 1/48/O Batch 2 Year 4 Pitch Reading n = 46

	Didn't try	Pitch correct	Pitch sharp	Pitch flat	Pitch pattern correct, but wrong notes	Pitch unrecognisable/spoken
Task 1	3	4	1	16	23	16
Task 2	3	4	0	20	27	12
Task 3	2	0	0	13	23	20
Task 4	5	1	0	9	8	32
Task 5	3	0	0	5	8	35
Task 6	4	1	0	28	32	9
Task 7	5	0	0	17	18	24



Comments:

A comparison of the results tends to confirm the general pattern obtained from Batch 1, so are not addressed in any detail here. However, it is notable that fewer children didn't try the tasks; but then, fewer did them correctly pitch-wise. Again the difficulty they found in tasks 4, 5 and 7 is notable, while the smaller number of *Pitch unrecognisable/spoken* in task 6 is counterbalanced by the high number of *Pitch pattern correct, but wrong notes* . Many children seemed to light up at this task, as a song with which they were familiar, and could sing, albeit imperfectly.

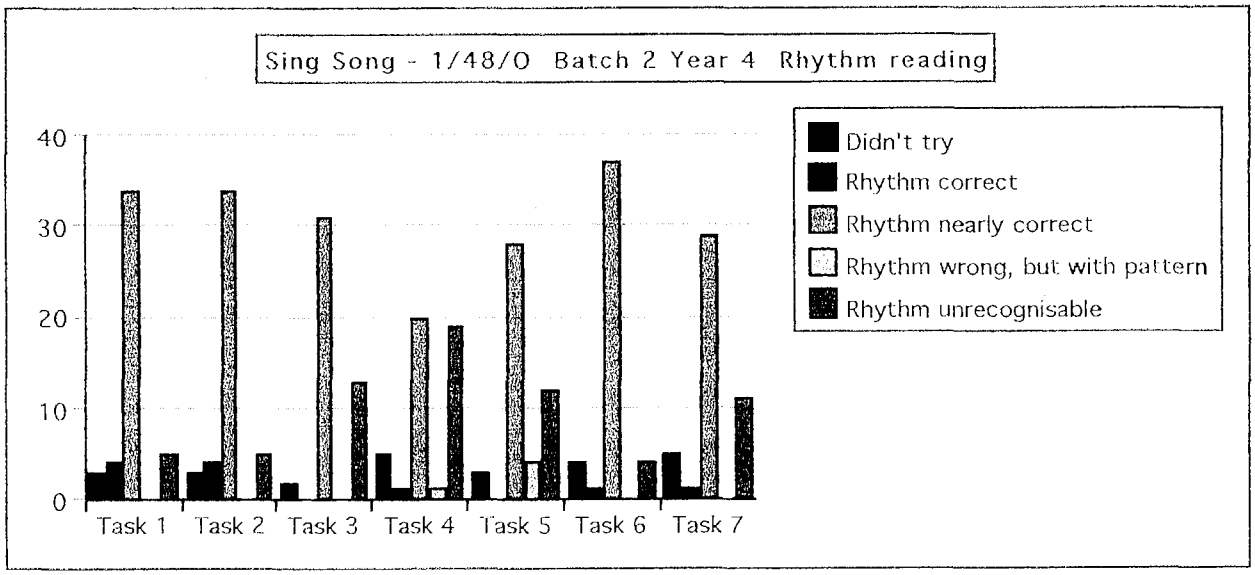
Rhythm characteristics, Sing Song 1/48/O Batch 1 Year 4

Description:

As with Pitch characteristics above.

Table 5 - Sing Song 1/48/O Batch 2 Year 4 Rhythm reading n = 46

	Didn't try	Rhythm correct	Rhythm nearly correct	Rhythm wrong, but with pattern	Rhythm unrecognisable
Task 1	3	4	34	0	5
Task 2	3	4	34	0	5
Task 3	2	0	31	0	13
Task 4	5	1	20	1	19
Task 5	3	0	28	4	12
Task 6	4	1	37	0	4
Task 7	5	1	29	0	11



Comments:

Again, a general similarity of the results to those of Batch 1 is apparent, a smaller number singing the rhythm accurately, but with a correspondingly larger getting the rhythm nearly correct.

Pitch and Rhythm Characteristics, Sing Song 1/48/O, Batch 1 Year 4 Totals

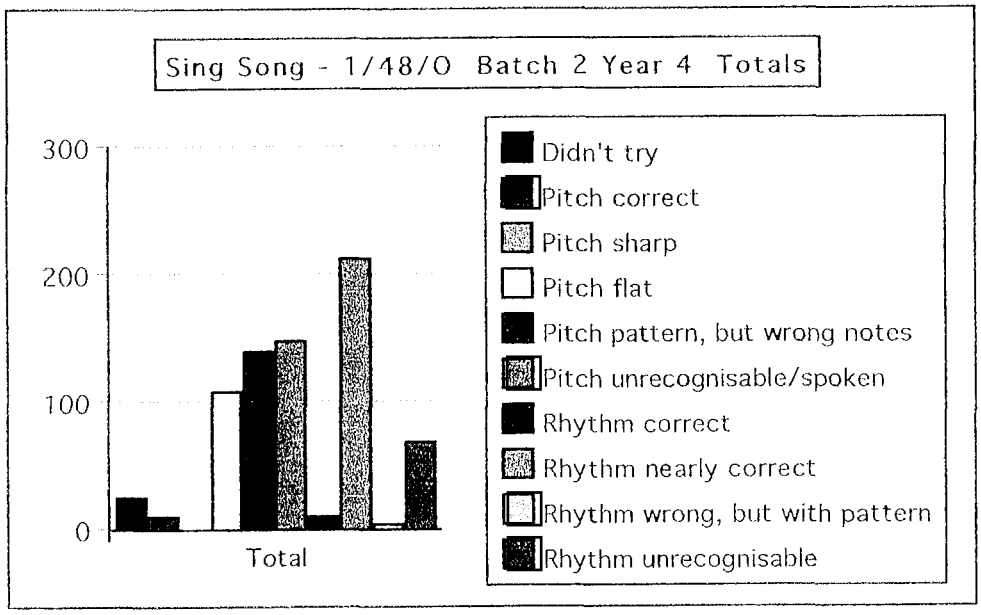
Description:

The overall comparison of the various pitch and rhythmic factors is presented for Batch 2. The possible maximum total in any category here is 322 (n x (the number of tasks)).

Table 6 - Sing Song 1/48/O Batch 2 Year 4 Totals n = 46

	Didn't try	Pitch correct	Pitch sharp	Pitch flat	Pitch pattern, but wrong notes	Pitch unrecognisable /spoken
Total	25	10	1	108	139	148

Rhythm correct	Rhythm nearly correct	Rhythm wrong, but with pattern	Rhythm unrecognisable
10	213	5	69



Comments:

The overall pattern of results is similar to that obtained for Batch 1, but with a decrease in the *Pitch correct* category, counterbalanced by a considerable increase in *Pitch pattern, but wrong notes,*

Pitch Characteristics as Revealed in Combined Batches 1 & 2, Sing Song 1/48/O Year 4

Description:

The differences of batches 1 and 2 are evened out when the two are combined in tables 7, 8 and 9.

Table 7 - Sing Song 1/48/O Combined Batches 1 & 2 Year 4 Pitch readingn = 100

	Didn't try	Pitch correct	Pitch Sharp	Pitch Flat	Pitch pattern correct, but wrong notes	Pitch unrecognisable/spoken
Task 1	12	11	1	36	34	29
Task 2	12	13	0	40	38	25
Task 3	12	3	0	19	34	46
Task 4	16	2	0	17	19	60
Task 5	15	0	0	8	17	66
Task 6	17	5	0	42	50	22
Task 7	18	0	0	21	27	54

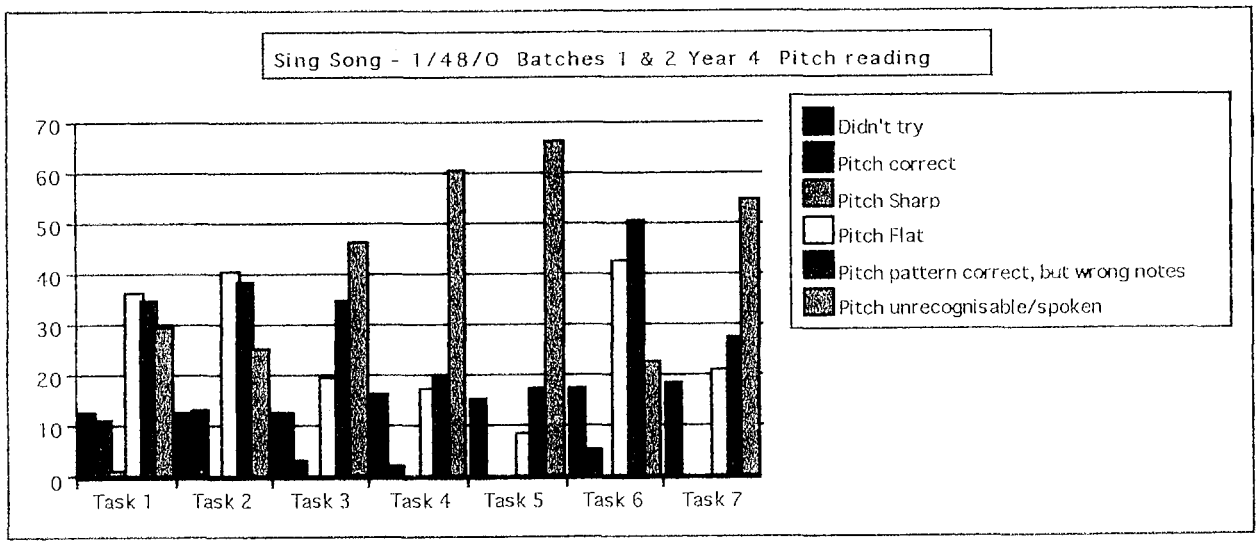


Table 8 - Sing Song 1/48/O Combined Batches 1 & 2 Year 4 Rhythm reading n = 100

	Didn't try	Rhythm Correct	Rhythm nearly correct	Rhythm wrong, though with pattern	Rhythm unrecognisable
Task 1	12	11	65	0	12
Task 2	12	13	64	0	11
Task 3	12	3	58	0	27
Task4	16	2	45	1	36
Task 5	15	0	61	4	21
Task 6	17	4	69	0	10
Task 7	18	1	57	0	24

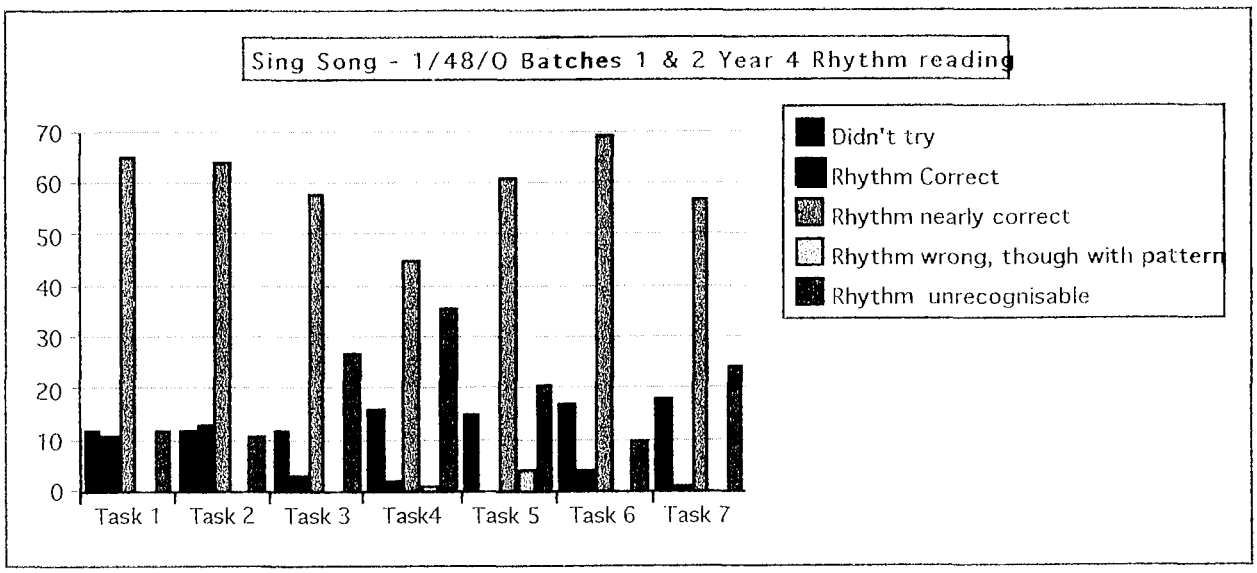
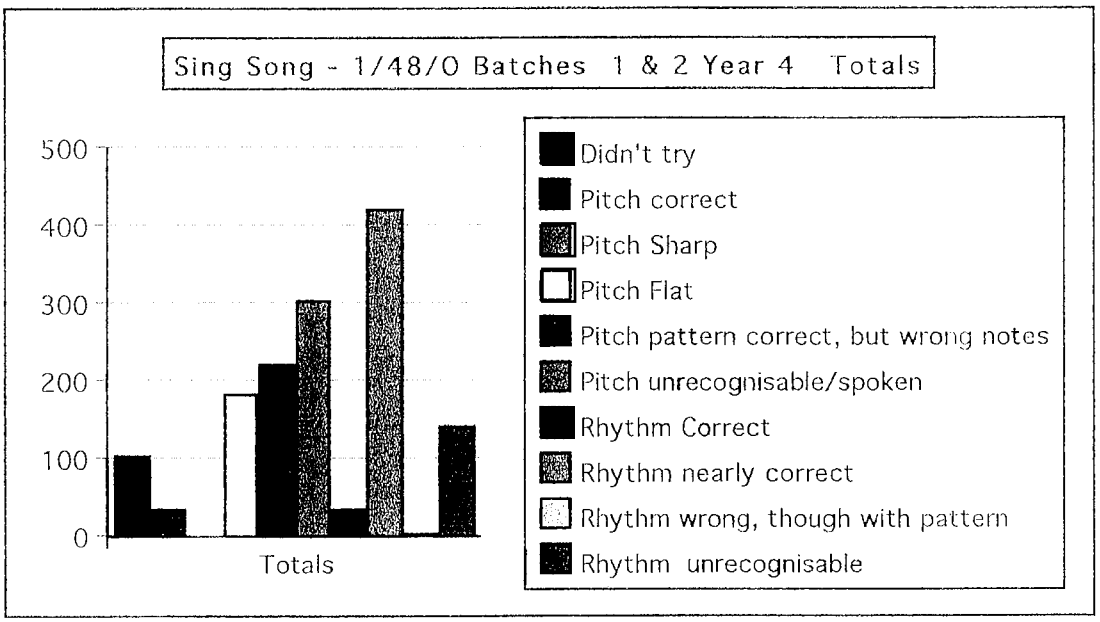


Table 9 - Sing Song 1/48/O Combined Batches 1 & 2 Year 4 Totals n = 100

	Didn't try	Pitch correct	Pitch Sharp	Pitch Flat	Pitch pattern correct, but wrong notes	Pitch unrecognisable /spoken
Totals	102	34	1	183	219	302

Rhythm Correct	Rhythm nearly correct	Rhythm wrong, though with pattern	Rhythm unrecognisable
33	419	5	141



Comments:

This overall picture of the 20% sample of Sing Song illustrates most clearly the dominance of the rhythm factor. It also shows how few children performed the pitch and rhythm elements accurately, and that rhythm, correct or nearly correct was greatly superior to pitch, correct, or partly correct. The pitch of nearly 50% of the children was unrecognisable or spoken. Add to this the 102 in the *Didn't try* category, and a negative pitch result was 57% of all the tasks performances, compared with 34% negative rhythm result.

Year 8

Sing Song - 1/48/O Group A

Initially, a batch of 43 tapes was viewed, but it was subsequently felt that a bigger sample would give better results. So a second batch of 42 tapes was viewed. At this stage, Eva Schwanen-Lilley, who was scheduled to work on another focus of the study, withdrew from the course and the project. It was therefore decided to incorporate some of the work of that focus into this one. Accordingly, some additional information was extracted from the second batch of tapes. The data is therefore presented as batch 1 and batch 2 respectively, and then the items that are common to both are put together in combined data of both batches.

Pitch Characteristics, Sing Song 1/48/O Batch 1 Year 8

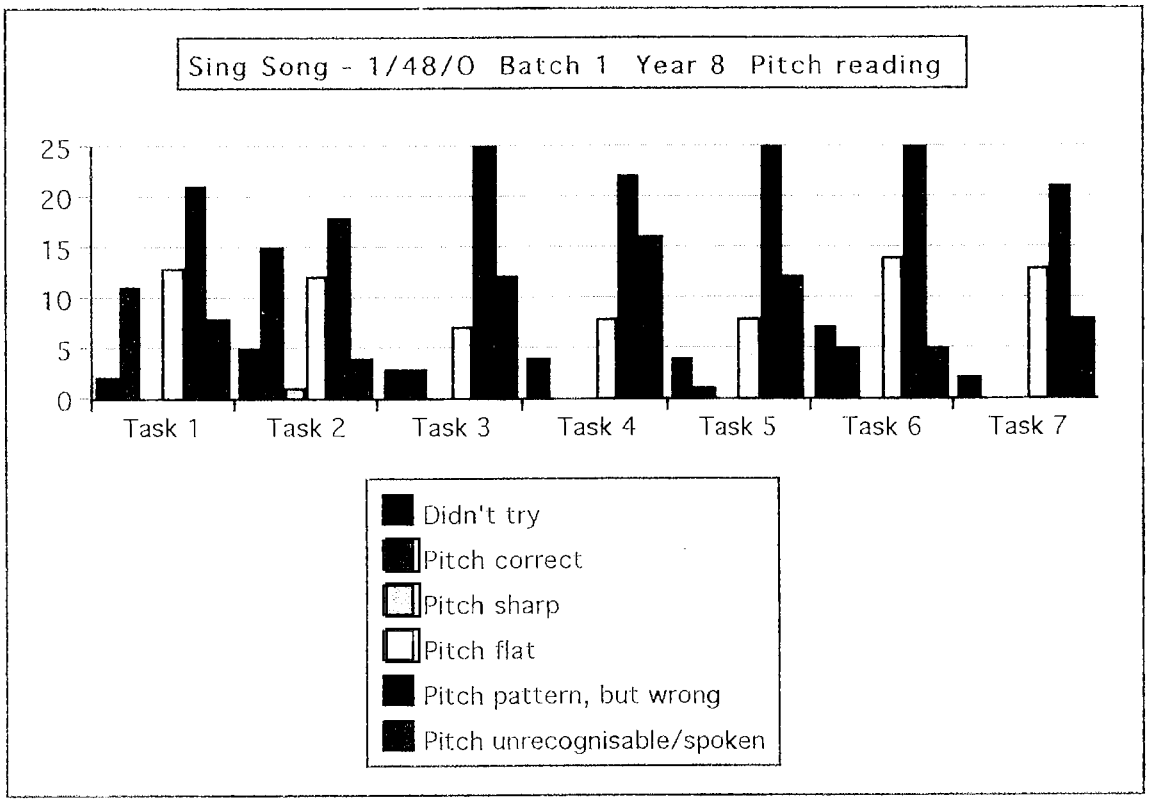
Description:

In Batch 1 of Sing Song at Year 8, the same factors were isolated in the children's performances as in the Year 4 study, namely:

- The pitch of the melody is sung accurately
- It is at a wrong tessitura (flat or sharp)
- Some notes are wrong while the general tune is recognisable. Examples of this
  are -
  (1) the melodic contour is contracted, i.e. lower notes are sharpened and/or higher notes flattened
  (2) mispitched note(s) put out subsequent pitch accuracy
  (3) individual notes are mispitched
- Pitch is unrecognisable in relation to the given tune, or is spoken

Table 10 - Sing Song 1/48/O Batch 1 Year 8 Pitch reading n = 42

	Didn't try	Pitch correct	Pitch sharp	Pitch flat	Pitch pattern, but wrong	Pitch unrecognisable /spoken
Task 1	2	11	0	13	21	8
Task 2	5	15	1	12	18	4
Task 3	3	3	0	7	25	12
Task 4	4	0	0	8	22	16
Task 5	4	1	0	8	25	12
Task 6	7	5	0	14	25	5
Task 7	2	0	0	13	21	8



Comments:

1. A relatively small number didn't try these tasks. It was noticed that many children thought and hestitated for a long time before attempting a particular task. This accounts for the different numbers of *Didn't try* for individual tasks.
2. A reasonable number sang in pitch for the first two tasks, after which very few succeeded. However, the *Pitch pattern, but wrong* category was

subsequently big, indicating the number who made errors within an otherwise recognisable pitch pattern.
3. Numbers in the *Pitch flat* category were high, as with Year 4 children.
4. The numbers in the *Pitch unrecognisable/spoken* category are interesting. Tasks 3, 4 and 5 posed difficulty, as they did with the Year 4 children. The relatively high number in Task 1 is best explained by the observation that many were finding their voices and, especially with the boys, unable to establish the tessitura of their singing. There was also initial embarrassment to be overcome.
5. The initial note of task 6 was most usually started in tune, but then flattened, as did subsequent notes.
6. Task 7 was interesting. Most recognised it, and coped with the initial leap, even if it was most often wrong. The fairly big number of *Pitch flat* came from singing the first note flat, and then all subsequent below pitch.
7. Note that a many children who have a sense of pitch contour, have very little specific sense of pitch.

Rhythm Characteristics, Sing Song 1/48/O Batch 1 Year 8

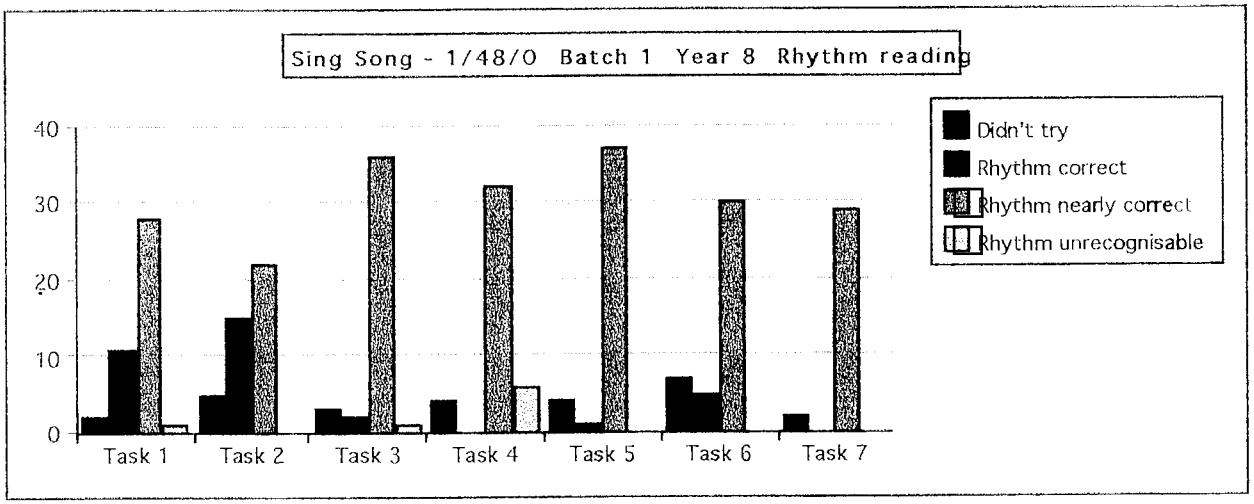
Description:

In Batch 1 of Sing Song at Year 8, the following factors were isolated:

- Rhythm correct
- Rhythm nearly correct
- Rhythm unrecognisable

Table 14 - Sing Song 1/48/O Batch 1 Year 8 Rhythm reading n = 42

	Rhythm correct	Rhythm nearly correct	Rhythm unrecognisable
Task 1	11	28	1
Task 2	15	22	0
Task 3	2	36	1
Task 4	0	32	6
Task 5	1	37	0
Task 6	5	30	0
Task 7	0	29	0



Comments:

The most striking feature of the rhythm performances is that in only very few cases was the rhythm unrecognisable. *Rhythm wrong, but pattern present* was originally included as a category, but registered a zero score, so is omitted.

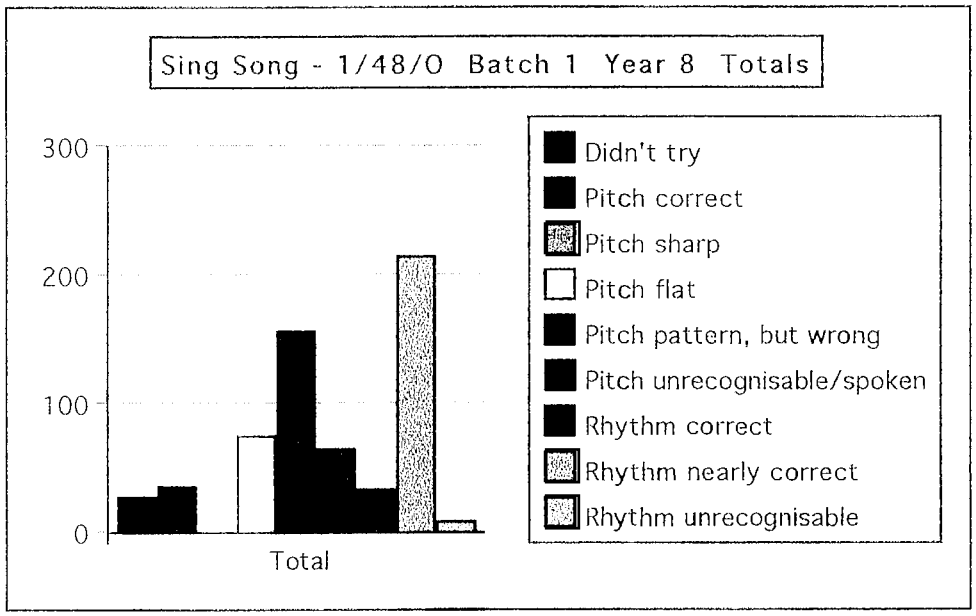
Pitch and Rhythm Characteristics, Sing Song 1/48/O, Batch 1 Year 4 Totals

Description:

The overall comparison of the various pitch and rhythmic factors is presented for Batch 1. The possible maximum total in any category here is 294 (n x (the number of tasks)).

Table 15 - Sing Song 1/48/O Batch 1 Year 8 Totals n = 42

	Didn't try	Pitch correct	Pitch sharp	Pitch flat	Pitch pattern, but wrong	Pitch unrecognisable/spoken	Rhythm correct	Rhythm nearly correct	Rhythm unrecognisable
Total	27	35	1	75	157	65	34	214	8



Comments:

The total *Pitch correct*, together with *Pitch pattern, but wrong* is 65% of the possible total compared with *Rhythm correct* with *Rhythm nearly correct* at 84%. By the criteria used in this study, the pitch results are much superior to those in the NEMP results categories.

Pitch Characteristics, Sing Song 1/48/O Batch 2 Year 8

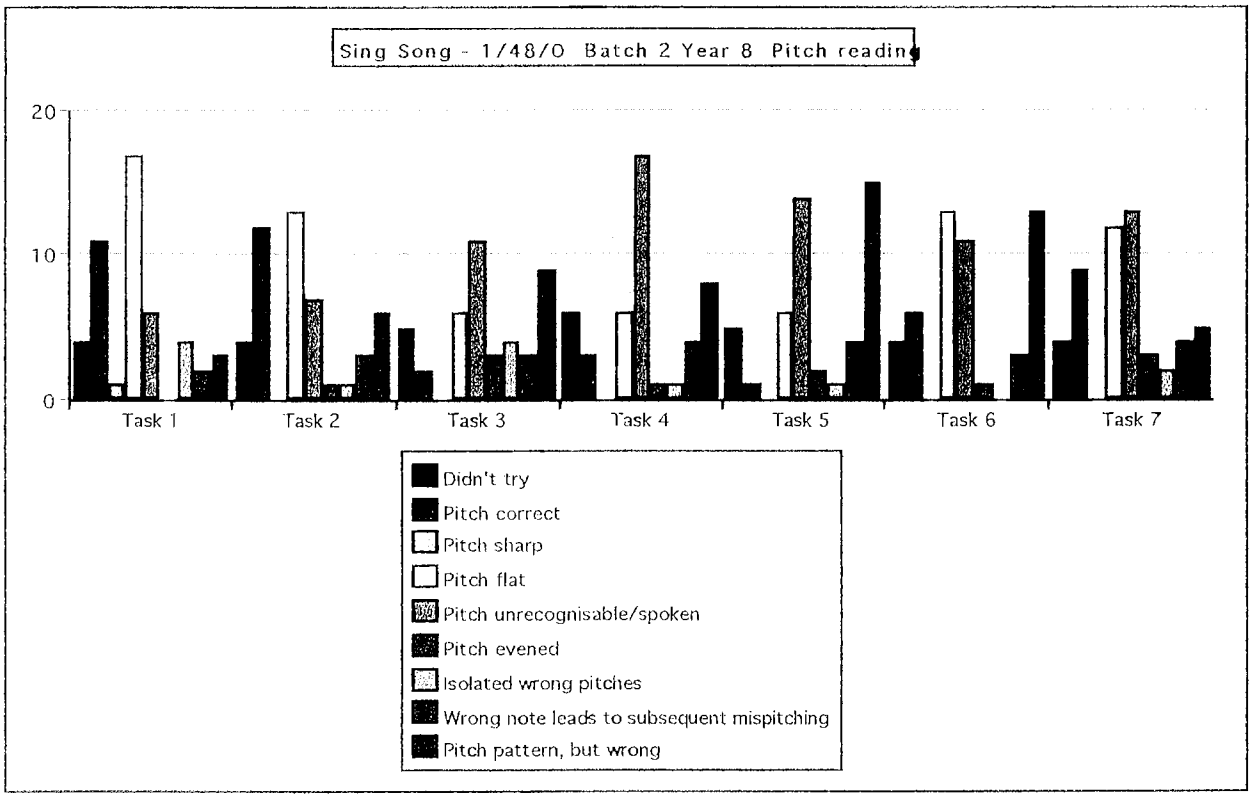
Description:

The second batch of Sing Song 1/48/O Year 8 tapes was viewed to further validify and to reinforce the results of the first sample. The opportunity was also taken to refine aspects of pitch reading that had been noticed but not specifically noted in the first batch, namely, the tendency of children to even out the pitch peaks (flatten the highs and sharpen the lows) in their singing, those who sang isolated wrong pitches, and those who sang a wrong pitch that put out the pitching of subsequent notes. The aspects of pitch reading that are included in table 16 are:

- The pitch of the melody is sung accurately
- It is at a wrong tessitura (flat or sharp)
- Some notes are wrong while the general tune is recognisable.
- The melodic contour is contracted, i.e. lower notes are sharpened and/or higher notes flattened
- Individual notes are mispitched
- Mispitched note(s) put out subsequent pitch accuracy
- A pitch pattern is present, but is not the one given
- Pitch is unrecognisable in relation to the given tune, or is spoken

Table 16 - Sing Song 1/48/O Batch 2 Year 8 Pitch reading n = 43

	Didn't try	Pitch correct	Pitch sharp	Pitch flat	Pitch unrecog-nisable/ spoken	Pitch evened	Isolated wrong pitches	Wrong note leads to subsequent mispitching	Pitch pattern, but wrong
Task 1	4	11	1	17	6	0	4	2	3
Task 2	4	12	0	13	7	1	1	3	6
Task 3	5	2	0	6	11	3	4	3	9
Task 4	6	3	0	6	17	1	1	4	8
Task 5	5	1	0	6	14	2	1	4	15
Task 6	4	6	0	13	11	1	0	3	13
Task 7	4	9	0	12	13	3	2	4	5



Comments:

The pattern of results generally follows that obtained in the first batch of Year 8 children, with the high proportions of *Pitch unrecognisable/spoken* , especially in tasks 4, 5 and 7. *Pitch flat* again predominates, with *Pitch sharp* almost non-existent. The numbers who registered *Pitch correct* is considerably higher than in Batch 1,

but this is countered by the smaller numbers who registered *Pitch pattern, but wrong* .

The three new factors did not claim big numbers, and are hardly enough upon which to draw any conclusions. They do, though, offer a few details of the types of pitch errors.

- The three who evened the pitch in task 3, for example, did so by slightly sharpening the 'E' in each case, and singing 'G' in place of the upper 'A'. The result was almost a monotone, but there was enough of the correct contour to put these performances into this category rather than *Pitch unrecognisable/spoken.*
- While it is easy to sing an isolated wrong pitch in task 3, one may wonder how, if there is any sense of contour, it is possible to sing a wrong pitch in task 1. The 'D' in bar three was the offender, being sung by all four as 'E'.
- *Wrong note leads to subsequent mispitching* took a variety of forms. For example, in task 1, the two were otherwise good readers, but probably had a F major set in mind when they sang the 'E' as 'D', which took them to 'C' for the last note. In task 4, a harmonic feel and sense of D major tonality (despite the G major key signature) probably led to the first note of the last bar to be sung as 'E', which then fell to the tonic note 'D'.

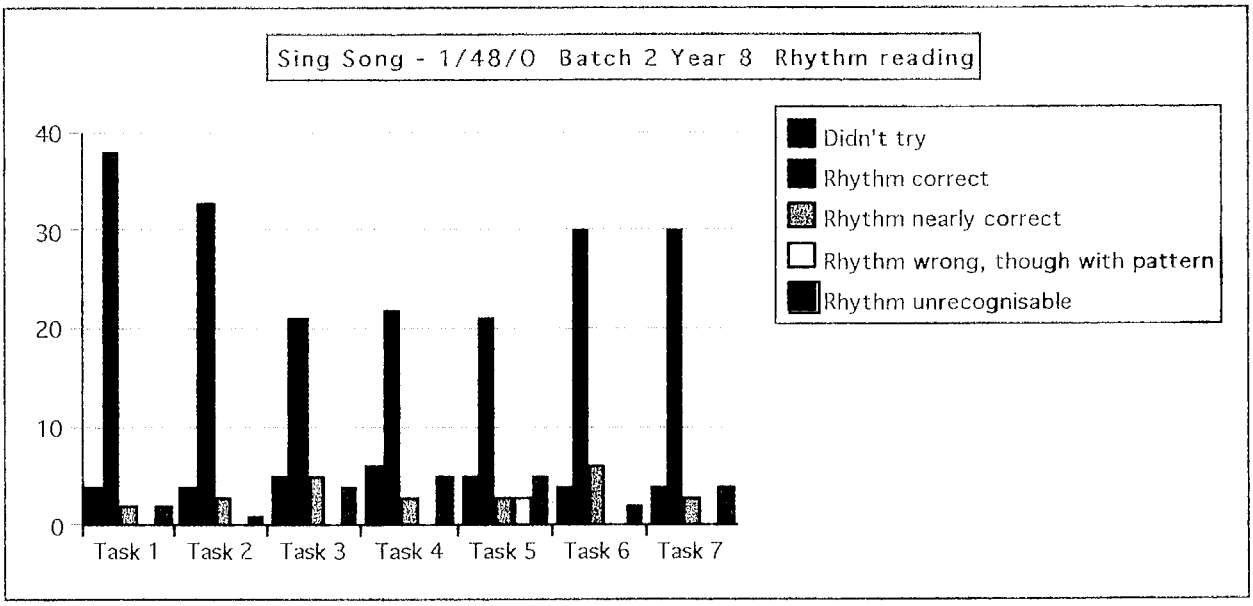
Rhythm Characteristics, Sing Song 1/48/O Batch 2 Year 8

Description:

The category *Rhythm wrong, though with pattern* is included in batch 2, only because of the three recorded in task 5 (recall that this category was omitted from batch 1 because there were no cases). Otherwise the categories are the same as in batch 1.

Table 17 - Sing Song 1/48/O Batch 2 Year 8 Rhythm reading n = 43

	Didn't try	Rhythm correct	Rhythm nearly correct	Rhythm wrong, though with pattern	Rhythm unrecognisable
Task 1	4	38	2	0	2
Task 2	4	33	3	0	1
Task 3	5	21	5	0	4
Task 4	6	22	3	0	5
Task 5	5	21	3	3	5
Task 6	4	30	6	0	2
Task 7	4	30	3	0	4



Comments:

The most striking feature is obviously the large number who got the rhythm correct. Two explanations are put forward. First, this sample was in most respects better than that in batch 1, especially in that they generally approached the tasks with greater confidence. Secondly, it probably highlights the subjectivity of the assessments. In this study only the one person viewed and assessed the various factors, this being exacerbated by the considerable time gap between viewing batch 1, and deciding to obtain and view the tapes of batch 2. The criteria control that was applied for the NEMP marking was not used in this study.

Pitch and Rhythm Characteristics of Sing Song 1/48/O Batch 2 Year 8, Totals

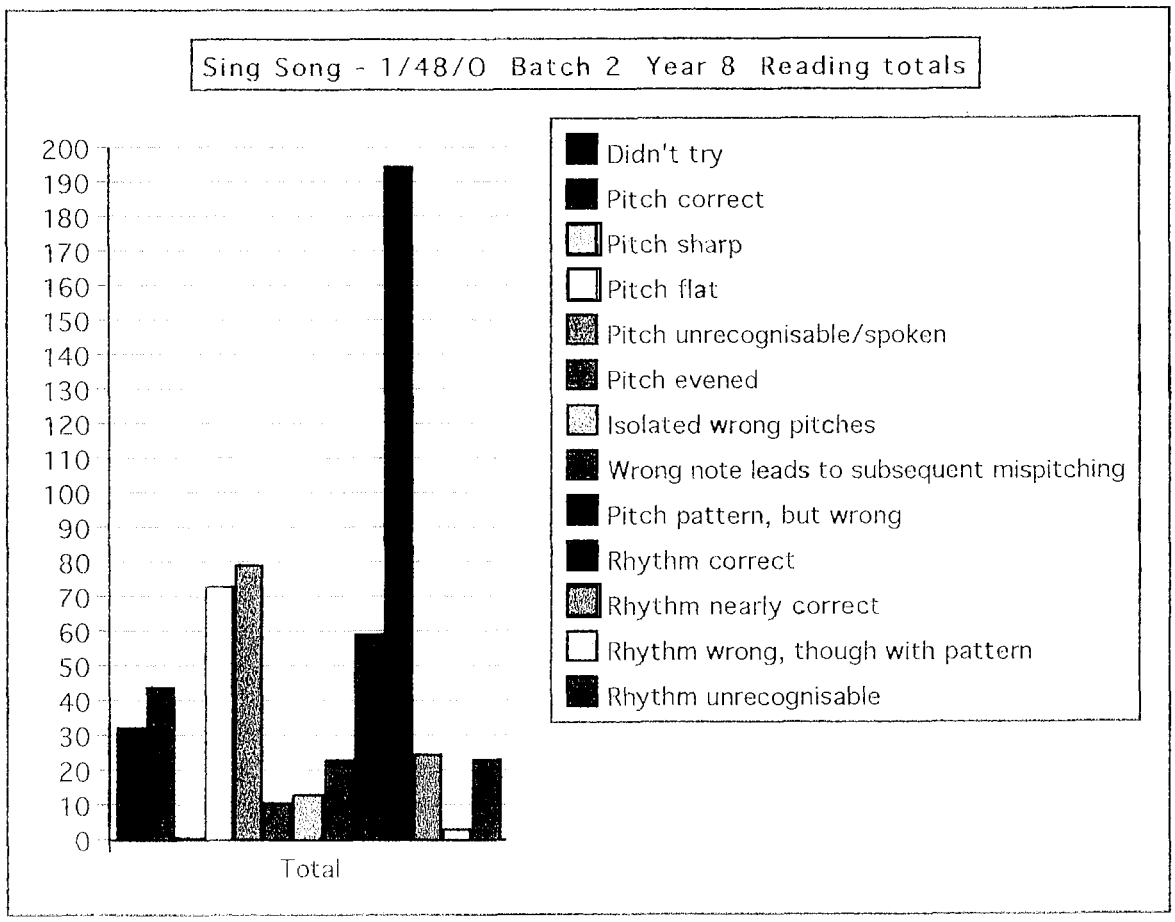
Description:

The totals are included here in table 18 mainly for the sake of completeness in presenting the data.

Table 18 - Sing Song 1/48/O Batch 2 Year 8 Totals n = 43

	Didn't try	Pitch correct	Pitch sharp	Pitch flat	Pitch unrecognisable/ spoken	Pitch evened	Isolated wrong pitches
Total	32	44	1	73	79	11	13

Wrong note leads to subsequent mispitching	Pitch pattern, but wrong	Rhythm correct	Rhythm nearly correct	Rhythm wrong, though with pattern	Rhythm unrecognisable
23	59	195	25	3	23



Comments:

There is no additional comment to be made with respect to these totals.

Combined Batches 1 and 2

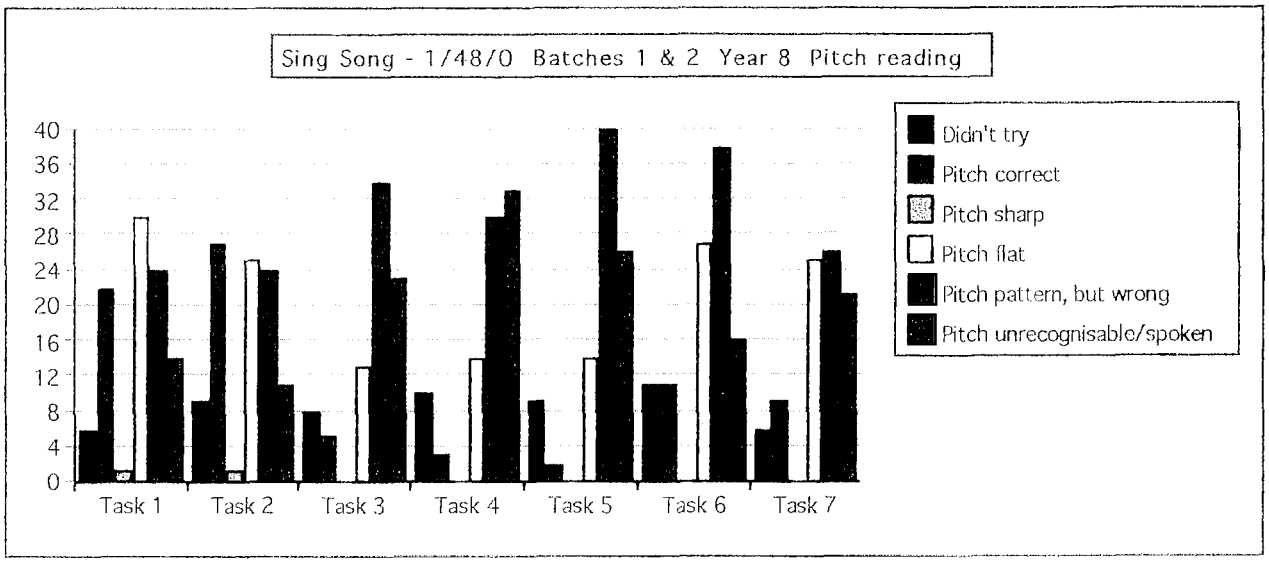
Pitch Characteristics of Sing Song 1/48/O Combined Batches 1 & 2 Year

Description:

For Table 19, the three factors included in batch 2, but not batch 1 have been omitted. Some, but not all of the children in those factors also registered in other factors.

Table 19 - Sing Song 1/48/O Combined Batches 1 & 2 Year 8 Pitch reading n = 85

	Didn't try	Pitch correct	Pitch sharp	Pitch flat	Pitch pattern, but wrong	Pitch unrecognisable/spoken
Task 1	6	22	1	30	24	14
Task 2	9	27	1	25	24	11
Task 3	8	5	0	13	34	23
Task 4	10	3	0	14	30	33
Task 5	9	2	0	14	40	26
Task 6	11	11	0	27	38	16
Task 7	6	9	0	25	26	21



Comments:

The predominance of *Pitch pattern, but wrong* is clear, as is the amount of *Pitch flat*. When one compares this table with the equivalent for year 4, table 7, the overall relationships of factors throughout the tasks is similar, but the performances of year 8 children are much superior to those of Year 4. A comparison of this difference with that registered in the NEMP results raises the question as to whether the categories used in the NEMP assessments give a fair and accurate picture of the factors that go to make up what the tasks purport to assess.

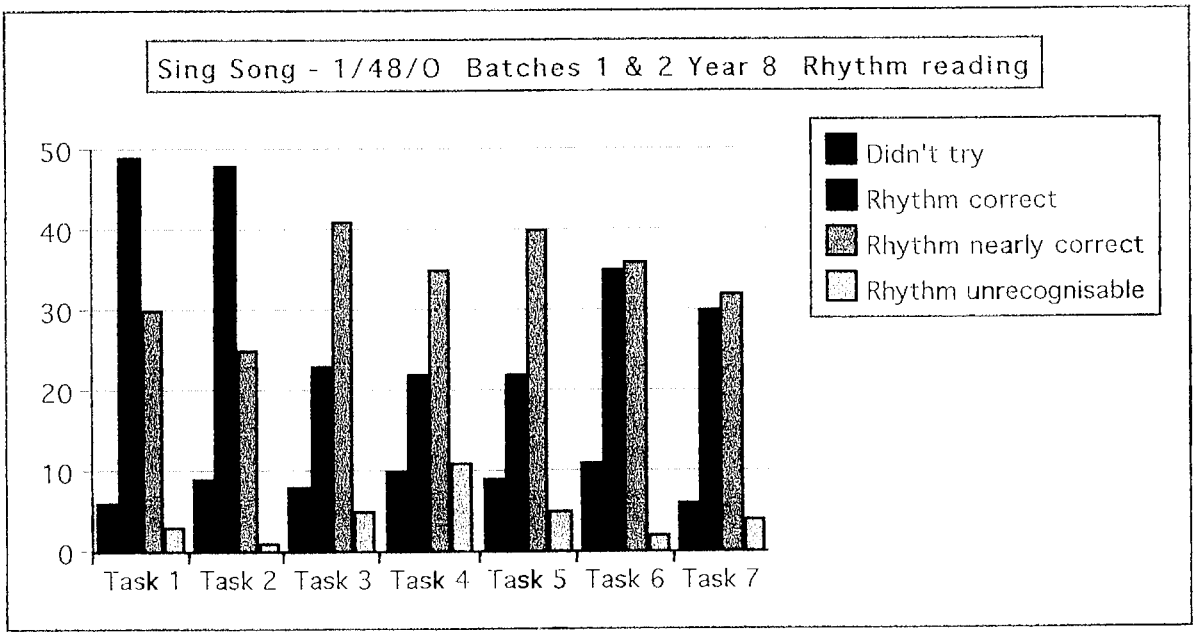
Pitch Characteristics of Sing Song 1/48/O Combined Batches 1 & 2 Year 8

Description:

The category *Rhythm wrong, though with pattern* is omitted from the combined, table 20. The big difference in *Rhythm correct* between batches 1 and 2 must be noted.

Table 20 -Sing Song 1/48/O Combined Batches 1 & 2 Year 8 Rhythm reading n = 85

	Didn't try	Rhythm correct	Rhythm nearly correct	Rhythm unrecognisable
Task 1	6	49	30	3
Task 2	9	48	25	1
Task 3	8	23	41	5
Task 4	10	22	35	11
Task 5	9	22	40	5
Task 6	11	35	36	2
Task 7	6	30	32	4



Comment:

Table 20 speaks for itself in presenting a strongly positive result in performance of the rhythm factor. The advance on year 4 results (table 8) is less striking, however, except for the "difficult" tasks 4, 5 and 7, which by year 8 register a much higher proportion of *Rhythm correct*, and lower numbers of *Didn't try* and *Rhythm unrecognisable*,

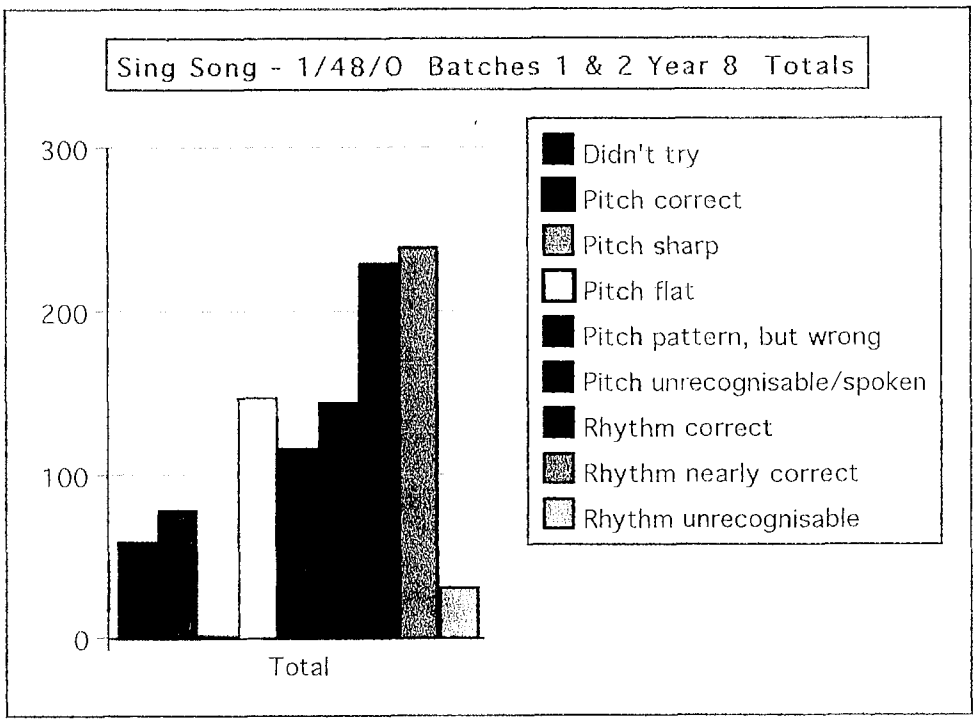
Pitch & Rhythm Characteristics of Sing Song 1/48/O Combined Batches 1 & 2 Year 8 Totals

Description:

Table 21 offers a useful overall picture, particularly when compared with the year 4 table 9.

Table 21 - Sing Song 1/48/O Combined Batches 1 & 2 Year 8 Totals n = 85

	Didn't try	Pitch correct	Pitch sharp	Pitch flat	Pitch pattern, but wrong	Pitch unrecognisable /spoken	Rhythm correct	Rhythm nearly correct	Rhythm unrecog-nisable
Total	59	79	2	148	116	144	229	239	31



Comments:

The striking superiority of performance in rhythm, compared with pitch reading is clear from table 21.

Keyboard 3/48/O Sight reading Exercises, Year 4

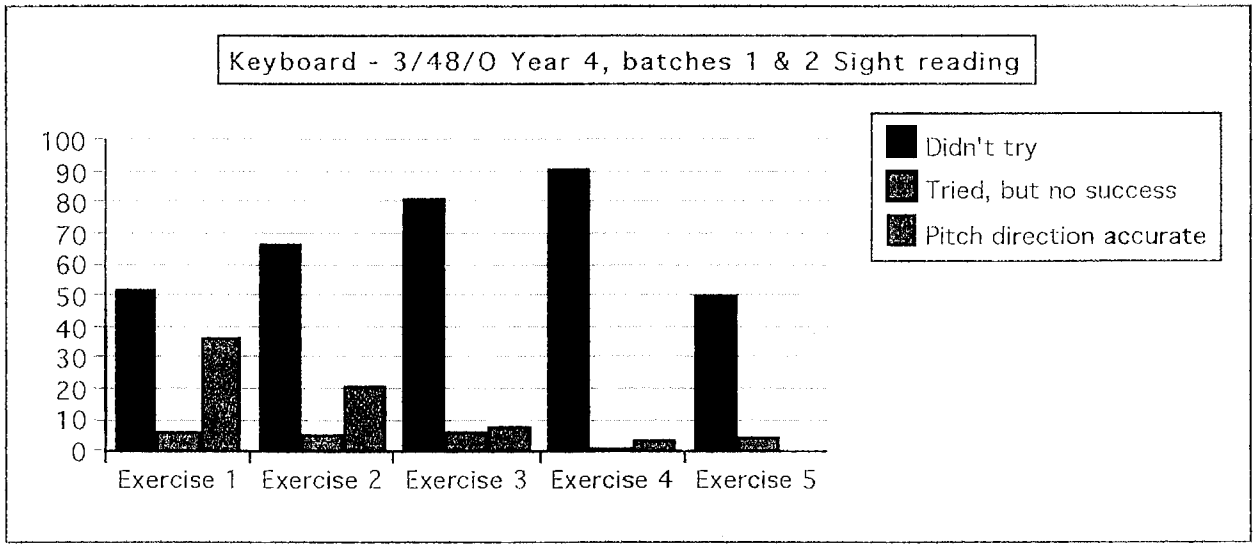
Pitch Direction in Keyboard 3/48/O

Description:

The five sightreading exercises were optional, but were attempted by enough children to produce some useful information. There were initially 54 tapes (batch 1). An additional batch of 44 was viewed, primarily for focus 6, but the findings are incorporated here.

Table 22 - Keyboard 3/48/O Year 4, batches 1 & 2 Sight reading n = 98

	Didn't try	Tried, but no success	Pitch direction accurate
Exercise 1	52	6	37
Exercise 2	67	5	21
Exercise 3	82	6	8
Exercise 4	91	1	3
Exercise 5	50	4	n/a



Comments:

Table 22 shows quite clearly that nearly all the children who tried these exercises at least had a sense of direction. However, it would be wrong to suggest that it was an aural sense of direction that guided them. Rather it was a visual/tactile link that may with some have had a small aural component as well. Most children struggled with the unfamiliarity of the instrument, so that one must question as to whether there was any value in the task. The musical component was minimal.

Very few of the children had had any prior experience of keyboard playing, so that the performances were mostly very basic and hesitant. There is a certain visual connection that can be made between the upness and downness of pitch notation and the lateral directions of the keyboard. In the case of children with no experience of music notation, it must be very confusing to be faced with an instrument with which they are unfamiliar, together with a notation that means nothing to them, and be instructed to sight read. The distinction between pitch and duration elements in the music notation system is clear to those who understand it, and there are some logical elements that seem self-evident, even to those unfamiliar with them. These are mostly in the pitch domain in which upnes and downness, and bigness or smallness of intervals can be related to the direction and distance between notes.

In the element of duration, music notation offers few clues to the unititiated as to its meaning in musical terms, or even in relation to the keyboard. An example of this is that a few read the minim 'G' in bar 2 of the first keyboard tune as being a different pitch rather than a different duration.

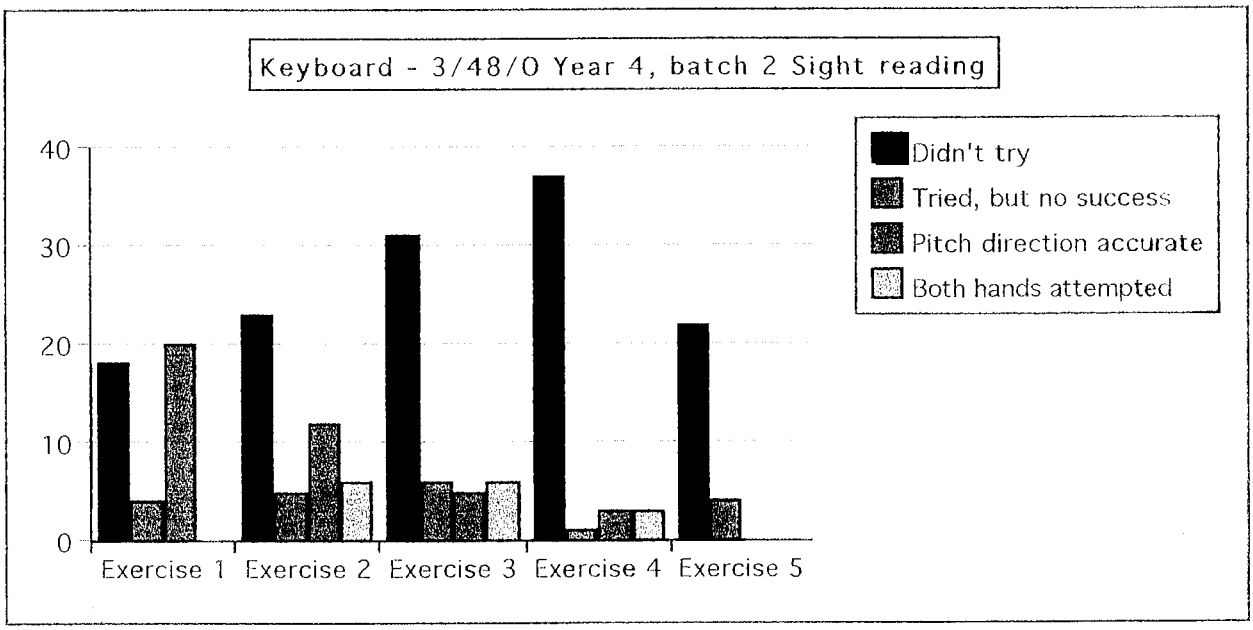
The point of this is that the sightreading tasks in Sing Song and Keyboard were effectively tests of notational skills. If this was the intention, well and good. If the

intention was otherwise, such as to test the aural perceptiveness of the children, the tasks presented too many irrelevant barriers to effectively fulfill their intention.

With the second batch, of 44 tapes, a note was made of the number who attempted to use both hands in exercises 2, 3 nd 4. Table 23 below gives the results, which do not necessarily mean that the children exhibited a sense of direction. Some merely demonstrated an extraordinary degree of application and tenacity.

Table 23 - Keyboard 3/48/O Year 4, batch 2 Sight reading n = 44

	Didn't try	Tried, but no success	Pitch direction accurate	Both hands attempted
Exercise 1	18	4	20	n/a
Exercise 2	23	5	12	6
Exercise 3	31	6	5	6
Exercise 4	37	1	3	3
Exercise 5	22	4	n/a	n/a



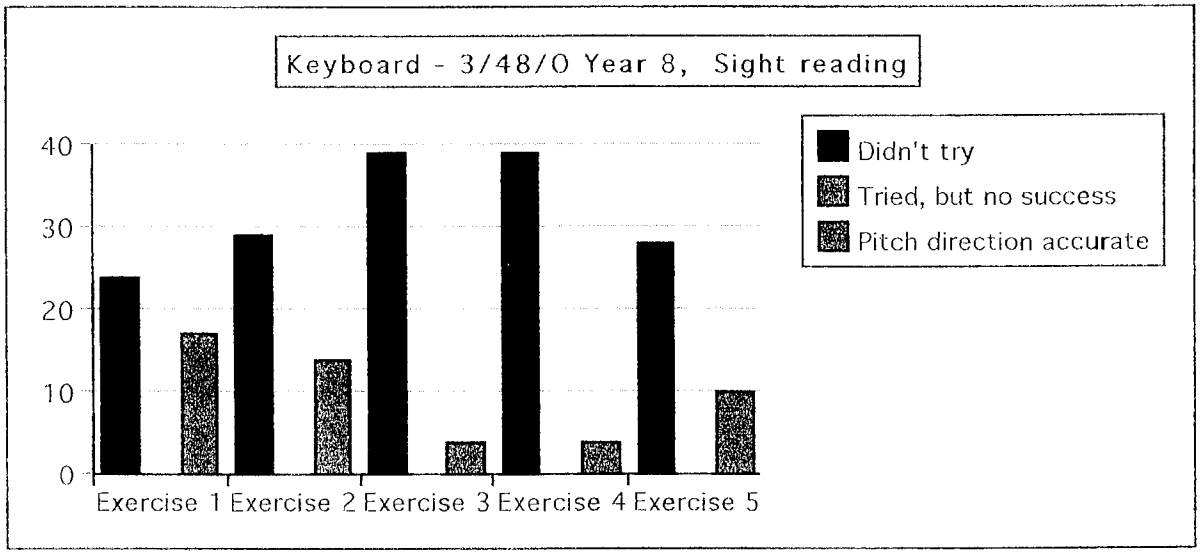
Pitch Direction, Keyboard 3/48/O Sight reading Exercises, Year 8

Description:

The same instructions applied at Year 8, namely that these exercises were optional.

Table 24 - Keyboard 3/48/O Year 8, Sight reading n = 85

	Didn't try	Tried, but no success	Pitch direction accurate
Exercise 1	24	0	17
Exercise 2	29	0	14
Exercise 3	39	0	4
Exercise 4	39	0	4
Exercise 5	28	0	10



Comments:

More Year 8 children attempted these exercises, but fewer were able to exhibit an accurate sense of pitch direction. As with Year 4, a number attempted the own choice piece, exercise 5, who had passed the previous two or three exercises. These are registered in table 24 on the basis of a positive score if the own choice piece has recognisable musical pitch shape. Most such attempts were the outcome of casual experiences such as playing at a friend's place where there is a keyboard. The results can hardly be said to carry much significance in terms of musical achievement.

Supplementary Study of Pitch Direction and Accuracy in Keyboard 3/48/O

The four pitch exercises in Keyboard 3/48/O produced some useful data in children's sense of pitch direction and interval, and although they were not originally part of this focus, it is decided to include a brief summary, together with some comments that may help future NEMP projects.

Keyboard - 3/48/O Group A

Pitch direction and accuracy in Keyboard 3/48/O Year 4

Description:

The tapes were studied for the ability of the children to hear and reproduce pitch direction and pitch accuracy. The results for year 4 are set out in tables 25 and 26.

Table 25 - Keyboard 3/48/O Year 4 Pitch direction n = 98

	Right Direction	Right Pitch
Task 1	92	79
Task 2	36	21
Task 3	92	58
Task 4	92	11

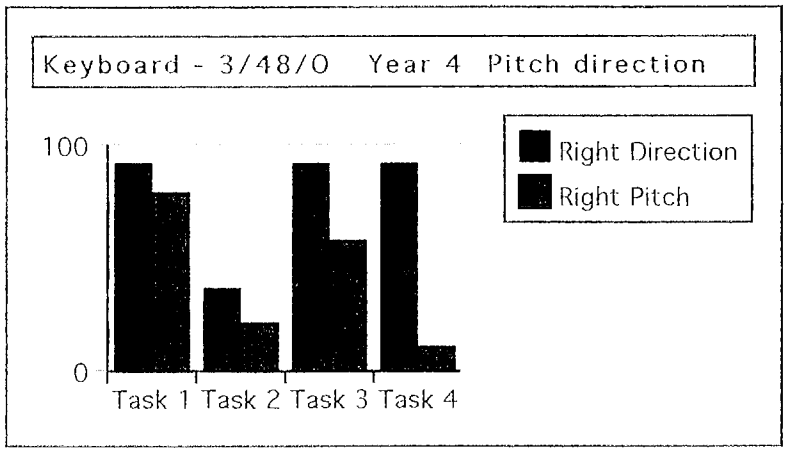
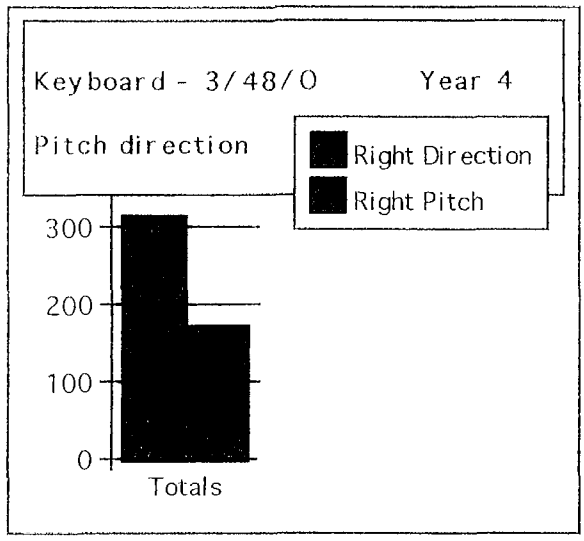


Table 26 - Keyboard 3/48/O Year 4 Task 4 Pitch direction Totals n = 98

	Right Direction	Right Pitch
Totals	312	169



Comments:

1. For many children this was clearly their first experience of a keyboard, as could be seen by the number who experimented first with the concept of **up** and down in pitch. Despite this, table 25 shows that most did not link the downward pitch of exercise 2 with the opposite direction from exercise 1. Their facial expressions frequently indicated that they knew the sound they played was wrong, but didn't know why.
2. Going up from the base note, middle C, seemed to most to be a more **natural** direction to go, as seen by the large proportion who not only played exercise 1 in the right direction, but also recognised that it was close to middle C, **and** played the right note.
3. Most of the many who played a note up from middle C in Exercise 2, knew that it was different from the correct 'D' of exercise 1, so played another **"up"** note, usually 'E'. Many reacted, indicating that they knew it was wrong.
4. The high scoring in exercise 3 was almost certainly a matter of luck rather than aural judgement with most, except insofar as they recognised it was a very high note - and what could be higher than the top? Reactions, however, suggested that most who got it right could hear it to be right.
5. Exercise 4 sounded different from 3, and the note had to be lower. Consequently a number played the 'B' immediately below the top note, and from there tried others in the hope of getting the right one. Some did.

For task 4, it was recorded whether those who played the wrong note played one too high or too low. The result of this is given in table 27.

Table 27 - Keyboard 3/48/O Year 4 Task 4 Pitch direction inaccuray n = 98

	Wrong pitch	Too high	Too low
Task 4	40	22	18

Pitch direction and accuracy in Keyboard 3/48/O Year 8

Description:

Just one group of 43 tapes was viewed for year 8, the results being in tables 28 and 29.

Table 28 - Keyboard 3/48/O Year 8 Pitch direction n = 43

	Right direction	Right pitch
Task 1	42	39
Task 2	27	22
Task 3	37	37
Task 4	43	9

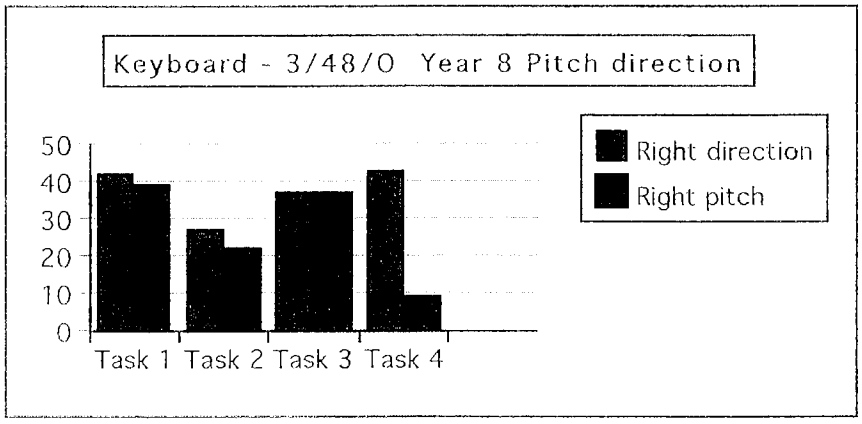
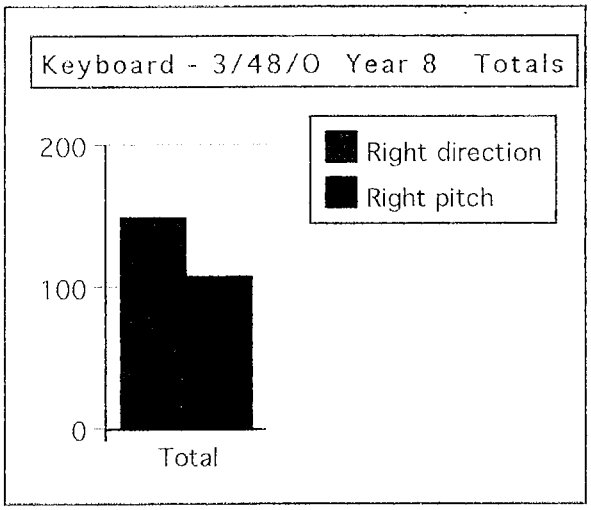


Table 29 - Keyboard 3/48/O Year 8 Pitch direction Totals n = 43

	Right direction	Right pitch
Total	149	107



Comments:

The general pattern of results is similar to that of year 4, and for the same reasons. The proportions of correct responses are higher for all exercises, particularly exercises 2 and 4.

General observations

1. Many children seemed bewildered by the keyboard, and didn't become at ease by the time the task finished.
2. There was much distraction in the administration of the tasks. It must be realised that, unlike other subject areas, with music the sound itself is the test. Anything that interferes with this, such as other sound, will distract the children from their main task. Such distractions as children & teachers coming into the room, and more especially, another NEMP test going on at the same time, must affect the validity of the results.
3. In a few cases, teachers allowed an unusual keyboard registration for keyboard tasks. Depending upon what the registration is, this can acoustically confuse the quality of sound.
4. In a a few cases the children used headphones. As a result, the marker could not hear the sound of the video.
5. The concept of upness and downness should not be assumed
6. Aural concentration was a problem with many children. They could not focus on the sound as such.

7. The problem of the boy's changing voice is an issue at year 8. It is often difficult to tell whether a boy with a changing voice is singing at a lower or a higher tessitura. In such cases they were always given the benefit of doubt in this study.
8. There is a striking lack of confidence in singing amongst most children. Many are initially very reluctant to sing at all, then, with strong coaxing, start to enjoy it - and improve. This suggests a complete lack of positive experience.
9. Some year 4 children were so tired by the end of their sessions that they were almost asleep. Especially for children who seem to have had virtually no experience of singing alone, and who are overwhelmed by it, the strain is clearly intense. Some of the tasks are too long, especially when they come at the end of a session.

---

[i] Goetze, M *Factors affecting accuracy in children's singing*. Unpublished doctoral dissertation, University of Colorado, Boulder.