

Impact case study (REF3b)

Institution: University of Exeter
Unit of Assessment: Education
Title of case study: The development and evaluation of cognitive education in schools.
<p>1. Summary of the impact</p> <p>Research led by Professor Bob Burden at the Graduate School of Education at the University of Exeter has demonstrated the value of infusing thinking skills into the curriculum of schools across the age range. A criterion-referenced approach to the evaluation of this 'whole thinking school' approach has been developed and applied. Particular attention has been devoted to the standardisation and use of the Myself-As-a-Learner-Scale (MALS) which has been used in schools across the UK and abroad to increase achievement and improve the formative evaluation of students and teaching. An additional benefit of the MALS has been its wider use in examining the learning self-concepts of dyslexic students, thereby contributing to informed education policy change through the influential Rose Report on early identification and teaching of dyslexic children, which led the Labour government to invest £10 million embarking on a national programme to provide 4000 specialist dyslexia teachers. Specifically, Burden's research has had impact through:</p> <ul style="list-style-type: none"> <input type="checkbox"/> informing educational practice and raising achievement; <input type="checkbox"/> informing policy change; <input type="checkbox"/> the use of research findings by professional bodies.
<p>2. Underpinning research (indicative maximum 500 words)</p> <p>Exeter's Graduate School of Education has been associated with the teaching of thinking skills and 'learning to learn' approaches for many years (Burden, 1993). On Professor Burden's formal retirement and appointment as Emeritus Professor of Applied Educational Psychology in 2005 he established the Cognitive Education Centre (now known as the Cognitive Education Development Unit) with the aim of fostering cognitive education in schools providing means of evaluating broader educational outcomes of this approach. One way in which this has been achieved has been the establishment of fourteen criteria by which the success of a whole school commitment to cognitive education can be measured. The success of this form of evaluation has led to the accreditation of 60 schools across England, Wales and Northern Ireland as 'Thinking Schools' by June 2013. It has also led to considerable interest being shown in other countries. (Australia, New Zealand, Malaysia, Thailand, Norway and Lithuania) and outcomes-based research being carried out in several of these. In assessing the special impact on the students' changing views of themselves as learners, the MALS has been widely used and translated into several different languages (Chinese, French, Norwegian, Nepalese, Spanish, Turkish). Research using MALS has shown how important self-concept is and how it can be changed in a way that has had positive impact on attainment. Children's self-concept towards learning has traditionally been ignored and measures to evaluate abilities have focussed around psychometric objective evaluations, such as the use of the IQ to identify underachievers and so called 'gifted and talented' children. Multifaceted 'self-concept' approaches taken by some researchers (Marsh, 1986., Shavelson, 1976., and Harter, 1985) were often seen as less than useful by teachers as they tended to be long and widely focused, making them difficult to understand by younger less academic children (Burden, 1993). Dissatisfaction with these approaches led Professor Bob Burden to construct MALS (Myself-As-a-Learner Scale) as a means of focusing directly on one aspect of self-concept; specifically on school students' perceptions of themselves as learners (Burden, 1996: 1998). MALS is a simple, reliable 20 point scale in which measures the children's conceptions of themselves as learners and can be used for both evaluation and as a formative tool. MALS develops the use of pupil participation in their own learning. The MALS approach to teaching thinking through a 'change in attitude' was implemented in practice through the growing 'Thinking Schools' movement, which focuses on the self-concept of the school, the teachers and the children.</p> <p>Results using MALS (Burden, 1998) showed that there is a positive relationship with both verbal and non-verbal IQ and revealed an even stronger correlation between MALS and IQ for reading and mathematics. MALS scores in schools have been particularly useful in the identification of</p>

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'outliers'- those students whose scores fall significantly below or above those of their classmates. Collectively, results indicated that MALS would be a helpful device for working with clinical sub-groups such as those with attention deficit/hyperactivity disorders, dyslexia etc. As a result, Burden turned his research towards applying MALS and self-concept to children with dyslexia (Burden, 2005; Burden and Burdett, 2005). Much like objective evaluations, traditionally research on dyslexia has tended to focus on psychometrics and understanding the 'dyslexic brain' or on teaching interventions designed to overcome the specific learning difficulties of children and adults with dyslexia. The learning theories upon which much of this research has been based have been either neuro-cognitive or neo-behaviourist. One consequence has been that the thoughts and feelings of those suffering from dyslexia have either been overlooked or assumed to be entirely negative. At the same time, the role of the social context in supporting or undermining the developing dyslexic has tended to be ignored. Research by Burden has examined the self-perceptions of dyslexic children, and the impact on their families, in a number of different ways, supported initially by a grant of £68,000 from the Buttle Trust. MALS made it possible to compare the learning self-concepts of dyslexics with those of other mainstream children. Studies by Burden (2005) and Burden and Burdett (2005) revealed that even this negative effect could be overcome within an appropriate supportive context. By relating this approach to an in-depth exploration of the international literature on this topic Burden concluded that suffering from specific learning difficulties of a dyslexic nature was not necessarily a precursor of low self-esteem, but was likely without appropriate emotional support to have a negative effect on the dyslexic child's academic self-concept.

3. References to the research

Research publications:

1. Burden, R.L. (1993) Does teaching thinking skills help to improve cognitive ability? *British Psychological Society Education Section Review* 17 (2), 62-64.
2. Burden, R.L. (1996) Pupils' perceptions of themselves as thinkers, learners and problem-solvers: some preliminary findings from the Myself-as-a-Learner Scale. *Educational and Child Psychology* 13(3), 25-30. ISSN: 0267-1611
3. Burden, R.L. (1998) 'Assessing children's perceptions of themselves as learners and problem solvers. The construction of the Myself-As-a-Learner Scale'. *School Psychology International* 19 (4), 291-305. DOI: 10.1177/0143034398194002
4. Burden, R.L. (2005) *Dyslexia and Self Concept*. Chichester: Wiley. ISBN 978-1861564832
5. Burden, R.L. & Burdett, J.G.W. (2005). Factors associated with successful learning in pupils with dyslexia: a motivational analysis. *British Journal of Special Education* 32 (2), 100-104. DOI: 10.1111/j.0952-3383.2005.00378.x

Grant: Buttle Trust awarded to Burden. Support for Families with a Dyslexic Child (£68,000) 2003.

Evidence of the quality of the research: The book, 'Dyslexia and Self Concept' was entered into the RAE 2008 after a rigorous peer reviewing procedure in which it was given a high grade. Items 2, 3 and 5 are articles in international psychology journals subjected to rigorous peer review.

4. Details of the impact

Informing educational practice and raising achievement:

Burden's research and the 'Myself as a Learner Scale' has had impact by informing educational practice and raising the achievement of children in over 300 schools so far in the UK and abroad. MALS has been translated into Chinese, Norwegian, French, Nepalese, Turkish and Malay, and used in over fifty published evaluation studies across the world. Burden has worked in close partnership with Kestrel Education to link research on MALS and self-concept^{1,2,3} to school improvement by creating the growing 'Thinking Schools' movement. Kestrel Education is now the leading organisation in the UK in the whole-school approach to the teaching of thinking and 'Thinking Schools'. Using Burden's approach, fourteen criteria were identified as indicative of whole school effectiveness. Any school producing a portfolio of evidence as to how it meets these

criteria can apply for formal accreditation as a 'Thinking School'. To date (June 2013) 60 UK schools have successfully achieved accreditation² (41 primary; 19 secondary; plus one in New Zealand, one in Australia and one in Thailand). A recent survey of accredited schools to which 26 schools responded found that 90% of the headteachers, or their representatives, believed that the Burden's Thinking Schools approach had raised attainment and had led to an improvement in the quality of lessons. Evidence in support of this was offered from a range of sources including improved results on national tests and examinations, consultations with pupils, observations of lessons and comments from outside bodies including Ofsted. Ofsted and Estyn Inspection reports⁴ have frequently noted the impact of being a Thinking School, an award given by Exeter after accreditation by Bob Burden or one of his team. One school's report notes that *'Its identity as a 'Thinking School' is at the heart of its work, whether it is encouraging children to think about others or to think things out for themselves'* and another highlights that *'The excellent progress made by pupils in developing their thinking skills has a marked effect on their personal development and the standards they attain.'* (Beechwood School, Ofsted, 2008, Unique Reference Number 111175). Another similar comment notes that: *Ditton Primary is very proud of its 'Thinking School' status and this underpins every aspect of the school's work. The excellent progress made by pupils in developing their thinking skills has a marked effect on their personal development and the standards they attain.* (Spinney Avenue Primary, Ofsted 2007, Unique Reference Number 111293)

The Malaysian Government has been so impressed by the Thinking Schools approach that they want all schools in Malaysia to become Thinking Schools on the model outlined by Burden. Burden has evaluated an initial pilot of 10 thinking schools including the use of MALS and the Graduate School of Education at Exeter are now working with the Malaysian Ministry of Education on the evaluation and support of 1000 schools working to become thinking schools in 2013 with a further 9000 schools planning to join the programme in 2014 (<http://www.ithink.org.my/Home/Page/AboutUs>). The Vice President of the Malaysian agency charged with this enormous endeavour affirms that: *'Bob Burden's 'whole school approach' and his criteria of success towards their evaluation, was a step in the right direction for us and it has impacted positively on the programme thus far'*⁸.

Bob's Whole Thinking Schools approach is also influential in South Africa where a new company has been formed to promote it: Thinking Schools South Africa (TSSA). TSSA has reached thousands of teachers through events and seminars and is now working to train 15 schools, both primary and secondary, as Thinking Schools in collaboration with Exeter who are providing formative evaluation⁹. The CEO of TSSA writes of Bob Burden's influence: *'The definition of a Thinking School and the criteria for accreditation as set out by the University of Exeter are a central reference point for our work'*.

Informing policy change:

Burden's research has influenced dyslexia education policy change by being invited to participate by Ed Balls in 2008 in the Brown Labour Government sponsored Rose Review⁵ on the early identification and teaching of dyslexic children. Within the Rose Review itself reference is made to Burden's work (Burden 1998 and Burden and Burdett, 2005) and to the need for further teacher training that had been highlighted by Burden and his colleagues. Summary point 15, p.14/15 reads : *"The review notes that success with some children with the most severe literacy problems can be elusive. This makes it important for dyslexic guidance to cover such matters as building children's confidence to counter 'learned helplessness' that may stem from repeated failure despite their best efforts to learn to read."* and Summary point 36, p.21 reads : *"...it is essential for schools to engage parents in a constructive dialogue about how, together, they can help the child overcome the difficulties associated with dyslexia."* Para 5.56, p.123 makes specific reference to Burden's research in making the following statement: *"When supporting children and young people cope with their difficulties (Burden, 2005) schools will often have to support them on an emotional as well as a cognitive level, if they are to fully overcome the frustration, sense of shame, humiliation and anxiety which they may face."* The Rose Review was published in 2009; the Government accepted the review's findings and proposed that all of its recommendations are implemented, including those proposed by Burden. This led to investing £10 million embarking on a national programme to provide 4000 dyslexia specialist teachers; estimated to be one teacher to every 5

schools.

Use of research findings by professional bodies:

Specific mention is given to Burden in the Association for Dyslexia Specialists in Higher Education⁶ 'Guidelines for Quality Assurance in Specialist Support for Students with SpLDs in Higher Education', 'Professor Bob Burden commented (...) "All learning includes three dimensions, namely, the cognitive dimension of knowledge and skills, the psychodynamic dimension of motivation and emotions and the social dimension of communication and cooperation"'. As a result of his work in the field Burden was co-opted as a Trustee of the British Dyslexia Association and has also served as Chair of that organisation's Accreditation Board which provides accreditation for all national dyslexia teacher-training courses and all qualified teachers who have attended such courses. One direct result of his influence has been that all BDA Accredited teacher-training courses have a requirement to highlight the emotional, as well as literacy, needs of dyslexic students. The CEO of the BDA writes of his contribution: 'It is not exaggerating to say that without Bob's both quiet guidance and, at times, tireless energy, the BDA would not be the positive force for people with dyslexia it is today'⁷

At an international level Burden's work has led to him being awarded an accolade in 2012 by the International School Psychology Association (ISPA) for his outstanding contribution to the application of psychology in schools. He was one of the organising committee of the International Conference on Thinking held in the UK in 2007 and has subsequently played a central role in establishing a UK version in conjunction with the Kestrel/Thinking Schools International organisation which has attracted several hundred delegates over the past few years.

5. Sources to corroborate the impact (numbers below refer to superscript numbers above)

1. Kestrel Education 'Creating a thinking School', MALS and Self-concept <http://www.thinkingschool.co.uk/creating-a-thinking-school/learning-self-concept>
2. International Thinking Schools Network <http://www.thinkingschoolsinternational.com/tsi-community/international-community/>
3. List of 'Thinking Schools' <http://www.thinkingschool.co.uk/resources/thinking-school-links>
4. Ofsted and Estyn report evidence from Thinking School website http://www.thinkingschool.co.uk/ckeditor_assets/attachments/41/effects-of-becoming-a-Thinking-School-ofsted-quotes.pdf
5. An independent report from Sir James Rose to the secretary of state for Children, Schools and Families 2009 'Identifying and Teaching Children and Young People with Dyslexia and Literacy Difficulties'
6. Association of Dyslexia Specialists in Higher Education 'Guidelines for Quality Assurance in Specialist Support for Students with SpLDs in Higher Education' June 2009.
7. Factual statement from the CEO, British Dyslexia Association. (<http://www.bdadyslexia.org.uk/>)
8. Factual statement from the Vice-President, Education, Agensi Inovasi Malaysia (a government agency charged with the reform of the education system)
9. Factual statement from the CEO Thinking Schools South Africa. (<http://www.thinkingschoolssa.co.za/>)