



A new generation of complex learning needs

BARRY CARPENTER describes a research project in the UK that seeks to improve the learning outcomes of a group of children that is steadily increasing in size, particularly in developed countries, as the result of increasingly sophisticated medical intervention.

CHILDREN and young people with complex learning difficulties and disabilities (CLDD) have been described as a 21st century frontier for education. During an 18-month,

Department for Education-supported project in the UK, The Schools Network, (now SSAT-UK), researched ways to improve outcomes for children and young people with the most complex educational needs and disabilities, through the development of evidence-based teaching and learning strategies.

These children present considerable challenges to school leaders. They are a group that has emerged rapidly in the first decade of this 21st century, largely due to modern medical progress, (e.g., children born very low birth weight, due to extreme prematurity). However, there are also societal factors that are presenting, which are of cause for concern in the UK and Australia, (e.g. fetal alcohol spectrum disorders.) Both of these groups of children, and others falling into this descriptive framework, may require pedagogy beyond the experience of most principals.

Indeed, the resolutions to some of their educational needs may have to be resolved through inquiry-based approaches, on a child by child basis.

So, who are the children with complex learning difficulties and disabilities? This group includes those with co-existing conditions (e.g. autism and attention deficit/hyperactivity disorder (ADHD) or profound and multiple learning disabilities. However, they also include children who have more recently begun to populate our schools – among them, those who have difficulties arising from premature birth, have survived infancy due to advanced medical interventions, have disabilities arising from parental substance and alcohol abuse, and/or have rare chromosomal disorders. Many may also be affected by compounding factors, such as multisensory impairment or mental ill-health, or require invasive procedures, such as supported nutrition, assisted ventilation and rescue medication.

These children challenge skilled professionals; they do not fit our current range of learning environments, curriculum models or teaching and learning approaches (Department of Education, 2011). Porter and Ashdown (2002) describe them as:

'...a wide and varied group of learners ... including pupils who do not simply require a differentiated curriculum or teaching at a slower pace but who, at times, require further adaptations to teaching if they are to make progress'.

A wide ranging debate with CLDD project steering board and advisors and stakeholder groups, including learning disability charities, resulted in the development of the following definition:

'Children and young people with Complex Learning Difficulties and Disabilities (CLDD) have conditions that co-exist. These conditions overlap and interlock, creating a complex profile. The co-occurring and compounding nature of complex learning difficulties requires a personalised learning pathway that recognises children and young people's unique and changing learning patterns. Children and young people with CLDD present with a range of issues and combination of layered needs, e.g. mental health, relationships, behavioural, physical, medical, sensory, communication and cognitive. They need informed specific support and strategies which may include trans-disciplinary input to engage effectively in the learning process and to participate actively in classroom activities and the wider community. Their attainments may be inconsistent, presenting an atypical or uneven profile. In the school setting, learners may be working at any educational level, including the National Curriculum and P scales. This definition could also be applicable to learners in early years and post-school settings'. (Carpenter et al., 2011)

The increasing number of children and young people with CLDD in schools has been noted by researchers and educators. The UK Department for Education's 2010

figures show that students with special educational needs in England increased from around 1.53 million (19% of students) in 2006 to approximately 1.69 million (21% of students) in 2010. Children with the most severe needs represent about 3% of students in England (Hartley, 2010). The numbers of children with severe and complex needs in one local authority more than doubled between 1981 and 2001 (Emerson and Hatton, 2004). Between 2004 and 2009, the total number of children with severe learning disabilities (SLD) increased by 5.1%, and the total number of those with Profound and Multiple Learning Disabilities (PMLD) rose by an average of 29.7% (National Statistics, 2004, 2009). Emerson (2009) estimates that the prevalence of PMLD in the older child/young adult age range is increasing by 4–5% annually. In 2005, McClusky and McNamara reported that government figures indicated that, of the 700,000 disabled children in Great Britain, *'there are more than 100,000 severely disabled children in the UK and their numbers are known to be rising as a result of medical advances'* (McClusky and McNamara, 2005). Wolke (2011) attributes some of this rise to an increase in the survival rates of extremely and very preterm babies. In the USA, 80% of babies born at 26 weeks (i.e. 'extremely preterm') survive, and 96% of those born between 28 and 31 weeks (i.e. 'very preterm') (National Centre for Health Statistics, 2008).

Impact on schools

The increase in children with CLDD is beginning to impact in schools. One headteacher writes:

'...we are seeing a regular increase in pupils with profound difficulties, some with complex needs, many with ASD, some with genetic conditions and some as the result of acute infections and diseases (e.g. cytomegalovirus, leukaemia and meningitis)'. (Cartwright, 2010)

Another observes:

'Three years ago, we had up to seven children with gastrostomies – we now have 16. Just recently, we have enrolled two students with tracheostomies who need full time medical support'. (Fergusson and Carpenter, 2010)

Children and young people with CLDD are a distinctive group of learners, requiring educators to make personalised professional responses to their profile of learning need. We have to equip teaching professionals to offer high quality education to these young people to prevent their disenfranchisement from the school system. We need to remodel our pedagogy and generate teaching strategies which will embrace them as learners.

The CLDD research project

The program of research brought together a multidisciplinary team of researchers and advisors with specialisms across education, health, psychology, therapies and neuroscience. In Phase 1 of the project, the research team worked together with 12 special schools and staff, 60 children/

young people, and their families, to develop educational resources to enable practitioners to formulate an effective teaching and learning package for the children and young people with complex needs in their classrooms. The project built on, and synthesised, existing national and international expertise in the field, as well as drawing upon practitioner experience to develop and trial modified and new approaches for these young people.

Between September and December 2010, the resources were trialled in 50 further special schools in the UK and 15 internationally. In the third phase of the project, between January and March 2011, the resources were trialled in 12 mainstream schools – six primary and six secondary – and two early years settings.

The outcome of the project was the *CLDD Engagement for Learning Resource Framework* to support educators of children and young people with CLDD. The key components are available to download online at: <http://complexld.ssatrust.org.uk>. They include:

- 'CLDD Briefing Packs': a series of information sheets on conditions which commonly co-exist within the profile of CLDD; these give information on effective educational strategies associated with particular disabilities
- the 'Engagement Profile and Scale': an observation and assessment resource focusing on student engagement for learning
- the 'Inquiry Framework for Learning': a flexible educational practice framework, promoting multidisciplinary involvement
- training materials and opportunities.

New generation CLDD pedagogy

To educate these children and young people with CLDD meaningfully, effectively and purposefully, educators need to evolve new generation pedagogy (Carpenter, 2010a). This pedagogy needs to be within the framework of practice that currently exists in schools. The layers of pedagogy in the classroom therefore become: 'for all'; 'additional'; 'new, innovative and personalised'. The three components of new generation pedagogy are:

CURRICULUM CALIBRATION. The often variable profile of need and attainment of the child with CLDD can easily result in a fragmented curriculum that lacks cohesion, congruence and continuity. Delivery of the curriculum to the child with CLDD needs to be sharp, focused, meaningful and purposeful, as well as balanced. The child has to see relevance and to find themselves truly engaged in a dynamic and coherent process of learning that makes sense to them.

In curriculum calibration, the child's profile of need is critically reviewed, and their patterns of engagement profiled. A personalised curriculum experience is sought to match each strand of their learning need. We should not underestimate the magnitude of this challenge, which demands a significant shift in thinking and a more inquiry-based style of teaching rather than the curriculum driven styles of the last two decades.

PEDAGOGICAL RECONCILIATION. This may require 'pedagogical re-engineering': adapting or adjusting an approach from our existing teaching repertoire. In this process, we carefully analyse the structure and components of other successful pedagogies in the field of special educational needs (Lewis and Norwich, 2005), and match them to a new generation of children with CLDD. This is a process of analysis, deduction and refinement, reconciling those pedagogies to the unique profile of the learner with CLDD.

CREATION OF NEW AND INNOVATIVE TEACHING STRATEGIES. Alongside pedagogical reconciliation is the need to create and innovate a new pedagogy that is responsive to the new profile of learning need presented by this evolving cohort of children with CLDD. What are the teaching strategies that will enable us to engage this child as an active participant in the dynamics of our lesson, program or learning environment? We need specific interventions (Wolke, 2009).

THE ENGAGEMENT APPROACH. Without engagement there is no deep learning (Hargreaves, 2006), effective teaching, meaningful outcome, real attainment or quality progress (Carpenter, 2010b). Children with CLDD need to be taught in ways that match their individual learning styles by teachers who recognise their abilities and potential for engagement in learning. Our work must be to transform children with CLDD into active learners by releasing their motivation, unlocking their curiosity and increasing their participation.

Sustainable learning can occur only when there is meaningful engagement. The process of engagement is a journey which connects a child and their environment (including people, ideas, materials and concepts) to enable learning and achievement.

A focus on engagement can underpin a process of personalised inquiry through which educators can develop effective learning experiences. Using evidence-based knowledge of a child's successful learning pathways, strategies can be identified, high expectations set, and incremental progress recorded on their journey towards optimal engagement in learning.

The *Engagement Profile and Scale* is a classroom tool developed in the course of this research. It allows teachers to focus on the child's engagement as a learner and create personalised learning pathways. It prompts student-centred

reflection on how to increase the learner's engagement leading to deep learning.

Engagement is multi-dimensional, and encompasses awareness, curiosity, investigation, discovery, anticipation, persistence and initiation. By focusing on these seven indicators of engagement within the *Engagement Profile and Scale*, teachers can ask themselves questions such as: 'How can I change the learning activity to stimulate Robert's curiosity?' 'What can I change about this experience to encourage Shannon to persist?'

The adaptations made and the effect on the student's level of engagement can be monitored and recorded, together with a score on the engagement scale. Over time, it is possible to chart the success of interventions and adjustments, and the effect this has had on the student's levels of engagement. This can then be applied to other learning situations for the student.

Conclusion

The *Engagement Profile and Scale* allows educators to trial different ways of working with students and to collect evidence about which approaches work best for the student. Collaboration is a corner stone of the inquiry approach - with families, with colleagues from other disciplines, with the whole class team, and with the student themselves. Insights from one perspective can create success for the student across his or her whole learning experience.

Over the course of the CLDD research project, research schools carried out inquiry-based interventions on a short-term basis. Each period of intervention lasted for one term. For many students who had been priority concerns for their schools, this was long enough for educators to gain an insight into ways of engaging them. The educators were then able to generalise the adaptations they had made to engage the student into other learning areas, and move their focus to other students who were disengaged. Other students needed an extended period of intervention so that school staff could explore in depth how they could engage the student in learning.

The capacity to transform a child's life for the better, and equip them to enjoy active citizenship, is at the heart of education. For many school leaders, this ethos is what drives them to ensure that their schools are at the cutting edge of practice with a curriculum that embraces each student, however complex their needs, as an active learner. Many students with CLDD are disengaged from learning - actively or passively. To re-engage them as learners requires more than differentiation (Porter and Ashdown, 2002); an intensive approach is needed. Students with CLDD need to follow unique learning pathways that take educators beyond differentiation into personalising learning. At this level of student need, educators, and their leaders, need to respond with practitioner-led, inquiry-based approaches.

** This is an abridged version of a much longer article that contains a useful case study. The full text, as well as the comprehensive set of references that accompanied this article, are available from the authors.*

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