

*Irish
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Irish Learning Support Association

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Readers are invited to submit papers to be considered for inclusion in the 2016 issue of *LEARN*. Papers should reach the Editorial Committee, *LEARN*, ILSA, c/o Drumcondra Education Centre, Drumcondra, Dublin 9, by January 31, 2015. Papers should be relevant to some aspect of Learning Support and should not exceed 3,000 words. For information on electronic submissions please contact the administrator on our website at www.ilsa.ie

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The Association is concerned with the education of children and young people with learning difficulties. Its aims include promoting cooperation between those concerned with Learning Support and enhancing the quality of service given by Learning Support Teachers through the provision of resources, lectures and seminars and provision of opportunities for peer-support.

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The views expressed in the articles do not necessarily reflect those of ILSA.

Editorial

The second decade of the twenty-first century has already, during its first five years, seen the introduction of an unusually high number of initiatives and curriculum changes into Irish schools. Some of these changes are well-considered, exciting initiatives that will benefit the learning of all students, including those with additional educational needs. Others however have been driven by cuts to funding, by overhasty reaction to the results of international student assessments, or by the demands of business and industry rather than by an impetus to ensure that all students develop to their full potential in the domains in which their strengths lie.

Initiatives have come thick and fast, from the roll out of Project Maths in 2010, through the introduction of the National Literacy and Numeracy strategy in 2011, to the changed arrangements in 2012/13 for the Provision of Resource Teaching Supports in post-primary schools; the publication of a policy advice document by the NCSE in May 2013, containing a proposal for a new allocation model for additional resources for mainstream schools; the subsequent NCSE Working Group Report, *Delivery for Students with Special Educational Needs: A better and more equitable way* in mid-2014; the requirement for the use of Education Passports from 2014; the introduction of the Primary Online Database in 2014/15; the roll-out of some aspects of the new Junior Cycle Programme in the same year, followed by a Pilot of the *New Model for Allocating Resource Teachers to Schools* in approximately 50 schools in 2015/16. While these examples provide an indication of the extent to which challenging changes have been introduced during the past five years in policy, in curriculum, in teaching and in organisation, they are by no means comprehensive.

During the same period, however, class sizes have risen in both primary and post-primary schools. Despite the fact that extensive longitudinal research has shown categorically that smaller classes lead to higher pupil achievement and that students who are vulnerable through disability or disadvantage are at less risk in smaller classes, class sizes in Irish primary schools remain the second-highest in Europe. The average class size is just under 25 pupils, with approximately one quarter of all pupils in classes of thirty or more. These latter include many classrooms with over thirty-five pupils in mixed classes.

The introduction of the National Literacy and Numeracy Strategy was a direct response to the results of the 2009 Report of the OECD Programme of International Student Assessment (Pisa), in which Irish students were ranked twentieth in reading, although with a very high percentage of students at or below Level 1b (Ireland was ranked twenty-first in mean performance in reading), and thirty-second in mathematics (below the Pisa average). The results of Pisa have a strong influence on educational practice in many countries and Ireland is not alone in adjusting policy in response to the findings of these student assessments.

Yet there is concern among well-informed educators about many aspects of the Pisa assessments. In May 2014 an open letter was published from academics around the world to Dr Andreas Schleicher, director of Pisa. Professor Ciaran Sugrue, Head of the UCD School of Education, was among the several Irish signatories to this letter which, among other concerns, included the following:

In education policy, Pisa, with its three-year assessment cycle, has caused a shift of attention to short-term fixes designed to help a country quickly climb the rankings, despite research showing that enduring changes in education practice take decades, not a few years, to come to fruition. For example, we know that the status of teachers and the prestige of teaching as a profession have a strong influence on the quality of instruction, but that status varies widely across cultures and is not easily influenced by short-term policy.

By emphasising a narrow range of measurable aspects of education, Pisa takes attention away from the less measurable or immeasurable educational objectives like physical, moral, civic and artistic development, thereby dangerously narrowing our collective imagination regarding what education is and ought to be about (The Guardian, 06/05/2014).

There was, and still is, professional disquiet concerning the narrow focus of the Literacy and Numeracy Strategy, which reflects many of the concerns mentioned in the letter referred to above. There must of course also be concern, among teachers and others professionally involved in education, that a high percentage of students are still struggling with the acquisition of basic skills at the time of transition to post-primary school, when they have completed more than half their school-based education.

It is probable that this strategy will raise the level of these skills in all students, in addition to increasing Ireland's standing in international assessments. The introduction, however, of the Literacy and Numeracy Strategy has not addressed the fundamental question as to why, after eight years of education that is weighted heavily towards acquiring the skills of reading, writing, spelling, mathematical computation and problem-solving, many students are failing to become competent in those skills. We can easily point to the contributing factor of over-large classes – there is no doubt that smaller classes would make richer, more productive teacher-pupil interaction possible, and that they would allow more individualised support. But is that the whole story, or are there perhaps some teaching methods being used in our classrooms that may not be effective or, at least, not effective for some students?

Ellen Reynor's article in this issue of *Learn*, 'A Word Study Approach to Co-teaching for Spelling', gives occasion for thought in relation to this question, as the writer notes that some of the most ineffective methods that are used to teach spelling are also possibly the most commonly used – in these she includes the weekly spelling list as well as the use of flash cards. Ellen initially discusses some of the difficulties that lie in the path of the pupil, partly because of an incorrect perception on the part of teachers that visual memory is central to skilful spelling, but also because the strong emphasis on phonics in the teaching of reading may lead the pupil to rely on the same approach to spelling. Since English is not a phonologically consistent language, most words cannot be spelled using phonological strategies. This article identifies and describes the linguistic knowledge necessary for learning (and teaching) spelling, before detailing how to implement this knowledge in co-teaching spelling. Ellen's article provokes thought on several levels.

An article by Diarmuid O'Rourc is also related to literacy acquisition. It describes a year-long reading intervention at second-level, which was based on the collection of high-quality data through first-year assessments carefully chosen to provide appropriate information to inform decisions about interventions for students who had difficulties. Students were clustered according to their specific needs and eighty minutes of support per week was provided that focused on the identified needs of each student. The intervention led to impressive gains in reading age for almost all students, demonstrating how very effective support may be when it closely targets the specific area of difficulty of each individual student.

While acknowledging the difficulties that may hinder the second-level teacher in finding opportunities for engaging and supporting his/her students in developing and consolidating their numeracy skills, Jerry McCarthy nevertheless attempts to engage subject teachers in the process of numeracy development. The writer emphasises the importance of such engagement, while setting it in the context of challenging curricular change. This is rich, densely-packed, persuasive argument that reminds one of Herbert's phrase, a 'box where sweets compacted lie' – and that may convince the resistant sceptic.

Three articles describe different processes that may, directly or indirectly, support students

with social, emotional or behavioural difficulties. The first, by Mary Nugent and her colleagues in NEPS, describes the introduction of group consultations for Irish schools. These consultations, which are run under very exact guidelines, provide advice and support for teachers in developing solutions to school-based problems. The process, evaluated by both teachers and psychologists, was found to be a very effective means through which teachers working with students with social, emotional or behavioural problems may be supported. Patricia Leahy and Margaret Egan's article provides a detailed description and evaluation of an intervention that was successful in assisting a student with behavioural difficulties to modify his own behaviour through the use of Cognitive Self-Instruction (CSI). Pre- and post-intervention assessment demonstrated the effectiveness of this intervention in decreasing inappropriate behaviours, although the writers noted that supports for this student might need to be on-going. The programme *FRIENDS for Life* was run for a period of ten weeks with a group of fifth-class girls by educational psychologists Edel Higgins and Marie Hayes, in order to assess the efficacy of the programme in preventing or reducing anxiety in fifth-class girls in an Irish primary-school setting. The programme, which is a structured cognitive behavioural intervention, was worked on by the students for one hour each week with both psychologists. The Spence Children's Anxiety Scale (SCAS), which was administered before and after the programme, indicated that the programme was effective in that setting.

Peer tutoring is the focus of Catherine Flanagan's article which, set in a firm theoretical framework, provides a wide range of practical suggestions and advice for the successful setting-up and management of peer-assisted learning. In an article that combines research-based evidence for the effectiveness of peer-tutoring with the writer's own experience and enthusiasm for this strategy, Catherine presents a very convincing argument for using peer-tutoring to support learning.

Unusually, in this edition of *Learn* we have two articles by the same author, Tom Daly. Both describe initiatives of the Special Education Support Service (SESS). The first outlines the Equality of Challenge (EoC) initiative, which was a post-primary project intended to advise on the development of support in the area of exceptional ability. The second describes work undertaken by the SESS in developing a digital literacy framework for students with Moderate to Profound General Learning Disability (GDL). The description and analysis of the project which is the focus of each article is preceded by a review of relevant literature which contextualises the project.

The extensive research that lies behind the development of a new instrument for early screening is described by Pauline Cogan in her article 'TEST 2r: Early Screening for Reading and Writing Difficulties'. The writer gives an account of the various stages of the development of this instrument and explains in detail the components of both the TEST 2r Screener and the TEST 2r Diagnostic. This screening and diagnostic instrument is just entering the final phase of development, when it will go through the process of national norming.

The combination of theoretical and experiential knowledge that informs the articles that comprise this edition of *Learn* will be highly valued by teachers and other professionals involved in education, particularly those who work with young people with additional learning needs. The very varied contributions made by the authors of these articles, some of which may challenge our assumptions or our prejudices, will contribute either directly or obliquely to the on-going development of our professional expertise and knowledge, and to the reflective evaluation of our own practice.

JEAN JOHNSTON

Editor of *Learn*

August 2015

Supporting Provision for Exceptionally Able and Dual Exceptional Students: The Equality of Challenge Initiative

Tom Daly

Special Education Support Service (SESS) began developing a continuing professional development (CPD) framework for teachers of students with exceptional ability and dual exceptionality in 2008. As part of that process it initiated the 'Equality of Challenge Initiative' which was a small-scale post-primary project that aimed to advise on the development of support in this area. It ran from September 2008 to May 2014. This article describes the origin and progress of this initiative, along with a discussion on the background concepts and supports in relation to exceptional ability. It also summarizes the main learning from the initiative.

Project Background

The 'Equality of Challenge Initiative' (EoC) was a small-scale post-primary project developed by Special Education Support Service (SESS) which aimed to advise on the development of support for teachers and schools in the area of Exceptional Ability and Dual Exceptionality (EA/DE). It ran from 2008/09 to 2013/14. The project was set up when SESS took responsibility for in-service CPD in this area in 2008/09 and the development and progress of the initiative ran in tandem with the development of this support structure.

Principles for teaching students with EA/DE were well established internationally but it was felt that the piloting of these in the Irish context, especially within the context of Irish policy on inclusion, would be helpful in advising on the effectiveness and feasibility of various approaches. This was also advised by criticism of 'policy-borrowing' globally – that is, the taking of inspiration, ideas and justification of policy from one jurisdiction and applying them to another (Levin, 2001; Yasui, 2003). This was being accelerated internationally by the globalisation trend and this process had been critiqued for de-contextualising change efforts and for reducing their effectiveness (Ball, 2001; Steiner-Khamsi, 2004).

Key questions for the project included how support and provision in the area could be developed within Irish inclusion policy and SEN systems in operation

in post-primary schools. In this way, the Equality of Challenge Initiative became a key tool in informing and advising the development of CPD approaches for SESS in this area.

National and International Context

The following is a brief overview of the international and Irish context vis-à-vis exceptionally able/gifted education in which the Equality of Challenge was implemented. It is not intended as a comprehensive review and neither does it explore in depth the range of interpretations of the concepts of ‘exceptional ability’, ‘intelligence’ or ‘giftedness’. Rather, it summarises certain differences which exist around these concepts internationally and in Ireland, as this is relevant to understanding that broader context in which the initiative was developed.

Various differences and tensions occur around the varying concepts of ‘exceptional ability’, ‘intelligence’ and ‘giftedness’. These may be summarised through the two concepts of intelligence and ability provided by Dweck (1999): the ‘entity view’ which views intelligence as fixed and stable; and the ‘incremental view’ which sees it as malleable, fluid and changeable. A parallel tension, partially related to concepts of special educational needs (SEN), was summarised by Skidmore (2004) as the difference between ‘deviance discourse’ and ‘inclusion discourse’, with the deviance discourse focusing on the measurement of a hierarchy of cognitive skills and abilities, and the inclusion discourse focusing on the learning potential of each student to be discovered and stimulated. These contrary views lead to diverging implications, ranging from national policy formulation to practice within classrooms.

An overview of the national context in Ireland may begin with the 1993 Report of the Special Education Review Committee (SERC, 1993). While it used a mixture of terms including ‘gifted’, ‘talented’ and ‘exceptionally able’, it placed these within the concept of ‘special’ as follows:

The more exceptional the ability or talent of an individual pupil, the greater the need for some form of special or supplementary arrangement to assist him/her in developing educationally at a pace and to such extent in breadth and depth as is compatible with capacity.... (such pupils) will require special arrangements in addition to the range of education activities which can usually be provided in the ordinary classroom (p. 161).

Reflecting the more contemporary expression of ‘continuum of provision’, it also stated that “the more exceptional the ability or talent of an individual pupil, the greater the need for some form of special or supplementary arrangements to assist him/her in developing educationally at a pace and to such extent in breadth and depth as is compatible with capacity” (p. 161).

In terms of concept and definition, the SERC report appears to have attempted to reconcile the conceptual tensions outlined above. On the one hand, for example, it seemed to apply the incremental theory by drawing on Renzulli's (1998) model of 'giftedness' to describe exceptional ability and talent as "an interaction between three basic human traits – above-average general abilities, high levels of task commitment and high levels of creativity". On the other hand, it went on to suggest that "... a high score on an intelligence test remains the single most favoured criterion where such pupils are formally identified" (p. 162). This, of course, measures only one of the three traits above and reflects the entity theory. In other words, SERC did not provide a definitive definition of the concept.

This attempt to reconcile diverging interpretations was continued in the NCCA's draft guidelines for teachers in 2007 (NCCA, 2007). As will be discussed below, the evidence of the Equality of Challenge Initiative suggests that this tension may be further mirrored in some schools when tackling the developing of school policy – issues such as definition, identification, labelling and provision.

In relation to the development of provision in this field in Ireland, SERC said in 1993 that "pupils who may be exceptionally able or talented are not formally identified, as such, within the school system" (p. 161). Further provision can be benchmarked from an 'inventory' of "Gifted Education in 21 European Countries" produced in 2005 arising from a survey commissioned by the German Ministry of Education (Monks and Pfluger, 2005). The report on Ireland outlined the recommendations of the SERC report, but added that most schools did not have the necessary resources: "In general, provisions for the gifted are rather rare. No official programs exist. The lack of financial support and teachers' lack of practical experience constrain the power of provisions" (p. 84).¹

A report on giftedness education in Europe (Eurydice 2006) provided a very basic but useful conceptual framework through which European countries' provision could be sited. Reflecting the tensions summarised above, it stated that countries in general "may be placed on a spectrum with an approach based clearly on mainstream education at one extreme and a far more separatist approach at the other" (p. 25). At the former end it stated that the needs of gifted children are "addressed via a general policy of education based on a differentiated approach and on attention paid to individual pupils in mainstream classes" while, on the other, that policy might be described as highly selective with the criteria "based on performance and attainment criteria". The Nordic countries, it observed, were nearest to the former model, while some eastern European countries were nearer the latter. In summary, it stated that:

¹ Referenced to Colm O'Reilly of The Irish Centre for Talented Youth (CTYI), Dublin City University.

The majority of countries lie between these two extremes and opt for an approach combining measures for integration at school with the formation also of a number of separate groups, particularly for non-school based activity. Virtually all countries enable gifted children to progress through school faster (p.25).

Commenting on Ireland, the report said that the concept was viewed restrictively and limited to general intelligence and cognitive ability (p.11).

In 2009 a review of educational policies within 24 European countries, concerning the education of gifted learners and their implications for practice policy, was conducted by the European Agency for Development in Special Needs Education (2009). This provides a summary of the relevant legislation in Ireland:

In Ireland the most recent general education legislation (*Education Act 1998*) included 'giftedness' under the definition of the term 'SEN'.² However, this legislation did not provide any specific indication on how gifted pupils could be supported and was not followed by any policy or implementation measures. It simply suggested that pupils with special educational needs should, like all children, receive an education appropriate to their needs and abilities. In contrast, the most recent special needs education legislation (the *Education for Persons with Special Educational Needs Act 2004*) did not mention or apply to gifted pupils. This reflects the fact that giftedness is not included with special needs education for administrative or resource allocation purposes (p. 12).

In 2007 the National Council for Curriculum and Assessment produced *Exceptionally Able Students: Draft Guidelines for Teachers* (NCCA, 2007) which, in turn, drew on a comprehensive literature review – *Gifted and talented children in (and out of) the classroom* (2006).³

As mentioned above, the NCCA guidelines acknowledged the conceptual uncertainties outlined in SERC but, again reflecting SERC, placed these pupils within the 'special' category:

The term exceptionally able is used in the guidelines to describe students who require opportunities for enrichment and extension that go beyond those proved for the general cohort of students (p. 7).

The guidelines also allowed for ambiguity and flexibility in terms of definition and identification which, in turn, extended to schools' policy development.

The *Centre for Talented Youth, Ireland* (CTYI) was established in 1992 'to provide for students with high academic ability'. Part of its entrance criteria is an achievement of 95th or higher percentile score relating to mathematical and/or

² The expression used in the Bill was 'exceptionally able students'.

³ The term 'exceptionally able' is used in this document and in the 1998 Education Act and, thus, is the term adopted by SESS.

verbal reasoning ability (www.dcu.ie/ctyi).⁴ Referring students to CTYI featured highly as a main response in many schools that became involved in EoC, even though concerns were usually expressed about costs and about the dangers of elitism. Getting schools to re-focus their practice on inclusionary principles and procedures – as for all other SEN categories – was an initial task for the initiative.

In relation to actual guidelines for school provision and pedagogy, the NCCA Guidelines, while attempting to navigate a middle ground in terms of concept and definition, provided clear guidelines for school implementation. Taken in conjunction with the Inspectorate's *Inclusion of Students with Special Educational Needs: Post-primary Guidelines* (DES, 2007), these provided a very coherent framework from which SESS, as primarily a CPD and support agency, could approach the implementation of the initiative.

Approach to the Project

In relation to approach, the title of the SESS project ('Equality of Challenge') reflects that of the European Agency for Development in Special Needs Education which, after exploring the evolving conceptual basis of inclusion, stated that in common with UNESCO it understood inclusive education in terms of the 'presence', 'participation' and 'achievement' of all learners across the curriculum' (IEA, 2010: 8). Thus, pedagogical approaches and supports for pupils suggested by SESS lean very much towards the 'inclusive' mainstream end of the Eurydice 2006 spectrum mentioned above, rather than towards the 'separatists' end.

In anticipating this context, the project took a twin-track approach at the outset of focusing on both 'people' and 'systems' development. For example, the value of outlining differentiation strategies to teachers is diminished if teachers do not know who the students with special needs are in their class, or the nature of their particular abilities, needs and related strategies. Such knowledge requires expertise in assessment as well as teachers' awareness of the range of ways in which exceptional or superior ability may present.

The initiative set out the following aim:

The initiative aims to explore a model of good practice, which would support and nurture the development of exceptionally able students, and to see how general principles could be applied in the Irish context. It also sets out to provide a framework and deliverables which can be generalised and used by schools and teachers in developing their provision for exceptionally able students.

A range of potential objectives was also identified. These included the development of:

⁴ In a parliamentary reply in the Dáil on Nov. 17th 2010 [43173/10], the Minister for Education and Skills referred to CTYI's criterion "... as an indicator to teachers of giftedness for purposes of their talent search".

- *professional knowledge and awareness of identification and of learning and teaching in relation to exceptionally able and dual exceptional students*
- *examples of school policy and system development which assist in the identification and assessment of exceptionally able and dual exceptional students*
- *examples of differentiated teaching approaches based on an established inclusion policy*
- *exemplars of strategies for developing the metacognitive skills of exceptionally able and dual exceptional students*
- *awareness of social and emotional issues related to exceptional ability and dual exceptionality, and the addressing of students' needs in this area*
- *strategies to develop an environment and culture in which exceptional intellectual ability is accepted and celebrated by peers*
- *models and examples of school-based sustainable enrichment activities*
- *examples of systems for identifying and supporting socially-disadvantaged exceptionally able and dual exceptional students*
- *models of continuing professional development (CPD) which contribute to the learning and teaching of exceptionally able and dual exceptional students.*

Approach to Implementation and Teacher CPD

While the SESS approach to the project implementation and teachers' CPD evolved over the course of the project outlined above, some core principles were followed from the outset.

Given that little expertise existed and that significant resources could not be provided to schools by SESS, a prescriptive approach with prescriptive objectives and timelines was not taken. Rather, the project was seen as exploratory, providing support to schools to investigate various aspects of the topic which fitted their particular circumstances, while always focusing on the 'end game' of a primary focus on inclusive, differentiated provision in the classroom in line with policy.

Support events organized by SESS for schools, such as workshops for participating teachers, drew heavily on CPD principles such as 'situated cognition' and 'communities of practice'. These principles shift from a behaviourist view of teacher learning and focus on the concept of teachers not as individual learners, but as part of interactive systems that include individuals as participants, interacting with each other as well as other parts of the system (Putnam and Borko, 1999).

The CPD approach also moved beyond once-off, de-contextualized events which are limited in preparing teachers for implementing innovative practices (Ball and

Cohen, 1999) to one that is valuable in developing new skills and confidence (Chai and Merry, 2006). However, this approach also requires sustained support over time and the successful facilitation of the process requires that participants move beyond the friendly exchange to include critique and an examination of personal beliefs (Tripp, 2004).

Thus, in practical terms, EoC workshops – outlined further below – normally followed a pattern of SESS providing knowledge and suggestions, and then creating a safe and trusting forum in which teachers could discuss and share their own understanding and experiences in their schools. The CPD process also took on many metacognitive aspects.

Although the project did not have the capacity to closely support learning communities in the schools, it did encourage and support instructional leadership and communities of practice within schools. These worked to varying degrees, depending on internal dynamics.⁵ Notwithstanding this rather organic approach, SESS did outline priorities and anticipated targets for each phase of the project and these are outlined in the sections below.

Progress of the Project

The project had a limited budget and personnel available and, at times, its continuation from year-to-year was uncertain for a variety of reasons. Because of these constraints it was impractical to develop a multi-annual plan and a flexible approach to the involvement of schools was therefore taken. The progress of the project can be described in three phases.

PHASE ONE: 2008-2010

The project initially involved two pilot schools, both of which had approached SESS for support in the area of Exceptional Ability. These are both mixed schools, the first being a Catholic secondary school with a school population of approximately 1200, while the second is a community college with student numbers just below 450. There was already awareness in both schools concerning some aspects of Exceptional Ability, and there was strong pedagogical leadership along with ‘practitioner catalysts’ (Daly, 2008). This distributed leadership established and maintained the project momentum in the schools. Two such teachers from the schools, one a mainstream subject teacher and the other an SEN teacher, became a significant resource for the project. The two schools worked closely together under the leadership of the SESS Assistant National Coordinator (ANC) who led the project.

At this early stage an ‘Approach Framework’⁶ was developed to guide the progress of the initiative. It had a twin-track approach:

⁵ A flavour of two successful examples are provided from schools’ perspectives in the SESS webcasts on Metacognition, available at www.sess.ie/metacognition.

⁶ This resource will be shortly available on the SESS website: www.sess.ie

- ‘People Development’
 - Knowledge and Principles
 - Methodological knowledge
- ‘Systems Development’
 - School Policy and Systems
 - Practice-based CPD.

The following are some of the activities which took place during this phase:

- An initial SESS support visit was paid to the schools during which there were discussions with Principals/Deputy Principals and key staff
- A workshop was held with teachers from the schools
- The SESS Co-ordinator went on a study visit to the UK, hosted by the DfES Inspectorate.
- SESS funded the lead teacher from one of the pilot schools to attend the CTYI conference in DCU where the keynote speaker spoke about *Issues in the Social and Emotional Development of Gifted Children*.
- A workshop was held in one of the participating schools, where Dr Sarah McAlwee spoke to the EoC leaders and groups from both schools about the concept of Metacognition and its value in supporting the development of effective and independent thinking and learning.
- There was an exchange between the two schools where each of the lead teachers spoke with the EoC/SEN teams in the other’s school: one about differentiation for EA in the classroom, the other about assessment and identification of EA and Dual Exceptional (DE) students.
- Several teachers from each of the participating schools did an on-line *ICEP Europe* (Institute of Child Education and Psychology Europe) course on Gifted Education – in one of the schools this was done as a group project.
- From autumn of 2009 onward, the SESS Metacognition Handbook, *Metacognition for the Classroom and Beyond: Differentiation and support for learners*,⁷ was available as an extremely useful resource in developing student and teacher metacognition.
- Dissemination / CPD presentations were made at an SESS Inclusion Conference and also at the annual conference of the Irish Learning Support Association (ILSA) – this was introduced by SESS with presentations from both schools on:
 - ‘*Dual Exceptionality – a Case Study*’
 - ‘*Subject-based planning to develop differentiation approaches for the inclusion of students with exceptional ability*’.

⁷ Available at www.sess.ie/resources/metacognition

The energy and the impact of the initiative in the two pilot schools was observed to be sustained and carried forward by the engaged leadership of the principals and deputy principals in both schools, along with key teachers. In one of the pilot schools, for example, this resulted in the establishment of a weekly meeting of the EoC/SEN group in which the deputy principal took a very active, participative role. At these meetings, measures that had been put in place and strategies that had been used, by both teachers and the deputy principal, were shared and there was discussion about what was working and what was not. There was on-going monitoring of both 'systems development' and 'people development', with the result that in this school both these aspects of implementation of the initiative were closely linked throughout. This practice sustained the energy of the initiative in the school over the course of the project.

PHASE TWO: 2010-2012

During the third year of the initiative eight more schools joined the project. Some had approached SESS for support in the area of EA; others were approached by SESS so as to have a representative sample of schools involved. One particular concern, for example, was to have a participating school with a high proportion of students from a disadvantaged background so that the project could examine under-identification in this context.

The principals and/or deputy principals of all the schools now involved were invited to a meeting which focused on leadership and the organisational management of the project. It had the following agenda:

- Introduction to the background of the initiative
- Review of the project draft framework: its feasibility in scope, scale, structure and approach
- An assessment of the need for SESS input to the schools on the underlying SEN, inclusion and differentiation principles
- Whole-staff information and possible whole-school approaches
- Development of school policy
- Management, leadership and support of the participating teachers within the 'community of practice' concept
- Identification of areas of the framework on which specific schools / teachers might focus
- Methods of recording of progress and experience within the schools
- Dissemination of experience and outcomes
- Possible timescales
- The production of exemplars of provision and practice.

With the additional schools, the project workshops took on a new dynamic and two day-long events for project leaders/representatives from the schools took place each year. At each workshop there was input from SESS in the form of short introductory presentations on a range of issues related to the support of students with EA or DE, followed by discussion and sharing of ideas and experiences along the communities of practice concept.

A list of priorities was drawn up by SESS and these were mainly focused on:

- Assessment and identification
- Differentiated teaching methods and approaches
- The development of school policy
- Social and Emotional issues
- Internal CPD in schools
- Tracking and monitoring of students.

Along with workshops, SESS provided other support through school visits and by whole-staff seminars on all of the aspects related to the teaching and support of students with EA/DE. Increased interaction and discussion among teachers was encouraged and supported in line with the SESS CPD strategies outlined above. For example, in schools where teachers undertook to do the on-line ICEPE course on *Teaching Gifted and Talented Students*, they were encouraged to do so collectively, and to meet and discuss each module as it was completed. In one of the two original schools, the group of eight teachers who were involved in EoC undertook to do the Second Level Support Service (SLSS) seminars on Assessment for Learning (AfL) together. These approaches led to the groups of teachers becoming cohesive agents of change, with a shared professional language around learning and approaches to learning.

During this period SESS conducted a small-scale survey in 2010 in order to provide a snapshot of provision for Exceptionally Able and Dual Exceptional (EA/DE) students in Irish post-primary schools along with school systems that support it, so that the EoC approach and development and provision might be guided by a more informed picture of the situation. This survey was carried out during a series of full-day post-primary seminars on Exceptional Ability which were presented by SESS. A total of 35 questionnaires were completed by teachers from represented schools. As such, the survey was limited in scale.

Twenty-five questions were asked, arranged in themes, on:

- Policy and Knowledge
- Structure and Organisation
- Learning and Teaching.

Four options were provided for answers to the questions on each theme:

- Yes (provision is developed in this area)
- To a large extent
- To a limited extent
- No (provision is not developed in this area).

A summary of the results can be distilled into ‘Largely Yes’ and ‘Largely No’ answers. These results showed relatively low levels of development in schools in all three areas. For example:

- In the ‘Policy and Knowledge’ section, 91% answered ‘Largely No’ to the statement: *Staff has knowledge of the concept and definitions of Exceptional Ability.*
- In the ‘Structure and Organisation’ section, 71% answered ‘Largely No’ to the statement: *Most teachers know who the EA/DE students are in their classes and are aware of the range and nature of their abilities.*
- In the ‘Learning and Teaching’ section, 74% answered ‘Largely No’ to the statement: *Lesson content is generally differentiated to take account of the needs of EA/DE students.*

The following table (Figure 1) provides a further summary of the responses within each of the three domains.

	Largely Yes	Largely No
Structure and Organization	71 (23%)	237 (77%)

Figure 1.

Given that the respondents were from schools that had elected to send a representative to the seminar, and may therefore be more developed in this particular area, it can be speculated that the results from this cohort of schools could be more positive than those that might result from a more representative sample of schools. While these results have to be treated tentatively given the small sample, they suggested much scope for development in this area.

PHASE 3: 2012-2014

Nine schools worked together on the initiative during this final phase. Others concluded their involvement due to several factors, such as:

- the process had become embedded in the schools that had joined the initiative early
- a change in personnel in some schools meant that the focus had changed
- resource issues in some schools meant that project leaders could not be available for workshops
- some felt that their provision for students with EA/DE had become adequately developed and new initiatives were demanding attention.

Again, a number of priorities were set out during this phase, similar to the previous one but with the addition of Metacognition as an important topic. These topics were reviewed and discussed in much greater depth, as schools chose areas on which to concentrate. SESS supports continued along the same lines, including two workshops per year for a representative from each school and school visits which were supplied as they were requested.

The workshops followed the same CPD strategy as outlined above. For example, the agenda for a 2012 workshop included a number of short, 10-minute presentations by SESS, each of which was followed by input from each of the participating teachers on their progress and experience in this area, along with discussion and sharing of practice and ideas. These presentations focused on:

- Differentiation and Individualised Instruction for Literacy
- Differentiation: Creating Challenge in the Classroom
- Assessment
- Acceleration
- School Policy
- Social and Emotional Issues.

Other workshops included both these and additional areas, such as:

- Metacognition and Developing Higher Order Thinking in the Classroom
- The Relationship between Metacognition and AfL
- Tracking, monitoring and mentoring.

Teachers attending workshops shared their current work on the project with the whole group. Sometimes this was part of an informal sharing of information; sometimes it was more structured – for example through a short presentation, or with a video. The teacher, for example, who represented a school where mentoring of fifth-year students was well established, showed (with permission from all concerned) a video of an interview with a student who was achieving

very highly, but whose grades had slipped (from A to B) in two subject areas. This exercise provided not only an excellent opportunity for teachers to learn from a colleague, but also for them to make thoughtful suggestions for possible modifications in the interview procedure.

Each topic was comprehensively explored at the workshops. When considering assessment, for example, all aspects were investigated: standardised assessment; summative assessment; formative assessment; assessment for learning; assessment as learning; assessment through teacher observation; peer assessment; self-assessment; assessment through interview and so on.

During this phase greater attention was also focused on differentiation and acceleration, with exploration of the different possibilities for providing extension tasks with the classroom. For example, strategies were discussed and tried by teachers for compacting the curriculum and allowing individual or small-group work on extension tasks based on the topic currently being covered by the rest of the class. Metacognition was explored in depth, with several of the schools asking for, and being provided with, whole-staff seminars on metacognition. Schools were also provided with whole-staff CPD on Exceptional Ability by SESS, whenever requested.

Tracking and monitoring of students with EA/DE was initiated in some schools, with one school instituting a mentoring scheme for students from the beginning of their fifth year. In this instance, meetings were organised with students who were seen to have inconsistencies in achievement or who were underachieving, on-going support was offered in study skills and advice was given about time management. Similarly, when there was a significant improvement in achievement or if there was other success outside of academic work, the mentors made a point of meeting with their students to affirm their effort and/or achievement.

The teacher feedback on the support received from the project is not included here, but it was overwhelmingly favourable.⁸

Summary of Outcomes and Learning from the Initiative

The main aim of the project as set out in 2010 was achieved, along with the potential objectives, to varying degrees. The following is a summary of the main outcomes and examples of learning from the initiative:

Main Outcomes

SESS considers that the main purpose of the initiative was successfully achieved – i.e. it strongly contributed to the development of a support structure in the area of Exceptional Ability and Dual Exceptionality by SESS.

⁸ Detailed feedback is available in the full Report on the Equality of Challenge Initiative on www.sess.ie/equality-challenge

By the end of the project period SESS had a comprehensive range of supports in place, where there had been none before, and much expertise was developed. The initiative was very helpful in this regard.

Through exploring the practicalities of applying internationally-recognised principles to the everyday Irish context and conforming to Irish policy on inclusion, the project provided a clear picture on what a school with good provision in this area ‘looks like’ – i.e. how its systems of assessment, differentiation and support might work within inclusion policy.

The project also helped us to refine our understanding of the concept of ‘Exceptional Ability’, which comes with a variety of titles and understandings: e.g. ‘Giftedness’, ‘Gifted and Talented’, etc. Along with this, it provided a clear insight into the ‘SEN’ dimension of exceptional ability, showing how it works well in practice within a special needs understanding in Irish schools.

Participation in the initiative also had a positive impact on the schools involved and the type of CPD provided sometimes resulted in the impact going beyond the immediate EA/DE area in the schools.

Much work was done in the area of Metacognition as part of the project and metacognitive strategies were identified early as being potentially fruitful. In 2009 SESS commissioned Dr. Sarah McElwee, University of Oxford, to assist in the development of a resource for schools which was finalized by SESS in 2009 as *‘Metacognition for the classroom and beyond: Differentiation and support for learners’*.⁹ In September 2009 the initiative ran a workshop on metacognition for Equality of Challenge teachers, at which Dr. McElwee attended, and schools subsequently explored the strategies. These proved successful for both teachers and students. SESS subsequently developed a seminar for teachers which was later developed as a webcast¹⁰.

Examples of Learning

Many schools are unsure initially about what they mean by ‘exceptional ability’ and interpretations of the concept can vary within the school. For example, some initially see the field as a means to give very good academic students a form of additional ‘boost’ rather than provision for those within the ‘special’ category. Schools attempting to improve provision face immediate practical questions such as:

- ‘What is the definition?’
- ‘How do we identify the pupils?’

⁹ Dr. McElwee authored the background document to the NCCA’s 2007 guidelines – *‘Gifted and talented children in (and out of) the classroom’* (NCCA, 2006).

¹⁰ See www.sess.ie/resources/metacognition

- ‘Do we tell the parents and/or the students?’
- ‘Do we actually give them a category?’
- ‘What activities should we have for them?’
- ‘Is there a danger of elitism?’

Schools can also struggle with policy formation around issues but the project found that its main advice works well:

- To focus on the NCCA’s concept of ‘students who require opportunities for enrichment and extension that go beyond those proved for the general cohort of students’ (NCCA 2007) – this helps teachers to conceptually see the issue within the SEN category.
- Not to let issues around definition and identification take away from the focus on developing differentiated provision in the classroom, which tends to be similar irrespective of the interpretation of the concept.

As the project developed it became clear that the area of Assessment was very important – that appropriate teaching was difficult without identification of students and their particular traits, strengths and needs. This was even more important in relation to dual exceptionality.

In line with international trends it was found that teachers were weak at identifying exceptionally able students without CPD input. For example, very able and high-achieving students tended to be identified even though they may have not been within the category while other ‘types’, such as those who had become frustrated, disaffected and disengaged, remained unidentified. Again in line with international findings, these issues improved greatly with support and CPD.

A small-scale study conducted by SESS in 2010 – outlined above – suggested that, without CPD input, schools in general were weak in terms of knowledge and policy in the area, in assessment and identification systems, and also in relation to differentiated pedagogy. The project also found that it was necessary for schools to keep a constant focus on inclusion – i.e. that the main provisions should be in the form of differentiated pedagogy in the mainstream classroom rather than on secondary, ‘extra-curricular’ activities.

As with in many other aspects, the Leaving Certificate and the points system tended to dominate thinking, with the Leaving Certificate being seen as ‘the end game’, and without an understanding that some exceptionally able students may be underachieving even though ‘scoring’ very highly in the points system – i.e. that the Leaving Certificate was putting a ‘glass-ceiling’ on expectations.

The project also found that without CPD there was a limited understanding of the social and emotional issues which are related to EA, and it concluded that it is especially beneficial to have somebody in the school with a more advanced understanding of these.

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Peer Tutoring: An Effective Strategy Offering Real Potential

Catherine Flanagan

Peer tutoring refers to the concept of ‘students teaching other students in formal and/or informal school learning situations that are delegated, planned and directed by the teacher’ (Wagner, 1982:5). Peer assisted learning is by no means a new phenomenon in education. As far back as 1647 Baltasar Gracian (cited in Topping, 2001:5) suggested ‘Make your friends your teachers and mingle the pleasures of conversation with the advantages of instruction’. The first systematic use of peer tutoring in the world is associated with the names Joseph Lancaster and Andrew Bell in the late eighteenth century. Currently, different models of peer tutoring are in vogue as applications of the central principles of collaboration. Same-age peer tutoring involves pairing students in the same class group of approximately the same or differing academic ability. Cross-age tutoring pairs an older student (tutor) with a younger student (tutee). Reciprocal peer tutoring has been used successfully with students with mild learning difficulties in regular education settings to meet the individualised needs of students (Maheady, 2001). The co-operative role reversals are beneficial because students have a chance to be both tutor and tutee (Fantuzzo, Riggio, Connelly and Dimeff, 1989).

This paper examines the benefits of peer tutoring, in particular cross-age tutoring, based on existing research on peer-assisted learning strategies and on the writer’s experience of organising and implementing peer-tutoring programmes. The best practices for peer-tutoring are identified and recommendations for running a successful programme are outlined.

Research Evidence for Effectiveness

Peer tutoring has been extensively researched as an effective strategy to engage students and promote improved motivation for learning for a diversity of learners within a wide range of content areas. Feldman, Devin-Sheehan and Allen (1976) in a rigorous review of research concluded that peer tutoring reliably resulted in improving attainment of both tutors and tutees. Much of the research has placed more emphasis on explaining the positive effects on tutors. The writer’s experience of recent research projects indicated that tutees can similarly benefit. By participating in a peer-tutoring scheme tutees receive individual attention and the systematic feedback necessary to make real advances in the subject area being studied (Goodlad and Hirst, 1990:7). Peer and cross-age tutoring have been widely used to enhance literacy skills development and

Baroody (1993) also reports positive outcomes from establishing classroom situations where one student assists another in mathematics. Substantial improvements in reading grade-equivalents for under achieving tutees, following tutoring interventions of relatively short duration have been reported (Morgan, 1986; Wright and Cleary, 2006). Cohen, Kulik and Kulik (1982) located more than five hundred titles relating to tutoring and carried out a 'meta-analysis' of them, concluding definite and positive effects on the academic performance of tutees.

Although cognitive gains have been well-documented there is less strong evidence for affective gains. Research results claim improvements in both tutors and tutees including:

- improved motivation to participate in academic tasks
- improved attitude to school
- improved communication skills and ability to work co-operatively (Wright and Cleary, 2006)
- improved self-worth, self-esteem and self-confidence (Connelly, 2009; Miller *et al.*, 2010) – particularly important for students in receipt of learning support who will have experienced failure at some stage in their schooling
- increased sense of responsibility (tutors) (Topping, 2001)
- improved attitude towards school-work, particularly the tutees (explained by the tutor acting as a positive role model influencing the tutee) (Charlton, 1998).

A cross-age peer tutoring programme is an excellent mechanism for providing social interchange and growth within a school (Topping, 2001:29). Topping further claims, from the point of view of the tutor being a 'friend' of a high status, high attaining older student, it is likely to enhance the tutee's self-esteem. This is particularly important in the adolescent years as students retreat from the influence of their parents. Evidence from recent research projects in both literacy and numeracy, undertaken by the writer in a post-primary setting, further indicates that cross-age peer-tutoring has the capacity to:

- enhance motivation of all participants
- improve significantly perceptions of competence
- encourage students to become self-motivated independent learners
- give frequent, early and positive feedback that supports beliefs that they can do well
- make students active participants in their own learning

- create a pleasant and supportive learning environment
- recognise individual students' learning style, interests, strengths and needs
- allow students to be involved in decision making, giving them a sense of ownership and responsibility
- develop positive social interchange between senior and junior cycle students in a school
- develop communication skills of both tutor and tutee.

Why does peer-tutoring work?

According to Vygotsky's theory of cognitive development, each child is born with a set of abilities such as attention, perception and memory. Input from the child's society in terms of interactions with more skilled adults and peers then moulds these abilities into more complex higher order cognitive functions (Hetherington and Parke, 1993:332).

Learning things with the help of another – things that a child cannot learn alone – is called *learning in the zone of proximal development* (Vygotsky, 1978). It is learning that can happen because it is supported by a more knowledgeable other (Blachowicz and Ogle, 2001:29).

The more knowledgeable others – the tutors – can scaffold learning for the tutees in a way that is enjoyable and beneficial for both groups.

In a peer-tutoring situation, the expert party is not very far removed from the novice party in authority and knowledge. Such differences affect the nature of discourse between tutor and tutee because they place the tutee in a less passive role than does the adult child instructional relationship (Damon and Phelps, 1989:138). Topping (2001) outlines a number of reasons for the success of peer-tutoring programmes:

- The vocabulary used by tutors might be vernacular, simple and more readily accessible than that used by teachers.
- The one-to-one attention inherent in a peer-tutoring situation gives a greater quantity of opportunities to question and be questioned, although the quality of questioning and answering by the tutor is likely to be significantly poorer than that of the professional teacher.
- When tutors detect errors they are often able to give feedback to the tutee more immediately than the teacher.
- Social reinforcement from peers is qualitatively different from that of teachers and might be equally or more effective.
- Can result in increased confidence and sense of adequacy in the tutors.

- Makes heavy demands on the communication skills of both tutors and tutees and in so doing develops those skills.
- As the relationship develops both tutor and tutee should be more consciously aware of what is happening to them in their learning interaction, and be more able to monitor and regulate the effectiveness of their own learning strategies in different contexts. This development of metacognition should make tutor and tutee more confident of achieving and attribute success to their own efforts.

This cooperation in a learning situation results in greater positive feelings between students and higher self-esteem and empathy (Miller *et al.*, 2010; Johnson *et al.*, 2004). Scruggs and Mastropieri (2000) also point to the increased sense of ownership of academic endeavours as being a factor that contributes to the success of peer and cross-age tutoring programmes.

Organising and Implementing a Peer Tutoring Project

‘Careful planning and implementation are essential features of a successful project especially if the project is a first venture’ (Topping, 2001:39).

Peer tutoring offers many possibilities but setting up an effective project requires enthusiasm and commitment on the part of the teacher. It would be a great mistake to consider this strategy as an easy option. Before commencing a programme it is advisable to outline the details of the proposed project and seek the consent of parents/guardians and participants for their involvement. Participants’ rights to confidentiality and other such matters need to be established from the beginning. The ideal at the conclusion of the programme should be to inform parents/guardians of how the participants have progressed. Both quantitative and qualitative techniques need to be employed to enable process monitoring. Some quantitative testing method needs to be administered at the beginning and end of the project to determine progress.

Qualitative data techniques, including observation, personal field notes, discussion and feedback sessions, daily record sheets, questionnaires and checklists, provide invaluable information for the effective implementation and evaluation of any peer tutoring programme.

Profiling Tutees

Providing some information about the difficulties of the tutees helps to empower tutors and develop empathy. However, careful consideration needs to be given to the sensitive and confidential nature of this information. Tutors should not be made aware of the specific learning difficulties or the reading/maths ages of the tutees. Each tutor may be given an outline of the interests, strengths and needs of the tutee in the required area of literacy/numeracy. At post-primary level tutors are mature enough to deal with this information and also require prior knowledge of tutees’ strengths and needs to ensure progress and development

during a project. Knowledge of the tutees' interests is important for tutors, because the discovery of a shared interest can do much to cement the bond between the two (Topping, 2001).

Selection and Matching of Participants

It is advisable to keep numbers small, particularly for a first venture – up to eight tutor/tutee pairs. Tutor volunteers can ensure definite and positive commitment, but each individual situation needs to be examined. Previous behaviour patterns, attendance records and sporting or other commitments of proposed tutors are of key importance. Absenteeism can cause significant disruption to continuity and progress. Extra tutors may be needed to act as substitutes in the case of absenteeism. It is recommended that tutor personnel changes should be kept to a minimum during the course of a scheme to avoid upset for the tutees.

Care should be exercised when participants express partner preference. While some tutees might show great maturity in selecting a tutor, others may have less than admirable motivations. However, the organiser needs to consider any concerns the tutee may have being tutored by an older peer.

Nugent's (2001:74) findings suggest that same sex pairings seem to work best socially and requests for change of partner are more frequent from opposite sex partners. Topping and Whitely (1998) concluded that male-male tutoring combinations worked well, with benefits for both tutor and tutee. Mixed gender combinations were considered better for tutors and all female combinations were better for tutees. Topping (2001:12) suggested that students tend to prefer a partner of the same gender, but there was no evidence to suggest that cross gender matching reduced attainment gains. Goodlad and Hirst's (1989:146) key advice is that an older boy should never be matched with a younger girl. In the writer's experience it is crucially important that tutees are comfortable with their tutors to maximise self-esteem. In this context a differentiated approach taking each case individually is to be recommended.

An analysis of available research indicates that an age difference of between two and four years between tutor and tutee is preferable. Sharpley and Sharpley (1981) also suggest resentment or personality clashes are less likely to occur if a minimum differential of two years exists between tutor and tutee.

Training and Programme Design

Many advocates of peer tutoring stress the importance of implementing appropriate systematic training procedures for tutors to ensure the success of an intervention. Trained tutors are consistently found to use more effective strategies than untrained tutors. Suggested training strategies include:

- Direct instruction and supervised practice activities to rehearse good behaviours, prompting and giving positive reinforcement (Chapman, 2000:69).

- Topping (2001:84) strongly recommends having tutors and tutees together from the onset of training, so that both receive exactly the same message and to facilitate immediate practice of the techniques to be utilised. He further emphasises that training partners together from the start conveys the impression that ‘we are all in this together’ and serves to avoid any tutors developing an air of superiority. In the writer’s experience having tutors and tutees together for most of the training sessions helps to allay any feelings of inadequacy the tutees may have. Tailoring the training so that tutees understand it ensures accessibility to all participants.
- Periodic training and debriefing sessions are necessary during the course of a tutoring programme to help tutors refresh their skills and to allow discussion on any problems that may arise.
- Topping (2001:92) recommends ‘dictionaries of praise words and phrases can be brainstormed from the tutors and may also include tutees ideas’. This provides consistent and constant support during tutoring sessions and confirms for tutees that their contribution is important.

Process Monitoring and Evaluation

Frequent monitoring is important to maintain protocol integrity and enhance the durability of tutoring outcomes (Chapman, 2000:70). Lapses in treatment strength during peer tutoring programmes have been directly linked to decline in student achievement. Teachers can monitor the implementation of a tutoring programme on an informal basis, moving routinely through the classroom and observing the frequency and nature of student interactions (Maheady, 2001). The writer recommends direct observation by the teacher to ensure the quality of technique, to check that pairs are maintaining positive social relationships and to generally review the complexity and richness of the learning task taking place. Regular review meetings between coordinator and the tutors and tutees, separately or together, are an essential component of any project. Time for discussion and feedback is necessary to allow reflection, to identify problems and to implement any necessary changes. It is important to listen to the voice of participants and to ensure their opinions are recorded.

Following discussion on what is required, it is beneficial to draw up tutor and tutee checklists of the elements of the necessary technique. These checklists need to be completed at regular intervals during the period of the tutoring programme. Analysis of the checklists may indicate the need for retraining or reminding of the key aspects. Comparison of the checklists at the termination of a peer tutoring project is beneficial to track changes in attitude and behaviour of participants.

Questionnaires administered to the tutors and tutees at the end of a project can provide valuable information on the positive and negative aspects of the tutoring sessions from their perspective and can be used to gauge their overall response to the scheme. Topping and Whitely (1993:17) recommend this formal approach stating that verbal comments and opinions gathered informally yield

'only fragmentary and anecdotal data' which is difficult to compare from one project to the next.

Roles and Responsibilities

House rules need to be established at the beginning of the project. McKenna and Stahl (2003:80) recommend the use of reflective diaries by the tutor to recall relevant details of the experience. Self-recording gives a tangible demonstration of achievement and progress for the participants and is particularly suitable for peer tutoring projects at second level. The writer recommends that the record keeping be shared by tutor and tutee. For example, the tutee could record basic details such as date, title of lesson topic and the tutor records words of praise or other comments.

The teaching role of the tutors will be reinforced by requiring them to keep a record of each session, to remind tutees of meeting times and by the coordinator not being seen to monitor them too closely.

Coordinator

It is recommended that one person takes overall responsibility for the running of a peer tutoring programme. Tutors and tutees must be trained, supervised, monitored, encouraged and sometimes reminded of their appointments, tasks and responsibilities, and teachers and parents need to be kept informed about the scheme. The quality of the organisation of the programme can affect the attitudes of all participants and subsequent outcomes (Winter, 1990).

Time-tabling

There is no consensus regarding the amount of time that should be devoted to peer tutoring sessions or the length of a peer tutoring programme. Suggestions include:

- Ninety minutes daily five days each week (Greenwood *et al.*, 1995, cited in Maheady, 1998).
- Thirty minutes daily, three times per week (Fuchs and Fuchs, 1992-1993, cited in Maheady, 1998).
- Minimum three fifteen to twenty minute sessions per week (Topping, 1998).
- Tutees tend to find twenty minutes too short and forty minutes too long (Fitzgibbon, 1990).
- Programmes from two weeks to two years have been effective (Goodlad and Hirst, 1989).

The writer consistently obtained statistically positive results using an eight week period of forty minute sessions three times per week.

Same class, same age peer tutoring projects do not have the same time-tabling difficulties as cross-age programmes between different classes. Kennedy (1990) suggests the use of early morning time before formal classes commence or the

use of lunch-time periods for tutoring sessions. The writer believes this approach would effectively turn into a voluntary programme and that certain students would inevitably be unable or unwilling to fully participate.

The timings of tutoring sessions need to be chosen carefully. Classes immediately after lunch break are best avoided, if possible, as lunchtime activities and consumption of certain foods can lead to lack of punctuality and behavioural difficulties for some students, reducing significantly time on task. Peer tutoring programmes are an ideal focus for Transition Year (TY) curriculum in post-primary schools. The flexibility of the TY timetable is ideally suited to setting up cross-age peer tutoring modules.

Concluding Thoughts

Cross-age peer tutoring offers many possibilities and is an under-used strategy in Irish post-primary schools. Results obtained from analysis of extensive qualitative and quantitative data from peer tutoring projects conducted by the writer suggest that a cross-age peer tutoring programme is an effective way of improving both the literacy and numeracy skills of the tutees. There is ample research evidence to indicate that cross-age peer tutoring projects provide an effective methodology for use in schools to improve the learning experience of all students. The findings demonstrate that peer-tutoring is an intrinsically motivating experience that offers much at secondary school level in terms of motivating adolescents to participate more actively in their own learning.

The findings of the writer concur with Topping's (2001) suggestion that developing meta-cognition results in making both tutor and tutee more confident that they can achieve and in ensuring that both tutor and tutee attribute success to their own efforts. The richness of the educational experience is improved for all students when they are active participants in a mutually supportive environment.

Tutors, when given sufficient latitude, develop learning opportunities and increase engagement for the tutees, giving positive feedback and reinforcement resulting in improved motivation. Positive feelings, associated with being seen as a helper with valuable skills, generate increased self-confidence and motivation in tutors (Nugent, 2001).

A cross-age peer tutoring project provides an excellent mechanism for providing social interaction within a school, particularly in the teenage years when peer influence is at its peak. Many such projects conducted in the context of learning support in Irish schools have involved both tutors and tutees with learning difficulties. However, in recent projects conducted by the writer, tutors who did not have learning difficulties themselves demonstrated the capacity to show immense sensitivity and responsibility to their tutees and accrued significant cognitive and affective gains themselves.

Setting up and running a successful peer tutoring programme is definitely time-consuming, but it provides an ideal mechanism for allowing participants to

develop the skills of self-regulation and self-managed learning through affording choice in a supportive environment. Teachers sometimes believe that to be effective they have to control the learning environment, particularly for students with learning difficulties.

It must be emphasised, however, there is no ‘quick fix’ solution – each student has specific strengths and needs and must be tutored accordingly. Responding to the individual needs of the tutee is an essential component of any successful project. Once sufficient guidance is provided, teachers should not be afraid to give students more control over their own learning environment and thus not restrict the opportunity for them to become autonomous learners.

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Consulting with Groups of Teachers

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Abstract

This article reports an approach to the delivery of educational psychology services in which educational psychologists offered consultation to groups of teachers, to help them find solutions to school-based problems. Findings from a two year pilot project are presented, along with an overview of how the practice of group consultation has developed in the following two years.

Data was collected from teachers, school principals and psychologists. Findings indicate that group consultation is an effective method of service delivery, particularly for clusters of smaller, rural schools. This report considers aspects of group consultation that could be further developed and new directions for this model of working.

Introduction

Group consultation was developed in the South East / South Midlands region of NEPS, with the following aims:

- To find a cost effective way of delivering psychological services to schools, particularly small rural schools
- To embed documents developed by NEPS which outlined approaches to supporting children with social, emotional and behavioural difficulties
- To offer teachers experience of problem solving and solution focused approaches and collaborative support.

Teachers were trained by educational psychologists in group consultation processes. After that, group consultation sessions were offered, typically on a termly basis (three times per year). The group consultation sessions were facilitated by two psychologists. A formal process was followed. A pilot project ran for two years and was evaluated using quantitative and qualitative methods. Data was collected from teachers, school principals and psychologists. In the following two years, the practices of group consultation were further expanded and developed.

Literature Review

Consultation underpins much of the work of the National Educational Psychological Service in Ireland. However, in the context of this project, a very

specific group consultation process is being evaluated and this needs to be understood in the context of previous research and practice.

Consultation in Educational Psychology

One of the problems in talking about consultation, is that there is a plethora of models, approaches, techniques and experts. Many use different terms to describe very similar processes and this can be confusing. Caplan (1970) developed the mental health consultation model, where the emphasis was on indirect work with a client, through the consultant's work with a consultee (both consultant and consultee are mental health practitioners). This model is often applied to schools, as the teacher is seen to be in a professional relationship with the consultant (in this case the educational psychologist) and the client (the child) receives an indirect service. This in turn is sometimes described as Consultee Centered Consultation. Consultee Centered Consultation is used in Sweden, Israel and the US (see Lambert, Hylander and Sandoval, 2004 and Rosenfield, 2013).

More specifically, in the field of educational psychology, Wagner describes consultation thus:

The aim of consultation in school, whether at the individual, group or organisational level, is to help teachers to find solutions to school-based concerns or issues so that progress can be made in the most effective way possible (Wagner, 2000).

It should be noted that consultation in educational psychology is not conceived as an alternative to traditional assessment work. Indeed, assessment work is more effective if consultation is part of the assessment process.

Consultation services undergird and strengthen the impact of virtually all other professional activities performed by school psychologists. Assessment results, in and of themselves, for example, are unlikely to produce positive educational and psychological changes for children unless they are followed up by effective consultative interactions with significant adults in the children's lives, such as teachers and parents (Gutkin and Curtis, 2009, p.620).

Not surprisingly, effective consultation skills have been developing in the practice of educational psychology over a number of years. Larney (2003) outlines the "push towards more consultative ways of working"(p.5). Like many other educational psychology services, NEPS has been working to develop practice in consultation. What is described here as 'group consultation' is nothing more than one version of a group consultation approach. This has been named the Waterford Model. For clarity, the key influences on the Waterford model are briefly outlined here:

- Process consultation
- The problem solving approach
- Solution focused/ orientated approaches.

Process Consultation

This term is widely used to describe a process or set of steps that are followed in the consultation. Hanko (1995) developed a forum for teachers to work together in collaborative circles and she described this as a 'consultative joint problem solving approach'. This work was further developed by Stringer, Stowe, Hibbert, Powell and Lowe (1992). Both in Powys and Lewisham, clusters of schools have been offered group consultation processes and these are reviewed by Evans (2005) and Dowd and Thorne (2007) respectively. Farouk (2004) also developed a four stage process consultation model. Duffy and Davidson (2009) in Northern Ireland also developed a group consultation process.

Problem Solving Approach

Many models of consultation claim to have a problem solving approach at the core, for example, see Hanko's model, cited above. Problem solving can be used in 1:1 consultations or when working with groups or teams.

The steps in the problem solving analysis proposed by Monsen (See Monsen, Graham, Frederickson and Cameron, 1998 and Monsen and Frederickson, 2008) were also influential in the development of the Waterford model.

Solution Focused/ Oriented Approaches

The language and skills of brief solution focused therapy has been applied to consultation. For example, Harker (2006), Rees (2008) and Alexander & Sked (2010). Many models of consultation use solution oriented language, such as exceptions, miracle questions and scaling questions.

The Waterford model was a pragmatic amalgamation of process consultation, a problem solving approach and the use of solution orientated language.

Key Constructs in Consultation

The models of consultation outlined in the literature review above share a number of key constructs. Four core constructs are common to these models:

1. Consultation is a problem solving process that involves a number of steps or stages that are progressed through sequentially.
2. The success of the process of consultation depends on the relationship between the psychologist and the teacher / parent.
3. Consultation is both a remedial and preventative intervention.

4. The consultation process helps the system to build capacity to solve similar problems in the future.

Rationale for Group Consultation in NEPS

A key issue for the NEPS service is how to deliver a meaningful service to small schools and make best use of staffing resources. Additionally, concerns about students with emotional, behavioural and social difficulties are increasing. In 2009, NEPS published *Behavioural, Emotional and Social Difficulties, A Continuum of Support- Guidelines for Teachers*. It was felt that the psychological service needed to support the implementation of these guidelines.

In supporting children with difficulties, as Gutkin and Curtis (2009) point out, the impact of the educational psychologist is a function of actions taken by others:

Although not intuitively obvious, the impact of school psychologists on children is typically a function of actions taken (or not taken) by adults other than the school psychologists in the school and home environments of children' (p. 592).


It was felt that offering a group consultation model to schools might address many of the above issues. Schools (even very small schools) could be clustered together to receive a regular service. A group consultation process could use the problem-solving and solution-orientated frameworks espoused in the *Continuum* documents and the teachers could be offered the opportunity to work collaboratively, particularly to address issues of emotion, behaviour and social difficulty. There were clear efficiencies in a model that allowed groups of teachers to be met together:

- Psychologists spent less time travelling between schools
- Psychologists were not repeating consultation conversations on the same theme
- Teachers could learn from each other and offer local support
- Schools, through engaging in this process, were expected to develop their capacity to respond to needs.

Pilot Project – Introducing Group Consultation to Irish Schools 2011-2013

The Waterford model of group consultation is summarised in a poster which set out the purpose of the consultation sessions, the ground rules and the steps of the process (*Figure 1*). The process followed a reasonably tight structure. Generally, schools were advised to set aside 1.5 to 2 hours for a group consultation session. Within this time, it was expected that up to five teachers would be able to bring a concern to the forum.

Figure 1: Group Consultation Poster




Group Consultation Ground Rules and Process

The purpose of this group is to provide a supportive, non-judgemental forum where school staff and psychologists can discuss concerns and generate solutions.

These are our ground rules:

- Confidentiality will be clarified and agreed at the beginning of each meeting
- We are all responsible for the effective running of this group
- We talk to and about people with compassion and respect
- Everyone's contribution is equally valued
- We all try to contribute creative ideas
- We aim to be positive and encouraging
- We all listen when someone is talking
- We are mindful of time constraints



Mobile phones off please!

These are the Steps in Our Group Consultation Process:

	Person with Concern	Group	Time Needed
Step 1 The description	Outline concerns Say what you want from session	Listen and reflect Do not comment/ ask questions yet	6 mins
Step 2 The reflection	Listen and reflect	Ask questions, clarify, encourage, reflect	6 mins
Step 3 The key concern	Summarise main priorities	Listen and reflect	1-2 mins
Step 4 The brainstorm	Listen and reflect	Generate creative, supportive, positive solutions. Share experiences	6 mins
Step 5 The preferred solution	Select preferred solutions and ask for clarity/ support	Listen, reflect and clarify	2-4 mins
Step 6 The first steps	Tell us what first step you will take, (within 3 days)	Listen, reflect and encourage	2-4 mins

From September 2011, group consultation was offered on a pilot basis. Schools who volunteered to participate in the pilot were clustered together, largely based on geography. In some instances, psychologists offered group consultation *within* a school (rather than to a cluster of schools) where there was a reasonably large staff and many issues presenting that seemed appropriate for this type of service. This form of group consultation was thought to be especially useful in a large special school. We also offered group consultation to teachers working in ASD classes, drawing together teachers from a number of different schools. It should be noted that other NEPS services, such as assessment work, in-service, and other support and development work continued to be offered to all schools, although the time for consultation had to be found from within available resources.

Typically, once schools committed to the pilot, psychologists trained whole staff groups (often in clusters) in the group consultation process – this training was completed within one hour.

Methodology

From the outset, the pilot project was set up with the evaluation built into the process. NEPS needed to know if this was a viable model of delivering some services, whether it was valued by teachers and schools and whether it made a difference to children. As Larney (2003) points out, “*Neither the quantitative techniques nor the qualitative techniques are sufficient on their own for the evaluation of consultation*” (p. 13), and for this reason, mixed methods were used.

In order to evaluate the project, data was collected in the following ways:

1. **Questionnaires from psychologists (N=34)** collected at the end of each year, about the process and their experience of it.
2. **Group consultation records (N=91)**, These were recorded by the psychologist during the session, with notes about the nature of the concern and the solutions generated and data about the age / gender of the children.
3. **Session evaluation forms (N=205)**, which were completed by teacher participants after each session.
4. **End-of-pilot phase evaluation for principals and teacher participants (N=76)** used at the end of the 2 year process, summer term 2013.

Research Findings

Group Consultation Records

In total, 91 group consultation records were completed by psychologists. Eighty percent of consultations were about individual children, while 20% were about

groups of children or general queries. The mean age of children who were discussed was 8.3 years, with 82% of cases being boys and only 18% being girls. Over 74% of cases related to behavioural and emotional difficulties. Many of the cases discussed were complex, with concerns about behaviour, emotion, learning, home life and social skills. It was also noted that a number of cases discussed in mainstream settings involved children with ASD or suspected ASD.

Quantitative and Qualitative Data from Psychologists

All the psychologists in the region were sent questionnaires at the end of Year 1 and Year 2 of the pilot project. Overall, there were 12 cluster groups running in 2011/ 2012 and 10 cluster groups running in 2012/2013. In both years, psychologists were asked to comment on how group consultation was working, using an open-ended question. Using a content analysis approach (Wilkinson, 2003) it was found that responses clustered around a small number of themes and could be counted. There was a very consistent picture. There was a belief that the pilot project was working well, that teachers valued it and that the format and process were valued by teachers (See Table 1).

Table 1: Psychologists' Views of how Group Consultation is Working

	Working Well	Teachers Engaged	Value of format / process
Year 1 N=16	10	7	4
Year 2 N=15	11	7	2

Other comments revealed that the focus on behaviour difficulties was seen as positive (N=2), that teachers valued having access to advice, information and strategies (N=5) and that it was a good use of psychologists' time (N=3).

Over the two years, 4 psychologists mentioned that there needed to be viable numbers in the groups, and enough 'cases' to keep the group active. Psychologists also noted that schools valued the training sessions.

The ASD group consultation process worked really well in the one session we have had. All staff reported that it was great to meet as a group and share expertise. Q9

Group consultations are working extremely well. The feedback given is generally positive and the information given/ strategies learned are highly appreciated by the teachers. I have also learned a lot from working with the teachers at these sessions. Q1

Quantitative and Qualitative Data from Teachers- session evaluations

At the end of each group consultation session, participating teachers were asked to complete session evaluation forms. While the advantage of this was immediate

feedback, teachers may have felt that handing the ‘anonymous’ feedback form directly to the psychologists compromised their freedom to make criticism. In total 205 session evaluations were collected over two years, from 32 different group consultation sessions.

There were three key questions, with a 10-point Likert Scale. These questions were drawn from the work of Evans (2005).

1. Did this session enable you to devise a plan of action which responds to your concerns?
2. Did this session enable you to benefit from the experience and skills of other colleagues in addressing your concerns?
3. Did this session enable you to contribute your skills and experience to address the concerns of other colleagues?

Table 2. Mean Rating for Likert Scale Questions, Range 0-10

	N	Mean
Q1 Devise plan	183	8.4
Q2 Benefit from colleagues	199	9.2
Q3 Contribute your skills	203	8.6

Qualitative Data from Teachers

There were also two open-ended questions where participants were asked to comment on the most useful aspect(s) of the session and on what aspect(s) could be improved. Content analysis allowed for themes to be generated and frequency of responses to be logged. In order to bring this data to life, some illustrative quotes are included.

Table 3. Content Analysis: Useful Aspects of Group Consultation (N= 205)

Content/ Themes	N
Value of Process Comments on brainstorming, sharing ideas, discussing, listening <i>The brainstorming session, it sparked ideas that I had not considered. (S1)</i> <i>I found the listening and not having to talk difficult but VERY worthwhile. (S128)</i> <i>Helps to clarify your concerns when you voice them. (S7)</i>	115
Value Input of Other Teachers Teacher experience and support mentioned <i>Realising how much experience we all have when pooled together. (S135)</i> <i>Advice from colleagues with similar concerns. (S12)</i>	34

Positive Environment Supportive colleagues, not feeling 'alone' with problem <i>The comfortable atmosphere. (S52)</i> <i>Knowing you are not on your own. (S38)</i>	20
Sharing Similar Experiences Being able to apply ideas to own situation, being able to learn from others who had dealt with similar problem <i>Kids mentioned mirrored many cases I have in my school. (S48)</i>	19
Value of Psychologist's Input Specific mention of psychologist's advice <i>It is good to have expert advice from psychologists. (S70)</i>	9
Liked Structure of Process Comment about timing, pace, format of process <i>Time structure-very focused and to the point. (S49)</i>	7
Other, miscellaneous Increased confidence, range of cases, general positive <i>Increased confidence when returning to my school. (S100)</i>	12
No Comment	11

Table 4. Content Analysis: Aspects of Group Consultation that could be Improved (N= 205)

Content/ Themes	N
No Comment	120
Spontaneous Positive Comment Liked structure, thought it was beneficial, worthwhile <i>Today was extremely informative and extremely useful. (S24)</i> <i>Really found it very beneficial and useful, well facilitated and practical. (S32)</i>	27
Suggestions Made In order to analyse this data, the following sub-themes were identified	62
Have more cases presented, more teachers attending <i>More cases. (S159)</i> <i>More schools attending, if possible. (S38)</i>	11
More formal input on tests/ resources/ contacts/ information <i>More expert opinions re specific tests, diagnostic tools and programmes to help with specific problems. (S33)</i>	9
More time needed More time to get through agenda <i>Longer session (S182)</i>	9

Manage time/admin better Start on time, pace, stick to time limits, email reminders <i>Email/ text 1 or 2 days previously to remind that it is on. (S164)</i> <i>Stick to the time. (S61)</i>	7
Make sure class teacher of child is present <i>Actual class teachers attending would be ideal. (S41)</i>	6
Other Various, including need for resources, more input from NEPS psychologist, sub cover, feedback on previous cases <i>Previous cases being discussed and what actually worked. (S36)</i> <i>If at some stage, parents could be given an opportunity to speak. (S40).</i>	18

End of Pilot Phase Evaluations

The final piece of the data was the completion of end-of-pilot evaluations by teachers and school principals. In total, 76 questionnaires were returned and analysed for quantitative and qualitative purposes.

There were seven specific questions which aimed to explore satisfaction with the group consultation process. Each was rated on a Likert Scale, from 1 to 10, with 0 representing 'Not at all' and 10 representing 'Definitely'.

Table 5. Satisfaction with Group Consultation, Likert Scale 0-10, N=76

Questions	Mean
Q1 Was the structure of the session(s) easy to follow?	9.2
Q2 Did you feel supported by the group?	9.0
Q3 Were the strategies suggested in the group consultation practical to implement?	8.3
Q4 Did you feel that the child/ren about whom you were concerned benefited?	7.9
Q5 Do you find these sessions a beneficial way of using the NEPS service?	8.3
Q6 Did you find the continuum of support documents useful resources?	8.5
Q7 Would you like the group consultation sessions to continue?	8.7

The end of pilot questionnaire also included some open-ended questions and qualitative data was collected and analysed thematically using the method described by Braun and Clarke (2006). This data is not reported here in any detail, as it largely replicates the qualitative data collected during session evaluations. The data contained a lot of positive feedback, with 51 of the respondents making positive comments. Meeting with others and sharing expertise were the strongest themes. Participants liked the structure of the

sessions and valued the EP input. A number of respondents recommended that group consultation continue.

I found the sessions extremely useful. They meant you had to focus much more clearly on the child you were bringing to the session. (SR62)

Following session you were equipped with strategies to implement. (SR38)

People made suggestions that were really helpful and they came from a totally different perspective than from where I could have come. (SR28)

Please continue with this. (SR39)

I think overall the group consultation is very worthwhile and should continue. (SR19)

Only two respondents returned clearly negative feedback.

Found the whole experience very disappointing, very disorganised, unstructured and a general waste of time. (S59)

In terms of areas for improvement some teachers expressed a desire for more in-depth work on some cases. Some participants wanted some follow-up to determine the efficacy of an agreed action plan. There were also suggestions that a critical mass of schools helped a session run more effectively.

Psychologists could follow up on cases mentioned with classroom visits. (SR47)

Reviewing in greater depth case studies from previous consultation to explore the efficacy of the interventions. (SR15)

More class teachers need to attend these sessions. (SR 31)

Have more schools involved. (SR23)

There were mixed findings in regard to the structure of the session with some teachers reporting that they liked the format while others found it could be restrictive.

It helps having a fixed structure to concentrate the mind on what exactly the difficulty is. (SR14).

Although the structure was good, I found at times it hindered the natural flow of ideas and conversation. (SR8)

A number of teachers noted that the lack of substitute cover was a difficulty.

My biggest issue as a teaching principal is it is very difficult to go to afternoon sessions as I would have no one to take my class. (SR46)

Analysis of Findings

Learning support and resource teachers gave the highest ratings and were most likely to want the sessions to continue and to consider them a beneficial use of NEPS time. Ratings from principals were lower. For example, the mean rating for principals wanting sessions to continue was 7.8, whereas for learning support /

resource it was 9.4. This may reflect the fact that learning support and resource teachers were more likely to be directly involved in developing support plans and so valued the input more.

Developing Group Consultation Practices

Growing the Practice

It takes a number of years to ‘grow’ the approach, in terms of staff training, clustering of schools, training of teachers, and establishing regular working patterns. From 2011 to 2015 the number of clusters planned moved from 12 to 23. The number of schools involved within the region grew from 49 to 120 plus over the four years.

Table 7. Numbers of cluster groups, sessions held, psychologists involved and schools involved 2011-2015, South East/ South Midlands Region.

	2011-2012	2012-2013	2013-2014	2014-2015
No. of cluster groups	12	10	15	23
No. of sessions held	20	26	40	69+
No. of psychologists involved	16	15	18	18+
No. of schools involved	49	75	100	120+

Teachers (and psychologists) would like there to be a ‘critical mass’ attending, so that groups are viable. At the planning stage, it was considered that five or six schools would make a viable cluster. There was concern that if there were too many schools, teachers might attend sessions and not get a chance to air their concerns. However, very small schools sometimes did not have any issue of concern to bring and therefore did not send a delegate. Therefore, as the process developed, it became apparent that up to 10 schools could be included in a cluster.

New Directions

In reviewing the operation of group consultation and clustering, it was considered that the clustering approach also had potential in terms of group planning meetings, group in-service and even group prioritisation of requests for assessment and casework. In the past, NEPS planned work with each individual school but, as of September 2013, some planning meetings are held with clusters of schools. This has been very efficient in terms of time management and has also allowed in-service to be prioritised in realistic geographical areas.

The Waterford model of group consultation as a formalised approach is being adopted in other parts of the country, both to respond to needs of clusters of schools and as a way of working within larger schools. It is also used to work

with support groups, such as groups of teachers working with children with Autistic Spectrum Disorder. A further evaluation was completed in Tipperary in 2013-2014, where the model has been used with clusters of small schools and with secondary schools with ASD special classes. It is also now in use in various locations throughout the country.

Group Consultation with Post-Primary Schools

In 2014, the Waterford NEPS team began to use this approach within large post-primary schools, as a way of supporting teachers in developing support plans for young people presenting with significant difficulties – typically emotional, behavioural and social difficulties. Sometimes problematic attendance or poor home-school relations further impacted on the difficulties. This approach has also been used to support the work of Special Needs Assistants, again within post-primary schools. Preliminary experience indicates that the model may need some adaptation to tailor it to the post-primary setting. For example, in post-primary schools, many adults know the young person and interact regularly with him/her so the concept of only one person presenting the concerns does not work so well.

Supporting Consultation Services- A Guide for Teachers

In order to support this work, NEPS have developed a Guide for Teachers, *Teacher Consultation: A NEPS Service for Teachers*. This has been available to schools since 2014, through the local NEPS psychologists and sets out a range of ways in which NEPS psychologists consult with teacher. It covers both group consultation and consultation with individual teachers. The following extract introduces this service:

NEPS offers a consultation service to teachers, to assist them in finding solutions and strategies to help with school-based problems. In this context, consultation is a procedure for structuring a conversation between the teacher and the psychologist in a way that ensures the conversation is focused on the problem presented by the teacher and the search for solutions to this problem. Consultation may be about general issues, such as differentiation of learning in a certain class or year group. It may be also be about an individual student's learning or behaviour, such as how to help a child who is anxious.

The approach to consultation in NEPS is based on key guiding principles which are outlined in the Teacher Guide:

- Consultation is voluntary, proactive and preventative.
- Consultation is non-hierarchical – the psychologists and the teacher(s) are equal partners.
- Consultation is collaborative – both psychologists and teachers have expertise in their own area of professional work, and are responsible for bringing these to the consultation setting.

- The psychologist manages the consultation process, and together with the teachers seeks to arrive at a common understanding of the concern.
- The psychologist and the teachers must maintain confidentiality and respectful engagement.
- The psychologist and the teachers should evaluate the outcomes of the consultation.

Integrating Group Consultation into the Continuum of Support

One issue that has been clarified through our work in teacher consultation is that of ‘referral’ of students to NEPS. In the case of group consultation, NEPS do not require schools to formally refer the student to the psychological service. Indeed NEPS psychologists do not open files on students discussed during these sessions. The system developed encourages teachers to collaborate with parents, seek support and develop support plans, without triggering a more formal process. Teachers retain control over selecting students to discuss, liaising with parents, choosing their preferred interventions and evaluating progress. This reflects the structure of the NEPS Continuum of Support and the associated Student Support File (both are available on the NEPS website). NEPS has prepared an information sheet and some templates to support the consultation process, which are included in the Teacher Guide (see Fig. 2 below).

Figure 2: Information Sheet and Templates provided by NEPS

Form	When to use
Information Sheet for Parent(s)/Guardian(s)	If the consultation is about a particular child/ young person, the teacher discusses his/ her concerns with the parent(s)/ guardian(s) and provides them with the <i>Information for Parents/ Guardians</i> sheet, before meeting with the NEPS psychologist.
Teacher Preparation Form	To be completed by the teacher(s) involved to help prepare for a consultation meeting.
Teacher Next Steps Form	Where a teacher has brought concerns about an individual child or group of children to consultation meeting, this form outlines the suggested next steps that the teacher might consider.
Support Plan	This simple one page template allows the teacher to record preferred strategies/ interventions and keep a record on the Student Support File.
Support Plan Review	This is a simple, one page review, which the teacher can use, in consultation with parents, to review the plan and guide future actions

Future Research

It is noted here that there has been no evaluation of the child's perspective or the parental perspective. It would be important to know how these 'indirect' clients experienced the effects of group consultation. Additionally, it would be helpful to be able to measure the impact of consultation in terms of changes in pupil behaviour or academic performance. The NEPS service is exploring ways of capturing changes in pupil behaviour and it is anticipated that a pilot project will be completed in 2015-2016.

Conclusion

Collaborative problem solving and consultation are seen as central to EP practice and the Waterford Group Consultation model has been found to be one effective way of delivering that service. It is a useful way to in deliver services to small rural schools, to embed the Continua documents and to build schools' capacity to respond to the needs of children with emotional, behavioural and social difficulties. It has been positively evaluated by both teachers and psychologists and offers a cost-effective model of service delivery.

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An Investigation into the Effectiveness of Cognitive Self-Instruction on Challenging Behaviour as part of Whole School Positive Behaviour Support

Patricia Leahy and Margaret Egan

This Action Research explores the effectiveness of Cognitive Self-Instruction (CSI) on the management of challenging behaviour as part of a Whole School Positive Behaviour Support (WS PBS) system. An analysis of the research indicates that the CSI programme was an effective strategy which enabled a student to self-regulate behaviour in a special education setting.

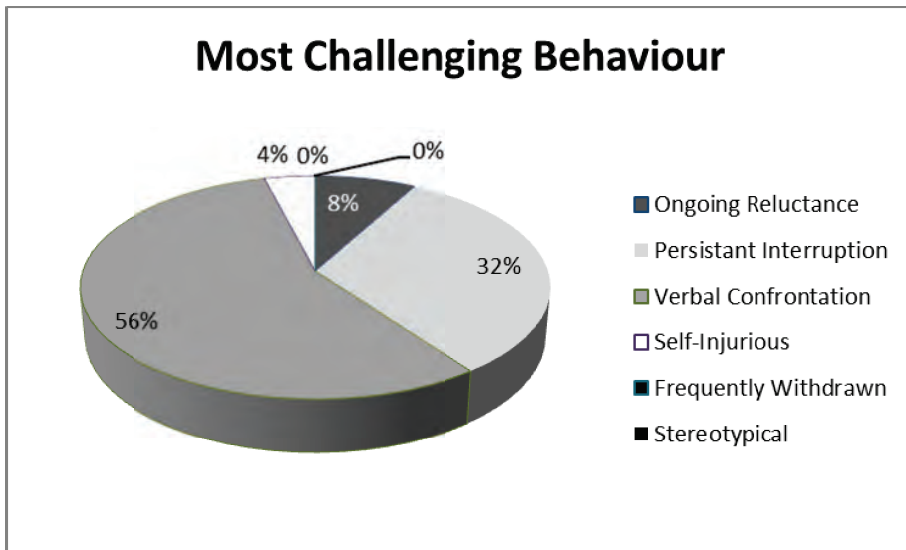
Introduction

In recent years the management of challenging behaviour has become a concern for many educators in mainstream, and more particularly, for those in special educational settings (Alter *et al.*, 2013; Carey, 2005; Gray *et al.*, 1994; Kelly *et al.*, 2007; Kelly *et al.*, 2004; National Council for Special Education (NCSE), 2012; O'Mahony, 2006; Ruttledge and Petrides, 2011). The definition presented by the Irish National Teachers Organisation (INTO) (2004), which gives an overview of the complexities that challenging behaviour presents to a school community, provides a working definition for this article. The INTO (2004) defines challenging behaviour as any behaviour which places the rights of staff and students to a safe and orderly environment in danger, interferes with learning (including that of the student displaying challenging behaviour) and challenges the daily functioning of a school. The INTO (2004) further describes challenging behaviour according to the intensity, duration and frequency of the behaviour which goes beyond a normal range of tolerance and which does not respond to the school behaviour policy.

Of the twenty five staff surveyed prior to this study, 100% agreed that refusal to participate in class and verbal confrontation with staff and peers meet the criteria for challenging behaviour. This result mirrors similar findings by Kelly *et al.* (2004). According to 56% of those surveyed, verbal confrontation is the most difficult challenging behaviour to manage.

A total of 96% of the staff indicated that persistent interruption to teaching can be categorised as challenging behaviour. Furthermore, 60% of staff agreed that internalised behaviour, such as being emotionally withdrawn, also meets the criteria for challenging behaviour. The data highlights staff awareness of internalised and externalised forms of challenging behaviours (Hunt and Marshall, 2006).

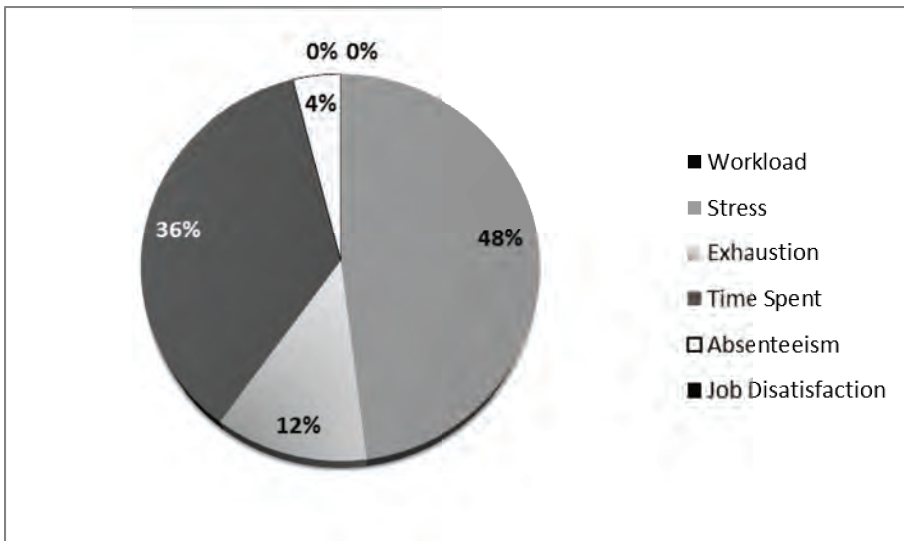
Figure 1: The Most Challenging Type of Behaviour to Manage



Of the total staff, 84% indicated that both boys and girls present with equally challenging behaviour which contradicts previous research (Alter *et al.*, 2013; Banks *et al.*, 2012; Delfos, 2004; Emerson *et al.*, 2001; Joyce, 2006; Kelly *et al.*, 2004; Kiernan and Kiernan, 1994; Lowe *et al.*, 2007; Male, 1996; Wickes-Nelson and Israel, 2006). A total of 60% of teachers believe that social and environmental issues contribute to challenging behaviour, which is significant when considering any model of support and intervention and reflects a biopsychosocial (BPS) perspective on the part of teachers.

Challenging behaviour affects school staff, the student exhibiting the behaviour and other students (Carey, 2005; The Department of Education and Science (DES), 2006; Dwyer, 2003; Emerson, 2001; INTO, 2004; Kelly *et al.*, 2004; Rogers, 2006; Westwood, 2011). Data analysis indicates that 48% of teachers in the study highlighted that challenging behaviour causes an increase in stress. Teachers further expressed their concerns over the amount of time spent managing challenging behaviour.

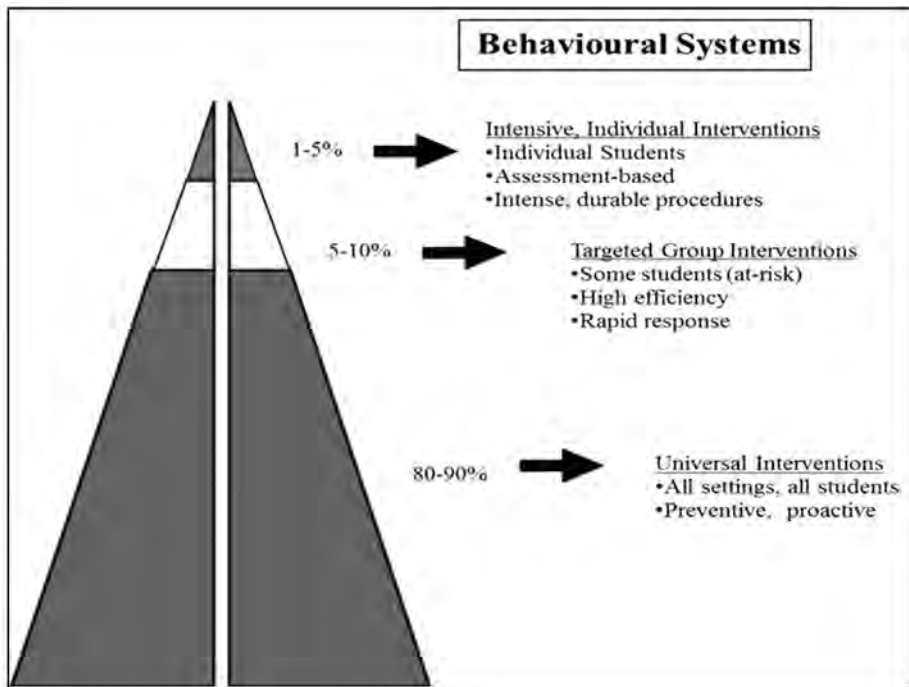
Figure 2: The Impact of Challenging Behaviour on Teachers



Of those surveyed, 88% of teachers applied behavioural strategies to manage challenging behaviour. These behavioural approaches included reinforcements, rewards, verbal reprimands, eye contact, redirection and proximity. According to Cooper and Jacobs (2011), behavioural approaches continue to dominate understanding of, and intervening in, the management of behavioural difficulties throughout the world. However, Sugai and Horner (2002a) highlight the undeniable failure of such approaches but explain that it is because strategies to teach socially acceptable replacement behaviour are not implemented. Research has shown that the teacher's immediate response is to stop the behaviour rather than investigate the antecedents and consequences of the behaviour that serve to maintain such challenging behaviour (Wanless and Jahoda, 2002).

Rosenberg and Prunty (2008) and the National Behaviour Support Service (NBSS) (2009) clearly highlight that a detailed whole school approach to behaviour management has significant success in reducing the challenging behaviour of students with disabilities. A Whole School Positive Behaviour Support (WS PBS) system (See Figure 3) is a three tier validated framework that is team based and proactive in the management of challenging behaviour (Egan, 2005; Lewis & Newcomer, 2005; Mitchell, 2008; Moreno and Bullock, 2011; O'Neill *et al.*, 1997; Reif, 2005; Sigafos *et al.*, 2003; Simonsen *et al.*, 2011; Westwood 2011).

Figure 3: Pyramid of Whole School Positive Behaviour Support
(Adapted from Sugai and Horner, 2002b)



Tier Three focuses on the cohort of students who ultimately do not respond to the whole school behaviour policy and for whom therefore, individualised intensive intervention is necessary. One of the interventions researched and recommended in such tier three support is the application of Cognitive Self-Instruction (CSI). Manning and Payne (1996, p.72) define CSI as enabling students to take ‘control of their own learning through a systematic programme based on a progression from other regulation to self-regulation’.

Researchers have concluded that cognitive behavioural approaches are effective in reducing challenging behaviour (Lamar, 2006; Rutledge and Petrides, 2011; Squires, 2001). This is explained by Squires (2001) and Stellard (2002) who state that if teachers can positively change the cognitive processes for students, then both the emotions and behaviours can improve.

Following on from the analysis of the data discussed in this section, this current research project focused on one student with a Mild General Learning Disability who presents with challenging behaviour in this special school in the South West of Ireland. For the purpose of this article, the student will be referred to as Michael. The DES defines MGLD in circulars 08/99, 9/99 and 08/02 as students ‘who have been assessed by a psychologist as having a mild general learning

disability' with an Intelligence Quotient (IQ) between 50-69. In the circular 08/02, the category was extended to include students with an IQ of 70-79 range. These students are assessed as having a borderline mild general learning disability (Kelly *et al.*, 2004). This research project acted as a pilot study for the effectiveness of CSI on student behaviour. The approach and strategies adopted and utilised could be applied to other school settings and to students with varying special educational needs (SEN).

Rationale

The dominating factor for embarking on this research was to investigate the impact of a cognitive behavioural strategy, CSI, on a boy who presented with challenging behaviour and who also has a diagnosis of MGLD. The student's behaviour limited his social and academic inclusion in the school. His inappropriate behaviour had also negatively impacted on the quality of teaching and learning for the other students in his classroom. It was envisaged that CSI would enable the participant to self-regulate his verbal behaviour with peers and adults. The working definition of self-regulation in this study is a student's ability to monitor and regulate his/her behaviour which will allow for appropriate engagement in social situations (Duckworth, 2009). Developing the student's emotional literacy was a feature of this CSI intervention. Emotional literacy refers to students learning to understand and manage their emotions and interpret the emotions of other people in order to become emotionally literate. Students with an intellectual disability have poor problem-solving skills. Characteristically, they have difficulty understanding their own thinking processes and often display emotions in an inappropriate manner (Hallahan and Kauffman, 2006; Heward, 2009). Therefore, it is important to enable this student cohort to regulate their emotions and to identify their thought processes in problem solving, in order to behave appropriately.

Methodology

The research objectives evolved through an exploration of the current literature, pre-intervention data relating to challenging behaviour gleaned from the research context and much anecdotal evidence gathered in the field of practice. A number of research questions were formulated prior to the study and those numbered 1-3 below provided a rationale for the action which addressed questions four and five:

1. What are staff perspectives on challenging behaviour?
2. What is the impact of challenging behaviour on a school community?
3. What are the current practices and approaches utilised in the management of challenging behaviour?
4. How can CSI, including emotional literacy development, effect the regulation of verbal behaviour?
5. How can this investigation inform current practice and policy?

For the purpose of this article, the action which addressed question four, is the focus.

Action research was the methodology used for the study, as it allowed for the dual role of teacher and researcher to merge. In-depth information was garnered through this process as the teacher was the 'insider researcher' (McNiff and Whitehead, 2009). The intervention programme was designed, implemented, amended and investigated over a thirteen week period. Both qualitative and quantitative methods were employed to collect and analyse data. The array of collection methods utilised allowed for the cross checking of qualitative and quantitative data findings which enhanced the validity and reliability of this research.

Establishing Pre-Intervention Baselines

The researcher conducted semi-structured interviews with staff, the focus student Michael and his parents. Also, questionnaires were distributed and completed by school staff to gain a global perspective of what constituted challenging behaviour in the research context. The data from this investigation, as presented earlier, provided a rationale for PBS intervention for this particular student with MGLD.

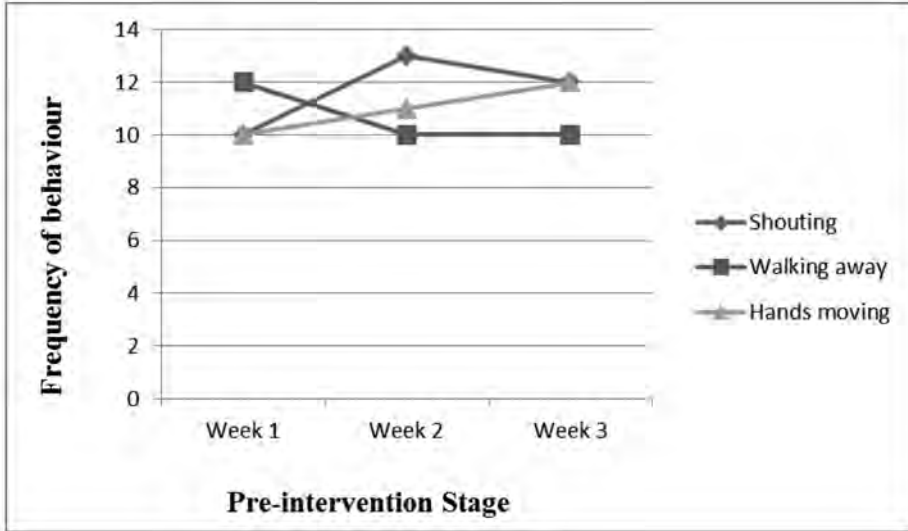
Emotional Literacy Checklists (Southampton City Council, 2003) were completed by the researcher, the student and his parents. The results indicated that the student's emotional literacy was well below average in a nationally representative sample (Faupel, 2003). *Self-regulation* was rated as the lowest scores. Cornish and Ross (2004) state that a score above 75 on their Social Skills Checklist 'provides evidence that a person is lacking significantly in understanding other people or is inept in relating them in an age-appropriate manner'. Michael's overall social skills assessment was 99, which was a significant finding, illustrating this student's priority learning needs (PLN).

A Functional Behaviour Analysis (FBA) was conducted through a process of direct and indirect observations and recordings. These included the completion and analysis of Antecedent, Behaviour and Consequence (ABC) forms, frequency charts, and checklists, interviews and staff observations. The information gathered from these sources was triangulated to form a hypothesis which guided the intervention.

Six structured observations were conducted and ABC analysis forms were completed by the researcher to obtain a comprehensive view of the student's behaviour. The frequently reported antecedent (A) recorded was staff requesting the student to comply with school rules and to be mindful of the safety of other students. It was noted that the student's inappropriate behaviour (B) included: shouting back at teachers, hands moving frantically and walking away from staff.

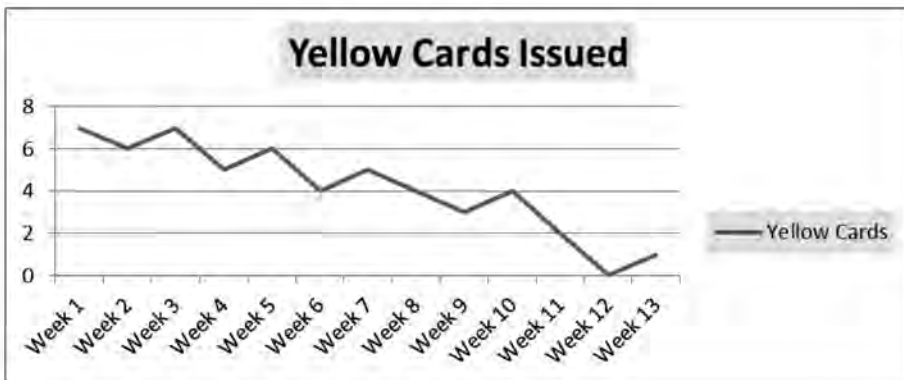
The frequency of the behaviours was recorded using a class timetable. The following graph represents the frequency of the behaviour and the topography.

Figure 4: Behaviour observed during the pre-intervention stage: Week 1-3



The consequences (C) imposed on the student for inappropriate behaviour were in line with the School’s Behaviour Policy, in which inappropriate behaviour carry different levels of consequences. The most commonly used consequences are yellow or red cards. Cards are issued depending on the severity of the behaviour. The student was issued yellow cards for his inappropriate behaviour towards staff and peers. Figure 5 outlines the number of cards issued during each week of the research.

Figure 5: Frequency of yellow cards recorded during all stages of the research



According to Hemmeter *et al.* (2011), an intervention is more effective and successful once focused on the purpose of a student’s behaviour. From analysing

the ABC forms, the research diary and the interview transcripts, it was evident that Michael engaged in verbal confrontation with staff and peers on a regular basis. The function of the behaviour was communication. Michael was unable to communicate emotions in a socially appropriate manner and he was unaware of the effect of his reactions on peers and staff and on his own social and academic success. Such analysis of behaviour provided the rationale for intervention.

Fieldwork

CSI is based on the behavioural and cognitive learning principles of Cognitive Behavioural Modification (CBM). CBM promotes self-regulation over the behaviour through the use of self-instruction and self-talk (Meichenbaum 1977). Using the principles of CBM, the intervention was devised and it is detailed below.

Week 1	Students engaged in identifying and demonstrating different feelings through role play.
Week 2	The teacher modelled CSI to illustrate how self-talk could regulate inappropriate verbal behaviour by choosing more appropriate alternative action. The teacher taught the strategy in accordance with strategy teaching, thinking aloud, fading to whispering and then scaffolding the student to do likewise.
Week 3	Michael and a small group of peers practiced self-instruction overtly, by talking aloud, then fading the voice but at all times students were supported by visuals, as required. The Stoplight Strategy was introduced at this week. The teacher provided this visual support to scaffold all the students in the group.
Week 4	The teacher modelled CSI to show appropriate ways of managing angry verbal confrontation with adults. The teacher performed the behaviours while thinking aloud, later while whispering the thought processes and then modelling silently. The students practiced self-instruction through role play by talking aloud while performing the actions, then fading the voice. The teacher provided visual and verbal scaffolds.
Week 5	The teacher modelled CSI to show appropriate ways of managing angry verbal confrontation with peers. The teacher performed the task while thinking aloud, later while whispering and then modelling silently. The students practiced self-instruction overtly, fading to acting silently through role-play. The teacher provided verbal guidance.
Week 6	Scenarios were presented to the group. Students were asked to create self-instruction statements for each scenario with the assistance of the teacher. Students practiced self-instruction overtly using their voice, fading to silent action while role playing the different scenarios. The teacher provided verbal guidance.
Week 7	Using the same scenarios from the previous week, the students created cueing cards. Students practiced self-instruction with the aid of cueing cards.
Week 8	Teacher and students modelled self-instructions for <ul style="list-style-type: none"> • Listening to peers and adults • Planning a response • Responding in a positive manner • Regulating one's emotions The students modelled cognitive responses to peers and adults in the manner outlined above.

Throughout the intervention, self-talk was taught to Michael to enable him to appropriately express verbal responses to peers and staff. Self-talk is a process of talking to oneself, silently or aloud, to regulate and guide action (Westwood, 2011). Teaching Michael to use self-talk was done explicitly through modelling, practicing and cueing strategies in accordance with the process of CSI (Manning and Payne, 1996).

In the pre-intervention stage, it was documented that the student was not aware of how he sounded when he responded to staff and peers. During weeks two to five inappropriate behaviours, as well as replacement, appropriate responses to peers and adults were modelled by the teacher. This was done in small settings with Michael initially and subsequently with a small group of his classmates. The inappropriate behaviours that were modelled reflected observations recorded by staff in the ABC forms. Spence (1995) stresses the importance of making modelling as realistic and as vivid as possible.

Findings illustrated the effectiveness of role play for teaching CSI and for scaffolding Michael in the process of recognising his own inappropriate behaviours, which were highlighted in the analysis of behaviours recorded during the intervention stage (Figure 6).

Figure 6: Frequencies of behaviours observed during the intervention stage

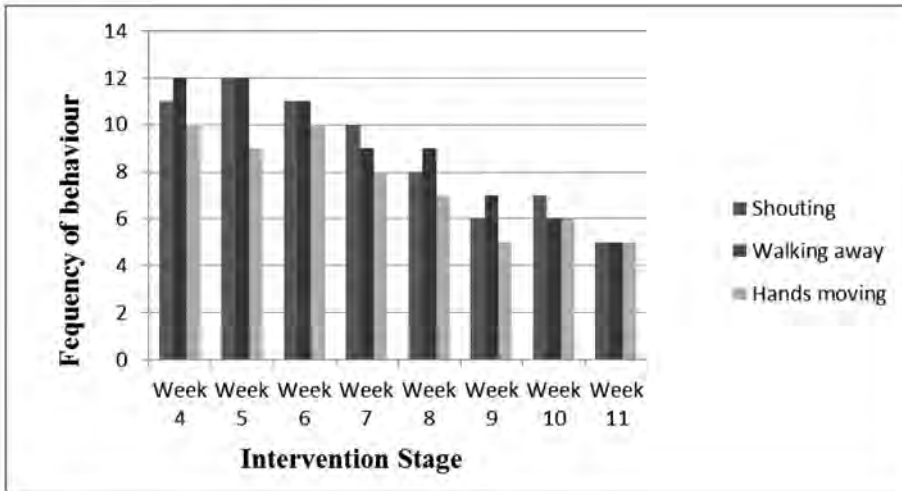


Figure 6 highlights a decrease in inappropriate behaviour and an increase in appropriate behaviour. Furthermore, the number of yellow cards issued to the student decreased as the frequency of inappropriate behaviours decreased (See Figure 5).

Goleman's (1995) Stoplight Strategy for teaching self-regulation was introduced in week three and the strategy was used by Michael throughout the process. The following five steps were explicitly taught to the student:

- | | |
|---------------------|---|
| Red Light | 1. Stop, calm down and think before you act. |
| Yellow Light | 2. Say the problem and how you feel. |
| | 3. Set a positive goal. |
| | 4. Think of the consequence. |
| Green Light | 5. Go ahead with the new plan. |

Michael was given the visual cue of a traffic light to remind him to stop, to think and then, to respond appropriately in situations. The teacher and peers modelled the steps overtly using thinking aloud and then faded this support.

The Anger Thermometer was another visual support used as part of the intervention to develop Michael's self-awareness of the triggers that led to his inappropriate behaviour. The anger thermometer provided a visual of a thermometer of Michael's emotional response in particular situations and logged the following levels of emotions:

- calmness;
- frustration;
- anger;
- fury.

The anger thermometer was utilised each day to diary Michael's emotions at particular times. In other words, the antecedents to both appropriate and inappropriate behaviour were being monitored by Michael and the school staff involved in the intervention. Findings suggest that this visual support effectively provided an outward picture of Michael's internal emotional state. It made him realise that it was possible to regulate his emotions by applying self-talk, having gained a greater level of self-awareness through these teaching and learning activities.

Research Findings and Discussion

Overall, the CSI strategy was an effective intervention to enable Michael to self-regulate his emotions in order to interact more appropriately within his school community.

Effects of CSI on the Self-Regulation of Verbal Behaviour

During the pre-intervention phase of data collection, it was evidenced that Michael had difficulty identifying, labelling and expressing his emotions and used anger, which presented in three behaviours outlined earlier (See Figure 7), as a defence mechanism. At the end of the intervention, a noticeable difference was recorded as Michael chose more positive responses. A variety of data indicated Michael's increased ability to take responsibility for, and ownership of, his own behaviour. However, it was noted that the overall results on the Emotionally Literacy Checklist indicated that he was still 'well below average' in

a nationally representative sample (Faupel 2003). In accordance with the research literature, this finding relates to the intensity and duration of the programme and the supports put in place for Michael. Westwood (2011) emphasises that any intervention of this nature needs to be intensive and long term in order to be effective, ensuring maintenance and generalisation of emerging skills. The following figures compare the pre- and post-intervention subscale scores from the Emotional Literacy Checklists.

Figure 7: Profile of subscale scores from Teacher Checklist

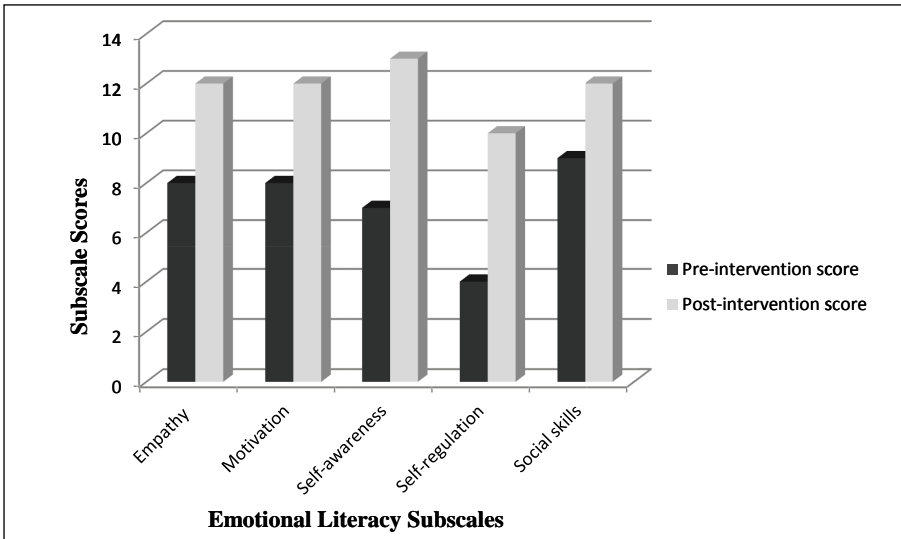


Figure 8: Profile of subscale scores from Student Checklist

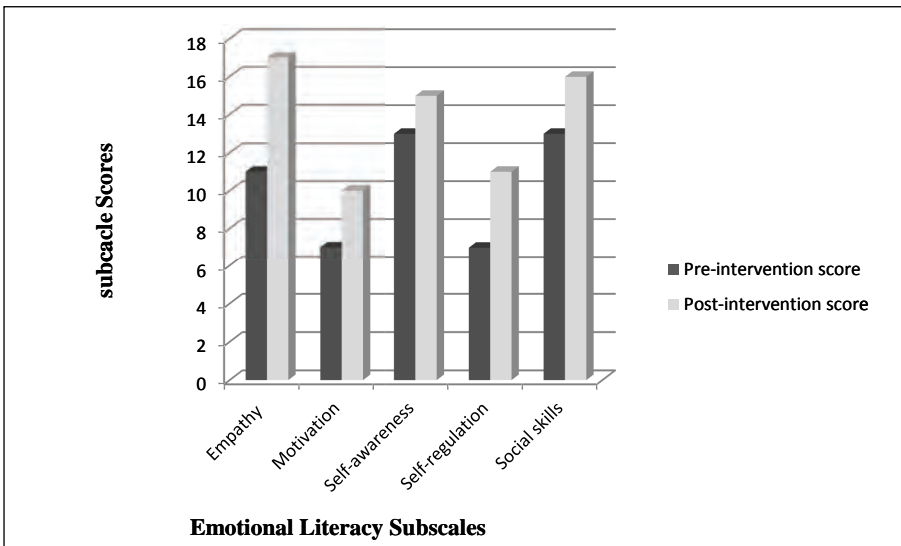
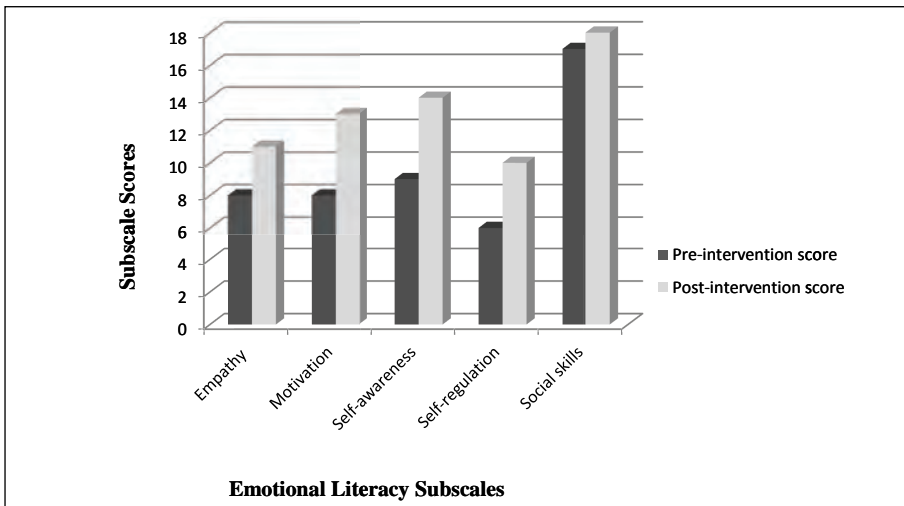
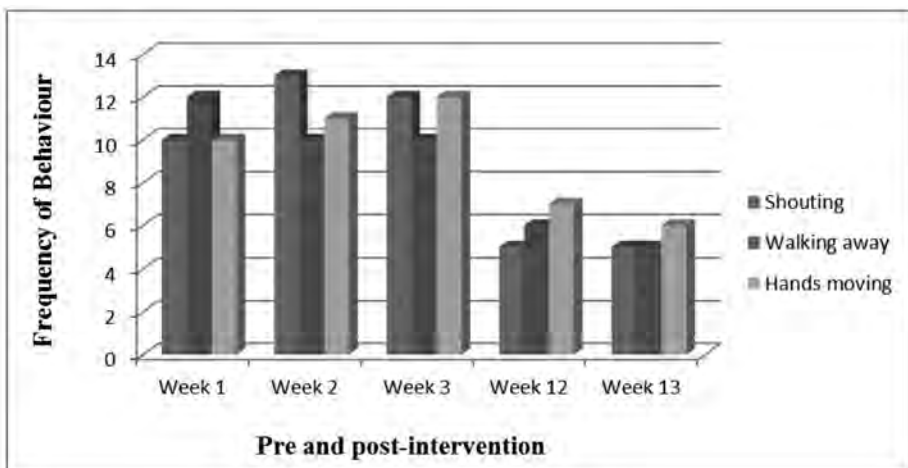


Figure 9: Profile of subscale scores from Parent Checklist

On a more positive note, it is evident from Figures 7, 8 and 9 that the student had developed greater self-awareness, self-regulation of emotions, and his overall social skills had also improved according to staff, parents and his own self-assessment.

It is significant that the CSI strategy was highly effective in regulating the three behaviours highlighted as problematic in the ABC analysis at the pre-intervention stage. In accordance with the findings illustrated in Figures 7, 8 and 9, the student's awareness of his own body language and verbal responses was heightened and he was then able to apply the CSI strategy more efficiently and effectively. Such findings are illustrated in Figure 10, documenting the drop in the frequencies of these inappropriate behaviours.

Figure 10: Frequency of behaviours recorded during pre and post intervention stages.

However, the results from the final week of the intervention stage, i.e. week 11 (Figure 6), were similar to that of the final week of the post-intervention stage, i.e. week 13 (Figure 10). This may indicate that the student requires a continuum of support if he is to continue to regulate his behaviour more appropriately and to eliminate the inappropriate behaviours listed above.

Conclusions and Recommendations

The results of the study indicate that students and teachers can be affected negatively by challenging behaviour. The behavioural interventions currently used by staff in this school community were not effective in managing behavioural issues of students who present with challenging behaviour. Considering the benefits yielded from CSI in this study, it is recommended that such a proactive approach to behaviour management could be included as part of a WS PBS in any school at tier three, i.e. individualised support.

The framework of WS PBS (See Figure 3) offers supports for universal whole school approaches to classroom-based strategies and to individual interventions to proactively address student needs. According to Kelly *et al.* (2004), whole school approaches are effective in significantly reducing challenging behaviour. Evidence based interventions, such as directly teaching and applying CSI, have proven successful within the parameters of this study, which acknowledges its limitations due to sample size and the fact that every school context is unique.

While the study aims only to *particularise* to the research setting, one could generalise from these findings and previous research conducted by Doherty (2013), Kelly *et al.* (2007) and Kelly *et al.* (2004) who agree that teachers may be insufficiently trained to manage challenging behaviour in Irish special schools. The National Educational Psychology Service (NEPS) (2010) highlight the need for teacher training in order to support students with challenging behaviour. The quality of teaching skills is an important factor which influences a student's educational outcomes (NCSE 2013; Organisation for Economic Co-operation and Development (OECD) 2005). Research concludes that teachers feel more competent in managing challenging behaviour when they have received sufficient training (Westling 2010). Findings from this study concur, suggesting that continuous professional development (CPD) for teachers is needed and that such CPD would benefit the whole school community in the implementation of WS PBS. The PBS system encourages staff to pool their existing skills and knowledge in behaviour management to enhance existing policy and practice in order to be proactive rather than reactive in managing behaviour.

Collaborative approaches between home and school, as advocated in the literature, increased the effectiveness of this CSI programme. Parents offer unique insights into their child's life. Westwood (2011) states that parents need

to be involved in the intervention and the consultative process for an intervention to be successful. Educators should consider the invaluable information that parents can offer when devising and implementing an intervention.

To conclude, in the implementation of any intervention, it is important to consider that

When pedagogical attitude is based on sensitive, flexible and needs-driven strategies and enhanced by positive, respectful and responsive relationships, any intervention – be it based on prevention or resolution – will be more likely to succeed (O'Brien, 1998 cited in Griffin and Shevlin, 2007, p.200).

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An Evaluation of the *FRIENDS for Life* Programme in an Irish Primary School

Edel Higgins and Marie Hayes

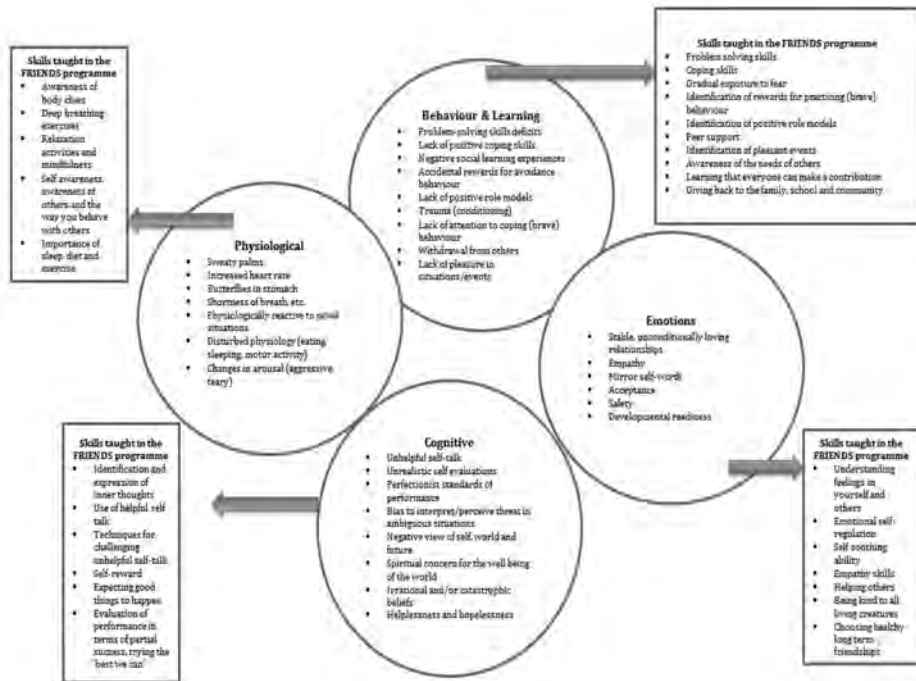
Introduction to FRIENDS for Life

FRIENDS for Life is a structured cognitive behavioural intervention programme for children and adolescents. This programme is based on a firm theoretical model which addresses cognitive, physiological and behavioural processes that are seen to interact in the development, maintenance and experience of anxiety (Barrett, 2010). The rationale behind the development of the *FRIENDS* programme is to support and assist children and adolescents, at an appropriate developmental level, to learn important skills and techniques to cope with and manage anxiety. The programme has been developed for a number of age groups: *Fun FRIENDS* (4 - 7 years), *FRIENDS for Life* (8 - 11 years) and *My FRIENDS Youth* (12 - 15 years). Each of these developmentally tailored programmes is structured and implemented in the same way. *FRIENDS* is a manual-based programme which consists of 10 one-hour lessons, plus two follow up booster sessions to be completed after one month and three months respectively. During these sessions the key cognitions and behaviours associated with anxiety are targeted and addressed.

The format of each session varies and involves both large and small group work, completing exercises in workbooks, role plays, games, activities and quizzes. Each participant has her/his own programme workbook. The intervention is intended to take place within a positive group context, where children learn to acknowledge and accept personal differences and to support and help each other to cope with their worries. This programme also involves a parent component. This consists of parent psycho-educational sessions in which parents are helped to understand anxiety; develop appropriate strategies to deal with their own anxiety, if necessary, and improve their child management and problem solving skills. Facilitator training is required for all professionals who want to present the *FRIENDS* programme.

Figure 1 (adapted from Barrett, 2010) provides a detailed breakdown of the four areas that have been found to relate to the development and maintenance of anxiety. The arrows illustrate how the *FRIENDS* programme addresses each of these components by teaching specific techniques and skills.

Figure 1. The theoretical model for the prevention and early intervention of anxiety (Adapted from Barrett, 2010).



Research based on *FRIENDS for Life*

The effectiveness of the *FRIENDS* programme as a universal preventative intervention has been widely documented in the literature (Barrett, Farrell, Ollendick & Dadds, 2006; Barrett & Turner, 2001; Essau, Conradt & Petermann, 2012; Lock & Barrett, 2003; Lowry-Webster, Barrett & Dadds, 2001; Lowry-Webster, Barrett & Lock, 2003; Rodgers & Dunsmuir, 2013). Many studies have found that the programme had a positive impact on primary anxiety outcome measures compared with control groups, with small to medium effect sizes reported. Follow up studies also reported promising results with regard to the longevity of effects. The manual-based nature of the programme, availability of training and the short term nature of the intervention prove that therapeutic interventions originally designed to be conducted within clinical settings can be effective when delivered in educational settings by appropriately trained professionals. The *FRIENDS* programme has been evaluated in the secondary school context in Ireland (Rogers & Dunsmuir, 2013), but not in the primary school setting. Therefore the main aim of this study was to gather evidence to ascertain the programmes effectiveness with primary school children in an Irish setting.

Research aims

The aim of this project was to investigate the impact of the *FRIENDS for Life* programme, delivered in a primary school setting, on 'overall anxiety' levels as measured by the Spence Children's Anxiety Scale (SCAS; Spence, 1997).

Participants

The class consisted of 30 fifth class girls in a single-sex primary school in the mid-west of Ireland. Each child in the class and their parents/guardians consented to participation in the programme.

Methodology Procedure

This project was undertaken for an hour a week over a ten week period in the participating school. The project was jointly delivered by an Educational Psychologist and an Educational Psychologist in Training. The class teacher and resource teacher also participated in the delivery of the programme. Both of the psychologists had previously undertaken training in the *FRIENDS for Life* programme. They also organised and presented a presentation on the *FRIENDS for Life* programme for the parents of all the children involved. As the intervention programme, *FRIENDS for Life*, is a manualised, cognitive behavioural therapy programme, the programme was strictly adhered to during intervention delivery. The psychologists jointly coordinated each session using the *FRIENDS* group leader manual in which each session was clearly outlined. This involved a variety of large and small group work, workbook exercises, role plays, games, activities and quizzes. In addition, homework tasks were assigned at the end of each session to reinforce the strategies explored.

Evaluation and Materials

The success/effectiveness of the programme was evaluated by analysing the pupils' self-report scores on the SCAS (Spence, 1997) at pre-intervention and post-intervention stage. Participating teachers were also asked for qualitative feedback in relation to their thoughts on the effectiveness of the programme.

The SCAS (Spence, 1997) was used at pre and post intervention with every child in the class. The SCAS is a 45-item self-report measure designed to evaluate symptoms of anxiety (separation anxiety, social phobia, obsessive-compulsive disorder, panic attack and agoraphobia, generalised anxiety, and fear of physical injury) for children aged between 8 to 12 years. Children were asked to rate, on a 4-point scale ranging from *never* (0) to *always* (3), the frequency with which they experienced each symptom. The 0 to 3 ratings of the items are summed to yield a total score, with higher scores reflecting higher levels of anxiety symptoms. Internal consistency and test-retest reliability of the SCAS have been reported as satisfactory, with alphas generally well above .70 and a test-retest correlation coefficient of .60 (Spence, 1997). The scale also demonstrated acceptable convergent validity as demonstrated by a significant correlation with the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds &

Richmond, 1985; $r=.71$). The SCAS has demonstrated strong reliability and validity with other measures of child and adolescent anxiety (Spence, 1998; Spence, Barrett & Turner, 2003).

Results and Analysis

A pre/post design was used. All students completed the SCAS (Spence, 1997) at pre-intervention (Time 1 = week 1) and post-intervention (Time 2 = week 11). One student was absent for data collection at Time 1. Three students were absent for data collection at Time 2. A Paired sample t -test was conducted to compare the overall anxiety levels of the 26 students who were present for data collection at Time 1 and Time 2. Results show that mean overall anxiety levels differed significantly before participation in the *FRIENDS for Life* programme ($M = 31.65$, $SD = 15.022$) and after participation in the programme ($M = 25.58$, $SD = 13.369$) at the .05 level of significance ($t(25) = 2.715$, $p = .012$). Table 1 presents the mean scores on child self-report SCAS measure at Time 1 and Time 2. This table clearly displays that all measures of anxiety reduced from Time 1 to Time 2 based on SCAS scores.

Overall, results suggest that the *FRIENDS for Life* programme was more effective in reducing the overall anxiety levels for this group of pupils.

Table 1 – Mean scores on child self-report SCAS measure.

SCAS Subscale	Pre Test	Post Test
OCD	168	116
Social Phobia	194	145
Panic Agoraphobia	106	74
Separation Anxiety	124	91
Physical Injury fears	148	113
Generalised Anxiety	183	149
Total SCAS	918	682

Conclusion

The research investigated the impact of *FRIENDS for Life* on a group of 30 fifth class girls with respect to their 'overall anxiety' levels as measure by the SCAS (Spence, 1997). The research revealed that the *FRIENDS for Life* programme was more effective in reducing overall anxiety levels in this group of pupils than would be expected by chance alone. This finding concurs with previous research that found the *FRIENDS* programme is effective in reducing anxiety in school-going children and adolescents (Barrett, Farrell, Ollendick & Dadds, 2006; Barrett & Turner, 2001; Essau, Conradt & Petermann, 2012;

Lock & Barrett, 2003; Lowry-Webster, Barrett & Dadds, 2001; Lowry-Webster, Barrett & Lock, 2003; Rodgers & Dunsmuir, 2013). In qualitative feedback, teachers also revealed that there was a notable difference in the pupils' resiliency levels and coping skills within the classroom in general. Teachers further reported that the pupils were able to cope better with difficult life situations following their participation in the *FRIENDS for Life* programme.

The main strengths of this project centre on the research evidence which indicates that the *FRIENDS for Life* programme is effective in reducing anxiety levels among a class of fifth class girls. The fact that *FRIENDS for life* is a manualised programme meant that the lessons were easily facilitated and conducted by the facilitators, resulting in high intervention fidelity. The very nature of the activities ensured that lessons were in general enjoyed by all participants and there was a much better sense of friendship and respect as the project developed. While the use of a well-established measure such as the SCAS (Spence, 1997) was a notable strength, the fact that it is a self-report tool means that this is also a weakness as the pupils' responses may have been influenced by the fact that they knew that facilitators were looking at their scores. While verbal feedback was noted from teachers, future work should include triangulation of additional evaluation data that may include parents' completion of SCAS forms and semi-structured interviews with teachers, parents and students. It should be noted that while the teachers engaged and learnt a lot from the process, it took time for them to get comfortable with the programme as they had not been trained prior to delivery. It is imperative that teachers receive training prior to programme delivery in all future studies. This research did not include a follow-up due to time constraints. This should ideally be done in all future evaluations of the project. It would also have been beneficial to have a matched control group in the school. However, as the school had only one fifth class group it was not possible on this occasion.

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A Word Study Approach to Co-teaching for Spelling

Ellen Reynor

Word study as we describe it is analytic. Students examine words they already know how to read, and sometimes even spell, as a way to gain insight into how the spelling system works.

(Johnston, Invernizzi, Bear and Templeton, 2009, p.1).

Introduction

Spelling instruction is often marginalized in today's crowded curriculum (Schlagal, 2007). This represents a challenge for the effective teaching of a very important skill. Spelling needs explicit instruction because it is not an innate ability. Children with reading difficulties have particular and noticeable difficulties with spelling because of their weak phonemic skills and their weak visual memory (Berninger & Fayol, 2008).

There is increasing evidence that spelling is a linguistic skill and should be taught in the context of the English language and spelling system (Henry, 2003; Nunes & Bryant, 2006; Pinnell & Fountas, 1998). Learning to spell is also about the process of understanding the conventions that govern the structure of words and how word structure can signal the sound and the *meaning* of words (Berninger, 1995; Nunes & Bryant, 2006). This understanding is the result of research acknowledging that the skills of writing and reading draw on an underlying foundation of word knowledge (Perfetti, 1992; Templeton, 1992). In other words, the more children understand about the structure of words, the more fluent and efficient their spelling will be (Wolf, 2008).

Teaching Children to Spell

One common perception among teachers is that *visual memory* is the basis of spelling skill and is analogous to taking a mental picture of a word (Johnston, 2001). In this view, repetition and memorization are key to learning spelling. This can involve the teacher encouraging memorization by using flashcards, asking children to picture the visual features of the word, children writing and rewriting the spelling, and children saying the spelling orally (Cassar, Treiman, Moats, Pollo, & Kessler, 2005). For instance, the Look, Say, Cover, Write, Check method of teaching spelling is based on the belief that spelling is a visual skill and that it is mainly learned by memorization (Treiman & Bourassa, 2000). This view encourages teachers to leave the task of learning spelling to children themselves (often with the help of their parents). Spelling therefore is seen as an

independent activity, disconnected from the context and meaning in which it is used. Recent studies do not support the notion that visual memory is the key to good spelling. Firstly, spelling lists memorized for Friday spelling test are often forgotten by the following Monday (Schlagel, 2002). In addition, studies of children's spelling errors indicate that other strategies for learning spelling are at work. If children relied on visual memory then regular and irregular words should be misspelt equally. However, irregular words are more often misspelt (Treiman, 1993).

Research shows that some of the most ineffective ways of teaching spelling, and possibly the most common ways include: (i) the Monday to Friday spelling list, (ii) writing words repeatedly, and (iii) orally repeating the letters of a word (Ganske, 2002; Henderson, 1990). While memory does play a role in spelling, it is not the most important aspect of learning to spell (Berninger & Fayol, 2008; Henderson, 1990).

Linguistic Knowledge Necessary for Learning Spelling

English is a very irregular alphabetic language having a phonological consistency of only 12 per cent. This ensures that most words in English cannot be spelled using phonological strategies. English is a *morphophonemic* language in which the meaning of words is very important to spelling words correctly. In addition, the goal of written English is to convey meaning. For example, if words that sound the same (homophones) such as "tow" and "toe" were spelt the same way, it would be more difficult to relay the meaning of the sentence containing the word (Joshi, Treiman, Carreker & Moats, 2008-9).

Four types of linguistic knowledge are necessary to spell efficiently (Henry, 1997, 2003; Masterson & Apel, 2010). They are:

Phonological Knowledge

English phonology is very complex and the skills are the most difficult to master as letters do not map in a predictable way onto sounds. Yet many spelling programmes prioritize and emphasize phonemic skills.

However, poor spellers often rely solely on phonemic skills which are taught and emphasized in schools from an early age. They therefore, are reliant on words matching directly onto sounds in a predictable way in order to spell. However, this is not the case with English spelling since, as noted above, English is the most irregular alphabetic language with only 12 percent of words being phonologically consistent (Adams, 1990; Mann & Singson, 2003). However, if phonics are emphasized in the teaching of reading and spelling in the first few years of school, then children will favour this strategy as it is the best learned skill they have to tackle spelling (Templeton & Morris, 1999). Indeed it has been argued that emphasizing the phonological component of words weakens the important connection of spelling with meaning (Hilte & Reitsma, 2011) and

hence results in spellers who lack flexibility in their approach to spelling. Children with weak spelling lack any other strategies for spelling words as they are unable to figure out the underlying structure of words, and they often have weak visual memory.

Orthographic Knowledge

This skill entails understanding letter sequences. For instance, which letters can be sequenced together, and which letter sequences are plausible. Teachers must know that spelling is an orthographical representation of oral language, and this helps explain many of the apparent inconsistencies in phoneme-grapheme correspondences. All English accents use the same orthography so, although words sound different when we speak, we use the same spelling when we write. This further complicates the teaching of English phonology, because phonics programmes cannot account for different regional accents.

Etymological Language

English is a language that draws its spelling from a range of different languages including Anglo-Saxon, Latin, and Greek (Henry, 2003). Therefore understanding word origins provides useful clues to the spelling of words (see Figure 1 below). Approximately 60 percent of words are of Latin origin, 20 percent are of Anglo-Saxon origin, and the remaining 15-20 percent is of Greek origin (Henry, 2003).

Figure 1 Layers of the English Language (Adapted from Henry, 2006).



Many Anglo-Saxon words, which are among the first words young children read, are irregular and cannot be spelled using phonological knowledge alone.

Morphological Language

Morphemes are the smallest units of words. They are the parts of words that carry meaning. For example, word roots, suffixes and prefixes are all morphemes. They can create new meaning, for example, bus/buses, and happy/happier, nuptial/prenuptial. Compound words are also built from morphemes. Morphemes are very regular (e.g., jumped/loved/hated) and therefore easy to teach. Many words that are spelt irregularly phonemically have regular morphemic structure. Understanding how words can be built from word parts, helps and supports the child not only to spell words but also to increase vocabulary. It is acknowledged however, that morphology is the least understood and least exploited linguistic skill useful in the teaching of spelling (Nunes, Bryant, Hurry, & Pretzlik, 2006). Furthermore, children of all ages have difficulty spelling words when they cannot be predicted from their sounds. This difficulty can be eased by explicitly teaching about morphemes (Nunes *et al.*, 2006). For example, the spelling of word magician is not predictable from the sound of the word. It comprises a root, magic, and a suffix -ian. This suffix sounds like shun and someone with good phonological skill would spell it like “migishun”. However, if you know that it consists of magic and -ian then it makes the spelling easier to remember and understand. The rule here is that -ian (rather than -ion) is used with practical words (e.g., electrician) while -ion is used with abstract words. This morphemic knowledge, and reference to the *meaning* of these words will help with the spelling of these words. Children and indeed many adults are not innately aware of the morphemes in words (Mann & Singson, 2003) so morphemic awareness needs to be taught and morphemic knowledge needs to be highlighted (Carlisle, 2003; Henry, 2003; Hilte & Reitsma, 2011; Nunes *et al.*, 2006). In addition, only linguistically competent children will discover morpheme connections in words, leaving children with literacy difficulties to struggle with not only spelling, but vocabulary, reading, and indeed comprehension throughout the school years (Carlisle, 2003).

The Schwa

A schwa is the most common vowel sound in English but it is a weak vowel sound that is poorly articulated. There is no consistent way of spelling this sound based on letter-sound rules and so it is the cause of much confusion for children (Nunes & Bryant, 2003). Note the schwa in the last syllables of the following words for example:

happiness, onion, banana, magician, electrician, hasten, incredible, photography

Although the schwa has the same sound in all these words, it is spelled differently in each one. Therefore it is commonly thought that much of English is spelled in a way that is illogical and inconsistent. However as Nunes and Bryant note,

there is a set of principles at the morphemic level that can guide the spelling of these words.

Words that end in -ian and -ion

This morphemic information will help here: if the word is a noun, and the noun refers to a person or an animal, its ending is spelled as -ian (mathematician, magician, librarian, guardian). If the word does not refer to a person or animal and if it an abstract word, it is spelled as -ion (education, emotion, religion, position, discussion). There are very few exceptions to this principle, and the exceptions are very uncommon words (centurion).

The Past Tense -ed

Another example is the more common -ed (past tense) sound that cannot be spelled on the basis of its sound either. It can have three sounds as in jumped (-t), started (-id), banged (-d). Children need to be made aware of, and explicitly taught the different past tense -ed sounds. They should also be explored with children in their everyday texts and contexts.

Spelling Development

There are two trains of thought regarding spelling development. One believes that spelling follows a developmental pattern, starting from the smallest sounds and growing to morphemes. This progression can be seen in the following developmental spelling stage theory (Ganske, 2000).

Emergent Stage

This stage is similar to the emergent reading stage, where children know that each word contains letters and sound, and words convey meaning, but they are not yet reading.

Table 1 Stage 1: Emergent Stage

Word	Representation
cat	olc
look	cx

Letter-Name Stage

Children at this stage are beginning to master the alphabetic principle; they have some letter knowledge and know the letter names (Bear *et al.*, 2004). They are learning phonemic awareness skills such as rhyming and letter-sound isolation. At this stage unconventional spellings are used such as hs (house) and bgn (begin). Instruction at this stage includes consolidation of letter sounds and names, vowels, explicit and systemic phonics instruction, initial blends and digraphs.

Table 2 Stage 2: Letter Name Stage

Word	Representations
Man	Mn
Cat	Ct
car	cr
look	lk

Within Word Pattern

At this stage, many of the common CVC sight words are spelled correctly. Children at this stage have letter-sound knowledge, know their short vowel sounds, and have many beginning blends, so they can read texts at their age level (Bear *et al.*, 2004). They suggest that at this stage teachers should focus on what children “use but confuse” (p.16). This includes CVCC patterns, r-control patterns (-ir, -er, -ur, -ar), and common letter strings (-ight, -ing). In addition, there needs to be a focus on antonyms and synonyms, and homophones (roll/role, toe/tow).

Table 3 Stage 3: Within Word Pattern

<i>Word</i>	<i>Representation</i>
man	man
Cat	Cat
dad	Dad
right	Rite
Boat	Bote
rock	rok

Syllable Division

Children at this stage can read and write proficiently. They can spell most common words correctly. At this stage instruction should focus on spelling rules such as doubling a consonant to divide syllables, consonant-le syllables, syllables with -tion, and -ssion, and an emphasis on affixes (prefixes, suffixes, and roots) (Ganske, 2000).

Table 4 Stage 4: Syllable Division

Word	Representations
candle	candel
election	elecshun
mission	mishun
collar	coller

Stage 5: Derivational Constancy

This starts in the teenage years and continues into adulthood. At this stage students are ready to learn about spelling based on the origins of English words and how they are impacted if they are derived from Latin and Greek, for example. Here students focus on the etymology, word origins, and the meaning, rather than spelling patterns. They should be encouraged and given time to examine words closely, question the word parts, and maintain a curiosity about words. For example teachers can ask students about the interesting words they have seen and read in recent days (Bear *et al*, 2004). One really important factor in this process is that *teachers* will also learn about words from their students (Frey & Fisher, 2005). Some of the more difficult aspects of words should be explored at this stage, such as words that have silent and sounded consonants such as *fasten/fast* and *hasten/haste* (Ganske, 2000). Students should be encouraged to keep word journals and record certain words and their origin, as well as related words.

Table 5 Stage 5: Derivational Constancy

Word	Representations	
Malign	malignant	<i>Latin</i>
muscle	muscular	<i>Latin</i>
metre	metric	<i>Greek</i>
produce	production	<i>Latin</i>
volcano	volcanic	<i>Latin</i>

However, it is important to note that there is evidence that children do not always keep to a strict developmental pattern but that there is overlap between these stages of spelling development (Kessler & Treiman, 2003; O'Sullivan, 2000). Thus children can use multiple sources of linguistic knowledge when they spell words. Some common terms useful in terms of studying spelling are noted in Table 5 below.

Table 5: Common Terms useful in teaching and learning spelling

Antonyms	<i>Words that are opposite in meaning</i>	<i>Smooth/rough, broad/narrow</i>
Synonyms	Words that are similar in meaning	Big/large, bill/beak, sturdy/strong
Homophones	Words that sound the same but are spelled differently	Roll/role, our/hour, break/brake
Polysemy	A word that has many meanings	Fast, bank, funny, star, common

Effective Spelling Instruction for Students with Literacy Difficulties

Explicit teaching of spelling is important to the development of effective spellers (Bailet, 2004; Henry, 1997). It has been shown in research that systematic instruction and multiple opportunities for practice over the following days and weeks is essential for good spelling (Wanzek *et al.*, 2006). As spelling is a linguistic skill, children need to become aware of the meaning-based nature of English spellings. This relationship helps reduce the confusion about some of the inconsistencies and irregularities of the English spelling system. Templeton (1983) gives some examples of *meaning groups* such as consonants that are silent in one word but sounded in another, such as the silent and sounded consonants in sign/signature; autumn/autumnal; solemn/solemnity; sign/signal. As children become aware of this, they begin to see the fundamental principle of English that sound is not the most important factor when spelling, but that meaning is (e.g., bomb/bombard; soft/soften; vehicle/vehicular; assign/assignment. Here word relationship is all important for understanding English spelling. A further example can be seen in the derivational aspects of words such as Greek roots (because they can be noticed immediately as they are at the beginning or end of a word). Such word parts as the prefixes mono-, bi-, trio-, quad- are a good choice to introduce to children because of their frequency in words. After this foundation, students will be ready for some of the more difficult Latin roots. It is important to look at *groups* rather than *pairs* of words to see these patterns. Children at the early stages of spelling and older children with spelling difficulties benefit not only from phonological strategies when learning spelling, but also from guidance with the visual and structural aspects of spelling system (O'Sullivan, 2000).

In a meta-analysis of spelling interventions, five key elements of effective teaching of spelling for students with literacy difficulties were identified (Wanzek, Vaughan & Wexler, 2006). They were (a) systematic study strategies, (b) immediate feedback on spelling, (c) repeated practice, (d) teaching morphemic awareness, and (e) important spelling rules.

Co-teaching of Spelling

It was recommended by the Department of Education and Science (DES) (2003) that where possible, schools should provide additional teaching for children with SEN in their mainstream classes (*Circular 24/03*). Co-teaching is specifically recommended in *Circular 02/05* (DES, 2005). Co-teaching spelling is an ideal method to teach spelling. As there are two teachers in the classroom, it is easier to manage and teach different groupings of spellers (Friend, 2008). It is an opportunity for co-teachers to share expertise. The learning support teacher may be more familiar with the morphological patterns in words and the etymology of words, so this may be an opportunity for the class teacher to focus on the weaker student groups and the LS teacher to facilitate and teach the more able speller groups. However co-teaching requires careful planning and preparation to implement (Murawski, 2012).

1. Teacher planning for effective instruction

Word Knowledge for teaching spelling

Teachers need to know the rules and patterns of the English language. Co-teachers must discuss, and be clear about the rules (e.g., doubling rules, vowel-consonant-e rule), a range of morphemic knowledge, and word origins (e.g., Latin and Greek roots) of the words they are asking children to learn to spell. Some of the rules can be complicated. For instance, the doubling rule for two-syllable words states that if the stress is on the first syllable then you do not double the last consonant (secret/secretive, export/exported, reason/reasoning). But if the last syllable of a two syllable word is stressed, the last consonant is doubled (refer/referring, forbid/forbidden, occur/occurring, regret/regretted). The 1-1-1 rule is another doubling rule. If a word has one syllable, one vowel, and one consonant the last consonant is doubled when we add the following vowel endings: -ing, -ed, -er, -est, -en, -ish, -ery, -y (fat/fatten, put/putter, thin/thinner, hot/hotter, swim/swimming).

Planning will include gathering of materials and games for group teaching. Word activities such as Word Study lists and morphemes as provided in Words Their Way “Word Sorts” (Johnston, Invernizzi, Bear, & Templeton, 2009).

2. Formative Assessment of spelling

Effective co-teaching of spelling begins with identifying each individual child’s needs and planning instruction around those needs. This will include identifying a range of specific, appropriate target words for these students.

Use two diagnostic spelling tests for formative assessment of spelling (Schlagal, 2002). Examination of word spelling errors will help to ascertain the level of spelling of the child. Inspection of students writing is another useful way of gaining insight into what student difficulties are and what spelling level the student is at. Use the results of these informal spelling tests and writing samples

to assign children to suitable groups for word study by sound, word pattern, or meaning (morphemes/roots). They should receive a spelling list tailored to their needs.

3. Assigning students to their spelling groups

Assign children to different groups depending on their spelling level.

- (a) Good speller groups: These children draw on a variety of spelling strategies from an early age.
- (b) Good readers-poor spellers: These children tend to use the phonemic route for spelling (tarantula/taranchula, election/elecshun). They may have weak visual memory (yacht/yot), so they do not use orthographic knowledge of word patterns to help them spell (right/rite). They tend to confuse homophones (role/roll).
- (c) Poor readers and poor spellers: These children have poor phonemic knowledge and poor orthographic awareness (O’Sullivan, 2000).

4. Teaching session (40 minutes approx.)

These sessions must be held on a regular basis, daily if possible.

Feedback time at end of session

Time for feedback must be included at the end of lesson so that different groups/children can reflect on and discuss the words they have been studying and what they have discovered about particular words during the session.

5. Weaving word and spelling knowledge through the day

Further attention must be given to the target spellings in different learning contexts throughout the day (e.g., history, geography lessons). Students must be encouraged to identify those target words throughout the day, so that learning of spelling resonates through other subjects being taught. In this way, those students who are at lower spelling levels will be given the opportunity to learn about word patterns and morphemes for example, from their peers. The teacher must also be prepared to draw attention to aspects of words in different contexts. Children can then become familiar with words of Greek origin for example, through science lessons, before they formally study these words in spelling sessions (see figure 1).

6. End of day recap

Have a spelling chart on the classroom wall. There should be a ten minute session at the end of the day to discuss interesting or target words noted during the day (and written on the wall chart). These words can be discussed and reviewed each day.

Developing a Model of Management

Co-teachers need to develop a plan for managing lessons that allows both teachers to teach particular spelling groups on a given day. It will be necessary

that one or two groups will be working independently to allow this to happen. This independent learning needs to be rotated among groups on different days. It is also necessary that *all* groups are taught at some stage during the week. This will take some planning and classroom management.

What to Teach and Spelling Activities to Consolidate Learning

When teaching spelling rules, both teachers need to verbalize the rule and the children also need to verbalize the rule (Berninger & Fayol, 2008). Children then need to demonstrate and explain the rule using examples of these words in isolation or/and in a text. This is important as often children can verbalize a rule such as the vowel-consonant-E rule (magic e rule), but they cannot demonstrate the rule at work or use it successfully. Teachers must also remember at all times to teach the connection between meaning and spelling.

The following ideas depend on the spelling level of the child. Some children may need to consolidate some of their letter-sounds, or their vowel sounds, and learn to spell simple CVC words. Others may have a solid bank of CVC words and need to learn some beginning blends ‘gl’ ‘sp’ ‘th’ and digraphs such as ‘ee’ and ‘oo’ which will also expand their decoding and word attack skills. Appropriate flashcards and word sorts will be needed for this learning. If children have more developed spelling skills, co-teachers can make a list such as the one below and plan for their groups:

1. Irregular words (Anglo-Saxon words) (see Figure 1)
 - a. Use of mnemonics and visual mnemonics
 - b. 9 and 10 below will help teach these spellings
2. Letter strings (e.g., -ight, -tion, -r controlled words (ir, er, or, ur).
3. Polysemy
4. Homophones
5. Prefixes, affixes and suffixes and what they mean
6. Teaching Past Tense (-ed) followed by Word Sorting for different –ed sounds in words
7. Teaching Morphemes followed by Word Sorting
 - a. Teach the difference between -ian and –ion endings in pairs of words (emotion/electrician, protect/protection). Use analogies (electric/electrician, magic/?).
 - b. Following these discussions, these words can be written on cards, read and matched up, as well as mixed up to be paired again.
8. Use of baseword or Morpheme webs
9. Buddy study using *look, discuss, cover, write, and check* (in pairs)
10. Use of games
 - a. Spelling riddles
 - b. Rhyme Time
 - c. Hangman.

Monitoring Progress

Weekly or fortnightly informal tests of spelling lists learned can be given. Children should be encouraged to examine their spelling tests for weak and strong aspects of their spelling. The teachers should note progress of each child. Groups should not be introduced to new word aspects unless they have achieved mastery of whatever letter blend, letter string, word pattern, spelling rule etc. they were learning in that week. Overall mastery is 80% or above. Likewise, if a child masters a blend or letter pattern during the week, he/she should be moved on (or into another advanced group). Groups should remain flexible with the results of writing samples and informal spelling tests guiding placement in groups.

Seminal texts such as Henry (2003) provides information on *what* to teach, such as lists of common and less common Latin and Greek roots, morpheme patterns, how to make morpheme webs, and what spelling to teach advanced readers. Although there is a scarcity of research on the most important aspects of *how* to teach spelling, Nunes and Bryant (2006) provide a description of their work with teachers and their own research findings regarding the teaching of morphemic awareness to improve spelling. Details of both texts are in the reference list for this article. These two texts will help teachers build vital knowledge about words, their meanings, and origins so they can provide the linguistic knowledge of English words for children and students in a more holistic and meaningful way.

Conclusion

English spelling is more regular and rule-bound than is commonly believed, but it is not easy to teach. Instruction needs to be carefully planned and sequenced (Joshi *et al.*, 2008/9). In addition, teachers need sound knowledge of the English language and spelling system (Berninger & Fayol, 2008; Nunes & Bryant, 2006; Schlagal, 2002). Such an important skill as spelling needs to have a central place in the primary school curriculum.

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There is more to numeracy than meets the eye

Jerry McCarthy

Many second level schools report that they find their investigative journeys towards the implementation and attainment of effective school-wide numeracy development, difficult and protracted. Some school leaders admit that their schools have made very little progress to date because their staff and management have not been able to devote their full attention to engaging with the challenges and opportunities of cultivating a collaborative and trans-curricular approach to their students' numeracy development. These school leaders clearly identify the mandated requirement to simultaneously assimilate and embed other complex and parallel strands of change into their school system and school operation, as the primary reason for their inertia in advancing their development of a school wide response to the teaching and learning of numeracy. Currently, the Project Maths strand of change is in its cycle of implementation and institutionalisation in schools, and so still requires strategic support, coordination and management. Additionally and simultaneously, every subject teacher is required to develop and implement approaches within their subject teaching, that enhance their students' literacy learning, while concurrently getting ready and making preparations for the waves of substantive Junior Cycle Reform which are about to reach their shores.

A school's investigative journey into current numeracy provision and practice will seek to reveal, identify and analyse the incidence and distribution of opportunities for numeracy learning and teaching that exist across the school's second level curriculum. Because numeracy is generic and not anchored exclusively to any one subject syllabus, the collaborative inquiry that is undertaken to reveal its presence across the curriculum needs to be expansive, forensic and comprehensive. In their investigative journeys schools quickly discover that numeracy is not evenly distributed across the second level curriculum. There are elements of numeracy, "numeracy moments", embedded in, or interwoven into, many prescribed syllabi of junior cycle schooling. Without doubt, the junior cycle mathematics syllabus contains the richest and deepest reservoir of "numeracy moments" within its framework of fundamental concepts and processes. The subject syllabi of practical subjects – Woodwork, Metalwork, Home Economics, Physical Education and Music – also contain a high incidence of "numeracy moments". History, Geography, Business Studies, Religion and Science also contain multiple "numeracy moments" within their prescribed syllabi, but these embedded "teachable moments" (Darling

Hammond, 1994) need to be revealed and unwrapped through collaborative enquiry and discussion. Syllabi of junior cycle language subjects may not contain explicit reference to numeracy, however language teachers are also expected to support and contribute to their students' numeracy learning by strategically planning and arranging spaces in their teaching for the initiation of classroom narrative and discourse which focus on some aspect of numeracy-in-action and numeracy-in-context, as an effective conduit and platform for consolidating and extending the students' numerical understanding. Each subject department must engage in its own exploratory journey to identify the specific opportunities and potential for numeracy development that lie embedded within the rhythms of the teaching and learning of their subject or, additionally, that can be initiated and grafted to current practice in classroom narratives or in the initiation of inter-departmental numeracy projects and initiatives. Every subject teacher is required to find space for "numeracy moments" within his or her practice.

The school's plan and roadmap for numeracy development needs to be collaboratively developed on-site – with input from each subject department – and should be informed primarily by the numeracy needs of their students. Usually, when a mandated curricular change arrives at the front door of the second level school, it comes with its syllabus content and syllabus specifications attached, pre-packaged and tightly sealed. Each curricular change "product" (Fullan, 1982) usually arrives with a menu of qualifiers, imperatives, protocols and specifications to which the school practitioners and management must strictly adhere. Because numeracy is generic and not subject bound, second level schools will not receive a prescribed or graded numeracy syllabus or a suite of roadmaps to direct each subject department's pathway to effective and inclusive numeracy development.

Problems can arise with the initiation and implementation of curricular change, if the school does not adequately address or cater for the "subjective" or human-impact dimension of the incoming change. The effective and successful planning and implementation of curricular change in school requires that due care and attention must also be provided to the subjective and personal dimension of the change. For the classroom practitioner, or subject specialist, every curricular change, that impacts on his or her teaching, is personal. If the curricular change is to be successfully implemented and institutionalised within the "cultures of teaching" and permanently anchored within "deep structures" of the school, then sufficient time must be given for the teacher – and for the subject department – to go inside the change, to interrogate its content and dynamics, to dissect it, to reflect on it and to thoroughly investigate the possibilities and challenges that may arise in the interface between the proposed change and the "thousands of subjective realities (that are) embedded in people's individual and organisational contexts and their personal histories" (Fullan, 1982). Hopkins (1985) claimed that every inward curricular change has an impact, not only on the learner, but also, at a deep, personal and professional level, on the subject teacher. Unless the

subject teacher becomes completely convinced of the quality, reliability and capacity of the proposed change, to improve on the current status quo and on existing processes of teaching and learning, then this teacher may limit his or her role, dedication and enthusiasm in the implementation phase of the change or may refuse to participate. Ultimately, all phases of curricular change in schools – initiation, implementation and embedded institutionalisation – depend on the agency of the subject teacher for their holistic delivery; in essence, it all depends on what the subject teacher thinks, does and says!

The subject teacher, as the primary change agent, occupies the critical position of arbiter, gatekeeper and mediator between syllabus change and effective delivery. If the subject teacher is not enthusiastically on board, the proposed change may never get off the ground or may inevitably be constrained, superficial and transient in its impact within the school context. Hargreaves and Fullan (1992) contended that “Teachers don’t merely deliver the curriculum. They develop it, define it and re-interpret it too.” Fullan (1982) concluded that if change attempts are to be successful in the school, individual teachers – or groups of teachers acting collectively, as subject departments – must find meaning in the “what should change” and “how to go about it” dynamics of the change. Once the subject teacher has been given adequate time to thoroughly interrogate the curricular change – independently and collaboratively with colleagues in the subject department – and can now “make sense” of the change, then, on invitation, this teacher may assume the role of change agent and change advocate and begin to actively assimilate the proposed menu of change dynamics into his or her practice and encourage colleagues to do the same. Fullan (1982) claimed that the curricular change is fully accepted by the subject teacher when he or she describes the change as “improvement in practice” and categorises it as “organised common-sense”.

Lieberman (1994) argued that, when the subject teacher engages in the planning and scripting of the content and teaching of “numeracy moments”, he or she is performing the role of “curriculum constructor”. Hopkins (1985) stated that a subject teacher is performing “curriculum research” when he or she engages in reflection-in-action, during the implementation phase of the “numeracy moment”, and again, post-lesson, when he or she seeks to analyse and evaluate the degree and quality of enhanced numerical understanding that the students have acquired. This phase of reflection-on-action may also encapsulate an investigation and identification of the circumstances and resources that may have contributed to that extension in numeracy learning and may also include a retrospective construction of interpretation of the action, as a basis for informing future action. In this role of curriculum researcher, the subject teacher is seeking “inside-outside” perspectives on his or her numeracy practice – initially inquiring into aspects of this practice and evaluating its impact on students’ numeracy learning and then progressing to abstract extended meaning, interpretation and generalisation for future practice. In this scenario the teacher is also a learner.

This teacher-as-researcher is a multi-faceted professional who is continually reflective, self-conscious and systematic about his or her teaching. Extended and richer insights, into numeracy teaching and learning, can be acquired when the subject teacher collaborates with a colleague in undertaking this curriculum construction and curriculum research. This collaborative endeavour and avocation can be extended to include peer observation and peer mentoring. Darling Hammond (1994) strongly advocated enquiry into practice and contends that “it is more important than ever that teachers have the capacity to appraise their actions, evaluate their work, anticipate and control consequences, incorporate new theory and research into practice, and possess the skills and understanding needed to explain their work to other teachers, and to students and their parents”. Darling Hammond also claimed that when teachers enquire into their practice they begin to develop “soft theories of teaching” and “hybrid ways of knowing and forms of knowledge that have a special power and energy of their own”.

Schools have also encountered difficulty in identifying the pedagogical methodologies and approaches that are most effective and successful in scaffolding, enhancing and accelerating students’ numeracy learning. Askew (1999) claimed that the most effective teachers of numeracy are those practitioners who, in their teaching, constantly and consistently seek to highlight, illustrate and discuss the webs of conceptual and process inter-connections that exist within and across mathematics and numeracy. Hansen (2009) agreed and stated that effective teachers of numeracy continually seek to focus and ignite classroom discussion on the many connections that exist between numerical ideas and the real-life contextual sites where these ideas are used and applied every day. Lave (1988) stated that the attachment of context to numerical ideas makes them real, interesting and authentic for the learner. Inserting contextual frames around numerical ideas helps to translate and transform these ideas to meaningful realities that the student has previously encountered and is familiar with. Askew *et al.* (1997) strongly advocated the use of classroom discourse and narrative as highly effective vehicles and conduits for the communication, articulation, sharing, processing, hearing and acquisition of numerical ideas and numerical modes of thinking. Vygotsky (1978) also claimed that using numerical language and conversation in the classroom can play a key role in the construction of students’ numerical understanding. Spooner (2002) was of the opinion that students’ mathematical and numerical understandings are developed when they are given opportunities to articulate and share their thinking in classroom conversations. These classroom narratives also provide opportunities for the students to compare their thinking with that of peers and teachers. Watson and Mason (1998) claimed that mathematics and numeracy are successfully learned based within a “social situation of talk”. The dynamics of talk and narrative, that these researchers refer to, are multi-layered and can include both teacher and student inputs. Student conversational inputs may include questioning, raising suppositions, providing answers, checking and validating

results, identifying alternative approaches, generalising and justifying action. Teacher inputs, that can ignite and sustain classroom narratives, include teaching by asking, questioning, providing encouragement, prompts and cues, illustrating some of the emergent numerical ideas by using visual or written representation, supporting student meta-cognition and being responsive by answering student queries.

Lee (1962) suggested that “being numerate” means that the student has developed and possesses a capacity, knowledge and understanding to make sense of numeracy and numerical ideas in action in diverse contextual sites. Being numerate enables the student to “abstract” meaning not only from familiar contexts, where numeracy is embedded, but also from unfamiliar contexts. Lee also emphasised the attachment of contextual frames to numerical ideas and claimed that “there is a wide field of opportunity for the development of precise mathematical ideas from the corresponding, but less formal, thinking involved in the conducting of day-to-day activities”. Nunes and Bryant (1996) also advocated the association and interlinking of numerical ideas with authentic context as an effective approach to scaffolding and developing student numerical understanding. These researchers claimed that “situations give meaning to the concepts” and advocate that “students’ informal experiences and the genuineness of their mathematical learning outside school should be recognised”.

Classroom narratives and discourse, which have a numerical theme and orientation, have the potential to significantly consolidate and extend the student’s numerical knowledge and understanding by providing rich conversational epiphanies and dialogical scaffolding from which the student can extricate and negotiate extended meaning and begin to cognitively self-assemble more in-depth and integrated insights into those aspects and nuances of numeracy which may have been misunderstood, or ignored, in prior learning. Many students’ misunderstandings and errors in numeracy can be traced to, and explained by, the existence of significant gaps in their knowledge and understanding of the micro systems and frameworks of mathematical notation and “logical invariants” (Vergnaud, 1985). Mathematical notation refers to the systems of representational symbols and signs that are required to make mathematical and numerical ideas, concepts and processes explicit and “external” so that these ideas and core dynamics can be discussed, communicated and interrogated. “Logical invariants” are the framework and bedrock of mathematical and numerical principles, rules, axioms, conventions, algorithms, relationships and properties, which underpin and regulate the entire mathematical and numerical domain and which must remain constant, and be universally adhered to, in every numerical or mathematical activity or processing. These “logical invariants” give extended meaning, clarity and depth to their overarching pillar Concepts and Processes. For example, the suite of “invariants” that underpins the pillar Concepts and Processes of Number includes, and is comprised of, the following principles, properties, rules, definitions and conventions:

- Numeration
- Counting
- Cardinality
- Ordinal position and seriation
- Classification (whole / fraction / decimal / percentage)
(even / odd)(positive / negative) (prime / non-prime)
(equal to / bigger than / smaller than)(increasing / decreasing)
- Reversibility and Inverse
- Identity
- Conservation
- Subsidiarity
- Equivalence
- Place value
- Number bonds
- Algorithms.

The foundational frameworks of “logical invariants” are taught within the primary school mathematics curriculum. However, not every primary school student will be successful in learning and retaining every nuance and detail of these frameworks. When some students transfer to second level, they arrive with this baggage of numerical misunderstanding and with gaps in their numerical knowledge. Because of the busy-ness, pace and subject Balkanisation of second level schools, these learning gaps and inconsistencies in the student’s numerical knowledge, may remain undetected, unresolved and not remediated. Embedding numeracy within rich classroom narratives provides many opportunities for the teacher to check in on the student’s current level of knowledge and understanding of the foundational “logical invariants” of numeracy. These numeracy narratives also serve as an effective vehicle for amending and repairing, student misunderstandings through the re-learning that can occur on those occasions. Not only are the foundational frameworks of “logical invariants” revisited, they are also consolidated and extended within these rich classroom narratives.

The definition of numeracy, that has been circulated by the Department of Education and Skills, does not contain sufficient richness of detail for teachers to script, plan and sustain continuing classroom conversations about numeracy-in-action across a multiplicity of authentic contexts. Each foundational pillar-concept and process of numeracy needs to be forensically examined, and deeply drilled into, so that its entire framework of “logical invariants” and operational minutiae is revealed so that they can be used as foci and themes for conversational “numeracy moments” and classroom narratives.

Once this rich landscape of numerical micro-components and “logical invariants” has been revealed, each component can be systematically and incrementally woven into the fabric of classroom conversations and brought to life by being framed and grounded in a authentic context that is familiar to the students. These narratives, about the transformation and translation of numerical concepts, ideas and processes, into familiar and authentic contexts, can be important vehicles for altering students’ perception of numeracy, by making them aware of its multi-functionality, its flexibility and its reservoir of logical, practical and pragmatic ideas that can be used and adapted when problems need to be solved. These classroom narratives can grow organically and substantially, relative to the numeracy needs and interests of the students. Once space has been made for incorporating “numeracy moments” into any lesson, and when these learning episodes resonate with rich conversations about the importance of being numerate and about the multiple uses, high-adaptability and multi-functionality of numeracy, then participating students will begin to make sense of numeracy and will have been “given reason” for its inclusion and prioritisation within the second level curriculum.

Experienced teachers fully understand and appreciate the wisdom and accuracy of the educational maxim that declares that students’ motivation to learn is increased when they find the subject matter or task interesting, real and authentic and when they see it is as being relevant in their present or future lives. Placing numeracy in contextual exemplars and in contextual frames, within lessons, gives it an aura of credibility and realism for adolescent learners. Making rich connections between numeracy and context stimulates and enhances student learning because it makes learning real and relevant.

Teachers need to continuously remind themselves that curricular change takes time. Equally, they need to remember that in every strand of change there are always phases of forward momentum, followed by phases of consolidation and inertia (Stoll and Fink, 1996).

Though not necessarily referring to an educational scenario, Arthur C. Clarke (1968, p.xvi), the science fiction writer, astutely suggested that all new developmental ideas may pass through three phases: (1) “It can’t be done.” (2) “It probably can be done, but it’s not worth doing.” (3) “I knew it was a good idea all along!” Numeracy is a constellation of good ideas! When the student leaves the second level school, he or she leaves the official mathematics and other subject syllabi behind at the school gates; however the student retains an internalised numeracy curriculum for life, as a skills set and as a matrix of personalised proficiencies and frames of mind that continue to script logical thinking, reasoning, problem-solving, making sense and making judgements throughout life. We can accurately claim that numeracy is lifelong and a tool for living!

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Making Use of High Quality Assessment Data to Inform Learning Support Provision for Struggling Readers in a Secondary School

Diarmuid O'Rourke

The story of this initiative, which is now in its fifth year, began with a conversation between the Principal of a large successful Community School in County Limerick and the school's Educational Psychologist (NEPS). The Principal sought advice about providing an alternative to the school's entrance exam which had existed in the same guise for over a decade. The entrance exam consisted of a number of disparate elements which had organically grown in an *ad hoc* fashion. Indeed the Principal admitted that the primary rationale for the selection of the individual test components was "ease of administration". The subject teachers and learning support staff had often complained that the entrance data related to indirect measures of learning which were not helpful when planning learning interventions. On the whole, the Principal and senior staff felt that this data had little use and indeed very few teachers tended to access it. There is often too much data, but not the right type or not in a format that facilitates use (Schmoker, 2003). Despite the minimal value of this data, the existing process was still quite time consuming in terms of correcting and scoring the tests, and aggregating the data.

Simultaneously the school's leadership recognised that the school needed to change the entire fabric of Learning Support provision in the school. In particular the school needed to (a) dedicate the role of Learning Support to a small number of whole time specialist teachers (rather than a plethora of part-time subject teachers) and (b) develop the knowledge and skills of these selected teachers.

This issue has been highlighted and critiqued in the literature. Bintz (1997) identified the struggles and insecurities faced by novice secondary teachers attempting to teach reading, stating that "individuals who know the least about reading are being asked to teach reading to students who need it the most" (p. 21). Ivey and Broaddus (2000) likewise wrote "students in middle schools need good reading instruction, but many middle school teachers may be unprepared or unable to provide it" (p. 68).

Therefore the school sought to collect high quality data that would inform decisions, particularly for low achieving and struggling learners. Following ongoing consultation with the Educational Psychologist it was decided that, in October:

- All first years would receive a *standardised* spelling test, reading fluency test, written expression test, maths calculation test
- All first years would receive a standardised individual reading comprehension, word reading and reading vocabulary subtest
- All first years would receive a **curriculum knowledge test** which was primarily based on the content of the Irish primary History, Geography and Science (NCCA, 1999). Unlike the other tests, this was developed by the teaching staff so it was not a standardised test.

Figure 1: Tests Chosen to Collect High Quality Data

Dimensions					
	Word Reading	Reading Fluency	Reading Comprehension	Spelling	Reading Vocabulary
Test used	Woodcock J (c)	Woodcock J (c)	Woodcock J (c)	Woodcock J (c)	Woodcock J (b) Extended battery
	Written expression	Maths Calculation	Curricular Knowledge		
Test used	Woodcock J (c)	Woodcock J (c)	Bespoke, based on Primary Curriculum		

The school leadership decided initially to target those students who were experiencing reading difficulties. A data analysis indicated that approximately 15-18 percent of students (13-20 individuals) underperformed on **one or more** of the literacy subtests. A cluster analysis of these students revealed that they were a heterogeneous sample with mixed profiles. However within this, three general groups emerged: Group 1, a relatively small number of students who had poor word reading skills but who managed to score reasonably well on the reading comprehension test; Group 2, a group with poor reading comprehension skills but with good word reading skills, and a third group (Group 3) of students with significant deficits in both reading comprehension and word reading. When students are not taught according to their individual abilities and needs, but instead are taught based on the premise of a one-size-fits-all instructional program, we are not providing them with opportunities to climb the literacy ladder (Dennis, 2009).

Regardless of their profile, every student received eighty minutes literacy intervention (over two classes). The profile of one student from each group will be described in order to typify the characteristics of the respective groups and details of the teaching approach/strategies the students received over the course of the year.

Sean – Group 1

Sean scored poorly on the word reading and reading fluency subtest, but attained much better on the reading comprehension subtest. He also scored well on a separate oral test of vocabulary (Woodcock Johnson Extended Battery). He had good curricular knowledge based on the school's bespoke curricular knowledge test (which was read out to the examinees). Based on this information we hypothesised that Sean brought good vocabulary and background knowledge to the reading process, but he was undermined by poor decoding and a lack of reading fluency. His reading rate was slower than more than 90% of his peers. His spelling was similarly lagging behind his peers (indeed all three students in Group 1 had low word reading, reading fluency and spelling scores).

Sean was clustered with the other students with a similar profile to receive research-validated intervention. This included a daily opportunity to read appropriately matched material, that is text written at his independent reading level, to an adult.

For this purpose the school provided a large selection of high quality fiction and non-fiction reading material. These books were levelled in terms of text complexity using the Lexile framework (MetaMetrics, 2008). All the students had regular "reading conferences" with an assigned Learning Support teacher. This involved an initial discussion about what type of books the students liked and then help was given to access books at the "just-right" level where they can read 97-98% of the words. Sean then spent at least 20 minutes per day reading independently. A teacher would frequently listen to him read to (a) ensure that he was not a fake or disengaged reader, (b) discuss reading strategies and (c) monitor whether he was at the independent level. Struggling adolescent readers require substantial teacher involvement – from selecting texts, to modelling, to providing feedback, to gradually releasing responsibility in reading to the student (Ivey and Fisher, 2006).

It is important that students have guidance on book selection. Studies show that below-average readers choose books that are well beyond their reading levels, while more capable readers most often select titles that correspond with their reading abilities (Reutzel and Fawson, 2002). The school invested heavily in a school library so that there is a large selection of titles at each level. Sean read fourteen books during term-time (and a further five books during the summer break). He read a mixture of fiction (*Hunger Games*, *The Game of Triumphs*, *Stig of the Dump*) and non-fiction (*Horrible Science* series). Reading authentic adolescent literature was one of the core principles of the programme.

“Reading is like every other human activity in that the amount of practice really matters, especially the amount of reading done while reading proficiency is being developed” (Allen, 2000). Unfortunately, struggling readers have less experience of successful reading practice and lose their enthusiasm for reading. This in turn decreases their motivation to read and their opportunity to become increasingly proficient readers.

The second part of Sean’s curricular diet was a spelling programme. Based on Sean’s low spelling scores, he received intensive word study with instruction offered at his developmental level. The school used the programme *Words Their Way: Word Study for Phonics, Vocabulary and Spelling Instruction*. (Bear, D., Invernizzi, M., Templeton, S. & Johnston, F., 2005).

Traditionally the teaching of spelling has relied upon a rote memorisation process (Schlagal, 2002). However research has shown that memorisation is not sufficient for learning to spell (Bloodgood, 1991), and that individuals’ spelling can be strengthened as they increase their knowledge about the structure of words. Word Study is a method for teaching literacy skills by requiring learners “to examine, discriminate and make critical judgments about speech sounds, word structures, spelling patterns, and meanings” (Bear *et al.*, 2008: p.3). It is a respected spelling approach that has been widely used in teaching children for more than two decades. It is based on a developmental philosophy that learners’ spelling progresses through predictable stages over time. Developing spelling was a target in itself but, as important, research shows that developing spelling helps oral reading and reading fluency skills (Vellutino, Scanlon, Small and Fanuele, 2006).

Bernard – Group 2

Bernard’s literacy profile was the most common of the group. He scored well on the word reading and reading fluency. He was able to decode words and read words fluently and automatically. However he achieved a low score on the reading comprehension and reading vocabulary subtests. Bernard’s core curricular knowledge was also much lower than his peers.

Thus it was decided that there was little need to focus on Bernard’s word identification and reading fluency as both appeared to be well developed. Instead, Bernard received daily opportunities to develop his vocabulary by being read aloud to and having book talk. (What Works Clearinghouse, U.S. Department of Education, 2008). His Learning Support teacher read a selection of novels and non-fiction texts to him within a small group of his peers. Bernard was also explicitly taught strategies to develop his own vocabulary through wide independent reading.

Bernard was also given guidance on how and when to use Comprehension Strategies (including prediction, visualisation, making connections, questioning,

clarifying, determining importance, and inferring and synthesising). These strategies were regularly revisited by Bernard during his weekly reading conferences and with his Learning Support Teacher. This aspect of teaching was informed by the *Building Bridges of Comprehension* (Courtney and Gleeson, 2010) and *Reciprocal Teaching at Work* (Oczkus, 2003) resources.

Group 3

Ellie was in the group that needed targeted intervention across all strands of literacy development. Her word reading and reading fluency levels were comparable to an average third class pupil. Ellie also scored poorly on the reading comprehension and vocabulary subtests.

It was decided, then, that a daily code-based reading programme would form part of her curriculum diet. The Toe-by-toe (Cowling, 1993) programme was chosen for this purpose as it had been shown to be effective in previous research undertaken by NEPS in the Waterford Reading Projects (Nugent, M. 2010); in the Limerick Reading Initiative (O'Rourke, D. Olsthroon, A and O'Halloran, 2015[unpublished]), and also in the West Dunbartonshire Literacy Initiative (MacKay, 2006).

Ellie was also provided with daily reading from “just-right-text” with an adult giving corrective feedback. Due to the level of her reading delay, a set of levelled readers (PM Plus Readers, levels 29 and 30) were used for her reading practice rather than novels. Ellie had daily opportunities to read these books, at her independent level, to an adult. Her teacher also provided vocabulary instruction using words from the reading texts and from read-alouds. This helped in building her background knowledge. Ellie received the same intervention in Comprehension Strategies that Bernard in Group 2 received.

Similarly to Sean in Group 1, Ellie received the Word Study intervention (*Words Their Way*, 2010) to develop her spelling ability. The *Words Their Way* programme begins with the students receiving a developmental spelling assessment. The data from this assessment then signposts the Learning Support Team to the stage of spelling development that each student is at. In this instance, Ellie was placed in an intervention group with one other student who was at her developmental level.

Determining the Effectiveness of the Literacy Initiative

As shown in table 2, the majority of the 13 students made significant gains in word reading and reading comprehension. Over the course of the duration of the intervention (October to May) the mean gain in months on the Woodcock Johnson (C) was 33.3 months for Word Reading, and 31.0 months for Reading Comprehension (Fig. 2).

Figure 2: The Mean Gain in Months made by Students Involved in the Initiative

	Woodcock Johnson (C) Word Identification			Woodcock Johnson (C) Passage Comprehension		
	Pre-test October	Post-test April	Gain in months	Pre-test October	Post-test April	Gain in months
Cian	12-9	14-5	20	13-8	15-2	18
Liam	11-4	13-3	23	10-6	12-8	26
Jeremy	15-8	21	64	13-8	18-0	52
Lisa	8-6	9-7	13	9-1	10-6	17
Sean	10-11	15-8	57	13-8	18	52
Connor	8-10	10-4	18	8-10	10-6	20
Saoirse	9-4	10-4	12	10-0	11-2	14
Kyle	10-4	12-9	29	9-6	12-8	38
Ellie	9-0	12-7	43	9-6	13-8	50
Bernard	12-3	13-10	19	10-6	13-8	38
Sean	10-7	15-8	37	11-10	13-8	22
Adam	11-5	18-0	79	10-0	12-8	32
Aidan	9-9	11-4	19	8-6	9-6	12

Concluding thoughts

Certainly, what was learned through this initiative is that students are entering our post-primary schools with heterogeneous literacy profiles requiring significantly different research-validated interventions.

If we are serious about meeting these diverse learners' needs, informed by good quality data, we must capture the abilities with which struggling students enter the classroom and match them to the teachers who have the most expertise in developing literacy abilities. Large secondary schools are in the advantageous position of being able to place students with a similar profile into developmental groups. Indeed timetabling was one of the more significant barriers in the initial years of the programme.

The results of the students' progress endorse this systematic data-informed approach to meeting the varying needs of struggling readers.

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TEST 2r: Early Screening for Reading and Writing Difficulties

Pauline M. Cogan

Introduction

TEST 2r is an early screening instrument to identify those five- and six-year-old children in Senior Infants and First Class who may experience literacy difficulties in their school careers. It is also an instrument of formative assessment or Assessment for Learning (AfL) and is fully congruent with DES policy on effective teaching methods and classroom-based formative assessment of children in the early stages of literacy acquisition (DES, 2001& 2011; NCCA, 2008). It is supported by the major stakeholders in Irish Primary education.

TEST 2r is based on research into the course of normal literacy acquisition, as well as into the various causes and theories of literacy acquisition failure. The development of TEST 2r was also informed by the literature on the prediction of dyslexia and literacy difficulties.

Great care has been taken over a number of years to develop TEST 2r in a rigorous, scientific way. The author first examined the many causes and theories of literacy failure – linguistic and metalinguistic, phonological, visual, short and long-term memory and automaticity (i.e. bringing any skill to automatic levels). A large battery of tasks was developed to operationalise the previously mentioned theories of literacy failure. Following an article in *InTouch* (INTO, December 2003) on the need for an early screening test, hundreds of primary school teachers expressed an interest in becoming involved in such a project.

Pilot Study

Volunteer teachers were trained in the administration of the tasks in the Blackrock Education Centre. Following principals' permission, teachers identified the child participants by random selection and full parental consent. These children then became the 100 participants in the Pilot Study, which took place in 20 schools in the Greater Dublin Area.

When developing a test it is extremely important to establish two things:

- i. that each task is age appropriate
- ii. that each task is reliable.

To establish the age-appropriateness of each task, a study of floor-ceiling effects was carried out. Floor effects means that, if in general the child participants found a task to be too difficult, the scores would be low all round. Such a task

should be eliminated from the test. Ceiling effects is the opposite of this; if the participants in general found the task to be too easy, with many scoring high marks, then that task should also be excluded. In this way the age-appropriateness and suitability of the task battery was established.

Following this, the reliability of each task must also be established. The bar was set high to make TEST 2r a reliable test; it was decided therefore, that a .7 reliability correlation should be achieved. This ensures that if the same children were administered the same test twice within a specified time, the results of each task should be very close to each other. Data processing revealed that twenty-seven tasks in the battery achieved this correlation level and so were included in a refined battery of tasks which went forward to a National Study.

National Study

The refined battery of tasks was administered in 189 schools by volunteer teachers who were trained in the rationale and administration of the tasks in the education centres of Sligo, Athlone, Limerick, Cork, Enniscorthy, Drumcondra and Blackrock. Child participants were again identified by random selection in these teachers' schools with the permission of their principals. Full parental, informed consent was obtained for child participation. The harvested data on the performance of 1041 children was entered into a large database, using the Software Package for the Social Sciences (SPSS) version 10. Descriptive statistical analysis indicated the performance averages and ranges for each age group and gender. The data on these 1041 participants was subjected to Principal Component Analysis (PCA) or Factor Analysis. This is a data reduction technique to determine if similar cognitive processes are being tapped by certain tasks. Factor Analysis of the dataset indicated that it could be reduced to 7 factors accounting for 57.17% of variance (Cogan, 2012). The way the tasks loaded into certain clusters was both exciting and very clear. Indeed, the factor loading for each task was so clear that it was very easy to name each factor. These factor names are set out in the table below together with the amount of variance explained by each factor (Table 1).

Table 1: Factor Analysis of the Dataset

Factor name	Percentage of Variance Explained
Visual-Verbal Correspondence	30.7
Rhyme/Memory	7.2
Phoneme Segmentation	5.3
Phoneme Segmentation Speed	4.2
Spatial Memory	3.8
Motor Speed	3.3
Balance	2.7
Total	57.2

Detailed information with regard to the above analysis is available in Cogan (2012). Factor analysis is particularly helpful in that it indicates common cognitive processes between tasks but also indicates which category of tasks should be represented in a test battery for early screening.

Validation of the Test Battery

The next task was to validate the battery by assessing the psycho-educational performance of the same young participants as they reached their 10th birthdays. Specifically, the study was intended to discover if their performance on the early screening battery at five or six years of age was associated with their performance at ten years of age. To this effect, following an interval of four to six years a validation study was initiated. A panel of experts selected twenty-two experienced sessional educational psychologists and four supervising psychologists. These were trained in the specific requirements for: (i) a parental semi-structured interview, (ii) psycho-educational assessment and (iii) a reporting procedure. Returned data was subjected to multi-variate multiple regression analysis. This indicated that each of the above-named factors from the early-age dataset was strongly or very strongly associated with performance in reading and spelling at ten years of age. Univariate multiple regression analysis indicated the most powerful individual tasks which were associated with literacy performance at ten years of age. Further, more detailed information on these analyses may be accessed in Cogan and McAnaney (2012). Indeed, so many tasks were associated with later literacy performance that a culling procedure was undertaken. Pods of academic experts in early literacy acquisition and skilled learning support teachers argued for the inclusion of certain tasks in the TEST 2r battery as published.

It was decided to form a short early screening or triage system which is meant to be administered by the class teacher (or the Support Teacher, if preferred). This screening is to be carried out on individual Senior Infant or First Class children about whom the teacher has concerns. Of course, time permitting, it can be administered to the whole class of five and six- year-olds if desired. If a child performs poorly in any one of the early screener tasks, then the Support Teacher should administer the more diagnostic battery. Together, the screening and diagnostic tasks would constitute an instrument of Assessment for Learning (AfL) and would provide indicators on what to teach an individual student over the coming months (or years). This would inform the development of the child's Individual Educational Plan (IEP) and ensure targeted teaching. It would also help the teacher to adjust teaching by sensitively noticing how the child was responding to intervention and make tiny adjustments to accommodate the stage of learning at which the child is currently performing [The Response to Intervention (RTI) Model]. This approach would help the child to become a flexible reader.

The TEST 2r Screener

The TEST 2r Screener is composed of five tasks which are known to be predictive of literacy difficulties (Muter & Snowling, 1998; Bradley & Bryant, 1983; Goulandris, 1996; Snowling, Gallagher & Frith, 2003; Badian, 1994; Badian, McAnulty, Duffy & Als, 1990). These tasks are:

- Letter Knowledge: Upper and Lower Case
- Rhyme Recognition Oddity
- Phonetic Spelling
- Copying
- Rapid Automatised Naming (RAN): Digits.

The Letter Knowledge task requires the child to provide a letter name, sound or word/character to represent a given letter. In the Rhyme Recognition Oddity task the child is presented with four illustrations representing words and is required to select the word that does not rhyme with the others (the odd one out). The Phonetic Spelling task requires the child to write five orally presented words. This task is scored in a very specific way. The Copying task requires the child to copy ten single geometric shapes. This task can be seen as a language free, culture-fair task. It is suitable for administration to newly-arrived children in Ireland as well as to Irish-born children. This test is scored according to a specific template. Finally, the RAN Digits task requires the child to name a series of forty randomly-ordered digits (1 to 5) as quickly as possible.

TEST 2r Diagnostic

The TEST 2r Diagnostic represents a drilled down version of the Screener and is for administration by the Support Teacher. These tasks are also known to be predictive of literacy difficulties (Badian *et al.*, 1990; Bradley & Bryant, 1983; Muter, 2004; Nicolson & Fawcett, 2004; Gathercole, Baddeley & Willis, 1991; Calfee, Lindamood & Lindamood, 1973; Snowling, Gallagher and Frith, 2003; Stein & Walsh, 1997; Wolf and Bowers, 1999). The diagnostic tasks are:

- Letter Sound Array
- Alliteration Oddity
- Alliteration: Initial Sound Matching
- Timed Rhyme Generation
- Digit Span
- Non-Word Repetition
- Initial Phoneme Deletion
- Final Phoneme Deletion

- Final Phoneme Deletion: Real Word Remaining
- Final Phoneme Deletion: Non-Word Remaining
- Non-Word Reading
- Spatial Memory
- Finger Localisation
- Rapid Automatised Naming (RAN): Objects.

The Letter Sound Array task requires the child to provide the letter sound for a visually presented letter. A score of 1 is given if the child provides the correct sound in a pure or impure fashion. If the impure sound is provided (i.e. with, for example, an 'uh' or 'eh' sound attached), a note is made of this on the scoresheet with a view to teaching the pure sound as soon as possible.

The Alliteration Oddity task requires the child to consider four illustrated words and to identify a word which begins with a different sound or phoneme. The Alliteration: Initial Sound Matching task is a more difficult version of the Alliteration Oddity task. Assessing this level of phonological awareness development is very important as Adams (1990) remarks that it is the child's first experience of fine-grained phonemic awareness and is a crucial stage of metalinguistic awareness.

The Timed Rhyme Generation task is the most difficult rhyming task, as it checks on the automaticity level of phonological short-term memory and scanning of long-term memory for words and non-words that conform to a certain coarse-grained phonological pattern.

The next two tasks, Digit Span and Non-Word Repetition represent an assessment of phonological short-term memory and the ability to pay attention. The Digit Span task is to be found in many early screening tests (e.g. Nicolson and Fawcett, 2004) and tests of learning potential (Wechsler, 2004), as it requires the individual to listen carefully to sequences of digits, presented at a rate of one per second, and to repeat each sequence in the order in which it was presented. The Non-Word Repetition task assessed the ability to pay attention and to repeat non-words.

The Phoneme Deletion tasks constitute a suite of three tasks of increasing difficulty. Phoneme Deletion (or segmentation) ability represents an advanced level of phonological awareness development. If young six-year-old children succeed in the task of phoneme deletion or segmentation it is likely that they will become flexible readers. Two scores are taken from each phoneme deletion task – the number of items that are correct and the average speed of correct item responses. The Non-Word Reading task assesses the child's ability to sound out AND blend non-words of gradually increasing difficulty.

The next two tasks in the TEST 2r battery are essentially language-free, culture-fair tasks and are suitable for newly-arrived children in Ireland, as well as for those who are native-born. The first of these, the Spatial Memory task, involves presenting the child with a two-dimensional grid which shows five linear cells. The test administration touches a gradually increasing sequence of cells at a rate of one per minute. The child is required to touch the same sequence of cells. It assesses short-term spatial memory and attention. The second of these culture-fair tasks is Finger Localisation. Children learn about their world by grasping and feeling items using the soft pads of their fingertips. If these fingertips could be magnified, structures shaped like drawing pins could be seen. These structures are stimulated by vibration or objects being drawn across them, or alternatively feeling the surface, texture, edge and shape of objects. Children who experience multi-sensory teaching learn about their letters using their finger pads. The multi-sensory teacher will provide children with three-dimensional letters made of plastic, wood, sandpaper, playdough, etc. S/he will verbally and visually point out line, shape and junction of letters, while the child feels these. How well a child learns about letters depends, among other things on the developmental level/acuity of the finger pads for experiencing vibration. Indeed, Badian *et al.* (1990) found that being able to identify which (unseen) finger has been touched was one of three tests which were predictive of reading difficulties in fourth-class boys with a 98% correct classification. The Finger Localisation task examines the child's ability to identify which finger has been touched by feeling only.

The final task is the Rapid Automatised Naming (RAN) of Objects. This task examines the automaticity level of the child's ability to name a series of forty objects at speed. It has been known for many years that some students with dyslexia are slower than even generally poor readers at naming objects. They appear to have difficulty accessing the names of objects and their errors are often "shadows" of the word they are seeking (Denckla and Rudel, 1976). The RAN Objects and RAN Digits tasks administered to five and six-year-olds were among the most closely associated with dyslexia at ten years of age in the TEST 2r Validation Study (Cogan, 2012; Cogan and McAnaney, 2012).

The young age of the target population of TEST 2r is uppermost in the mind of its developer. For this reason, many tasks have demonstration and practice items for ease of administration. Other tasks have a gating procedure which allows the examinee to progress to the test items only if s/he has succeeded in at least one of the gating items. Also, many tests have a discontinue rule in the interests of the examinee's self-esteem and the time-poor teacher.

In May 2014 the accuracy of the TEST 2r battery was examined. Twenty-nine teachers each volunteered to administer the TEST 2r battery (Screener or Diagnostic) to four children. Each teacher rated two children who were thought to be progressing well and a further two children thought to be making poor progress in literacy. The five and six-year-old participants were counter-balanced

across age and gender. All Screening and Diagnostic tasks were administered to the 116 participants. The harvested data found that the tasks of the TEST 2r battery performed very well, correctly identifying the children doing well or not doing well congruent with pre-test rating.

Developing TEST 2r National Norms

The TEST 2r National Norming process will take place in schools all over Ireland between 1 October and 26 October 2015. To this effect, training in the administration of TEST 2r has been taking place in various education centres, including those in Donegal, Sligo, Athlone, Limerick, Cork, Waterford, Dublin and Monaghan. Child participants have been chosen in a very precise manner, by stratified random sampling and counter-balanced by age and gender. The socio-economic status of the child-participants is also considered.

The Elements of TEST2r

TEST 2r is composed of 5 elements:

- (a) A Manual, which contains the test administration protocol for each task. It is a highly specified booklet containing each task administration phrase and gesture and is suitable for teacher self-training in the administration of the various tasks. It also briefly outlines the predictive research background for each task and general pointers for intervention to develop the specific skill examined.
- (b) A Visual-Stimulus A-Frame Booklet: this contains illustrations and visuals required for administration of tasks 1, 2, 4, 5, 6, 7, 8, 15, 16 and 18.
- (c) A Score Booklet for each task. This also contains a workbook where the child may attempt the Spelling and Copying tasks. At the back of the Scorebooklet there is a centimetre grid which is used for scoring the Copying task. Attached to the Scorebooklet cover is a Tracking Card flap, which can be used for the Copying task. It is placed underneath each page of the Scorebooklet on which the child is copying an item. The flap can also be detached (if necessary) for use in the RAN tests.
- (d) An Electronically Generated Report: when each child has been administered TEST 2r, the child's performance will be electronically submitted. A report will then be electronically generated based on the Irish National Norms. Each report will indicate for each task how a child performed and the level of intervention (if any) required to bring that child to the desired level of skill.
- (e) A Website (www.ldr.ie) will provide the teacher with links to resources for intervention.

In summary, the TEST 2r Screener may be administered by the classroom teacher or resource teacher to any individual five or six-year-old pupil about whom there may be concern. It may also be administered individually to as many five and six-year-old children as desired. If the child performs poorly on any one screening task then the remaining diagnostic tasks are administered by the Support Teacher (or class teacher, time permitting). The child's performance data is then electronically submitted and a report is electronically generated with pointers regarding intervention and the nature and intensity of that intervention.

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Digital Literacy: Access, Participation and Communication for the ‘Non-Literate’ in the New Digital Age.

Tom Daly

Abstract:

This paper arises from work undertaken by Special Education Support Service (SESS), within the context of the National Literacy and Numeracy Strategy, which sought to develop support for teachers of students with Moderate and Severe and Profound learning disabilities in the areas of literacy and digital literacy.

The paper initially examines the changing concepts of literacy, with its parallels and dichotomies in concepts of digital literacy, with regard to Irish policy. The concept of ‘The New Digital Age’ is then explored, examining the recent convergence of a generation of ‘digital natives’ with truly ubiquitous technology and an unparalleled digital enculturation of young people. The consequences for those with cognitive disabilities, whose access and participation may be suffering an even wider ‘digital divide’, and the associated challenges for education, are also raised.

Drawing on this, a ‘Digital Literacy Framework’ is proposed with the purpose of supporting teachers in achieving curricular targets for this cohort of students through digital literacy, thereby facilitating access, participation, the making of meaning and communication.

Introduction

This paper arises from an initiative by Special Education Support Service (SESS) to support the teaching of literacy, using tablet technology, for students with Moderate and Severe/ Profound General Learning Disabilities (GLD) within the context of the National Literacy and Numeracy Strategy (DES, 2011).

A number of questions were immediately provoked by this brief, particularly in relation to the teaching of students with Moderate and Severe/Profound GLD where language and conventional literacy may be very limited or absent – that is where students may traditionally have been described as ‘illiterate’. Such questions included: What do we mean by conventional literacy and digital literacy in this context? Where does the concept of ‘Language and Communication’ lie within this frame? What kind of learning/teaching framework might teachers and students need in order to fully utilise ICT in this area? Where does digital literacy lie in relation to the curriculum? Where does this fit within Irish education policy on literacy and digital literacy?

The concept of ICT as an ‘assistive technology’ to support conventional reading and writing is well understood and relatively well supported. Therefore, it is not the focus of this discussion. Rather, the emphasis is on the learning and teaching of students who have Moderate or Severe and Profound levels of GLD, especially within the range where conventional literacy is extremely limited or absent. As such, the concept of ICT considered here may be seen as being more closely related to the concept of ‘instructional technology’ as applied to teaching and learning (Edyburn, 2013).

While the national Literacy and Numeracy Strategy provides an impetus for this, cognisance must also be taken of the fact that, as digital media progresses, those with less access and support may be left behind in respect to participating in the digital world and benefitting from its advantages, thus increasing the ‘digital divide’. As the digital world has an increasing capability to enhance access, participation and benefit from education for students with GLD, and as the digital ecosystem offers unique advantages in terms of accessibility and new ways of interacting and learning, it is ever more important that those with greater literacy and communication needs should have structured learning opportunities to exploit these options. Teachers are equally in need of guidance and this document aims to explore the background to a usable framework of competencies that teachers may use in helping students access and benefit from the curriculum.

In addition, digital literacy is emerging as a key expression in twenty-first century education policy and practice but, while becoming common in parlance, it is not always clear what it actually means. Therefore, it is necessary to interrogate our current understandings of this term in order to clarify our understanding of its meaning when discussing literacy and learning.

What do we mean by literacy and digital literacy?

Literacy

The meaning of literacy ranges from the relatively basic ‘ability to read and write’ to more subtle and conceptual meanings. The Department of Education and Training of New South Wales described attempts at its definition as “... a moving target, continually changing its meaning depending on what society expects literate individuals to do” (NSW, 2010:4). At one end of the spectrum of interpretations and definitions of literacy are the conventional and functional – for example students’ “ability to apply their reading and writing skills successfully and to speak articulately in a range of contexts and for different purposes” (Ofsted, 2011:9). Such definitions in education, along with literacy targets and frameworks to help their achievement, are sometimes influenced by particular priorities of the day and have been described as ‘operational’ definitions, that clearly indicate the knowledge and skills that should be developed and how to use them (Stepic, 2013:369).

An example of the development of the meaning of the concept beyond the purely operational is provided by the Department of Education and Skills (DES) in the *National Strategy to Improve Literacy and Numeracy Among Children and Young People 2011-2020*:

... literacy includes the capacity to read, understand and critically appreciate various forms of communication including spoken language, printed text, broadcast media, and digital media (DES, 2011:8).

Further fleshing out of the definition, moving in part towards the ‘conceptual’ end of the spectrum, is exemplified by the National Council for Curriculum and Assessment (NCCA) in *Literacy in Early Childhood and Primary Education* (NCCA, 2012). This synthesises and helps to map the development of the concept of literacy, stating that:

Definitions of literacy should encompass the cognitive, affective, socio-cultural, cultural-historical, creative and aesthetic dimensions (p. 10).

This document also highlights the need to broaden the conceptualisation of literacy to include multi-literacies and multi-modalities, critical literacy perspectives, socio-cultural perspectives and social practice (p.10). Drawing on a number of international assessment initiatives, it further expands:

.... (literacy) emphasise(s) constructivist interactive processes of reading, where readers actively construct meaning from text. They recognise the importance of literacy in empowering the individual to develop reflection, critique and empathy, leading to a sense of self-efficacy, identity and full participation in society (p. 10).

While the NCCA’s treatment of literacy in the document above is primarily related to conventional language and the ‘reading of text’, the document also reinforces the key concepts of the making and expression of meaning through ‘multimodality’:

Since the use of a range of modalities to make and express meanings (multimodality) is seen as a key aspect of early learning, a definition of literacy for young children must be one that encompasses the various modes of representation, including non-linguistic ones (p. 41).

The inclusion of “multimodalities... including non-linguistic ones”, extends the concept of literacy to include the GLD context – that is, where there is an inability to read and write in the conventional sense – thus rendering redundant the concept ‘illiterate’. Key elements of emergent conceptual understanding of ‘literacy’, therefore, can be summarised as the making and representation of meaning through multimodalities, including non-linguistic ones.

Modalities, in turn, can be functional or conceptual, encompassing concepts such as Media Literacy, Visual Literacy, Information Literacy, Cultural Literacy, Critical Literacy and so on, along with the process of helping to develop identity,

participation and self-efficacy. Visual literacy, for example, deals with the interpretation and comprehension of visual images in the meaning-making process, and of expression through the visual. Critical Literacy deals with the construction of understanding and meaning, and the control and negotiation of involvement in social context and relationships. Within this understanding, ‘texts’ can be taken to mean “any form of symbolic expression used in the communication of meaning” (Hobbs, 2006:19). In the case of GLD at the Moderate, Severe and Profound levels, such ‘symbolic expression’ in both the development and expression of meaning has an added significance, with ICTs having a clear role.

Digital Literacy

The emergence of ICT and digital media has, in turned, helped in the process of challenging and expanding the concept of literacy and its redefinition, leading to the genre of ‘digital literacies’ (Dobson and Willinsky, 2009). However, as a relatively new concept its definition and explanation is contested (Stepic, 2013:369) and there seems to be a lack of a clear understanding of its meaning in Irish educational parlance.

However, similar to the concept of literacy itself, there is a spectrum of understandings and definitions of its meaning in many contexts. Three early phases of the development of its meaning have been described. The first, from the 1960s to the 1980s, was the ‘Mastery Phase’ which was dominated by professionals in the area of programming. This was followed through the 1990s by an ‘Application Phase’, with the development of the application of graphic user interfaces and use of ICTs in education and other areas. Beyond that, the third phase is described as the ‘Reflective Phase’, with a focus on digital inclusion, more natural interfaces and critical skills (Martin, 2003).

Similar to the understanding of literacy, many definitions of digital literacy are ‘operational definitions’, such as technical or functional skills and as standards-based approaches which harness ICT to support conventional concepts and ‘operational definitions’ of literacy (Williams, 2006). An example is UNESCO’s *ICT Competency Framework for Teachers* (UNESCO, 2011).

Further understandings of digital literacy move towards the more conceptual – those which go beyond the “restrictive competencies list” (Bawden, 2008:18). The origins of the more conceptual genre is generally accredited to Paul Gilster from *Digital Literacy in 1997* (Gilster, 1997). Though lacking a clear conceptual representation or structured framework to explain the concept (Bawden, 2008), this work began a discussion of the topic and its further conceptual exploration. Gilster, one of those involved in interrogating the concept of literacy in a digital age, spoke of digital literacy as the ability to understand, evaluate and integrate information in multiple formats (Gilster, 1998:1-2).

Further numerous definitions have emerged, which attempt to bridge the operational and more conceptual understandings, along with the general expectations of education in societies and economies. The State of California (2010), for example, said that in order to “go beyond the technical operations of a computer or other technology device”, digital literacy could be defined as:

... a lifelong learning process of capacity building for using digital technology, communications tools, and/or networks in creating, accessing, analyzing, managing, integrating, evaluating, and communicating information in order to function in a knowledge-based economy and society (p. 3).

As the concept developed there was a realisation that, vis-à-vis literacy, digital media was something *new* – not just a support or add-on for conventional understandings of literacy. For example, the New South Wales Department of Education and Training wrote that “a definition from the past cannot accommodate *new ways of meaning-making*” (author’s emphasis), and articulated some of the expanding concepts as follows:

As new technologies for information, communication and collaboration continually appear, new literacies emerge ... As societal expectations for literacy change, and as the demands on literate functions in a society change, so too must definitions of literacy change to reflect this moving target ... no single theoretical perspective has yet to explain the full range of the changes to literacy resulting from the digital revolution (NSW, 2010, p. 4).

Not only was the concept of digital literacy shaped by established concepts of literacy, but the ‘digital revolution’ began to re-shape concepts of literacy, leading to the ideas of ‘new literacies’ and ‘multi-literacies’:

...a deeper look shows that literacy is much more than isolated skills, and that it extends beyond reading and writing as usually conceived. Literacy implies the capacity to communicate meaning – from speaker to listener, from writer to reader, from creator to viewer. Literacy is best understood through the concept of participation. Literacy enables participation, and new technologies give rise to new forms of participation – hence, new literacies (Bruce and Casey, 2012:197).

Thus, as the conceptualisation of digital literacy develops, the elements of ‘construction of meaning’ and ‘expression of meaning’ begin to take centre stage, along with the concept of ‘multimodalities’ and their ability to facilitate new meaning and new expression. For example, the *Literacy in Early Childhood and Primary Education* research report defines digital literacy as:

... the skills, knowledge and understanding required to analyse, produce and make meaning with multimodal texts that are disseminated through electronic media (Kennedy *et al.*, 2012: 64).

Notwithstanding the myriad of interpretations and definitions, some consensus has emerged on the more conceptual understandings of digital literacy. The

following quotation summarises this consensus, and throws out the challenge which these new developments and understandings pose to those involved in teacher professional development:

Fortunately, the emerging consensus among these different perspectives is obvious and considerable: all of the proponents reflect an appreciation that visual, electronic, and digital media are reshaping the knowledge, skills and competencies required for full participation in contemporary society, and all view these abilities as fundamentally tied to the intellectual and social practices known as literacy. Multi-literacies' proponents recognize that the acquisition and development of these competencies will require changes to the ... learning environment, including significant changes in teacher pre-service and in-service education, design of learning experiences, access to tools, resources and material, and techniques of classroom management (Hobbs, 2006: 200).

Definitions of digital literacy will, therefore, fall into the two distinct camps of conceptual and "standardized operational" (Lankshear and Knobel, 2006:3), or lie somewhere between. However, both concepts are important in terms of developing an understanding of digital literacy for students with learning disabilities. In other words, ideas and approaches need to be framed for learning and understanding, but also in terms of the technical requirements and proficiencies of the users.

The demands on user proficiency have been greatly reduced by the iPad and new 'tablet' technologies in general, and have given added impetus and opportunity in relation to digital literacies given their ability to simplify the integration of multi-modalities, including images, sounds, text and tactile use.

Implications of Digital Literacy vis-à-vis General Learning Disability, and 'Communication and Language'

How are the concepts of literacy and digital literacy discussed above particularly relevant to the learning and teaching of students with General Learning Disability? Especially, in what way are they relevant to the Moderate and to the Severe and Profound Range where conventional literacy will be more limited or absent?

The NCCA's *Communication and Language Guidelines for Teachers of Students with Moderate General Learning Disabilities* (NCCA, 2009b) and the equivalent publication for Severe and Profound (NCCA, 2009c) can be drawn on, in order to overview the relevance of literacy and digital literacy to this range of SEN categories. In relation to the 'reading' aspect of literacy, the *Guidelines* state that 'reading' for these students is far broader than the interpretation of text and that some students may not learn to interpret text at all. The focus for these students should be on enabling them to make sense of and derive pleasure from all types of visual and tactile representations (NCCA, 2009b and 2009c).

In such cases, the *Guidelines* adds that ‘functional reading’ will involve attending to and discriminating between objects, pictures, symbols, and (perhaps) text. In some instances there is progression to linking people and activities with their symbolic representation. Such activities should emphasise awareness, discrimination, enjoyment, expression, and creativity. The potential of digital media to record, to assemble and to help process and communicate is clear. For students with moderate general learning disabilities especially, who tend to restrict themselves to more concrete words because of difficulties with abstract thinking (NCCA, 2009b: 8), digital media offer avenues for more abstraction, leading to more developed meaning from the development of symbolic understanding. Clearly enmeshed within this are the concepts of ‘language’ and ‘communication’:

The term ‘language’ generally implies verbal communication, oral and written...The term ‘communication’ embraces verbal and non-verbal methods of receiving and giving information, essential when catering for students for whom verbal communication may not be an option. Communication may, therefore, take the form of listening and responding through speech or listening and responding using an augmentative communication... (NCCA, 2009b: 3).

This, again, brings in the concept of multimodality as key to conceptualising digital literacy. Street and Lefstein (2007:235) recognise how literacy operates within “broader semiotic systems”, such as “visual signs, notation systems, colour, layout and kinaesthetic”, and therefore serves to broaden traditional perspectives on literacy as exclusively language-based. Such broadening of the literacy definition leads on to notions of multi-literacies rather than a singular concept of literacy. This is extremely important in terms of how we frame digital literacy, particularly with regard to how it might be deployed in relation to the learning of students with learning disabilities.

Regarding the Irish policy context – discussed in more depth below – this was further teased out somewhat in the NCCA’s submission (NCCA, 2011) on the draft national literacy and numeracy strategy, which defined literacy in terms of “capabilities in the first language of the school” (DES, 2010: 5):

This monolingual conception of literacy is at odds with international policy and current thinking regarding literacy and language learning ... Further, a monolingual conception of literacy is somewhat at variance with practice in schools in Ireland ... current understanding of language education and language policy takes a plurilingual approach, referring to the full linguistic repertoire of an individual to which all knowledge and experience of language contributes...(NCCA, 2011: 9-10).

With regard to the role of ICT in that plan, the NCCA drew attention to the ‘transformative’ potential of ICTs and commented:

It is unclear if the definition of literacy in the Draft Plan concerns how ICT can

support the development of a traditional literacy or if, on the other hand, it concerns how ICT transforms our fundamental understanding of literacy. For example, in the transformative sense, an expanded definition of literacy might include a learner expressing meaning through ICT... (NCCA, 2011:11).

Interestingly, and tied in with the concept of ‘critical literacy’ mentioned above as a means through which individuals manage, control and negotiate their social environment, the NCCA emphasised the need for students to gain the ability to exert control over their environment and over people and objects within it and, moreover, it further underlined the role of language and communication in this, pointing to the need for ‘intentional and functional’ communication in this regard (NCCA, 2009b:4). Thus, “a world of opportunity for the student” may be opened up through this ability to negotiate and gain control over the environment, to develop competence in communication, which allows participation in social interactions with peers and adults and which helps the student to initiate and respond to the communication of others in a widening range of situations about a particular need, desire, person, object or activity (pp. 3-8). Similarly, in relation to the ‘visual literacy’ component of digital and conventional literacies, the NCCA *Guidelines* draws attention to the need for students to understand the non-verbal and non-text modes of representing and communicating. This thinking recognises and accepts the cultural, social and contextual element of digital literacy, which will be embedded within the lived experiences of students in the school settings as well as in informal interactions at home and in other settings.

It is essential, therefore, that any definition or framework of digital literacy encompasses the developmental nature of students’ modes of participation in their particular context and the digital possibilities in this. It must be recognised that twenty-first century life is infused with digital participation and it is vital that students get the opportunity to engage with that digital world in their learning and interactions with education.

In summary, it is clear that ‘language and communication’ can function in non-verbal and non-text ways through ICT and digital media. These media can clearly enhance the making of meaning and its expression, and they can help to negotiate the social context of the user. They are, in short, all components of more advanced conceptual understandings of ‘literacy’.

Irish Education Policy: Literacy, Digital Literacy and General Learning Disability

While the NCCA’s *Communication and Language Guidelines for Teachers of Students with Moderate General Learning Disabilities* (moderate, and severe and profound) do provide a curricular framework for the ‘communication and language’ element (NCCA, 2009b and 2009c), there appears to be some lack of clarity around issues such as what constitutes literacy, digital literacy, and acceptable levels of attainment in Irish policy in relation to this level of GLD.

In reverting back to basic definitions and concepts of literacy it must be acknowledged that different demands play a role in policy formation, ranging from national economic priorities to the more abstract, basic aims of education. National economic aims, for instance, will lean towards more operational interpretations while basic educational aspirations may influence a more conceptual definition. For example, it is clear that international PISA comparisons have influenced the national literacy and numeracy initiative, while students with SEN are not fully included within such measurements. While not intended as a comprehensive review of policy, these tensions along with a consideration of where students with GLD at this level lie in policy, can be briefly explored through some of submissions made in response to the DES's draft national literacy and numeracy plan (DES, 2010).

The Mary Immaculate College of Education submission (MIC, 2011) was highly critical of the plan, saying that its overwhelming focus was "on 'attainment' in relation to 'targets' which were influenced by "large scale assessments such as PISA and TIMMS" (p.2). It added:

It would appear that the Draft National Plan embodies a significant shift away from the principles underpinning the Curriculum and overlooks the human core of education. The document is preoccupied with strategic concerns linked to national economic priorities ... There is no consideration within the document of the quality of children's experiences in schools, the quality of educational relationships, or of the quality of learning environments. While the document is concerned with quality, it is expressed in functional terms ... (pp. 3-4).

In addressing special educational needs, Mary Immaculate College observed that: "Most disconcerting of all, the document is silent on provision for children with special educational needs" (p.16). However, even then, the MIC submission said that "the majority of these children with SEN have needs arising from borderline general learning disability, mild general learning disability, or dyslexia" (p.16). In other words, even this insightful submission did not consider literacy beyond 'borderline' GLD.

The National Council for Special Education also noted in its submission that the draft plan did not explicitly highlight pupils with special educational needs (NCSE, 2011: 2):

Council would like to point out that there are certain children with special educational needs who also experience significant difficulties in acquiring the basic skills in literacy and numeracy and as a consequence fail to achieve adequate levels of literacy and numeracy. This can include pupils who are deaf/hard of hearing, pupils with dyslexia, pupils with emotional and behavioural difficulties, pupils with general learning disabilities etc. (p. 2).

It further speculated that there were 'likely' to be a small number of pupils whose cognitive abilities might leave them outside the commitment contained in the

draft plan that “every child leaving our school system is numerate and is able to speak, read, write and spell at a level that enables them to participate fully in education and in Irish life and society” (DES 2010: 9).

Council also acknowledges that there are likely to be a small number of children who will not achieve mastery in literacy and numeracy to the level necessary to function independently in our society. Teachers must be equipped with the necessary skills and knowledge to assist these children to communicate to the best of their ability using all the available materials, methodologies and technologies (NCSE, 2011: 3-4).

Of note in this, in relation to literacy at this level, is the somewhat limited ambition ‘to assist these children to communicate to the best of their ability’.

In relation to the outcome of children with special educational needs, the NCSE did point out that standardised tests such as PISA many not “...be best suited to assessing progress among these learners” and that “the PISA results do not generally include children with special educational needs” (p. 5). In comparison, and illustrating the conflicting tensions in policy development, IBEC welcomed “... the Draft Plan’s emphasis on collecting national data on student achievement using standardised tests. Too much education policy draws on the shorthand of commentary around school improvement” (IBEC: 11).

The final plan – *Literacy and Numeracy for Learning and Life: The National Strategy for Improving Literacy and Numeracy among Children and Young People* (DES, 2011) – moved somewhat towards a more expansive and conceptual definition of both literacy and digital literacy:

Traditionally we have thought about literacy as the skills of reading and writing; but today our understanding of literacy encompasses much more than that. Literacy includes the capacity to read, understand and critically appreciate various forms of communication including spoken language, printed text, broadcast media, and digital media. Throughout this document, when we refer to “literacy” we mean this broader understanding of the skill, including speaking and listening, as well as communication using not only traditional writing and print but also digital media (p. 8).

This definition is general and inclusive in nature and serves to emphasise the fluid and developmental element of any definition of literacy. The references to “digital media” serve to include the digital world in the definition. However, more specific reference is avoided and it is not clear what ‘digital literacy’ actually means in policy. This is further evidence of the rapid and diverse nature of developments in the digital world which is inherent in contemporary definitions and practices of literacy development.

Nevertheless, there are indications that contemporary policy is recognising the important role of digital literacy in the learning lives of our students. For

instance, *A Framework for Junior Cycle* (DES, 2012) includes the following as a core statement of learning: “uses technology and digital media tools to learn, communicate, work and think collaboratively and creatively in a responsible and ethical manner” (p. 6). As a development of this, the NCCA published *Digital Media Literacy: Draft specification for Junior Cycle Short Course* (NCCA, 2013). The distinction between digital literacy and digital *media* literacy is unclear in this, and a definition is not given – the concept is introduced by a rationale and an aim for the course, with the aim given as follows:

This course aims to develop students’ ability to use digital technology, communication tools, and the internet creatively, innovatively and safely to support their learning and participate effectively in their communities (p. 4).

However, the detail of the document does point towards the more complex conceptual understanding of *digital (media) literacies*.

Therefore, there is evidence throughout Irish education policy that digital literacies are becoming more recognised in relation to learning for all students, at all levels of engagement with the various curricula. The development of digital literacies as an element of school learning seems to be organic and developmental and, in many cases, schools develop practices themselves rather than depending on external direction. In this context then, it is vital that the teacher becomes equipped with the skills that will allow the development of digital literacies amongst the student cohort.

With this in mind, the following section outlines a *thinking and planning tool* – referred to as a ‘Digital Literacy Framework’ – developed by SESS to help frame digital literacies in the context of curricular targets, instructional planning and student learning, with a particular focus on students with general learning disabilities beyond the conventional literacy range.

Digital Literacy Framework

[A Framework of Competencies for Teachers to Support the Achievement of Curricular Targets through the use of Digital Literacy for Students with GLD]

This section describes a Digital Literacy Framework of competencies developed by SESS¹ which, based on the above explorations, was intended to help teachers to structure the process of learning and teaching literacy so that students at the moderate and severe and profound levels of GLD can achieve curricular targets with the aid of, and through, digital literacies. Within this context and for the purposes of this initiative, digital literacy was defined as ‘The creation, communication and interpretation of meaning through multimodal digital formats, leading to fuller participation’.

¹ Other SESS personnel involved in the development of the Framework included Mary Carpenter, Kevin Cahill, Sarah Feeney, Pauline Morley, Muireann Sadlier.

At the outset it must be stated that there is no perfect or ideal framework. The discussions above summarise some large variations in the broad interpretation of the ever-developing concept of literacy and digital literacies, and this is further complicated by the application of these interpretations to the range of students with GLD considered here. In addition, students with general learning disabilities, like any other students, come with various strengths and weaknesses in their educational access toolkit. However, increasing ability in digital literacies would strengthen this toolkit and would also add to teachers' repertoire of strategies.

Similarly, experimentation and increased proficiency with the tools of digital literacy will enhance student performance. Students may have greater levels of participation, access, engagement and benefit in education environments through increasing their levels of digital literacy and through the deployment of a wider array of digital learning tools. The supports to learning and tools for learning that are afforded by the digital ecosystem should, therefore, be considered as constructive ameliorants to expand the possibilities of the curriculum for students with general learning disabilities.

Therefore, this framework is proposed at one point in time in a shifting landscape. Similarly, all approaches should be guided by individual teacher experiences. Furthermore, any suggested structures and approaches will, inevitably, be reinterpreted and reshaped in practice by teachers' professional beliefs and individual styles of practice:

The most productive way to support digital literacy is unlikely to come from empirical results alone, or from theoretical analysis removed from practice. Instead, as in the best sense of inquiry, it needs to grow out of reflective action – an experimental way of knowing that attends to what students and teachers actually do, but seeks to understand that in terms of deeper conceptions of learning (Bruce and Casey, 2012, p. 204).

Therefore the competencies framework was envisaged as a thinking and framing tool to assist teachers in terms of individualised planning and the meeting of curricular targets as laid out in the curriculum and also, along with broader educational aims, to help them come to terms with the challenges and expectations arising from the new technologies.

In devising the framework, there was a range of frameworks of 'digital competencies' from which to draw, many of these relating to functional and technical sets of basic computer skills – that is, operational-orientated frameworks. A level of such 'functional competencies' is clearly necessary in order to utilise ICT and so the Qualifications and Curriculum Authority (QCA), for example, produced *Functional Skills Standards* in 2007. Other frameworks can be more conceptual, based on hierarchies or stages of learning. For example,

NCCA produced *ICT Framework: A structured approach to ICT in Curriculum and Assessment* (NCCA, 2007), which is more conceptual and which is described as “an enabling framework”, “a structured approach to using ICT in curriculum and assessment” that “provides a guide to teachers for embedding ICT in curriculum and assessment...” (p. 5). This approach included a “Framework of Learning Outcomes”, each with suggested ‘learning outcomes’ and ‘learning opportunities’ that had five components.²

The European Union produced a conceptual digital literacy model for ‘society’ (EU, 2004). In terms of whole-school adoption of digital literacy, it provided three useful competencies which, it said, were necessary for digital literacy to be effective. These should:

- (a) be understood by all individuals in the society
- (b) allow for full participation in the benefits and
- (c) develop an institution’s capacities to adopt digital literacy.

The NCCA’s *Communication and Language Guidelines for Teachers of Students with Moderate General Learning Disabilities* (NCCA, 2009b and 2009c) – for both moderate and severe and profound students – provides a curricular framework for ‘communication and language’³ which might be adapted into a digital literacies competencies framework or incorporated into the one now suggested. The framework (Fig.1) proposed here is adapted from *The Basic Elements of ICT Digital Literacy* which claimed that these ‘basic elements’ were “globally accepted” (State of California, 2010: 5).⁴ The same framework appears in UNESCO’s policy statement on digital literacy (UNESCO, 2011). There are resonances of Bloom’s taxonomy in the language of this framework, and this is important in the sense that it suggests an outward and upward view of the possibilities for learning for students with general learning disabilities. In addition, given the more precise methodologies which need to be applied to the teaching of the students who have general learning difficulties in the range on which this discussion is focused, the framework suggests the need for further and more precision ‘sub-elements’ to be built into planning and instruction.

² Creating, communicating and collaborating; Thinking critically and creatively; Understanding the social and personal impact of ICT; Developing foundational knowledge, skills and concepts.

³ Available through SESSs ‘Curriculum Access Tool – General Learning Disability’ (CAT-GLD), available at cat.sess.ie.

⁴ For example, the ‘evaluate’ component is replaced here by ‘collaborate’ here.

Figure 2. Elements, Definitions and Competencies of a Digital Framework.

A DIGITAL LITERACY FRAMEWORK FOR GENERAL LEARNING DISABILITY A Framework of Competencies to Support the Achievement of Curricular Targets through the use of Digital Literacy		
Framework Elements	Definitions	Competencies Summary
Access	Knowing about and knowing how to collect and/or retrieve information.	Search, find, and retrieve information in digital environments; have basic functional knowledge of digital artefacts – input and output.
Manage	Applying an existing organizational or classification scheme.	Conduct a rudimentary and preliminary organization of accessed information for retrieval and future application.
Integrate	Interpreting and representing information - summarizing, comparing, and contrasting.	Interpret and represent information by using digital tools to synthesize, summarize, compare, and contrast information.
Collaborate	Using digital spaces for working together in learning, and learning about turn-taking and collaborating.	Collaborate, share, take turns when learning, accessing and using information in digital modes.
Create	Generating information by adapting, applying, designing, inventing, or authoring information.	Adapt, apply, design, or invent information in digital environment(s) to describe, express an opinion, or support a basic viewpoint.
Communicate	Communicating information persuasively to meet the needs of audience(s) using an appropriate medium.	Communicate, adapt, and present information properly in its context (audience, media) in digital environments and for an audience.

Summary of Framework Elements

1. Access Information

Accessing information is an important functional skill in any digital environment. For students with general learning disabilities, it is particularly

important to learn how to get to the information they may need in their digital ecosystem.

2. Manage Information

The digital ecosystem provides a variety of avenues for ease of storage and management of information for students. Digital spaces allow for the creation and retrieval of dynamic learning portfolios where students can store and develop evidence of their skills and knowledge development. The digital management of information and content allows for a very accessible and user-friendly knowledge environment.

3. Integrate Information from Different Sources

Digital content and digital tools span a wide spectrum of modes and means. A key component of digital literacy entails the ability to integrate tools and information that may use different modes. For instance, image, audio and visual modes may be combined with traditional text as media of learning, and as modes of expressing learning. The ability to integrate digital content is an important skill and therefore might be considered as a technical proficiency that is an element of digital literacy. The multimodal aspect of digital tools is particularly relevant for students on the non-verbal range.

4. Collaborating

Learning together through collaborative strategies is both an objective of learning and a tool to more efficient learning for students. Developing turn-taking and the social skills required for collaboration is important for students with general learning disabilities. Digital tools may also allow for increasing levels of collaborative learning through the deployment of sharing tools, collaborative editing and sharing of evidence of learning.

5. Creating New Knowledge

Because digital tools and the digital ecosystem are dependent on user creativity and content creation, they allow students to focus on creating new knowledge through learning as much as they provide access to existing knowledge. Students of all abilities can create new knowledge, or present understandings and representations in new and creative ways.

6. Communicating

The speed and manner of communication is altering rapidly in the digital age, along with the development and integration of technologies such as we see, for example, on the iPad. Digital devices in general allow for instantaneous and multifarious modes of communication, integrated with other functionalities. The digitally literate student may engage many modes of communication and expression including, oral, visual, textual languages and signs. The digital world carries the ability to allow for a wider and more meaningful level of communication for many students, particularly those who may not have strengths in the traditional verbal literacy skills area.

This framework of competencies is, therefore, particularly useful if it is considered as a progression – similar to Bloom’s hierarchy (Bloom *et al*, 1956) – in terms of ‘support *for* learning’ and ‘tools *of* learning’ for students with general learning disabilities. In terms of the concept of digital literacy, these competencies may also be seen on a continuum from operational / functional skills to processes / hierarchies of learning.

Supports for Learning:

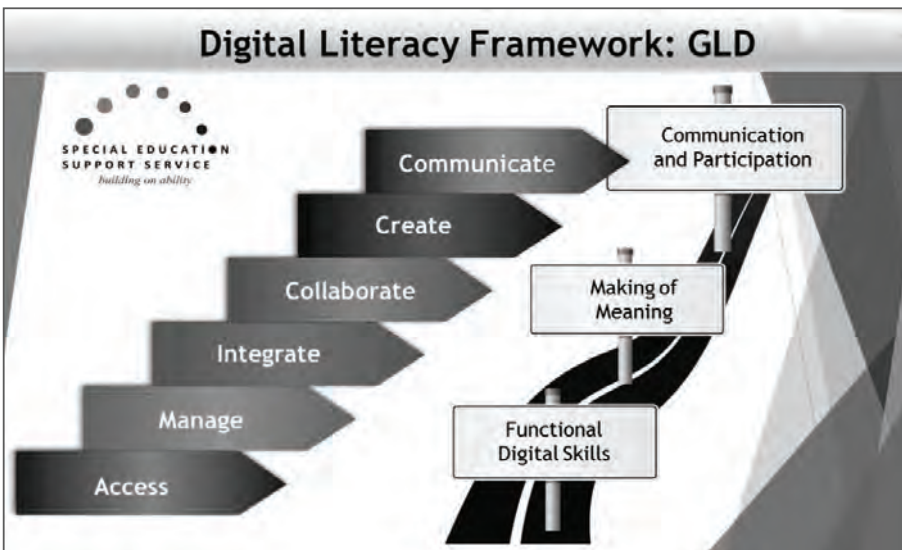
Methods of accessing and managing information allow students and teachers to open up learning opportunities and to keep and manage learning artefacts. Accessing information is about searching, finding and retrieving information and artifacts of learning. Managing information may involve classifying/ categorising and storing information in an organised manner. Such skills are developmental and digital spaces may provide unique opportunities for students with general learning disabilities.

Tools of Learning:

The digital ecosystem affords opportunities for students with general learning disabilities to integrate information from different sources as well as allowing opportunities for collaborating, communicating and creating. Importantly, digital tools and methods may afford new opportunities for students and teachers to meet the requirements of curricular targets in a more efficient and engaging manner.

Therefore, the Framework Elements, taken in conjunction with the broader and changing concepts of literacy and digital literacy discussed at the outset, may be presented as a hierarchy of progression((Fig.3).

Figure 3. Hierarchical progression of Framework Elements.



Framework Sub-Elements

As outlined above, precise methodologies and sequences need to be applied to the teaching of students in this cognitive range and the following are examples of the more precise ‘sub-elements’ which would be built into the framework in terms of planning and instruction (Fig. 4).

Figure 4. Sub-Elements of a Digital Literacy Framework

DIGITAL LITERACY FRAMEWORK SUB-ELEMENTS			
<i>Elements</i>	<i>Sub-Elements</i>	Definitions – examples	Competencies – examples
1. Access	Recognise a form of digital media as a communication tool	Showing recognition of a repeatedly presented form of digital media used to enhance communication	Orient towards, show interest in a form of digital media
1. Access	Recognise and show interest in a form of digital media as a communication tool	Showing interest in engaging with a form of digital media used to enhance communication	Orient towards, show and maintain some level of interest in a form of digital communication
2. Manage	Utilise psychomotor skills to actually use a form of digital media effectively in a simple form with or without support (checklist required to assess level of support)	Exhibit skills demonstrating that pupil can apply an existing organisational scheme with support (checklist required to assess level of support)	Touch the screen in an effective manner
2. Manage	Utilise cognitive skills and demonstrate awareness (checklist required to assess level of awareness) of the communicative function of the app (ie matching: cause effect: picture build etc)	Exhibit skills demonstrating that pupil can apply an existing classification scheme with support (checklist required to assess level of support)	Matching shapes – app “Match it Up” (maths)
3. Integrate	Discerning between pieces of information with or without assistance	Making a visible choice with or without assistance	Orienting towards, pointing, selecting or clicking upon one piece of information over another with or without assistance
3. Integrate	Choice-making	Interpret information appropriately	Pupil can signal to communicative partner that s/he has understood pieces of information

CPD Approach – A New Digital Age?

In addressing an SESS design for CPD to support teachers in relation to this literacy approach, the question arises as to an evidence-base from which a sound plan could be developed. A number of factors may be considered here:

- Firstly, the iPad – the driver of modern ‘tablet technology’ – was only launched in 2010 and had only been in existence for three years at the beginning of this process. Therefore, there could be no substantial and robust evidence base. Nevertheless, anecdotal evidence suggested that, in some cases, the technology was being adopted widely in classrooms and was having a penetration and effectiveness perhaps not achieved by more structured ICT initiatives previously.
- This rather *ad hoc* deployment of new technologies is an example of what has been described as ‘disruptive’ innovative change, with unpredictable ‘events’ generating change rather than it being mandated, linear, planned and supported (Edyburn, 2013: 15-16). The ‘bricoleur’ metaphor is useful here. It is a French expression which loosely translates as ‘handyman’, someone who uses ‘the means at hand’ – whatever tools are available in the toolbox. Bricoleur teachers tend to be collaborative and flexible and set out to realise their goals in a spirit of collaborative venture (O’Sullivan, 2005; Turkle and Papert, 1992).
- Huberman (1989), in his seminal work on teacher professional lifecycle, described the ‘experimentation/activism’ stage of teacher lifecycle where some teachers become comfortable with “pedagogical tinkering” (p. 33). This phenomenon, coinciding with the bricoleur-type teacher described above, is a powerful platform for the practice-based exploitation and testing of ‘disruptive technologies’. Such teachers, in association with SESS, were key resources in developing and testing the evolving approach.
- The phenomenon designated here as ‘The New Digital Age’ refers to a tipping-point and convergence that has been reached whereby ‘digital native’ teachers, comfortable and confident with their specialist pedagogies, and now with significantly improved ‘everyday-technologies’ to add to their toolboxes, are independently and creatively harnessing those technologies into practice without conventional, top-down ‘training’. This may have implications for our approach to CPD in this context.
- The NCCA’s description in *Literacy in Early Childhood and Primary Education* of the ‘classroom learning ecology’ is also useful here. This “...involves the classroom curriculum, teaching pedagogies, the relationship between children and teachers and children and their peers in a social learning environment” (NCCA, 2012: 39).

Given this background: the lack of an evidence base; the existence of sound general methodologies; a cohort of teachers who had explored the adoption of the technologies into their practice and the concept of a collaborative learning ecology, SESS's support and CPD approach was intended to support the development of the digital ecosystem into that broader classroom learning ecology. In so doing, the proposed Framework was offered as a 'road-map' or a gateway tool for teachers to conceptualise, plan and manage student learning regarding curricular objectives and digital literacies, and to absorb them into normal routines.

This suggests facilitating the adoption of the digital literacy concept into pre-existing knowledge and methodologies rather than 'delivering' new content and approaches.

Therefore, the support format developed by SESS was envisaged as 'workshop' style, with stated learning outcomes that participants:

- Will gain an overview of the concepts of literacy and digital literacy relevant to this level of GLD
- Will understand the application of digital literacy in achieving particular curricular targets through instructional planning
- Will utilise a Digital Literacy Framework for planning and in teaching
- Will achieve confidence in using ICT for digital literacy (tablet iPads in this case)
- Will receive examples of a set of software suitable for particular tasks / targets (Apps to achieve curricular targets, based on stages of skill acquisition in Digital Literacy Framework)
- Will know how to adopt other applications (Apps) for reaching other types of curricular targets
- Will contribute to collaborative discussion.

Conclusion

This initiative arose as a response to the National Digital Strategy, in coincidence with support requests to SESS from teachers and schools on how to exploit the 'new digital age' technologies for the benefit of students' learning. This paper outlines questions raised about some established understandings and paradigms during the development of initiative and some of the possible implications of these.

The digital literacy workshop which arose from this initiative was piloted by SESS in two special schools, and also with a focus-group of teachers who work in this field. Strong satisfaction was expressed with both the Framework and its use as a guide to the implementation of the curriculum.

Therefore, while developments will undoubtedly continue in this area, SESS is satisfied that the Framework provides an initial robust organisational structure for teachers of students with GLD, and is confident that it is an effective planning and management tool in supporting the learning and teaching of Digital Literacy skills. These digital skills, by providing a new and different means of learning, teaching and communication, may allow many of these students to cross the “vertical divide” (EU, 2004:36) that prevents their inclusion in society.

Logically, digital literacy and digital culture should be focused and guided by the opportunity they present for expanding and promoting the central position of the human being in our society. In this respect, talking of digital culture will in some way be like discussing the chance to construct a new kind of humanism (EU, 2004:58).

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