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### The Effects of Posture on Learning: Insights from the Alexander Technique

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# The Effects of Posture on Learning: Insights from the Alexander Technique

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## Abstract

*This paper describes a small-scale investigative project undertaken at Leeds Metropolitan University in which primary students commented upon Key Stage 1 pupils' postural behaviours whilst in the classroom. The students received instruction in the Alexander Technique to help inform their judgements and a qualified Alexander Technique teacher observed one of them teaching a 'Literacy Hour'. The overall findings indicate that earlier reports of postural deterioration occurring once children begin formal schooling is still in evidence today. A number of factors related to classroom settings are identified as contributing to this situation.*

## Key Words

posture  
children (5-7)  
classroom

## Introduction

This paper arises from a small-scale research project currently under way at Leeds Metropolitan University that is evaluating ways in which knowledge of the principles of the Alexander Technique may be of value to primary teachers. Nuttall (1999) presents the background to the research project and provides a detailed analysis of literature pertinent to the work. During 1998/99, 30 primary undergraduate students have experienced a basic course of instruction, taught by Grant Ragsdale, MSTAT (Member of the Society of Teachers of the Alexander Technique). The course introduced students to the key principles of the Technique and linked these to primary classroom practice. Two final year students elected to focus their dissertation upon the application of the Technique with Key Stage 1 pupils and were visited in school by the Alexander teacher. He provided an expert perspective upon the data being collected; his findings also proved helpful in the writing of this paper, where the focus is upon implications for classroom practice at Key Stage 1.

### Background information

The Alexander Technique has an established history of application in the field of the re-education of adults who turn to it for assistance in overcoming postural misuse that often gives rise to back problems. Latterly, advocacy for the value of instruction in the Technique as a means of countering the general stresses and strains of modern living has appeared quite frequently in the press; one such article, 'Going Straight', was published in the *Times Educational Supplement* (1998). An important principle of the Technique emphasises its holistic nature so that pupils learn to concentrate on the proper alignment of head, neck and spine as a basis from which future general '*good Use*' will develop. This is linked to the converse concept of habitual '*poor Use*' that can develop from an early age and results in individuals adopting poor postural stances all the time. The research of physiologists such as Jones (1997), Garlick (1990) and Stevens (1995) serves to provide supportive scientific evidence.

Apart from its relevance to tangible postural problems, Alexander asked questions about why these difficulties arose in the first place. He believed that much of the '*poor Use*' he encountered had a psychological basis and he wrote extensively about ways in which '*endgaining*' affected individuals' management of '*Self*'. His third book, *The Use of the Self* (1932) provided a range of examples to support his theory of misuse. He maintained that people could be so driven to achieve particular ends that they failed to consider '*the means whereby*', and that the physical manifestations of stress, such as hunched shoulders, shallow breathing and a general inability to relax were often linked to anxiety about the meeting of such goals. Cornwall (1999), writing about the emotional effects of pressure upon young children, identifies 'a surfeit of fairly arbitrary and demanding external standards' (p.103) as one significant cause and notes that one manifestation of stress can be detected when '...muscles become tense, simple movements become difficult, teeth clench ...' (p.99). Alexander teachers would argue that if the stress-inducing contexts continue over a period of time, then the physical manifestations may become locked into the habitual physical postures children adopt. Thus the hunched shoulders evident in adulthood may have started to develop in childhood.

Maunder, writing in *Statnews* (1999 p.8), suggested that the term '*endgaining*' might be better understood nowadays if it were changed to '*goal oriented*'. He proposes also that '*the means whereby*' could usefully be recast as '*the creative process*'; this is exemplified through his analysis of a writing activity where the author may be so concerned with its completion that there is little pleasure in its construction. Maunder offers a perspective as a professional commenting about life in general rather than about specific educational goals, but it echoes the concern identified by Blenkin (1994) and David (1999) amongst others, that developmentally appropriate curricula for young children may be adversely affected by the target setting culture now manifest in English primary schools, where product far outweighs process.

### The educational context

Nuttall (1999) points out a connection between Alexander's work and that of several educational pioneers, including Montessori. Alexander founded a school run by a qualified Montessori teacher for children aged three to eight in London in 1924; this

school taught the conventional infant curriculum of the time but combined it with instruction in the principles of the Technique in ways appropriate to young children. Alexander stressed the importance of enabling children to maintain and develop their natural '*good Use*' since he believed it would diminish significantly as they grew older unless positive steps were taken to prevent this happening. Hanefeld (1997) draws out the similarities between Alexander's approach to teaching his pupils and those advocated by Montessori; she identifies '*the means whereby*' principle as central to both teachers. She suggests that 'Help me to help myself' – one of Montessori's key tenets when dealing with children – could be translated into Alexander language as: 'Provide me with the means whereby I can attain my end while I maintain a good use without being put under end-gaining pressure by an adult who has his own ideas about how something should be done' (p. 30).

This view of how children's learning needs may be best addressed remains relevant today in the potential conflict evident when educational aims that emphasise young children as active learners are compared with those that arise from adult-determined goals. The powerful pressure to conform with the latter perspective can be seen very clearly in the brief letter from Chris Woodhead, Her Majesty's Chief Inspector of Schools, accompanying the OFSTED report (June 1999) on 'The quality of nursery education: Developments from 1997-98 in the private, voluntary and independent sector': 'Particularly welcome are the advances in the quality of language and literacy and in mathematics. This progress makes sure that many are likely to make a better start on the national curriculum as a result.'

This is contextualised within the body of the report itself where it states:

'The achievement of a more consistent, high quality programme of nursery education has not been helped, however, by a rather sterile debate which has pre-occupied this phase of education for far too long. At the heart of this debate is a tension that needs to be resolved, between those who believe nursery education should be shaped around play-based, 'child-directed' learning, and those who believe young children benefit from rather more structured learning involving some direct teaching, which ensures, for example, that they make a good start on such important things as reading, writing and early mathematical work.' (para. 8, p.3)

Gelb (1994) writes extensively about the benefits of relating the principles of the Alexander Technique to approaches to teaching and learning and argues, 'We demand that they (children) sit for much of the day; we emphasise achievement in reading and writing and in mathematics without paying enough attention to how children are using themselves in these activities' (p.123). Machover *et al* (1993) consider how the principles of the Alexander Technique may inform 'a more holistic education' (p.150) and provide useful insights into its application to a range of curriculum subjects; indeed the approaches advocated would sit well alongside the ten 'bedrock' principles set out by Bruce (1997 p.17).

Too much time seated is considered to be physiologically unsound for children by many Alexander teachers, including Brennan (1992), who stresses that 'the spine is under greater pressure when sitting than in almost any other position' (p.15). Machover *et al* (1993) are concerned that even at the age of six many children are unable to sit cross-legged without 'pulling down badly' (p.150). Arsenaault (1995), a New York based Alexander teacher who works with young children in the public

school sector, questions whether the majority of young children really enjoy sitting on the floor and points out that:

'Through my own exploration of mechanical considerations, I came to understand that sitting cross-legged pulls the spinal column out of its biologically adapted alignment of balancing curves, effectively compromising the weight-bearing function of the torso'. (p.21)

Brennan (1992) points out the connection between loss of concentration and posture when children are in school: 'They sink down into themselves each time their minds begin to wander. Because of the exorbitant number of hours we spend sitting, this slumped position becomes the norm and this crystallizes into our habitual way of being' (p.16). Cornwall (1999) writing about indicators of stress in young children, where loss of attention and concentration is often evident, notes that 'natural physical movements interrupt and disrupt stressful situations – yawning, stretching limbs and body, shaking hands or feet, laughing...' (p.102) are all helpful strategies to diminish tension.

Further links between the views of Alexander teachers and early childhood educators can be found in papers by Pica (1997) and Bailey (1999). The importance of providing young children with the opportunity to move about frequently, whether whilst playing or in more structured physical education activities is stressed by both of them because they have concerns about the effects of sedentary lifestyles upon the future well-being of young children. This may be less problematic currently in English nursery classes where there is a considerable emphasis on play but the increasingly seat-bound approaches that are structured into the organisational directives associated with the National Literacy and Numeracy Strategies may lead to a significant reduction in opportunities for movement. It is worthwhile noting, however, that the neurophysiologist Hannaford (1995) considers there to be important links between physical movement and cognitive learning that may go unrecognised in many schools. Sitting still for long periods of time does not in itself guarantee an increase in the amount of learning that will occur.

Learning to read and write are identified as significant factors affecting children's postural development by many Alexander teachers, especially when they are introduced formally at an early age. Jones (1997) describes a research project in 1965 in which the effect of reading and writing on the postural patterns of thirty-eight children in the third grade of an elementary school was systematically measured. The results of this research indicated clearly that 'engaging in writing consistently produced a dramatic deterioration of posture as reflected in a forward and downward displacement and an exaggerated forward tilt of the head' (pp.133-134). However, the study also found that children at this age could effect postural changes quickly if encouraged to do so.

Drake (1999) explores ways in which handwriting is taught. His article concentrates on the ways in which attention to posture, paper-positioning, the mechanics of the writing arm, and pen-hold can improve ease of performance significantly. He stresses that: 'In order to change radically we need to attend to the means whereby – in other words we need to commit ourselves totally to the process' (p.32). He also considers ergonomic implications; this links to earlier work undertaken by Mandal (1982) and Cranz (1996) in which the height and shape of tables and chairs are

subject to detailed analysis. An article in the *Daily Telegraph* published during National Back Pain Week (October 1995) stressed the significance of proper attention being paid to the classroom environment by teachers because a recent study by the National Back Pain Association, cited in the article, had shown that 50% of school pupils were reporting back, hip and neck problems. The article went on to praise Scandinavian countries for the introduction in nearly all kindergartens of height-adjustable chairs and tables to enable children to work comfortably, without slumping and without their feet dangling above the floor.

Two projects conducted in English schools that have examined postural issues are reported by Fenton (1973). Fenton, a primary headteacher in Reigate, introduced a six-month project on posture into his school, the teachers receiving staff development from an Alexander teacher so that they might be better able to detect the examples of '*poor Use*' that proved to be prevalent throughout the school. Fenton also carried out a more extensive piece of research that centred on observational data compiled by teachers using a sample of 1000 pupils in England and Wales. Evidence of '*poor Use*' in respect of seated writing is cited; over 65% of the sample was reported as not displaying sound body mechanics. Fenton believed that the lack of attention paid to the concept of '*good Use*' in initial teacher training courses could account for its significance going largely unrecognised in English classrooms.

Fenton's initiative led to a third project in which a small team of Alexander teachers were funded by the Surrey Back Pain Association from 1979 to 1982 to go into state schools to observe and work with pupils and teachers from the Nursery classes onwards. A number of trends were noticed by the Alexander teachers and these were reported in a pamphlet published by the Society for Teachers of the Alexander Technique (STAT) in 1984. It was the teachers' professional view that 'children's postural integration deteriorated markedly as they grew older.' (p.5) Postural stances adopted in relationship to reading and writing activity were again singled out as of particular concern. The team commented also upon the cramped and noisy conditions in which many of the teachers and pupils were working and considered that these were affecting posture adversely. It is interesting to note that the issue of insufficient classroom space was identified by half of the respondents in the study by Hall and Nuttall (1999) and was perceived by them as being 'more important, or equal in importance to class size' (p.254) in terms of impact upon the quality of teaching and learning. Cornwall (1999) also identifies the physical environment in schools as a stress inducing factor.

### **The Leeds Metropolitan University project**

The project currently being undertaken at Leeds Metropolitan University explores the value of instruction in the Alexander Technique both for student teachers' personal professional needs and those of the pupils they teach. The overall evaluation of the project will occur later on in 1999 and is, in any case, beyond the scope of this paper. Specific data arising from student feedback about Key Stage 1 classroom practice, and a timed observation by the Alexander teacher of a year 1 class during a Literacy hour, provide its focus.

During the Autumn term 1998, six final year students, working with Key Stage 1 pupils, participated in a pilot programme of workshops that introduced them to the

principles of the Alexander Technique. This culminated in a specialist workshop, conducted by Sue Merry, MSTAT, that explored ways in which the principles might be incorporated directly into classroom practice. Midway through the programme the students worked in school for a week and on their return completed a questionnaire pertinent to the research project. Two students chose to develop the work through their dissertations and these should provide further data for the project. As part of the data collection process both students received in-school observation and written feedback about their classroom practice from their Alexander teacher. Data arising from one of his reports is incorporated into this paper.

The results of the pilot project were sufficiently encouraging to extend the range of students targetted to include those working with Key Stage 2 classes. An introductory programme was offered to any students in the penultimate year of the primary undergraduate course who might be interested in participating. A further twenty-four students will have undertaken the course by end of the 1998/99 academic year and eleven of these have already completed a similar questionnaire to that presented to the final year students. Their findings have provided additional material in respect of Key Stage 1 practice (4 returns), and new material in respect of Key Stage 2 (7 returns). The remaining thirteen students will be asked to complete the questionnaire once they have undertaken their week of school experience. It is anticipated that some of the students will choose to focus their final year dissertation on the Alexander Technique and will provide further insights for the research project during 1999-2000.

### **Analysis of the student questionnaire responses**

The analysis focuses on the ten Key Stage 1 responses because of the target audience for this paper; notwithstanding this, the student feedback in respect of Key Stage 2 serves to confirm the veracity of the Key Stage 1 data. At the stage of completing the questionnaire the students had acquired knowledge through the workshops of the concept of '*good Use*' in relationship to sitting, standing and walking. The significance of collapsed, hunched and stooped positions upon breathing and concentration, and the absence of well-being springing from the effects of undue tension being brought to bear upon a range of everyday activities had been considered. The students worked in ten separate classes within nine different schools.

The questionnaire asked the students to provide feedback about the pupils' postural behaviour in school generally, and then to give specific examples to inform their response. The questionnaire was designed to enable students to comment on positive features, not only negative ones, however at the 'overview' level, all the students found evidence of '*poor Use*' in their classes, 'frequently' (2 responses), 'sometimes' (6) and 'occasionally' (2). The 'majority' of the pupils were affected (8 responses), with a 'significant minority' (2) being the least problematic.

In respect of the physical environment, the carpet area was identified as presenting difficulties in nine cases, for example: 'The size of carpet area was too small – the children found difficulty finding sufficient space', and 'Most were affected by the size of the carpet area. Those who wished to kneel could not because they blocked the view'.

General classroom layout featured in five responses that identified the space as being too small for the number of children, for example: 'chairs pushed right into table to let people pass, so squashed up' and 'no area to sit quietly and relax in own comfortable position.'

Nine students identified the size of tables and chairs as problematic, commenting for example, on 'tables and chairs too small for the pupils, causing them to "shrink" themselves into the space'; and observing that 'some of the chairs were too large for the children,' but also that 'the chairs were too small and the tables too high'. One student commented that 'the angle of the tables produced "poor Use" for the majority of the pupils,' and another that, 'most children hunched over their work'.

Several students noted issues specific to the classrooms where they worked. The way children bent down to put books in the bottom drawers of storage chests, and poor spatial relationship between computer hardware and the chairs upon which pupils sat, were cited; one observed, 'At dinner time, the chairs were attached to the tables, but were too far away, some children resorted to eating on their laps.'

The situation became more problematic when the data about classroom routines was analysed. There were seventeen comments about the length of time children were seated in cramped conditions during the school day, for example, 'when in the class, all the children spent the majority of their time sat down. Especially when on the carpet, children did not have the space to make themselves comfortable.'

The Literacy Hour was mentioned specifically by nine of the ten students as presenting particular difficulties. One commented on, 'the whole class introduction to the Literacy hour on the carpet; the children got restless and tended to sit "crunched up"; cross-legged, arched back, leaning over knees, arms supporting the head' and another that 'most of the children would be twisting and turning their bodies in order to see, especially for shared text work in literacy hour'.

The responses of seven students indicated ways in which teachers' instructions to pupils about sitting were not helpful in respect of encouraging '*good Use*'. In order to 'manage' the pupils in the small space available, teachers typically asked their class to sit cross-legged with their arms folded. This may look tidy but creates a postural context in which '*poor Use*' is inevitable, for example:

'the children gradually became slumped over'

'A few of the children were told not to kneel yet this looked to be the best position for head/neck alignment.'

'When sitting on the mat most children were affected as they were told to sit down and this caused them to squash their bodies.'

'The teacher encouraged all of the class to sit "cross-legged, hands on your knees". This allowed the children initially to "push" or realign their backs – but this was soon lost as they "slumped back".'

Observations about similar behaviour were made about school assembly where again both the cramped conditions and the length of time sitting were noted.

Four students made reference to children's writing positions and commented on the way in which some of them tilted their chairs forward to try to avoid slumping over



their work. Inevitably, they were told to put the four legs back on the floor for safety reasons.

Only one student commented directly on a psychophysical relationship: 'Whenever the teacher said she was going to give a sticker out, the children would immediately sit up... when they realised they would not get a sticker, they collapsed back down again.' However, many of the responses indicated a general sense of restlessness arising as time in a seated position, either on the carpet or a chair, progressed, and linked this directly to emerging evidence of poor postural positions.

The final section of the questionnaire asked the students to identify ways in which they believed the situation might be improved upon, given the physical environment in which they were working. Responses focused on managing the carpet space better, possibly by allowing some children to sit on chairs at the back, and reducing the amount of time sitting there anyway. One student was interested in exploring ways in which different sitting/lying positions might be feasible. The importance of 'trying to be a good role model' was mentioned as well as 'showing children how to sit and stand properly'. Students in the first stage of the project also acquired ideas from the Sue Merry workshop about positive intervention strategies and considered them to be feasible. A typical response was,

'I was concerned beforehand that although the module was informative it would be difficult to introduce to a working classroom. After Sue's input I began to believe that I could use AT in my teaching practice without causing too much distraction.'

The opportunity for the Alexander teacher to observe one of the students take a Literacy Hour with a year 1 class provided additional data to support the findings of the student group as a whole. The school in which the observation took place provides a caring environment in which good SATS results are achieved but without placing undue pressure on pupils. The school's Literacy Hour follows the structure set out in the National Literacy Strategy document and the session observed was a typical example of this. Extracts from the report are presented in Appendix 1 and give a clear picture of the way in which the children's 'Use' was affected by the conditions under which they were working. Interestingly, protracted '*poor Use*' was prevalent more during the 'carpet' session than when the class started writing; this was because the pupils were allowed to stand up and move around the classroom. However, the writing postures themselves gave rise to concern. The report also provides examples of the way in which children's psychological state affects their posture, '*coming up*' when engaged and '*collapsing down*' when not or when chastised by the teacher. His overall professional judgement was that the children were displaying a high level of physical stress because they were too young to be forced to stay still for such a long period of time:

'the patterns of misuse' learned when they are young, e.g. pulling the head and neck down, collapsing in the spine, hunching in the shoulders, gripping the pen or pencil, could stay with them for the rest of their lives and could lead to serious back problems in later life.'

### Summary and concluding remarks

The main finding of the research project to date is that the postural misuse evident to the Alexander teachers engaged in the Surrey Project (1979-82) is still prevalent

in primary schools today. Indeed, if anything, the curriculum for primary children has become more heavily prescribed, with the latest initiatives, such as the National Literacy Strategy, placing emphasis on lengthy concentrated learning sessions that significantly inhibit freedom to move around the classroom. A particular tension has been identified between the perceived value of sitting children together on the carpet for activities such as reading from Big Books and its potentially adverse effect upon their postural development. It is likely that there are too few classrooms large enough to accommodate comfortably a table place for every child plus a reasonably-sized communal sitting area, especially given the class size issue in primary schools currently. Furthermore, the pressure to engage pupils in 'whole class' teaching sessions militates against an organisational strategy of arranging tables and chairs on an 'activity base' principle rather than on a 'head count' basis. Recognition of the importance of the ergonomics of good furniture design for children in school could help to reduce the tendency to slump and hunch since it would appear that many schools will be demanding that more time is spent by children on activities that will require seated writing'.

On a positive note, it is clear that even after only basic instruction in the Alexander Technique the students have become better able to detect the signs of '*poor Use*' and are likely to take steps to reduce unhelpful aspects of their classroom organisation and routines. However, they will be constrained by the nature of the curriculum they are expected to deliver to children today and this would suggest that they will need to undertake a careful analysis of the '*means whereby*' their educational goals are achieved. Indeed, they may wish to reflect upon whether the '*endgaining*' ideology identified by Gelb (1994) and other Alexander teachers as endemic in English schools has increased rather than diminished latterly. It is to be hoped that at the very least, the proposals to review the nature and content of the curriculum for children up to the age of six in England will ensure that the freedom young children need to move frequently and adjust their postural stances will receive the serious attention it requires.

## Appendix 1

### Extracts from Report by Grant Ragsdale, (MSTAT), on Literacy Hour

- 10.55 am** The children are directed to sit on the carpet one side of the classroom. The teacher reads from a big book on a stand about three feet high. The children seem to be quite crowded together. They sit cross-legged. Three are leaning against the wall. Seven have their heads thrown back but overall their postures are not too bad.
- 11.00 am** General physical use starting to degenerate. Backs collapsing.
- 11.05 am** Six children now leaning against the wall. The group is beginning to wriggle about. Boy in the middle (Child A) looks particularly uncomfortable. Boy in the front (Child B) is also looking very collapsed and uncomfortable.
- 11.10 am** Ten of the children now have their heads pulled back and down. Boy at the back (Child C) came up into a deep squat before collapsing down. When the teacher addressed a question to him his posture improved nicely but he collapsed down again a few minutes later.

- 11.12 am** Only one child, a girl (Child D) is now showing anything like good physical use; the rest are collapsed in one way or another.
- 11.15 am** Child D has now collapsed. Child B has come up onto his heels in an attempt to improve his physical use. Each time a child answers a questions he or she visibly lengthens for a minute or two.
- 11.20 am** Boy at the back (Child E) is attempting to use a cupboard to lean/push his back against in order to attain better use. He has come up and onto his heels.
- The whole class is now giving a distinct impression of physical distress.... Child E is again trying to come up. Girl at the back is pushing herself into a corner and twisting in the spine. She looks like she is trying to disappear.
- 11.25 am** Much fidgeting and rocking backwards and forwards is going on, also nodding of heads on the top of the spine.
- 11.27 am** The class is asked to move from the carpet and go over to sit on chairs at low tables. Some children take the opportunity to stand for a few minutes. Generally the class displays much better use but there is still much evidence of pulling down with necks and backs collapsed while writing. The act of writing looks like very hard work for nearly all of them. They are gripping the pencils very hard and pushing down hard on to the paper. Many have their eyes just three or four inches from the paper.
- 11.35 am** Much fidgeting, rocking on chairs, standing and sitting.
- 11.40 am** The children are pleased to find excuses to get up and walk around the room.
- 11.42 am** Evidence of general collapse.
- 11.45 am** Collapse and fidgeting increase.
- 11.48 am** The children return to the carpet
- Three lean against the wall. Two at the back are up on their knees. Again, there is a general tendency to 'come up' when putting up hands and answering questions.
- 11.50 am** Child A is swapping from kneeling to squatting. His physical use is much approved. Their attention span seems to be totally exhausted. When the teacher admonishes them for being incapable of listening the whole class visibly collapses down by a couple of inches.
- 11.55 am** Lesson ends.

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