
Thirty-seven oboists

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Introduction

In this chapter, I describe my experiences as an oboe teacher, and how I used the Bangor Dyslexia Test (BDT; Miles, 1997) as a screening test for dyslexia. Some of my pupils were dyslexic; some not. Brief sketches are given of a few individual pupils and attention is drawn to differences between those who are and those who are not dyslexic.

Dyslexia is thought to occur in up to 10% of the population, with around 4% being severely affected (Crisfield, 1996; Ellis, 1993, p. 94). This means that the instrumental teacher teaching, say, 50 to 100 pupils in a week might have five pupils with at least some degree of dyslexia. When I started teaching the oboe some 25 years ago, dyslexia was not a condition which was familiar to most music teachers, and was only acknowledged by class teachers principally concerned with teaching literacy. Music was definitely not a priority and the relevance of dyslexia in music reading and performing was probably not fully realised.

However, in the last 10 years dyslexia has become more openly acknowledged, to the extent that most schools and their music departments are now required to have a list to which teachers can refer of pupils with special needs. Such a list alerted me to the (previously unrecognised) fact that one of my pupils, who I had taught for some three years, was registered as dyslexic. This pupil (B6), who will be discussed in more detail later, had some problems with sight-reading and scales, which I realised could be due to her dyslexia, and I therefore decided to investigate how many others of my pupils were similarly affected. This

investigation involved the screening of 37 oboe pupils for dyslexia using the BDT.

Dyslexia and oboe playing

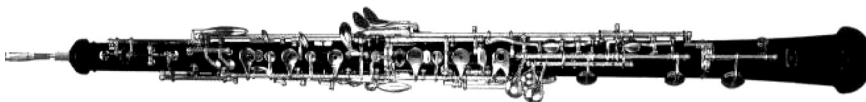


Figure 16.1. The oboe. (Photograph of Howarth XL oboe by kind permission of T. W. Howarth and Co. Ltd, London.)

As has been excellently described by Sheila Oglethorpe (1996), dyslexic individuals can experience problems in many aspects of performing on most musical instruments. Reading the music – deciphering the significance of open or closed notes with tails going up or down, arranged on a mystifying set of five lines and spaces – is a major difficulty. This difficulty is compounded when two staves have to be read simultaneously, as when playing the piano. A hazy knowledge of left/right, up/down, high/low can cause all sorts of problems with learning the fingerings of most instruments. Co-ordination of the two hands, which on the piano and various other instruments may have to move in opposite directions, is likely to be made more difficult for pupils with a degree of dyslexia.

Playing the oboe is possibly one of the easier options for the dyslexic pupil. The oboe player only has to read one line of music. In addition, the instrument is positioned centrally, down the body's midline; the basic position of the hands does not move and the fingering system over-blows to the octave (rather than the twelfth, as on the clarinet), which means that a proportion of the notes have more or less the same fingering in different octaves.

Nevertheless, learning even the initial placement of the hands on the oboe can be troublesome for the dyslexic pupil, and although some of the fingerings will be familiar to pupils who have previously learnt the recorder, there are several which are crucially different and not particularly logical. In particular, the fingering for F natural involves *adding* a finger (the third finger of the right hand, which more usually covers the D hole) to the fingering for E (the normal sequence would be that adding a finger makes the note go lower). F natural is also one of the

few notes on the oboe for which there is an alternative fingering when it is preceded by certain notes such as D, E flat, C# or by low notes where the third finger (right hand) is already on the D hole.

The above examples demonstrate that, although the fingering is fairly logical, it is never going to be completely straightforward to play a scale on the oboe until the fingerings for the notes have been kinaesthetically programmed into the brain and fingers. This is especially the case for the dyslexic pupil, who may well have only a hazy idea of what the notes should be and who will not necessarily be helped by learning scales or pieces by looking at the music.

Testing for dyslexia

Having discovered that one of my pupils was officially dyslexic, it was necessary to determine how to screen all the others for dyslexia. An investigation of the tests available (and their feasibility for use during an oboe lesson) led me to the BDT.

This test, which was devised as a result of the pioneering observations of dyslexic subjects by Tim Miles during the 1970s, was first published in 1982. It provides a short (10- to 15-minute) screening test for dyslexia, which seemed ideal for use with oboe pupils within their individual lessons.

Miles' starting point in developing the BDT was that dyslexia equates with a particular 'pattern of difficulties'. His book *Dyslexia: The Pattern of Difficulties* (Miles, 1993) describes the development of the BDT from informal observations to formal screening test, with an explanation of the theoretical basis of the tests within the BDT.

In his book, Tim Miles came to the conclusion that the difficulties which dyslexic subjects experience with these questions can mostly be attributed to a difficulty with verbal labelling, which can also be described as a phonological weakness.

In other words, the BDT seems to be tapping into the fundamental difficulties which dyslexic subjects have; and although non-dyslexic subjects do have some problems with the test, it has been shown by Miles that there are significantly more 'dyslexia-positive' results in the dyslexic as opposed to the control individuals. It therefore seemed to me to be an appropriate screening test to conduct for the purposes of determining the degree of dyslexia which might be present within my group of 37 oboe pupils.

The tests in the BDT are summarised as:

- (1) questions about left and right
- (2) repetition of polysyllabic words
- (3) subtraction
- (4) recitation of mathematical tables
- (5) and (6) saying the months of the year forwards and backwards
- (7) and (8) repetition of an increasing series of numbers forwards and of a smaller series of numbers backwards
- (9) questions about past or continuing confusion between the letters 'b' and 'd'
- (10) questions about familial incidence of dyslexia or dyslexia-like tendencies.

Careful note was made of all hesitations when answering, or use of special strategies such as counting on fingers or turning round (when answering the left/right questions). The final scoring consisted of: dyslexia-positive responses (+), dyslexia-negative (-) or somewhere in between (zero). Two zero responses counted as one + (plus).

Having used the scoring method as detailed in the BDT booklet, the BDT index (maximum total possible 10) was found to range from zero to 7 pluses. Table 16.1 below shows the detailed BDT scores for all pupils, with answers to question 10 (familial incidence) in column 4.

Seven pupils had high BDT scores in the range of 5 to 7. When these scores are compared with those in Miles' list of known dyslexic cases (Miles, 1993, pp. 38–52), it can be seen that they clearly fall within the range of the dyslexia-positive group, with which Miles was dealing (all of whom were initially referred to him because of their reading and/or spelling difficulties). The high-scoring group of seven being studied here included four of my pupils who were known to be registered as dyslexic (B6, A7, F1, F2), one pupil who had not been diagnosed but showed many dyslexic traits (H1) and two pupils (A1 and D3) whose high score came as a complete surprise, as they did not at the time seem to have any serious musical problems and I was not aware of any reported difficulties with reading or spelling.

Within this group, four parents (B6, F1, D3, H1) reported diagnosed dyslexia in the family, two were not sure (A7 and F2, assigned a zero) and A1 was also doubtful (in retrospect should have been assigned a zero rather than a plus).

There were 18 pupils with low BDT scores of between 0 and 2. In this group, only two parents reported any evidence of dyslexia in the family.

Table 16.1. Detailed BDT scores for all pupils

Pupil ID	BDT score	BDT 1–10 scores	Familial incidence
LOW			
F5	0.0	-----	No dyslexia
D4	0.0	-----	No dyslexia
A8	0.0	-----	No dyslexia
A3	0.5	0-----	No dyslexia
F4	0.5	---0-----	No dyslexia
A6	0.5	0-----	No dyslexia
D1	0.5	--0-----	No dyslexia
B14	1.0	0--0-----	No dyslexia
B12	1.0	-----+---	No dyslexia
G5	1.0	0-----0-	No dyslexia
E1	1.5	-----0--+-	No dyslexia
B3	1.5	0-----+---	No dyslexia
B5	1.5	--0-----+--	No dyslexia
C1	1.5	0-----+---	No dyslexia
B10	1.5	-----0+---	No dyslexia
B8	2.0	-----+--+	1st cousin dyslexic
A4	2.0	0----0---+	Paternal uncle dyslexic, mother not sure l/r
D2	2.0	+-----+---	No dyslexia
MEDIUM			
A2	2.5	--0+-----+	Paternal aunt very poor speller, pupil A2 left-handed
B9	2.5	0--0-0---+	Maternal 1st cousin dyslexic
B7	2.5	0-----+---	No dyslexia
F3	2.5	-----0+---	No dyslexia
B2	3.0	+--0---+0-	No dyslexia
B13	3.0	0----0+---+	Mother very poor speller, maternal uncle very slow to learn to read
B11	3.0	0--0---+---	No dyslexia
B1	3.5	+--0---+--+	Maternal aunt, maternal cousin, great aunt, paternal cousin dyslexic
B4	3.5	+ +----0+---	No dyslexia
E2	3.5	00-----+0-	No dyslexia
G2	4.5	+000---+--nk	No reply
G6	4.5	+0-+-----++	Father probably dyslexic, 2 siblings probably mildly, pupil G6 dyspraxic
HIGH			
B6	5.0	+000-0-+-+	Paternal uncle, paternal 1st cousin dyslexic
A1	5.5	+0000-+--+	Sister had spelling difficulties till 14, father similar
A7	5.5	+--0-0+--+0	Mother has l/r problems, grandfather slow to read
F1	5.5	0--+++++++	Mother dyslexic, grandfather probably
D3	5.5	+--0-0+0+	Father dyslexic
H1	6.5	+--+ +--+0+	Paternal relatives with problems, father slow reader, cousins dyslexic
F2	7.0	+--+ +--0+++0	Neither parent good speller, no diagnosed problems

Note: l/r = left/right.

A group of 12 pupils had intermediate BDT scores from 2.5 to 4.5; within this group, five parents reported dyslexia or dyslexia-like traits within the family, although none of the pupils had any reported problems with literacy.

The musical abilities and problems of some of these pupils will be considered in more detail in the next section.

A selection of case studies

In this section I shall summarise the main problems which some of these 37 pupils had with the two aspects of oboe playing (scales and sight-reading) which seem to me to be most affected by the presence of a degree of dyslexia. Comments about both the sight-reading skills and scale-playing ability are mainly the result of personal observation of these pupils at the time of this study (2002) and in the ensuing years (to 2006). No formal study of scale playing was done, and, although more formal research into the rhythmic aspects of sight-reading did show a statistically significant positive correlation between rhythmic errors and an increasing BDT score (King, 2003, 2006), this did not always reflect overall sight-reading ability.

Good sight-reading seems to be the result of numerous factors, including the ability to look ahead (an eye-note span of 5–7 notes ahead is common in good sight-readers; Sloboda, 1985, Chapter Three), the familiarity of the musical idiom, memory of musical patterns and contour and establishment of a mental musical dictionary, auditory feedback and memory of what has just been played, recognition of phrasing and rhythmic structure and the ability to do multi-tasking (Lehmann and McArthur, 2002; Harris and Crozier, 2000).

The ability to play scales accurately and fluently also depends on many component skills, including a knowledge of key signatures, a technical facility with the fingers, especially with the very high notes, which are less frequently used, the ability to hear internally the pitch of the next note and to form the most appropriate embouchure and the ability to hear the pitch and access the fingering for the notes, especially when coming down the scale. Many of these aspects (theoretical knowledge, memory and sequencing, finger co-ordination) are likely to be problematic for the dyslexic pupil.

Table 16.2 below summarises all pupils' BDT scores, their ages and years of learning the oboe at the time of testing, with some comments

Table 16.2. BDT scores and comments about pupils' scale-playing and sight-reading abilities

Pupil ID	BDT score	Age when tested	Years learning	Comments about scales and sight-reading
LOW				
F5	0.0	12.3	2.3	
D4	0.0	14.6	2.3	Scales and s/r very bad
A8	0.0	11.8	1.8	
A3	0.5	9.5	2.0	Scales and s/r very bad
F4	0.5	13.4	3.3	
A6	0.5	17.0	6.0	
D1	0.5	14.9	5.3	
B14	1.0	13.6	2.3	
B12	1.0	13.9	5.3	
G5	1.0	16.4	7.3	
E1	1.5	12.0	2.3	
B3	1.5	14.3	2.3	
B5	1.5	12.2	2.0	Scales and s/r bad
C1	1.5	9.3	1.0	Scales weak, s/r good
B10	1.5	9.3	0.8	
B8	2.0	15.1	4.3	
A4	2.0	8.8	1.0	
D2	2.0	14.9	3.3	
MEDIUM				
A2	2.5	16.4	4.6	Scales and s/r very bad
B9	2.5	12.7	2.3	Scales and s/r very bad
B7	2.5	14.7	3.3	
F3	2.5	11.7	2.0	
B2	3.0	15.7	6.0	
B13	3.0	13.2	1.8	Scales good, s/r weak
B11	3.0	15.5	6.0	
B1	3.5	14.7	4.0	Scales very bad, s/r weak
B4	3.5	12.0	3.3	Scales and s/r very bad
E2	3.5	10.5	1.0	
G2	4.5	17.0	3.3	Scales and s/r very bad
G6	4.5	17.0	5.0	Scales and s/r weak
HIGH				
B6	5.0	15.7	6.0	Scales very bad, s/r good
A1	5.5	14.7	2.3	Scales weak, s/r fair
A7	5.5	16.3	3.7	Scales and s/r very bad
D3	5.5	13.8	2.3	Scales weak, s/r good
F1	5.5	14.1	5.3	Scales and s/r very bad
H1	6.5	11.6	2.6	Scales very bad, s/r weak
F2	7.0	13.1	4.3	Scales very bad, s/r good

Note: s/r = sight-reading.

about scale and sight-reading ability. (Note: I have only specified scale playing as 'bad' or 'very bad' when I have found the pupil to have a real problem with scales, as distinct from problems resulting simply from a lack of practice.)

High BDT group (5–7)

This group of pupils with ages ranging from 11.6 to 16.3 years had been playing the oboe for between two and six years. There was one feature common to the playing of all of these pupils (except D3 and A1), which was their inability to play scales at their appropriate level, especially coming down. Perusal of their BDT results (see Table 16.1 above) shows dyslexia-positive (+) scores in Q8 (numbers reversed) in each case. It was noticeable that, even for pupils who could go up a scale successfully, turning round at the top and coming down was much more problematic, maybe because of the difficulties of remembering the sounds and accessing the names of the notes in reverse which had just been played going up. H1 was very bad at scales (see Table 16.2 above), and had noticeable difficulties in the recitation of mathematical tables section (question four) of the BDT as well as the number sequences (question eight).

The two pupils (D3 and A1) who had unexpectedly high BDT scores did not at the time seem to have serious problems with scales (both were at about the Grade 3 level). Subsequently, D3 has been referred for extra literacy help at school, and as he gets more advanced on the oboe he has found the scales very difficult. Pupil A1 has meanwhile given up, having got stuck at the Grade 5 level scales.

The sight-reading ability of this group of pupils was more varied. Very good sight-reading was a characteristic of pupils B6 and F2. Both of these pupils had been playing for several years, came from musically supportive families and had joined in lots of musical activities from an early age. B6 had also been a dancer for several years, which may have helped to embed good musical pitch and timing into her playing, as taught by Dalcroze (Pegg, 1994), and pupil F2 played the recorder from an early age. Both of these pupils had therefore had plenty of opportunities to absorb musical patterns and conventions and had been able to play alongside other competent players. Pupil F2's comments about her sight-reading ability were interesting. She said that she read music by 'letting her fingers do it' but would not necessarily know which notes she was playing.

By contrast, pupils F1 and A7 were both very poor sight-readers. A7 particularly had had very little musical support at school (where she was

told she was stupid by her music teacher) or at home. She had never played in a group with other better sight-readers and had problems not just with rhythm but with identifying the notes. The stave appeared sometimes to have more than five lines – this was improved by the use of a green filter.

Pupils A1 and D3 seemed to be quite adequate sight-readers, and D3 continues to be a useful player in numerous groups. He also has a very supportive musical family.

H1, the youngest pupil of this group, had severe sequencing problems (very weak at maths) but had a very good ear and instinctive musical sense and was good at sight-reading music in an idiom with which he was familiar (from a choir-school background), but he was much less successful at most other kinds of music.

Medium BDT group (2.5–4.5)

This group of 12 ‘intermediate scorers’ is interesting in a musical sense in that they frequently had problems with scales, which paralleled a difficulty with tables, or with musical memory, which was reflected in the digits forwards and reversed items of the BDT. Those who were bad at scales were generally not good sight-readers. None of these pupils was diagnosed as dyslexic from the literacy point of view; so some of the problems which were observed might be said to represent a musical variant of dyslexia, or ‘formes frustes’ (Critchley and Critchley, 1978), in which some but not all symptoms are apparent. It is interesting to note that of the seven pupils which I have noted as being poor at scales and/or sight-reading (A2, B9, B13, B1, B4, G2, G6), five had evidence of dyslexia in the family. Only B4 said there was no family history of dyslexia, and no answer was received from the parents of G2.

Unlike the high-scoring group, there were no consistent problems with questions seven and eight in the BDT. Pupil A2, for example, did well in these two tests but had problems with mathematical tables (in spite of being 16 years old) in which the answers require a memory of the total plus knowledge of where they are up to in the sequence (‘six eights are 48’ etc.). This pupil was very bad at scales and had been tested for dyslexia when he was 4 years old and shown to have some co-ordination and sequencing problems. However, he never had any literacy problems. This pupil was a very hesitant sight-reader even though he reached a high standard of playing (Grade 7) and coped by taking new pieces very slowly and methodically, and listening to CDs where possible. He always found playing in a group very difficult.

Pupil B9 did not read music at the start and was very slow to learn the notes. At the time I attributed this to a slight squint, which she said got worse when she was tired. Her eyesight was improved by remedial spectacles. This pupil had considerable problems with scales, which she could not remember and in which she often completely lost her way. This happened especially when she felt under stress, as was the case during her Grade 3 examination – which she passed but in which she failed the scales.

In the BDT she did quite badly on the tables (zero), some of which she found she could complete only if she said them as fast as possible. The same thing was true of her scales, which went well only if she could maintain the speed. This seems likely to be due to a very weak short-term memory – she regularly had to ask for things to be repeated and forgot which scale she was doing. Her singing teacher was of the opinion that she had ‘auditory dyslexia’.

At the time of the original study, when this pupil was under 13 and had been playing for just over two years, she was not a good sight-reader. Since the original investigation, she persisted with the oboe and managed to take her Grade 5, in which she got a good pass, did well in the sight-reading but failed the scales. Another couple of years of reading and playing benefited her sight-reading, but her short-term memory did not really improve with age.

A few other pupils in this intermediate group had interesting partial manifestations of what I shall call ‘musical dyslexia’. B13 worked hard at scales and usually did well with them but was a poor sight-reader even having taken her Grade 6 examination. Pupil B1 was very poor at maths and hopeless at scales but over the long time that she learnt the oboe her sight-reading improved a lot, although little things like tied notes would always throw her off track. She continued to learn the oboe (having played for about eight years) and managed to get to the Grade 8 level, although she still found playing in a group difficult. Pupil B4 apparently had no family history of dyslexia, but remained very poor at scales and sight-reading and seemed to have no internal pulse. She made very slow progress, even though she had been playing for over six years. However, she made a very good sound and had a very good sense of pitch.

Low BDT group 0–2

On the whole, pupils in this group reached acceptable standards of scale playing and sight-reading within the limits of how much practising they were able to do. However, there were a couple of notable exceptions.

Pupils D4 and A3 were both extremely bad at scales and sight-reading. D4 was a boarder at school, had no parental help and did not practise enough. He gave up after struggling at the Grade 2 level. At the time of writing, A3 still seems to have a genuine problem with scales, possibly owing to a weak short-term memory (similar to B9). However, she is still playing the oboe, has recently taken Grade 4 and her sight-reading is steadily improving as she gains more experience of playing in various groups.

There were two reports of dyslexia in these pupils' families (B8 and A4). However, B8 and A4 were both very good sight-readers and B8 especially was very good at scales; so the dyslexia syndrome does not seem to have been inherited here.

B5 and C1 are still not very good at scales (especially B5). Although I am not convinced that there is sufficient practice, in the case of B5 there seems to be a genuine difficulty that is clearly not related to a dyslexia problem.

Discussion

In this survey of 37 school-age oboe pupils, who were all screened for dyslexia using the BDT, it was interesting to find that four pupils had already been officially diagnosed as dyslexic. If the other three pupils in the high BDT range are included, the percentage figure is 19%. Considering that the generally accepted degree of dyslexia in the population is reckoned to be between 4% and 10%, this figure seems rather high, but is probably coincidental and the result of a fairly small sample size.

Of particular interest was the gradual emergence of a family history of dyslexia as increasingly dyslexia-positive answers were given to the other BDT questions. Of interest also were the individual characteristics (music- and sequencing-related) of the intermediate scorers on the BDT scale. It would be useful for the music teacher to be aware that some of the problems which were experienced by these pupils were similar in kind to those experienced by diagnosed dyslexic pupils who additionally have problems with reading and spelling.

It therefore seems likely that multisensory teaching strategies which are known to benefit the clearly dyslexic pupil (demonstrating rather than explaining technique, enlarging the music, playing scales

rhythmically and fast, clapping and walking around the room to establish a pulse, singing, making more use of the memorising of musical sections) can also be helpful for pupils in the intermediate category. Similarly, any emphasis in the teaching process which makes use of the dyslexic pupil's often greater right-brain ability (the ability to appreciate phrases and melodic structure and the overall feel of the piece and to hear pitches internally) is going to be of benefit to dyslexic and intermediate pupils alike (Denckla, 1990; Platel *et al.*, 1997).

It is hoped that this report of the use of a fairly simple test for dyslexia will help other music teachers to make more sense of the bewildering variety of talents and difficulties which our dyslexic and non-dyslexic pupils demonstrate.

I would like to thank Professor Tim Miles for his advice and help with the interpretation of the Bangor Dyslexia Test.

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