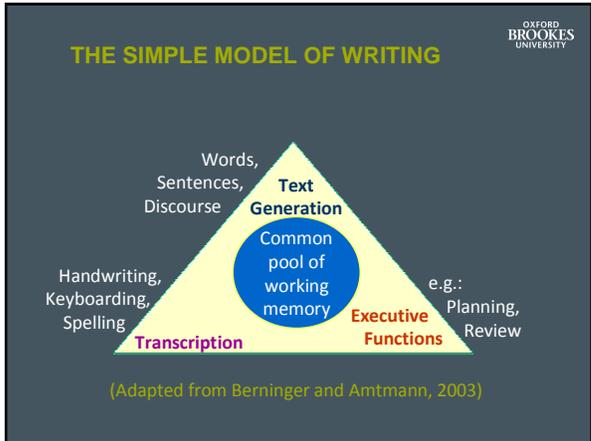


Handwriting practice and measuring speed of handwriting



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HANDWRITING NEEDS TO BE:

- Legible
- Fluent / Fast
- Flexible
- Comfortable
- Taught
- Practiced

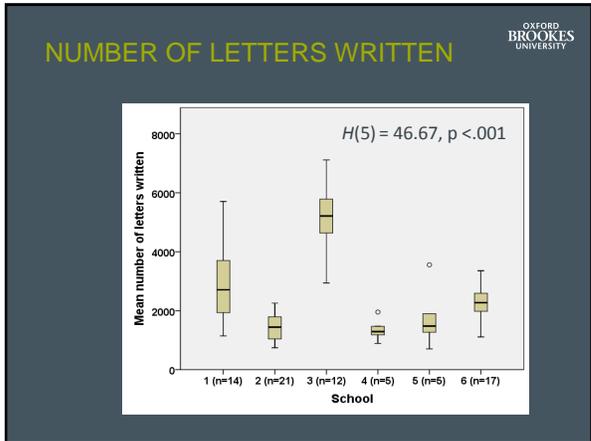
"automatic letter writing is the single best predictor of length and quality of written composition in the primary years."
(Graham, Berninger, Abbott, Abbott, & Whitaker, 1997)

HOW MUCH HANDWRITING PRACTICE DO CHILDREN HAVE?

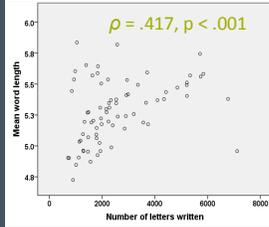
- Children spend much of the day on writing and fine motor activities (McHale & Cermak, 1992)
- Teacher surveys indicate variation in frequency & length of handwriting tuition in schools (Barnett et al., 2006; Graham et al., 2008).
- But how much do children write in a typical school week?
- Annabel Molyneaux - photographed all handwritten work produced in primary schools in a typical school week

Demographic characteristics of the participating children

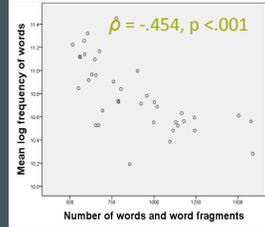
- 6 rural primary schools in Oxfordshire
- Excluded those with EAL, FSM, SEN
- Potential pool of 98 Year 5 pupils
- Excluded 24 pupils with missing data
- Data from remaining 74 children analysed
 - 38 boys, 36 girls
- All work from a typical school week photographed
- Number of letters and words counted
- (school & child information also gathered)



NUMBER OF LETTERS/WORDS WRITTEN VS. WORD LENGTH & WORD FREQUENCY



Word length



Word frequency

IMPLICATIONS:

- Importance of policy documents for teaching & learning of handwriting
- Implementation of policies across all classrooms
- Need to consider amount of handwriting practice
- Need to consider teaching for speed

HANDWRITING NEEDS TO BE:

- Legible
- Fluent / Fast
- Flexible
- Comfortable

"automatic letter writing is the single best predictor of length and quality of written composition in the primary years."
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WHO HAS HANDWRITING DIFFICULTIES?

- Common in classrooms (Rubin & Henderson, 1982)
- Children with developmental disorders including:
 - Developmental Coordination Disorder
 - Dyslexia (Phelps & Stempel, 1991)
 - Specific Language Impairment (Connelly, 2005)
 - Asperger's Syndrome (Henderson & Green, 2001)
 - ADHD (Tucha & Lange, 2001)
- Children with physical handicaps e.g. Hemiplegia, Cerebral palsy

WHY BE CONCERNED ABOUT POOR HANDWRITING SKILL

- Poor fluency related to reduced quantity and quality of content (Connelly et al, 2002; 2005).
- Can lead to academic underachievement (Briggs, 1970; Sloan & McGinnis (1992), Simner et al., 1996)
- Can result in low self esteem (Phelps et al., 1985)

THE DEVELOPMENT OF A TEST OF HANDWRITING SPEED

- We need a tool to:
 - Identify children with handwriting difficulties
 - Quantify the level of handwriting performance
 - Provide a detailed description of handwriting performance
 - Evaluate intervention programmes
 - Aid research

HANDWRITING TESTS

- Rosenblum, Weiss & Parush (2003) Product and Process Evaluation of Handwriting Difficulties. *Educational Psychology Review*, 15 (1), 41-81
- Wallen et al (1996) *The Handwriting Speed Test*
- Killeen et al (2007) *An Irish Adaptation of the Handwriting Speed Test (IA) HST*
- Allcock (2001) Data provided from over 2000 students aged 11-16 in the UK, PATOSS website

DEVELOPMENT OF THE DETAILED ASSESSMENT OF SPEED OF HANDWRITING (DASH)

Barnett, A.¹, Henderson, S.² & Scheib, B.² & Schulz, J.³

¹Oxford Brookes University

²Institute of Education University of London

³University of Hertfordshire

Funded by:

Harcourt Assessment

Action Medical Research

THE DASH

- UK norms
- Age range: 9-16 years
- Carefully selected sample (based on 2001 census)
- Range of writing tasks
- Psychometrically sound

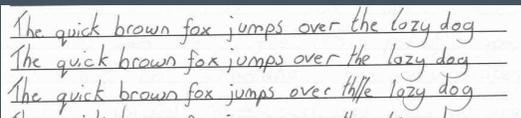
SAMPLING

- 57 schools
- Parental consent forms distributed
- Children selected from returned forms
- Children with known sensory & physical impairments excluded
- OTs/PTs/Psychologists/ teachers trained to administer test
- 546 children tested



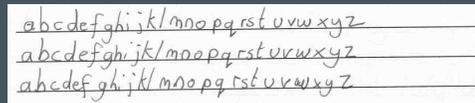
COPYING A SENTENCE

- Copy for 2 minutes. Divided into 1-minute periods.
- Two conditions:
- Copy Best – write in your best handwriting.
- Copy Fast - write as quickly as possible but make sure every word is readable.
- Scoring. Words per minute. **Copy difference score**



ALPHABET WRITING

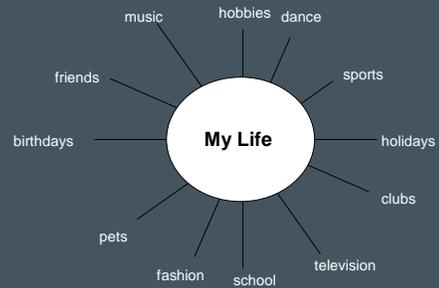
- Alphabet writing for 1 minute
- Write out the letters of the alphabet continuously (lower case). Write as quickly as possible but make sure that every letter is readable
- Scoring. Number of correctly sequenced lower case letters written.



FREE WRITING

- Free writing for 10 minutes. Divided into 2-minute periods. 'My Life', ideas given, one minute thinking/planning time.
- 'Every-day' handwriting
- Scoring. Number of legible words between time marks. Detailed scoring criteria.

IDEAS FOR WRITING ABOUT 'MY LIFE'



FREE WRITING

I was born in 1990 at Bedford north wing hospital. My line ~~of birth~~ of birth is 6:00pm on the 21st August. I have one brother called Philip. My Mum and Dad are called Sally & Gary. I'm 100% English. I have 2 grand mother and 1 grandad (the other one died of cancer), 3 uncles, 3 aunts and 4 cousins. One of my cousins

GRAPHIC SPEED

- Making Xs in circles for 1 minute.
- Demonstration to emphasize the 'rules': write an X not a cross (+), lines must extend to at least touch inner circle, lines must not extend beyond outer circle, intersection must be within inner circle, work quickly but accurately
- Practice with feedback
- Scoring. Number of correctly produced Xs. Scoring is strict



CORRELATIONS BETWEEN THE TASKS

	Alphabet Writing	Copy Best	Copy Fast	Free Writing
Graphic Speed	.48**	.52**	.56**	.54*
Alphabet Writing		.72**	.77*	.69**
Copy Best			.82**	.71**
Copy Fast				.83**

** p<.000

DASH SCORES

- Standard scores for each task (mean 10, SD 3) and the resulting profile
- Total DASH score - sum of 4 primary scales, converted to Total Standard Score (mean 100, SD 15) with percentile equivalents
- Supplementary scores: Graphic Speed, Copy Difference, Free Writing Profile
- Cut off points:
 - 1 and 2 SDs below mean for item scores
 - 5th/15th percentile for Total DASH standard score

Identifying students with handwriting difficulties

- Use the Total Standard Score
- At or below 5th percentile: indicates slow handwriting, requires intervention
- 6th-15th percentile: indicates moderately slow handwriting, requires monitoring/further investigation
- At or above 15th percentile: no difficulty with handwriting speed

Points for discussion

- School handwriting policies and their implementation
- Opportunities for handwriting practice in school
- Teaching for handwriting speed
- The assessment of handwriting speed

THE NATIONAL HANDWRITING ASSOCIATION (FORMERLY THE HANDWRITING INTEREST GROUP)

WWW.NHA-HANDWRITING.ORG.UK

Aims:

Raise awareness of handwriting as a crucial component of literacy

Promote and foster good practice in the teaching of handwriting

Provide support for those working with children and adults who have handwriting difficulties



Oxford Handwriting Interest Group

- Next meeting: Tuesday 12th March 4.30-6.30pm
- Venue: TBA, in Oxford
- Topic: 'Motivating the reluctant writer & promoting opportunities for practice'
- All welcome
- Email: oxfordHIG@gmail.com