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Journal of the
Irish Learning Support Association

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Readers are invited to submit papers to be considered for inclusion in the 2009 issue of LEARN. Papers should reach the Editorial Committee, LEARN, ILSA, c/o Drumcondra Education Centre, Drumcondra, Dublin 9, by January 31, 2009. 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 with learning difficulties. Its aims include promoting co-operation 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.

Besides the journal LEARN, a newsletter is published for members.

Application forms for membership of ILSA can be downloaded from our website at *www.ilsa.ie*

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

Editorial

MÁIRÍN BARRY

Since the 1994 UNESCO World Conference on Special Education, held in Salamanca, Spain the thrust for inclusive education has been most influential on school communities, both internationally and at home. Policies aimed at acceptance of students with special educational needs or disabilities are evolving and structures for varying support services are developing across education systems worldwide.

> *Regular schools with this inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all.*
>
> UNESCO, Salamanca, 1994

The inclusion of children with special needs and disabilities is seen as affirming a 'human rights perspective' in that "Inclusion and participation are essential to human dignity and the enjoyment of human rights," (UNESCO, Salamanca, 1994).

However, transferring the challenges and aspirations inherent in the Salamanca Statement to everyday life in our schools proves to be far from straightforward. There are many who continue to work with a medical, within-child or deficit model of special needs and disability, seeing that which is lacking or atypical in the child as the focus of concern. Thomas (1992) maintains "medical models are fine in their place, when thinking about measles or chickenpox. But they are less helpful in the consideration of people and their relationship to the organisations in which they live and work". Tomlinson (1989) warns that while "recognition, classification and provision for treatment of children… having special needs may very well be enlightened and advanced… it is also a social categorisation of weaker social groups" and as such, we must be fully cognisant of the power we are wielding in doing so. Carson (1992) describes this classification as a "tidying-away" exercise where people who are seen as not so important are placed into life experiences which are considered to be good enough for them, although not good enough for the more valued people.

Kluth (2003) while very much focusing on the child rather than the disability, would hold that diagnostic labels are very helpful. "They can provide individuals with disabilities and their families, educators and researchers with a common language and framework and connect people to resources, information, funding and services," (Kluth, 2003). We find ourselves in great need of a mechanism through which we can develop greater understanding of the nature of the difficulties our students face. However, we need insight into and knowledge of

the experiences of students with disabilities and special needs, to inform our teaching and to optimise the support we can offer. Dyson (2001) outlines the apparent contradiction we encounter "between an intention to treat all learners as essentially the same and an equal opposite intention to treat them as different".

According to Carson (1992), there is a paradox, that puts those who plan services on the horns of a dilemma. "It is neglectful to leave children to flounder within the mainstream setting without adequate support, but it is impossible actually to meet a child's general needs within long-term segregated settings," (Carson 1992). Croll and Moses (2000) found widespread support for inclusion as an educational ideal among educators and educational administrators involved in special education on the one hand, but also what they identified as a 'pragmatic view' on the other. This was exemplified by an emphasis on practical solutions and on making use of whatever resources happened to be available, to serve the needs of individual students. Sen (1992) and more recently Terzi (2007) refer to the capability approach, moving beyond the dilemma of difference and focusing on what people can do rather than on the causal origins of their disabilities. In this way responses and resources can be allocated according to needs as they are encountered, rather than arising from diagnosis and prescription. Ho (2004) also argues against 'pathologising academic difficulties as much as possible'. She would have educators base their approach on the assumption that *all* children learn in unique ways and that the school system should be flexible to reflect this.

This perspective is critical to ensuring that all students benefit from inclusion. All students who were traditionally seen as the appropriate cohort to attend regular local schools, also learn in their own unique ways. Many students who were just about getting by in their regular schools, now have new learning opportunities available to them. In the inclusive approach the holistic view of the student as a sharing and participating member of the community creates an environment in which all can flourish. Greater understanding of the complexity of learning and the many facets of intelligence lead us to both diverse and multi-dimensional approaches to teaching. Recognising that there are individual and common needs within all students, challenges our work as educators to further develop and adapt, enhancing the educational experience for all.

> *Inclusion is fundamental to learning about the world as it is. …Daily relationships which disclose the myriad capacities and gifts of all people lay at the foundation of education. Inclusive schools build and nurture these essential relationships.*
>
> O'Brien and Forest. 1989

Máirín Barry
Editor of *Learn*
June 2008

Painting a Picture of Inclusion

Sean O'Leary & Ann Whitty

"Science and art belong to the whole world,
and before them vanish the barriers of nationality." Goethe

Introduction
What is the purpose of education?
As teachers we often ask ourselves this question. Is it to prepare students for the next stage in their education, provide them with skills for their working lives or ensure that they can participate in a modern economy?

Green Schools is an international programme for environmental management and sustainable development education. Its holistic, participatory approach and combination of learning and action make it an ideal way for schools to embark on a meaningful path to improving their school and local environment.

At St. Caimin's Community School in Shannon, as teachers who are actively involved in the green school committee, we felt that education should be given a purpose beyond mere tasks or some wider economical need.

By March 2006, our school had already worked successfully towards two green flag awards. Our experience of whole-school endeavor had reinforced for us Bloom taxonomic description of the affective domain as the ability to receive information, respond with active participation, value the information and internalise a complex set of values (Bloom, 1956). We knew that we had to tap into the affective domains of our students to make a lasting difference.

The Background to Inclusion
In recent years, there has been a growing trend towards the inclusion of children with special educational needs in mainstream schools. This trend has been supported by a considerable amount of legislation to ensure the rights of all children.

The Education Act (1998) established the right of access of every person in the state to an appropriate education. Two years later, the Equal Status Act (2000) was established to prohibit educational establishments from discriminating against students on a range of grounds, including gender, marital status, family status, religion, age, sexual orientation, race, disability and/or membership of the Traveling Community.

In the same year, the Education Welfare Act (2000) ensured that every child receives an appropriate education. This Act also places a responsibility on schools to ensure that all children engage in and benefit from the life of the school.

The Education for Persons with Special Education Needs Act 2004 (EPSEN) provides for the education of people with special educational needs in an inclusive environment unless doing so is inconsistent with either the best interests of the child (as determined by assessment) or the effective provision of education for other children with whom the child is to be educated.

How Students Learn

The basic structure of the classroom has changed. Students within a single classroom vary widely in ability and culture. Research tells us that some students are visual learners, some are auditory learners, and some are tactile/kinaesthetic learners, while others exhibit a combination of two or more different styles (Gardner, 1983; Jensen 1998). Furthermore, all learners, particularly those with cultural differences or special educational needs learn best by including tactile and kinaesthetic learning opportunities (Armstrong, 1996; Jensen, 1998, Sheridan, 1997). As mainstream teachers, we are aware that our students have different interests and abilities and we wanted to develop a whole-school project that all of our students could engage in and benefit from. Furthermore, Section 22 of the Education Act (1998) outlines the role of schools in fostering learning, contributing to the personal development of students and promoting co-operation between the school and the community that it serves.

It is well known that the right and left side of our brains differ. The right side of our brain is more artistic, concrete and non-verbal while the left side of our brain is abstract and verbal (Vitale, 1981). Traditional teaching styles have focused on the left side of the brain. Art and design projects provide a multi-sensory model for learning that appeals to both sides of the brain. Therefore, we felt that an art exhibition would be the best way for all of our students to not only learn about our planet but also learn to respect it. We could never have imagined the effect that our idea would have.

Our Logo

Our first step was to design a logo that would inspire our students. The eARTh logo that we designed for the exhibition acknowledges that all life, indeed the earth itself is linked to us. The uppercase ART reminds us that the human consciousness that gave rise to artistic creativity forms part of the earth itself.

We used a frog resting on a globe-like lily pad to symbolize our dependence on the planet, which not only provides us with a resting place but also acts as a launch pad for all our activities. The natural tear in the lily pad evokes the environmental damage that our planet has already suffered.

Student Participation

As soon as our students heard about the eARTh exhibition, there was an explosion of ideas. Many created artwork that explored their perception of nature, others engaged in environmental work to form the basis of projects, while some senior students explored our local biodiversity. Another group of students revised what they had learned in Science so that could create a PowerPoint presentation to display at the exhibition.

> *"The whole experience was great. I learned that you have to do your best, even if you think you can't do it... some pictures made our guests more aware of the true beauty of our environment."*
>
> Student

Students wrote poetry, researched the effects of radiation by studying the Chernobyl disaster, and wrote anti-litter slogans in a variety of languages. Technology students designed and made can crushers to aid recycling. One group of students even wrote an environmental song, recorded it and produced a CD. Other students used their computer know-how to design invitations and write to local businesses for support. All of our students, even our gifted and talented students were challenged to reach their potential. Learning through the arts increases achievement and skills in all students (Martorelli, 1992) including students with special educational needs (Silver, 1978) and students from different cultures (Goldberg, 1997). Other studies have shown that the arts can significantly advance gifted students' academic and creative abilities and cognitive functioning (Walders, 2002). Artwork has also been used to improve memory in young students by combining instructional and motivational strategies (Caverley, Grafer & Hauser, 2002). As we prepared for our school exhibition, we could see first-hand, the effect of art on our students' lives.

Encouraging students to undertake art and design projects is not a revolutionary idea in education (Royal College of Art, 1976; Davis et. al., 1997). In fact, the use of project-based learning has increased in our schools as teachers have witnessed that students become more engaged in learning when they have some control over what they are learning about. For instance, there is general agreement that engaging students in design is an important dimension of science education (Rutherford and Ahlgren, 1990).

> *"The eARTh exhibition was great fun and a great learning experience. I learned that you have to do your best and put 100% into whatever you're doing."*
>
> Student

Community Involvement

As a way of involving our community, we invited local artists to donate art to our school that we could sell at the event. Over thirty artists donated work.

Their generosity helped to fund our exhibition and will continue to fund our environmental work in the future.

> *"The eARTh exhibition like the earth itself involved the coming together of the four basic elements in school life; the students, the teachers, the parents and finally the wider community."*
>
> Alan Cunningham, Year Head and Geography teacher

Artists were delighted to visit our school to engage with students and were excited about the energy of our students. To strengthen community involvement, part of the exhibition moved to our local library for three weeks after our school exhibition.

> *"The eARTh exhibition shows the involvement of artists in the environment. It gave young people the chance to see that the older generation cares about the quality of life around us. If we can show this positive attitude more often, we can make them think..."*
>
> Roberto Grilli, Photographic artist

Real Learning
At the event itself, students played music and acted as guides and hosts to our guests. One student even gave an interview on the local radio station. Two others wrote speeches to welcome guests on opening night.

> *"It was worth the work. It raised natural awareness among our community.*
>
> Student

The exhibition gave teachers the opportunity to collaborate with each other and to build relationships with students. Preparing for the exhibition provided a practical approach to cater for the diverse abilities and needs of all learners in the school. Students could express what they learned in painting, drawing, sculpture, technology projects and/or music (Gardner, 1983; Silver, 1978). Thus the arts can engage learners across cultural and communication divides (Martorelli, 1992). Art projects increase positive achievement (Goldberg, 1997; Silver, 1978), which raises self-esteem (L cuyer, 1981). Research also shows that the use of complex arts-based tasks to facilitate learning increases intrinsic motivation and decreases behaviour problems (Hooper, 1994). In our school, the broader range of learning opportunities and possibilities provided by eARTh empowered students who do not benefit greatly from traditional teaching and learning methodologies to show their strengths. We have never seen so many students shine with enthusiasm and pride.

As noted by Roth, Tobin, and Ritchie (2001), the act of designing focuses student attention on action rather than just learning facts, which alters the learning environment to a more realistic condition that mimics learning in the work place. Design involves learning along the way in the process of pursuing

goals, goals that can be set by students themselves and pursued at their own pace. Therefore, all students could engage in the learning activities provided by the eARTh exhibition regardless of ability. The eARTh exhibition acted as a catalyst to grab students attention and provide a focal point for their learning and for their creativity. We could not have asked for more.

> *"My experience of the eARTh exhibition was a really good one. I really enjoyed working on my piece and then seeing it framed. It was really cool… think that the exhibition brought all the school together."*
>
> Student

For several decades, educationalists have expressed concern about the way students access and use information in a subject-centred framework. A number of teachers have created links with colleagues from other disciplines in an effort to be more student-centred (Fogarty, 1991). Such a cross-curricular approach to learning has also been promoted by Fullan and Hargreaves (1991) in their plan for developing school vision. While preparing for the eARTh exhibition, students engaged in cross-curricular study, worked cooperatively and were extremely active in their own learning. This enabled our students to weave together skills, processes, and knowledge that are typically taught as separate subjects. Design activities engage students in nterprise rather than chool subjects (Davis et al., 1997). As a result, our students grew in self-reliance, learned to communicate their ideas and displayed improved attitudes towards learning. When subjects are taught separately, skills do not readily transfer from one subject domain to another (Burton, 2000). Teachers must facilitate this transfer of skills through cross curricular activities, such as projects or events. Cross-curricular programmes, such as Project Forest and Shaping Space are well-established in Irish schools but tend to be limited to a single age-group within the school i.e. transition year. One of the very real benefits of the eARTh exhibition is that everyone can engage in the event.

> *"The eARTh exhibition with its informative and creative focus has brought about a climatic change in environmental awareness within our school environment and community. An enriching and enlightening experience for all involved. Ni briathar a dhearbhaíonn ach gniomh (actions speak louder than words)."*
>
> Marie Ann Gregan, Civic Social and Political Education teacher

Our students learned to take responsibility for themselves. The inclusion of local artists encouraged our students to be professionals. The eARTh exhibition gave students the opportunity to engage creatively in real world problems that exist outside of school. The exhibition allowed them to learn something about themselves and the world around them rather than just learning lists of unrelated facts. Art is primarily concerned with seeing and looking (Andreae, 2003). It is about keen observation. David Perkins, a university maths professor

believes that thoughtful looking cultivates an intelligent eye where perception is at the centre of cognitive activity (Perkins, 1994). Such perception promotes visual processing and analytical thinking.

"I learned that the earth is a very important place."
Student

All of the students, teachers, parents and artists who participated in the exhibition learned something about the nature of knowledge. It must be used wisely. Johnson (2001) believed that artwork was a powerful tool for environmental education but it is much more than that. We must all have the opportunity to use what we learn in a responsible way that does not harm our environment. Howard Gardner, an eminent psychologist proposed the existence of different human intelligences i.e. linguistic, musical, logical-mathematical, spatial, bodily-kinaesthetic, interpersonal and interpersonal intelligence (Gardner, 1983).

Since different people have different ranges of intelligences, we should try to nurture all of the various intelligences in our schools and just about anywhere else that learning takes place. An eighth intelligence was proposed by Gardner in 1999 and he calls it Naturalistic Intelligence. This intelligence involves the ability to understand and work effectively in the natural world. We believe that the core ethos of the eARTh exhibition, that of respect for our planet appeals strongly to students with naturalistic intelligence. However, the various projects carried our by our students enabled those with any of the other seven intelligences to contribute positively to the learning process as well as to the exhibition itself. It is our belief that artwork is not just a tool in environmental education; it is a powerful tool in inclusive education.

"My experience of eARTh was a good one. I enjoyed working with other students and helping raise awareness. I think that our community had a good time and enjoyed the exhibition."
Student

Can art change the world? Well, we certainly believe it can. Our small idea of an art exhibition at school developed dramatically into something else. It provided an avenue through which all of our students, regardless of ability could learn more about English, Geography, Music, Science, and good citizenship. We believe that this interdisciplinary approach lead to some real learning opportunities for our students and for us as teachers. We concur with the work of Cambourne et al. who showed that artwork when used with many other disciplines has a long-lasting effect on students (Cambourne, Carpenter & Labbo, 2001).

In Ireland, we are fortunate to have an Artists~Schools programme, a joint

partnership between the Department of Education and Science and the Arts Council. The main principles of this programme are respect, creativity, inclusiveness and learning. This model of arts engagement in our schools has also been supported by 'Creative Engagement', which has been developed by the Arts and Culture Committee of the National Association of Principals and Deputy Principals who part-funded our exhibition. It is clear from these initiatives that art in schools should not just be about art as a subject, nor should it be about using art to teach other subjects. Art in schools should be about making art a fundamental part of learning for all students.

> *"The eARTh exhibition was a great experience and made me more aware of my surroundings. I learned that if everyone works on a project like this, they can make people more aware of the earth and environment."*

<div align="right">Student</div>

Our Mission
Now our goal is simple; we want to inspire a fundamental shift in the purpose of education towards engendering respect and care for what we are learning about in our schools and colleges. We want to create school environments where everybody can be valued equally and learn side by side.

> *"The enthusiasm and vibrancy that the eARTh project brought to both our school and wider community was palpable, not only during the event itself but in the lead up, the immediate aftermath and in fact can still be observed in our school today.*
>
> *The project, in its embryonic form, was met by pupils, teachers, parents and community members alike with interest and the level of artistic endeavour and generosity it generated was admirable. The coordinated efforts of all involved and the commitment shown to the tasks at hand culminated in a highly successful enterprise.*
>
> *Yet it was in the atmosphere generated at the event itself that the real success of eARTh could be felt. The eARTh exhibition created a format of acceptance and inclusion unparalleled to date. All participants were valued, all work was given equal status, professional artists work hung in the galleries beside pupil's work, and pride in involvement was paramount.*
>
> *Educational achievement is all too often measured using objective, impersonal state exams. eARTh reflected all that is inclusive. It was an ambassador for equality and teamwork and elevated acceptance to unprecedented level within our community. All efforts were valued equally, all were invited to get involved and all people who did so worked side by side, equal partners in a rewarding enterprise."*

<div align="right">Siobhan McSweeney, Learning Support Teacher</div>

How can we achieve a world where respect for knowledge becomes as important as knowledge itself and where everybody is valued as they learn together? Well, we need your help. We encourage students and teachers to organise their own eARTh exhibitions. The power of eARTh transgresses boundaries and it is our sincere hope that it will eventually embrace the entire world.

> *"The eARTh exhibition opens the minds of pupils to the world of art and its link to the environment. It brought the reality of global issues to a visual dimension. Through its diversity it highlighted options and choices that face global society. Its excitement and enthusiasm awoke or in some cases instilled empathy and concern in crucial and relevant life issues."*
>
> Louis Mulqueen, Year Head and Physical Education teacher

For more information or a resource pack, please visit our Web Site www.earthlearn.ie or contact Ann Whitty, St. Caimin's Community School, Shannon, Co. Clare, Ireland or Sean O'Leary, Assistant National Co-ordinatior, Special Education Support Service, Cork Education Centre, Western Road, Cork, Ireland.

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English language support at post-primary level: a contribution from the Trinity Immigration Initiative

David Little

The Trinity Immigration Initiative

The Trinity Immigration Initiative (www.tcd.ie/immigration) brings together key strands of Trinity College's strategic plan in order to support the development of a more inclusive, multicultural Ireland. The TII's first activity is a research programme on Diversity, Integration and Policy that was launched in 2007 and will run till 2010. The programme comprises six interacting projects:

- Parallel Societies or Overlapping Diversities
- National Policy Impacts
- Migrant Careers and Aspirations
- Action Research on Community Relations
- Migrant Networks – Facilitating Migrant Integration
- English Language Support Programme for Post-primary Schools

The research team for the English Language Support Programme comprises David Little (principal investigator), Zach Lyons and Barbara Lazenby Simpson (research fellows), and Rachael Fionda and Stergiani Kostopoulou (PhD students).

Background to the English Language Support Programme

When the TII was launched official estimates suggested that there were around 12,000 primary pupils and 8,000 post-primary students whose first language was neither English nor Irish; these figures were expected to increase. Ensuring that newcomer pupils and students can access mainstream education is one of the greatest challenges posed by the recent increase in immigration. The challenge at post-primary level is particularly acute for three reasons:

(i) The older newcomer learners are, the more they must learn in order to catch up with their English-speaking peers.

(ii) The post-primary curriculum is delivered by subject specialists whose formation has not prepared them to take account of ESL (English as a second language) students in their classes.

(iii) Whereas the Department of Education and Science funds teaching posts at primary level, it only pays for additional teaching hours at post-primary level. In some schools ESL classes are assigned to teachers to do not have a full timetable, which can mean that ESL support is both marginal and haphazard.

Since 2000 Integrate Ireland Language and Training, a not-for-profit campus company of Trinity College, has been funded by the Department of Education and Science to support the teaching of English as a second language in primary and post-primary schools. IILT began by developing curricula – English Language Proficiency Benchmarks – that are based on the first three proficiency levels of the *Common European Framework of Reference for Languages* (Council of Europe 2001). The third level (B1) is the one at which the language learner is able to navigate his or her own course among native speakers of the target language, which seems an appropriate minimum exit level for ESL support. By specifying learning outcomes at three levels, the Benchmarks are intended to facilitate teacher planning as well as the placement of newcomer pupils/students who come to school with some proficiency in English. IILT then developed primary and post-primary versions of the European Language Portfolio (Little 2002) that contain checklists of "I can" descriptors derived from the "can do" statements that define learning outcomes in the Benchmarks. In this way the ELPs communicate the content and progression of the ESL curriculum to the learners themselves. Between 2000 and 2007 the Benchmarks, the ELPs and an ever-expanding range of teaching/learning and other support materials were mediated to teachers via a programme of twice-yearly in-service seminars. Regular interaction between IILT and ESL teachers ensured that the materials were appropriately informed and focused; it also provided feedback on the Benchmarks and ELPs, so that IILT was able to publish revised versions in 2003 and 2004 respectively (IILT 2003a, 2003b, 2004a, 2004b).

The number of primary teachers attending the in-service seminars increased rapidly year by year, whereas post-primary numbers remained constant. By 2006 IILT was offering seven primary in-service seminars in each round, but only one post-primary seminar. This may reflect the fact that many post-primary ESL teachers cannot be released to attend in-service courses because they are chiefly teachers of mainstream subjects. In 2006 IILT revised all the materials it had developed for primary ESL support and published them as a substantial teacher's handbook entitled *Up and Away* (IILT 2006); the next year it did the same for the post-primary sector (IILT 2007). In 2007 IILT was obliged to suspend in-service provision for lack of funding and human resources.

The TII English Language Support Programme
The TII English Language Support Programme aims to build on IILT's work in five ways. First, it will investigate the present reality of post-primary English

language support with a view to identifying good practice as well as recurrent problems at organizational and classroom levels. In the first months of the project Zach Lyons spent much of his time visiting schools and talking informally to ESL teachers and their principals. In the spring of 2008 Rachael Fionda took the process an important step further by conducting a formal survey of ESL support in ten post-primary schools in the Dublin area. An interim report will be published in September 2008 and further explorations will follow in 2009 and 2010.

The second task we have set ourselves concerns the Benchmarks and the ELP. In their present form the Benchmarks are designed to capture the different linguistic challenges posed by different areas of the post-primary curriculum, but they do so in very general terms. We intend to make them more useful by adding a substantial subject-specific dimension. As a first step Zach Lyons and Stergiani Kostopoulou have begun to analyse closely the language of five or six widely used textbooks in each of ten post-primary subjects at Junior and Leaving Certificate levels. When complete their analysis will enable us to identify key concepts, words and word associations for the different subjects. This will enable us to develop a large bank of subject-specific "I can" descriptors from which to create subject-specific checklists for the ELP. Before the end of the project we also intend to add to the Benchmarks and the ELP a fourth proficiency level (B2) that encompasses the language skills students need to develop if they are to meet the challenge of the public exams.

Our third task is to use our linguistic analysis of the linguistic demands of the mainstream curriculum to develop a large array of teaching/learning materials and make it freely available to schools via the internet. The materials will build on what IILT has already put in place, will be designed to support teaching and learning at each of the Benchmarks levels, and will focus explicitly on the different subjects of the curriculum. A new feature will be the inclusion of checklists and materials for use by subject teachers as well as ESL teachers. Our website will be launched in September 2008 and we shall continue to add to the materials until the end of the project in 2010.

Our fourth and fifth tasks are the compilation of a manual for post-primary English language support and the development of assessment instruments. Both of these lie in the future. To begin with we thought we should develop further IILT's resource book for ESL support at post-primary level. Now it seems more appropriate to make organizational and pedagogical guidelines available on our website. In September 2008 the DES hopes to publish a suite of tests for ESL students that were developed by IILT and piloted with the assistance of post-primary English language support teachers. By the end of the project we hope to supplement these with additional assessment instruments, probably delivered via the project website.

Interaction with schools and teachers

Regular interaction with ESL teachers and their schools has been fundamental to the work of IILT. It is also fundamental to the work of the English Language Support Programme. In the autumn of 2007 we held briefing sessions at the Education Centres in Drumcondra, Blackrock and Dublin West. The focus group we recruited at these sessions subsequently provided us with essential information and acted as a sounding board while we planned the first phase of our survey and began to analyse the linguistic demands of the post-primary curriculum. In the autumn of 2008 we shall be recruiting post-primary schools and individual English language support teachers to give us feedback on our website and the materials it will contain. Such feedback is essential to the achievement of our overall aim: to make a difference to English language support in post-primary schools. Any post-primary ESL teacher who would like to be associated with the programme should contact Zach Lyons (lyonsdz@tcd.ie).

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Learning about Learning:
Are We There Yet?

Jerry McCarthy

"I cannot teach anybody anything, I can only make them think." (Socrates)

It may be stating the obvious but it is still worth reiterating: teaching and learning matter! Teachers help students to learn and understand, deliver and differentiate the prescribed curriculum, motivate students to learn, provide formative feedback to students, monitor and evaluate individual progress, challenge inappropriate behaviour, celebrate and acknowledge student effort and achievement, construct an inclusive learning environment in the classroom and employ a range of pedagogical approaches to teach a heterogeneous student cohort. Black and Atkin (1996) state that the greatest and most valuable resource that any practitioner possesses is his or her reservoir of professional knowledge and understanding "of how students learn, of how teaching works and of the most effective settings for education". This critical triangulation of knowledge can be sustained and augmented through the establishment of profession network communities, where mutual sharing of best practice occurs, by documenting and publishing one's professional practice and understandings in "Learn" or by regular and systematic trawling through the various domains of educational research literature that are devoted to teaching and learning. In particular, insights from educational research have greatly extended our understanding of the processes and principles of learning and have led to a sustained challenging and critiquing of the set of traditional assumptions and tenets that underpinned teaching and learning for many years. The veracity and accuracy of many of these traditional axioms and norms about learning had been investigated and challenged, including:

- knowing that must come before knowing how (Black and Atkin 1996)
- the most effective sequence of learning is first to passively receive, memorise and internalise and then to repeat and use the new learning, in routine exercises, so as to develop acquaintance and familiarity
- difficulty or failure in learning is most likely to occur because of some generic lack of ability in the student or because of the absence of sustained effort by the learner, rather than from any mismatch between the teacher's preferred and implemented pedagogy and the student's preferred learning style
- the highest or maximum motivation to learn can be "engineered" by exerting external demands or pressure on the learner.
- it is best practice to employ didactic teaching methodologies and to teach

by telling

- in the traditional classroom environment, the learner is required to be seat-bound, passive, docile and compliant and he or she is systematically tested, at regular intervals, to measure progress in learning
- the traditional classroom dynamics are content-dominated and teacher driven (Hargreaves 1994)
- verbatim internalisation of information, rather than the development of understanding, is emphasised and prioritised so that appropriate amounts of information can be regurgitated and reproduced in response to exam questions (Sugrue 1997)
- "good students" are those who are " teachable" and those who adopt a passive and "docile" attitude towards the teacher (Sugrue 1997)

Black and Atkin (Black and Atkin 1996) contend that a classroom environment, that is based on these traditional axioms and assumptions, will achieve successful learning outcomes with "only a minority of students, while failing to tap the motivation and the learning potential of almost all the rest".

Contemporary educational research literature is replete with research evidence that suggests that, in a classroom where constructivist principles and practices are prioritised and implemented, the optimum learning conditions and most effective learning environment are created. In the constructivist paradigms of learning, all successful learning starts from, builds on, and connects with the existing knowledge-store of the student. Only, by this route and framework, can students "build new knowledge into coherent and meaningful structures of their own" (Black and Atkin 1996).

The journey towards the construction of the contemporary macro thesis of constructivism has been protracted, segmented and arduous. I suspect that the earliest teachers and seers regularly employed conjecture, speculation and supposition to arrive at some intuitive understanding of how human learning occurs. In modern times, practitioners and scientists, from many diverse disciplines, have provided valuable insights into learning and have moved our level of understanding of this human faculty and process from random speculation to a science of learning, a science, which is grounded in empiricism and research. Social scientists, sociologists, developmental psychologists, anthropologists, ethnographers, neuroscientists and classroom practitioners have all contributed to our understanding of learning and to how we acquire skills, knowledge and various competencies. The transition from speculation to a science of learning was also fuelled by the timely emergence of the paradigm of scientific and empirical research, which established a code of ethics for research and which demanded strict adherence to the rigours, rules and conventions of empiricism, reliability and validity.

Many theses of learning have emerged over the years. Each newly-fledged learning theory attained dominant and hegemonic status for a limited period

until alternative insights emerged which hastened its decline in popularity, status and relevance. Bransford (Bransford et al. 2000) has identified seven distinct strands of research, into the dynamics and principles of learning, in educational research literature. Each of these strands and epochs of research has extended our knowledge of human learning. These major research strands can be described as:

- behaviourism
- cognitivism
- stage and developmental research
- learning transfer
- research by neuroscientists
- collaborative research into learning environments
- research into assistive technologies

One of the earliest theses of learning to be constructed was that of behaviourism. This thesis emerged at the start of the last century. Drawing on the empiricist tradition, behavioural scientists (Tolman, Thorndike, Skinner, Bandura and Pavlov) conceptualised learning as a process of forming connections between "stimuli" and "responses". Motivation to learn was conceptualised as being driven primarily by innate and biological drives and by the availability of external stimuli ("operant conditioning") such as rewards and punishments. In this paradigm of learning, the learner is perceived as being essentially passive, but the learner can be enticed to become actively engaged in the learning task, when presented with some valued rewards and stimuli. In this thesis, the learner starts off as a "blank slate" ("tabula rasa") and all learning can be shaped and mediated through the availability of positive or negative reinforcement.

Research, undertaken by cognitive psychologists, have provided many valuable insights into the cognitive processes of problem solving, reasoning, cognition and memory and into the principles and structures by which knowledge is assimilated and internalised. Cognitivism focuses on the inner mental activities of the learner and, in this thesis, learning is defined as change in the learner's "schemata". Cognitive schemata are integrated networks and frameworks within the brain, which are both the product of constructing prior knowledge and the tools with which new knowledge can be constructed. As subsequent learning occurs, this web of cognitive networks becomes mutated, rearranged, added to and modified through the processes of "assimilation" and "accommodation" (Piaget 1926). Fosnot (1996) also claims that, through reflective or purposeful thought, a learner can modify his or her existing schemata. In the cognitivist thesis, learning is not a spectator activity. The learner needs to be actively involved in the learning task; successful and effective learning takes place as a result of active cognitive processing, thinking and reflection. Gardner's (1983)

"Theories of Mind" and "Multiple Intelligence" thesis can be positioned within the cognitive paradigm and tradition. Gardner's thesis of multiple intelligence proposed the existence of seven (now extended to eight) relatively autonomous intelligences: linguistic, logical, musical, spatial, bodily-kinesthetic, interpersonal, intrapersonal and naturalistic. The initial two intelligence modes have dominated traditional classroom dynamics and formal examinations. This thesis offers teachers opportunities and possibilities of representing and depicting key concepts in a variety of ways and encourages students to demonstrate their understanding in their dominant and preferred intelligence mode. Gardner stated that not all learners come to school ready to learn in the same way. He argued that there is more than just one way to learn, "more than one way to-be intelligent" and claimed that every child is "smart" in some way.

Stage and developmental theorists identified and constructed a developmental framework and roadmap to track intellectual and cognitive growth in children and adults. These theorists contend that we are all born with a natural predisposition to learn and claim that, from an early age, young children are actively engaged in making sense of their worlds and are active agents of their own conceptual development (Carey and Gelman 1991). Some developmental research findings have shown that in particular domains, such as number and language development, young children possess strong predispositions to learn rapidly and readily. Additional insights, from this research domain, suggest that, although most children learn readily in some domains, they can learn almost anything by sheer will, determination and effort, if motivated to do so. One of the most important findings of stage and developmental theorists is that, in order to develop strategic competence in learning, "children need to understand what it means to learn, who they are as learners and how to go about planning, monitoring, revising and reflecting upon their learning and that of others" (Bransford et al. 2000). According to this developmental thesis, even when children lack relevant knowledge and expertise, they still possess a generic competence to reason and generalise. Piaget was one of the most famous stage and developmental theorists. Piaget's research involved close observations of infants and extended and in-depth questioning of children. As a result of this research, Piaget concluded that cognitive and intellectual development proceeds through certain predetermined stages, each stage involving radically different levels of cognitive maturity and processing (Piaget 1926).

Research into transfer of learning has also provided important insights into the dynamics of human learning and, in particular, into the principles and processes by which contextualised and specific knowledge and learning can be extended and linked to new information and new contexts (Byrnes 1996). Early research in this domain (Thorndike 1913) suggested that the degree of successful transfer, between initial and later learning, depended upon the degree of similarity, overlap and "match" across the two events. This thesis critiqued the concept of "general transfer" or "subliminal transfer" and the doctrine of "formal discipline", which suggested that the study of Latin or Greek was

important because of the range of desirable qualities, skills, aptitudes and competencies (e.g. concentration, attention, perseverance) that were indirectly nurtured and developed in the learner through the study of an inert and "unspoken" language. Other insights into the matrix of human learning, that evolved from this research, was that all new learning involves some degree of linking and connecting with prior knowledge and the level of mastery, that the learner attains in learning the initial subject-matter, determines the quality, ease and depth of transfer that subsequently takes place to other subject areas and to other contexts. This sub-thesis had an immediate and direct influence on classroom practice and led to emphasis being placed on protracted repetition and rote learning in all lessons so as to ensure that each new skill and each new nugget of curriculum was "over-learned", "known well" and "learned off-by-heart" in order to provide a secure base and anchor to which subsequent knowledge could be attached. The following maxims and proverbs mirror and reflect the high status and popularity that was universally attained by the practice of repetition and revision within any classroom context: "practice makes perfect" and "repetitio est mater studiorum" (revision is the mother of study). Other important insights into learning, that evolved from this research stable, include: successful learning can be stimulated and enhanced through the provision of formative feedback (Chi et al. 1989), intrinsic and extrinsic factors can enhance and strengthen motivation to learn (White 1959), the learning assignment must be at the proper level of difficulty and challenge in order to motivate the learner (Dweck 1989), the learner can be motivated to persevere with, and remain engaged in, the learning task if he or she can identify the relevance and usefulness of the perceived learning outcomes that are associated with the successful completion of the prescribed assignment (Pintrich and Schunk 1996) and the importance of providing multiple and diverse learning opportunities, for each subject-area and each topic, across a range of contexts and across the entire curriculum (Gick and Holyoak 1983).

The invention of, and advancement in, the fields of proton emission tomography and functional magnetic resonance imaging has enabled neuroscientists to focus on how learning impacts on the physical structure of the brain and how thought processes develop and emerge. Because this branch of research is exclusively laboratory-bound and because of the nature and scope of this research, many of the resultant research findings have not had direct relevance for, and immediate impact on, classroom interactions. However, some emerging insights will certainly influence approaches to teaching and learning (e.g. research into both the left and right hemispheres of the brain). Because of this genre of research, we have now more comprehensive understanding of the processes of language development (Kuhl 1993) and memory development (Schacter 1997).

Research into the construction and design of classroom environments has also provided many valuable insights into learning and teaching. The uniqueness of this research genre is that it usually occurs as collaborative research, involving an

external researcher and a classroom practitioner. The focus of this research is to investigate the possibility of establishing classrooms, which, simultaneously, are "learner-centred", "knowledge-centred", "assessment-centred" and "community-centred" (Bransford et al. 2000). Learner-centred environments are learning contexts, which acknowledge and respect the array of skills, attitudes, beliefs, culture and prior experiences that each learner brings to the classroom. Through the process of "progressive formalization" the formal curriculum of the classroom becomes dovetailed to the student's previous learning profile and prior knowledge-store.

Knowledge-centred classroom environments present students with "bite-sized" modules of curriculum, which are strategically constructed to ensure successful learning outcomes for the learner. Knowledge-centred classroom environments provide realistic and stimulating learning challenges for students, which help them to become "knowledgeable" and to develop understanding and cognition (Bruner 1981). Knowledge-centred environments emphasise "sense-making", "development of understanding" and the development of metacognitive skills in students (Schoenfeld 1991). In knowledge-centred classrooms, the development of "automaticity" and "fluent retrieval", in key skill-areas, is prioritised and emphasised. Both automaticity and fluent retrieval are essential skills in order to function effectively in the classroom and to avoid feeling overwhelmed when more challenging and more complex learning tasks are encountered (Beck et al. 1989).

Assessment-centred environments employ both formative and summative assessment modes. Formative assessment is regularly and systematically provided to all students (Black and William 1989).

Community-centred environments prioritise the implementation of the norms of collaboration, groupwork, pair-work and mentoring. Community-centred classrooms also emphasise the construction of democratic and inclusive practices and allow students "the freedom to make mistakes, in order to learn " (Brown and Campione 1984). These classrooms also emphasise mutual-respect, attention, concentrated-listening, caring, participation and involvement. This research also emphasises the importance of establishing real collegiality, collaboration and teamwork among teachers (Barth 1990). The impact on learning, of the availability of support networks, was investigated by Vygotsky (Vygotsky 1978). In his thesis of "the zone of proximal development" Vygotsky identified and described how external supports and assistance can extend the "bandwidth of competence" that the learner can navigate and attain (Brown and Reeve 1987).

Though still in its embryonic phase, initial research into assistive technologies is beginning to provide important insights into how technology can support learning and teaching. Many new assistive technologies are interactive, so they provide dynamic learning environments, where students learn by doing, where they are provided with immediate feedback on their work, where they can

communicate with other student communities on the internet and where they can access the virtual libraries of the World Wide Web. The development and emergence of supervised and regulated discussion fora, chat rooms and videoconferencing hold great potential for the creation of new and dynamic virtual learning environments for learners. Similarly, the development of webcams, broadband, hand-held computers, personal digital assistants, mobile phones, mp3 players, iPods, pod-casting and interactive whiteboards can all extend the learning environment beyond the walls of the formal classroom. Assistive technology can also provide students with support frameworks for planning, writing, editing and revising their work. Assistive technology can also provide accurate and engaging visualisations, representations and graphics of difficult-to-understand concepts (Linn et al. 1996) and can facilitate the linking of classroom assignments with real-world applications and global issues (Bransford et al. 2000).

We have now arrived at a juncture of research into learning where the thesis of constructivism holds hegemonic and dominant status. This macro, integrated and comprehensive thesis has assimilated, incorporated and advanced many of the precursory insights from earlier strands of research. Many important insights into learning have emerged from this thesis and from other supplementary branches of contemporary research (e.g. "Assessment for Learning" etc.):

- learning will be meaningful for the learner when it begins with, and builds on, his or her ideas, perceptions, experiences and prior knowledge. Emphasis should be placed on "learning with understanding", "chunking information together", "sense-making" and "developing usable knowledge".

- emphasis should be placed on getting the learner to think and to identify multiple and alternative strategies for each work assignment, rather than relying exclusively on memorisation and on the employment of one singular approach only (Bransford et al. 2000)

- the learner should be cognitively and actively involved in the learning process if successful learning outcomes are to be maximised

- the traditional perception of the learner at an "empty vessel", which requires a "filling" with prescribed knowledge, should be replaced and eradicated. Instead, the teacher should seek to identify and track, each student's strategic thinking and level of understanding, for each topic-area, through the creation of an inclusive classroom culture, where student "thinking-aloud" is encouraged, prioritised and legitimised.

- instruction, that focuses exclusively on a high degree of accuracy and precision, may impede the learning of some students (Beck et al. 1989)

- social arrangements in classrooms, (e.g. groupwork, pair-work and mentoring) can support and enhance learning (Schwartz et al. 1999)

- the employment and investigation of "authentic problems", in the classroom context, can stimulate and reinforce student motivation to learn (Barrows 1985)
- formative feedback should be regularly and systematically provided to the learner (Chi et al. 1989)
- the student should be made aware of the learning intention in each lesson
- the development of the skills of "automaticity" and "fluent retrieval" of prior learning should be emphasised across all subject areas (LaBerge and Samuels 1974)
- the development of metacognitive competencies, which enable the learner to accurately predict learning outcomes and to systematically and progressively monitor and evaluate his or her own performance on various learning tasks, should be prioritised across all subject areas
- cross curricular approaches can support effective learning (Gick and Holyoak 1983)

Even though we now possess a vast volume of research literature on learning, which provides the most comprehensive and holistic insights into the principles and processes of learning, we have merely, in the view of many contemporary researchers, established a "foundation for the science of learning" (Bransford et al. 2000). Much more work still needs to be done to consolidate, reinforce and extend that foundation of knowledge. Bransford recommends that research into learning is expanded and extended and suggests and identifies the following themes and directions for further research into the future (Bransford et al. 2000):

- expand the collaborative investigations and research of classroom practice

- investigate the use, and the impact of, assistive technologies in supporting learning and teaching in the classroom environment

- investigate the extent to which formative assessment is built into the curriculum

- investigate the extent to which the prescribed curriculum emphasises depth of coverage over breadth of coverage

- investigate the frequency and effectiveness of the opportunities provided in the busy classroom to learn key skills and key concepts which are embedded in the prescribed curriculum

- investigate the extent to which the curriculum provides opportunities to explore students' preconceptions and students's prior-knowledge about the subject matter being studied

- investigate the extent to which summative assessment procedures measure real understanding and ability to transfer rather than memory and recall

- further investigate how neurocognition and sociocultural factors mediate, and impact on, learning

- investigate and document the practice and professional knowledge of "exceptional" and "expert" teachers

- investigate the dynamics of social arrangements in the classroom (as a scaffold for supporting learning)

Let us hope that research into learning will always remain a priority for scientists and practitioners across a wide spectrum of disciplines. Because of the symbiotic and intrinsic relationship that exists between learning and teaching, enhanced and extended knowledge of the processes and principles of learning will have an inevitable, substantial and direct impact on pedagogy and approaches to teaching. The on-going development of insights into student learning has also highlighted and elevated the importance of providing lines of communication between researchers and teachers, so that teachers are regularly made aware of all contemporary research findings that can improve and energise classroom practice. Teachers also need to become proactive and to keep abreast of, and acquainted with, emerging research findings. In essence, teachers need to engage in ongoing teacher-learning. Shulman (Shulman 1987) and Lave and Wenger (Lave and Wenger 1991) suggest that teachers need to create regular learning opportunities for themselves, by becoming "multifaceted-practitioners" who are teacher-researchers, reflective practitioners, action researchers, peer-supervisors, peer-mentors, lifelong learners and active members of teacher professional communities, that engage in professional discourse, that share best practice and that emphasise teamwork and collegiality between practitioners. These multifaceted practitioners hold the highest expectations for all their students and strive to ensure that all these students achieve their fullest potential in learning. These practitioners also possess a wide pedagogical repertoire. Sugrue states that "the methodological repertoire of teachers is critical to ensure adequate involvement of learners" (Sugrue 1997).

New and emerging understandings in the science of learning raise important questions about the design of formal learning, the construction of formal learning environments and the value of current assessment modes. In essence, the new and emerging understandings from research raise valid questions about what is taught, how it is taught and how it is assessed (Bransford et al. 2000). Simon (Simon 1996) claims that learning and knowing have mutated from being able to recall, reproduce and regurgitate information to being able to source and use it.

Let us hope that the relationships and lines of communication between research and practice will continue to evolve, strengthen and blossom so that research findings will systematically and increasingly inform all classroom practice and teacher education in the immediate and distant future.

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Building the Perceived Social Support of Adolescents Via The Classroom.

Cormac Forkan

Abstract

This paper suggests that the current cohort of young people in Ireland is finding it increasingly difficult to navigate its way towards well-being. Issues such as binge drinking, youth suicide, obesity, societal pressure to enjoy themselves with the spoils of the *Celtic Tiger*, while also often pressurised to succeed in life, coupled with the sometimes lack of social support within the family, provide the average normative adolescent with more questions than answers.

Within the education system, the *Retention Rate Reports* as published by the Department of Education and Science are just one example of the level of accountability requested by the system. Therefore, apart from monitoring strictly academic outcomes, the education system does little to monitor or evaluate the degree to which schools and teachers enable children to achieve positive life outcomes. In response to this, the paper introduces the concept of social support, which is information leading a person to believe that they are cared for, loved and esteemed by their social network.

The paper discusses how children with higher levels of perceived social support achieve better life-outcomes for children. It then concludes with a number of steps teachers can take to work with the child's social ecology in order to further develop their perceived levels of social support.

Introduction – Negotiating Their Well-Being

> *"What is happening to our young people? They disrespect their elders, they disobey their parents. They ignore the law. They riot in the streets inflamed with wild notions. Their morals are decaying. What is to become of them"?*

Who would think that this description of young people was penned by Plato, the famous Greek philosopher, over 2500 years ago! Despite being talked about then, the formal study of youth and adolescence did not emerge as an academic concern in the western world until the post World War II era (Skelton and Valentine, 1988). During this era, young people came to seen as a problem due to their involvement in crime, truancy, and other activities seen to be negating the positive social order of the day. These societal concerns were "… *fuelled by*

moral panics concerning the nuisance values of young people in the urban streets of western societies" (ibid: 10).

In Ireland, as is similar in much of the western world, in today's world the mass media is a key purveyor of reports illustrating the nuisance values and problematic nature of our young people. To illustrate this, Devlin (2006) completed research by monitoring the content of Irish newspapers during March, July and November. After analysing the 608 news items concerning young people that were carried, he found that there were 32 specific categories into which the 608 stories fitted. His analysis confirmed that almost 85% of the stories described young people to be perpetrators or victims of crime or as vulnerable in some way, thus confirming their problematic status. In a report for Foróige, the National Youth Development Organisation, Cleary, McDonald & Forkan (1999) argued that Irish society has lost touch with young people and often tends to only understand them as distorted caricatures of what the majority of young people are really like, over compensating on their negative attributes at the expense of any real understanding of the *non-dysfunctional, normative lives* of young people.

Regardless of the peddling of this distorted caricature by the media, recent research clearly shows that the processes of negotiating their way to *well-being* is becoming increasingly difficult within contemporary Irish society. The publication of the *State of the Nations Children Report* for Ireland in 2006, suggested that the top three issues affecting young people in Ireland are *youth suicide, poor physical activity/poor diet (obesity)* and *binge drinking*. While focussing on the latter issue, the trend here suggests that (ibid: 161) more alcohol is being consumed by young people than before, more girls are drinking those that drink are now drinking more alcohol, alcohol is being mixed with other substances and drunkenness is seen as an end in itself. The most unsettling finding was that out of a total of 33 countries, Irish children reported the 3rd highest levels of binge drinking, with Irish boys being the 4th highest and girls 2nd highest among all boys and girls across the 33 countries.

It has also been argued by Corcoran (2006) that in the recent past, Ireland has witnessed a passing of *old orthodoxies*, through an interrogation of the things that were once regarded as untouchable. For example,

● The Catholic Church has lost a considerable amount of its legitimacy and importance among the younger cohorts in particular, due to its blatant stumbling from one crisis to another.

● In the realm of politics, tribunal after tribunal have shown to the world the less than ethical nature of some of our elected representatives, now thought to be associated with low voter turn out among the young and general apathy towards politics.

● The traditional Irish notion of accepting the way things are has been replaced by a growing sense of individualism, promoting the dogma of

more choice, be it in schools, hospitals or supermarkets.

The dissolving of these *old orthodoxies* has provided Irish people with the opportunity to make their own value judgements and "…*develop their own normative positions*" in life (Corcoran, 2006: 3). Searching for a social compass to navigate this uncertainty is probably the biggest challenge facing our young people. Due to the breadth of choice and freedom available to young people, it can be argued that many of them are experiencing a sense of *normless-ness* or *anomie*, a condition detected by the sociologist Durkheim as a serious malaise of for the newly emerging French society over 100 years ago. While applying this to young people, Duncan (2003) used a geomorphic analogy. He suggests that young people here are negotiating their lives along '*fault lines*', like those found in an area of potential earthquakes. For example, on one hand, societal norms encourage the vast majority of our adolescents to live it up and enjoy the crest of our economic wave. On the other hand, adolescents are socially conditioned and expected to make something of their lives and become successful. Therefore, young people are now forced to negotiate their lives along *fault-lines*, being continually pulled in opposing directions by our agreed social norms.

The social institution of the family is yet another area innately linked to the well-being of children and adolescents. The cultural ideal of family which we have socially constructed over the last 10-15 years is best described as being non-traditional, heterogeneous and one that acts out of a *pick and mix approach*. In 1976, Caplan did pioneering work in identifying nine core functions and supportive characteristics offered by the family to its members. These ranged from the family being a feedback and guidance system, a source of ideology, a guide and mediator in problem-solving, a contributor to emotional mastery to a source of practical service and concrete aid. Considering these functions, many theorists are now trying to assess how well family in Ireland meets carries out these functions. In one such study for the Ceifin Institute in Ennis, McKeown, Pratschke and Haase (2006) found that both parent and child well-being is primarily shaped by dynamics within the family. In particular the presence of unresolved problems between child and parent, the characteristic of the mother (*including good physical and psychological well-being, supportiveness to her child, satisfaction with being a parent and her skills in resolving conflict with her partner*), the father's supportiveness and family income were all identified as being central to family well-being. For many families, many of these essential needs are unmet, which has a direct impact on the well-being of family. In an attempt to summarise the key characteristics of the lives of our young people, often referred to as *Generation Υ*, Sweeney & Dunne (2003) provided the following pointers:

- *Their parents are earning more than ever before and spend more on their children*
- *Less quality contact time at home with their parents*

- *Parents select schools and monitor their progress more than before*

- *Their networks of kin are smaller*

- *There is less of a religious influence in their life*

- *Their sense of moral guidance often comes from the media and their peers*

- *There are weakened community ties.*

Measuring Life Outcomes for Children

Over the recent past, the notion of *accountability* has become central to all state supported ventures in Ireland, even filtering its way down to the education system. The relatively recent publication of the *Retention Rate Reports* (2003 & 2005) by the Department of Education and Science, showing the number of post-primary students retained in the system up to senior cycle as well as the recent publication of the *Third Level Feeder Schools* list in The Irish Times (2007) illustrate this point. However, this information is strictly *academic information*. Despite this being important, it should only be part of a broader equation for the education system, as school is surely more than just about the educational development of children, as tracked and recorded by such publications. The importance of and need for the personal and social development of each child within the school system cannot be overstated. Nevertheless, how many schools or teachers can state with any certainty that they are enabling children to achieve positive life outcomes? Moreover, do schools have any *practice tools* for measuring such details? Related to this, policy makers, service providers such as schools and teachers need to subject their work to questions such as (Bradley, 2007: 3):

- Are we making a positive difference for children
  (*as a result of planning for the right outcomes?*)

- Will we know it *(by monitoring achievement of agreed outcomes)*

- How will we measure this *(through evaluation that gets us to full information or "the true story behind the apparent story")*

International Efforts at Tracking Well-Being for Children

According to Fattore at al. (2007), tracking outcomes and well-being grew from the 1960's, with the belief that if indicators were well constructed and measured consistently they would help inform society about the quality of life of the group in question. Over the last decade or so, there has been a move towards '*counting children in*', with Ben-Arieh and Goerge (2001) identifying over 130 reports aimed to document and monitor the well-being of children. In the UK "*Looking After Children Project*" was developed in 1987 to measure outcomes for children in state care across key "d*evelopmental dimensions*" along which children need to progress, if they are to achieve long term well-being in adulthood. The developmental dimensions were *Health, Education, Identity, Family and Social Relationships, Social Presentation, Emotional and Behavioural*

Development and Self Care skills.

Within the EU, Bradshaw et al (2007) reported on the *EU25 Child Well-Being Index*, which has been recently developed by the EU. The Index measures well-being for children across 8 clusters, namely, material situation, housing, health, subjective well-being, education, children's relationships (within the family), civic participation and risk and safety. When collated, the figures will illustrate the type and rate of change in these outcomes for children across the EU, the results being linked to policy implementation if needed. A number of indices and outcomes measuring tools have also been develop in the US. One of the best known examples is the *Child and Youth Well-Being Index* (CWI). It was developed by Land and others to measure change in child and youth well-being from 1975 up to today. The CWI is designed to measure the rate of change among children and young people; whether well-being is improving/dis-improving; in what domains is this occurring and for what specific socio-economic groups. The CWI is built around a total of seven quality of life domains, namely, family economic well-being, health, safety/behavioral concerns, educational attainment, community connectedness, social relationships and emotional/spiritual well-being. Another well known system of tracking well-being for children in the US is the *Vermont Communities Count Project,* spearheaded by Governor Con Hogan. From the early 1990's, the Project developed 8 key outcomes it wanted to achieve for families and young people in Vermont State. For each outcome, they included indicators which were a way of measuring success. As well as achieving increased community well-being, the Vermont model has also had huge economic consequences. For example, the model has had a direct impact on lowering the rate of teen pregnancy in the state. The estimated cost to the exchequer of a teen pregnancy per year is almost $20,000. Since the Vermont model came into being, the number of teen pregnancies has fallen down by 36% in eight years.

Tracking Well-Being for Children in Ireland
According to (Hanafin et al, 2007), the National Children's Strategy (2000) called for a system to be put in place to measure outcomes for all children in Ireland, with there being no system prior to its publication. This subsequently led to the publication of the *State of the Nation's Report* (2006). In Part 3 of the Report, the *Children's Outcomes* are categorised according to *health*, *education*, and *social, emotional* and *behavioural* outcomes. Areas covered include the use of tobacco, alcohol and drugs; teenage pregnancy; chronic health conditions; educational attainment; and reported levels of happiness. When viewed as a totality, the continual updating of the State of the Nation's Report will clearly illustrate the trajectory of change for Irish children in families into the future.

In December 2007, the Office for the Minister for Children published *The Agenda for Children's Services: A Policy Handbook*. The overall purpose of the document is to "… *set out the strategic direction and key goals of public policy in*

relation to children's health and social services in Ireland" (ibid: 2). The document re-emphasises the point the commitment that the delivery of services to children, families and their communities would be evidence based and outcomes focussed in Ireland. The *Agenda* presents a total of seven key outcomes which have now become central to public policy for children in Ireland. The outcomes are (OMC, 2007: 12)

1. *Healthy, both physically and mentally*

2. *Supported in active learning*

3. *Safe from accidental and intentional harm*

4. *Economically secure*

5. *Secure in the immediate and wider physical environment*

6. *Part of positive networks of family, friends, neighbours and the community*

7. *Included and participating in society*

Social Support as an Outcome for Children
Outcome 6 from the *Agenda* centres on the need for children to be part of a positive social network. It is from these networks that they can potentially receive the support they need to cope with the challenges they face on a daily basis. Lin (1986) suggested that an individual can gain this support from their social environments, at three different levels. These levels were at the community level through their level of integration, at the social network level of family and friends and at the intimate relationship level where personal feelings are thoughts are shared. In the US in the 1970's, Cobb was a pioneer in the research of social support. He commented that:

> *"Social support is defined as information leading the subject to believe that he is cared for and loved, esteemed, and a member of a network of mutual obligations… It appears that social support can protect people in crisis from a wide variety of pathological states: from low birth weight to death, from arthritis through tuberculosis to depression, alcoholism and the social breakdown syndrome. Furthermore, social support may reduce the amount of medication required, accelerate recovery, and facilitate compliance with prescribed medical regimes"*

> (Cobb, 1976: 300)

This definition illustrates the multidimensional nature of social support, as was further supported by the work of Streeter and Franklin (1992). In terms of the types of social support, Barrera and Ainlay (1983) developed a social support typology, based on the following six types:

1. *Material aid* – providing tangible things such as money or objects

2. *Behavioural assistance* – helping with work

3. *Intimate interaction* – Listening, caring, esteem and understanding

4. *Guidance* – Offering advice and information

5. *Feedback* – on the individuals thoughts or feelings

6. *Positive social interaction* – engaging in social interactions for fun and enjoyment.

Enabling Social Support in the Classroom – Implications for Practice

As suggested by Dolan (2006), the provision of social support to service users like children, is a key task for all professionals who work with normative children as well as those experiencing adversity. Social support can be either *received* or *perceived* by an individual and can involve enlisting support from informal, semi-formal or formal sources. An interesting fact is that to feel supported, individuals do not necessarily have to receive support. As discussed by Dolan (2006:197), "*…the perceived presence of a responsive support network is central to enhancing children's and parents' resiliency and mental health*". Considering this, the question arises as to how teachers for example, may enable the development of perceived social support for young people in their classroom?

To achieve this, it is necessary to use an ecological approach to understand the relationship between social support, outcomes for children and their social environments Rosenfeld, Richman and Bowen (2000). In a major study on this, they found that students who reported low perceived support from their parents, friends and teachers had the poorest school outcomes. Children who perceived their parents and friends and teachers as highly supportive had better attendance at school, studied more, did not exhibit problem behaviour, were more satisfied in school and had a high degree of self-efficacy. This study clearly outlines that perceived teacher support alone is not effective for positive outcomes for children. Instead, teacher support must be perceived in combination with perceived support from parents or friends, with the optimal level of perceived support being received from all three providers (Rosenfeld, Richman and Bowen 2000).

The following steps which are based on best practice (Rosenfeld, Richman and Bowen 2000, Dolan 2006 and Forkan, 2008), outline how through their normal work, teachers could bolster the perceived social support for the children with whom they work.

Step 1 – Positive outcomes are achieved when young people are embedded in a web of supportive relationships. Therefore, teachers can communicate to the school administration, community leaders, other teachers and parents, the importance of *partnering and working together*, to help develop the sense of perceived social support of the young people in question. At this stage, any potential problems in forming partnerships involving members of the child's social ecology need to be overcome.

Step 2 – Obtaining baseline data on the levels of perceived social support for the children in question is next. A number of assessment tools have been developed to measure the sources, types and levels of perceived social support. One such tool which has been used considerably in Ireland is the Social Provisions Scale, which was developed by Cutrona and Russell in the US in 1987. The Social Provisions Scale is user-friendly, does not require excessive training and takes ten minutes to complete per child. It measures the *type of social support* in the child's/adolescence's life, those being c*oncrete, emotional, esteem and advice social support*. In addition the scale measures the how much perceived social support could come from friends, parents/carers, siblings, and an other adult. Following this baseline collection, the scale can then be re-used with the same children repeatedly over time, to obtain a picture of their levels of perceived social support.

Step 3 – When analysed, this longitudinal information will show any potential weaknesses in the social support network of the child in question. Teachers could then develop intervention programmes that encourage the formation of partnerships between teachers and parents for example, to try and understand and overcome these weaknesses. In times of stress, the most meaningful help comes from those closest to us. Therefore, through this work, teachers can "…facilitate the flow of support within the family" (Cutrona, 2000: 105).

Step 4 – The final step would involve teachers working with the young people themselves to help them recognise and access the support available to them. Young people need to be encouraged to use the social support available to them to help them overcome life's difficulties. In addition, they also need to recognise their own role as an important source of social support for their peers.

Conclusion
This paper illustrated the fact that many normative young people in Ireland are finding it increasingly difficult to achieve well-being. Apart from tracking academic outcomes, the education system does little to monitor or evaluate the degree to which schools and teachers enable children to achieve positive life outcomes. After looking at various international models for this, the paper focussed on the 6th outcome of the *Agenda for Children's Services*. It argued that teachers and schools are in a pivotal role to further enable the perceived social support of the children with whom they work. To achieve optimal support, this process needs to be conducted in conjunction with the key stakeholders in the child's social ecology, those being their parents and peers and teachers. The overall protective nature of social support is clear – all that remains now is for the education system via schools and teachers to re-orient their way of thinking to this methodology.

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Using Research As A Tool
To Understand Behaviour

Claire W. Lyons

The student stood in front of me and wept.

I remember the day very well. Sitting at the back of a class supervising a student on her first year teaching practice. Things were not going well. The class, who were on their fourth substitute teacher in as many months, were refusing to cooperate and were leading the hapless student on a merry dance, verging from harmless wind-up to subtle intimidation. Standing in the corridor afterwards, the student wept and I, I have to admit, felt fairly helpless. As far as I could see the student was doing all the right things, but none of them seemed to be working. Back to the College for me to seek advice from my colleagues, and back to her house for the student to prepare to enter the fray again the following day. Going back into that class was probably the bravest thing I've seen anyone do.

The following week in I go again, armed with fresh advice on establishing rules and being firm etc. etc. A miracle had happened! Substitute number 5 it seemed had worked wonders with the class. Rules were in place as were consequences and the children were paying attention to them. A chat with the miracle-worker afterwards revealed that she had taken pains over the past week to work with the children on their behaviour and, even more fortunately for the school, for me and for my student she was staying. Now at least, my student would have the chance to learn her craft and test the waters of teaching without being completely destroyed in the process.

It was incidents such as this one that prompted me to engage in research in behaviour management, despite dire warnings from colleagues that it is an area that would sap the life out of you! Most particularly, having engaged with the PLUS network of teachers in schools in disadvantaged contexts I was most interested in behaviour management in those contexts. I was interested in how we could bridge the world of the teacher and the world of children in contexts where they seemed to be worlds apart. I wanted also to be able to apply the lessons learned to my work with student teachers.

My work in the Targeting Educational Disadvantage Project (TED) at Mary Immaculate College provided me with the opportunity to pursue this interest. TED facilitates two networks of teachers who work in disadvantaged contexts.

The PLUS network is centered in Limerick City and the Cur le Chéile network is located in the West of Ireland, with its centre in Tuam. When the networks were initially established classroom behaviour was one of their top three areas of concern. The TED team proceeded to design a research and intervention project on the topic of behaviour and sought funding to implement it. In this paper, I will describe some of the lessons we learned from the research element of that project. Information on the behaviour management lessons learned can be found in Lyons, Higgins, Bourke, Howe, McSweeney and O'Connor (2007) *Working Together for Positive Behaviour: a Guide for Teachers and Schools*, which is available from the Curriculum Development Unit at Mary Immaculate College.

What is research and why bother?

As a developmental psychologist with research training and experience, my contribution to the Working Together team was primarily through the research element of the project. As part of the team at a third level College, one of value-added skills I bring to the educational community is my research expertise. But what do I mean by research and how can it be helpful?

Cohen and Mannion (1994) provide a useful discussion of the different ways in which we try to solve problems, through experience, reasoning and research. Unlike everyday interpretation of experience, research is systematic, empirical and self-correcting. Cohen and Mannion describe research as a combination of experience and reasoning. They describe the two main conceptualisations of research within education and social science. The first of these relies on the positivist tradition, drawing from the physical sciences. According to this perspective social reality has objective qualities and can be objectively measured. In the case of behaviour, for example, the positivistic tradition would maintain that behaviour has a set of causes that can be objectively measured. This kind of research emphasises the objectivity of the researcher and the measures used. The measures used tend to be quantitative and researchers try to approximate the experimental methods of the natural sciences as much as possible.

Qualitative research works on the notion of social reality as interpretive. The goal of research is to understand people's interpretation of the world and how that impacts on their actions. The qualitative approach is based on the premise that there is no objective social reality to be measured by social scientific methods. Social reality is constructed through the actions, interactions and perceptions of social actors. Such an approach does not preclude pattern in social activity. In the case of behaviour, for example, the teacher construes being out of one's seat as challenging in the school context and attributes some motivation to that action. Her reaction is influenced by her interpretation. The pupil, equally, interprets the teacher's reaction as legitimate or not and reacts

accordingly. Whatever model of research we adopt, and increasingly educational research embraces both, the systematic, empirical and self-correcting nature of research remains the same. It is these characteristics that make research superior to everyday reasoning. Murphy (1996: 6) argues that research is important for education because, without it, 'education can be governed by dogma, superstition, tradition and other forms of prejudice about what will work well and be 'good for' those involved in the educational process'. Speaking of the value of research in general, Cohen and Mannion (1994: 40) cite Mouly (1978) who says

> *Research is best conceived as the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis and interpretation of data. It is a most important tool for advancing knowledge, for promoting progress, and for enabling man to relate more effectively to his environment, to accomplish his purpose and to resolve his conflicts*

Using research as a tool to understand behaviour

In designing the Working Together Project, we decided that we could use research to help us to understand the issues facing schools in relation to behaviour. We considered that research could play the following roles in our collaboration with schools:

1. Research could provide a systematic description of the situation as it prevailed in schools. As a starting point research methods could be used to establish the types of behavioural issues being faced by schools, the extent of behavioural difficulties, the types of strategies being used and the perceived effectiveness of those strategies.
2. Research could help to make sense of conflicting interpretations of the current situation in schools. In any organisation or social situation participants have competing interpretations of what is happening and why it is happening. The research methods adopted in this project would elucidate these different points of view. In some cases, where objective measures were possible, we might even be able to verify some of these interpretations.
3. Research methods could be used to give a voice to all of those in the school community. Public discourse within any organisation tends to be dominated by those who are more powerful in the situation, managers, for example, or staff members who are confident. From the outset it was our desire to use research methods to give voice to those who are less powerful in the school situation, most especially to children.
4. Working Together was an intervention as well as a research project. The research methods that were used to describe the starting situation for schools could also be used to measure the success of intervention measures.

Reviewing these objectives for research within the Working Together Project it becomes clear that the project adopted a mixed method approach to research. In terms of our earlier debate, the project acknowledged that some aspects of challenging behaviour are objectively measurable in terms of, for example, whether a particular observable behaviour has occurred or not. Looking at our research from this point of view, it seems that elements of it can fall within the objective view of reality. However, much of our research falls within a more interpretative framework. Even the question of how often a behaviour occurs is interpretative as we rely on teachers', pupils' and parents' perceptions of how often it takes place, which is in itself often based on an interpretation. The interpretative view comes even more to the fore when we consider questions like the causes and consequences of behaviour. To say that such research is based on people's interpretation of their reality is not to make it less powerful but we do need to be aware that it is an interpretation.

We have outlined our objectives in the Working Together Project. What research tools were used to meet these objectives?

Questionnaires

Questionnaires were used to survey teachers and pupils within the school. Questionnaires have the advantage of reaching more people within the school community (De Vaus, 2002). In order to get a broad picture of behaviour across the school we constructed a teacher and a child questionnaire. The questionnaires asked for teachers' and children's views on the frequency of challenging behaviour, on the seriousness of behaviours commonly seen as challenging, the reasons for such behaviours and the responses made to such behaviours. Constructing a questionnaire for children was especially challenging. Following consultation with school staff on the appropriate literacy levels required for the questionnaire it was decided to distribute the questionnaire to children between 4th and 6th class. A member of the project team distributed the questionnaire to the children and read through each question with the children. This was a time-consuming way to distribute the questionnaire but was necessary in order to ensure that children could understand the questions that were asked.

Checklists

We designed a checklist to measure the behaviour of children within a class. The checklist required the teacher to consider each child and to say how frequently that child engaged in a list of behaviours. Once again, the interpretative nature of these checklists needs to be acknowledged. Such checklists generally ask teachers to comment on whether a behaviour happens frequently, often or seldom. These general descriptors are open to interpretation. Is once a fortnight often or frequently? We tried to overcome this issue by being more specific about our interpretation. Thus participants were asked to comment on whether a behaviour occurred 'Most of the time, includes more that once a day', 'Often e.g. weekly', 'Occasionally, e.g. once or twice a month' or 'Seldom/ Never'.

Observations

In order to get a sense of the life of children at school, the researchers observed a number of children, in class and in the yard. These children were selected on the basis of checklists to represent children, whose behaviour was considered very challenging, moderately challenging and not challenging. Observations were conducted during structured and non-structured activities and the researchers recorded the child's behaviour in 2 minute intervals including interactions they had with other children and with their teacher. These observations were used to give the researchers an insight into the behaviour and social world of the children who would be participants in interviews and focus groups.

Interviews

Questionnaires have the benefit of reaching larger numbers of people but have the limitation of not allowing for nuances or clarification of meaning. Individual interviews have the benefit of allowing for clarifications and discussions between the interviewer and interviewee (Silverman, 2001). At the early stages of our research we conducted individual interviews with parents, children and teachers. In the children's interviews props such as drawings or pictures were used. These acted as a stimulus for children's comments and gave the children a concrete activity in which to engage.

Focus Groups

Later in our research we used focus groups. Focus groups allow for the views of a number of people to be explored at once and are thus more time efficient than interviews. The researcher, however, controls the topic of the focus group more than they do in individual interviews. Individual views cannot be explored in depth in a focus group. Focus groups were particularly useful in our project because they allowed us to explore different interpretations of behaviour and behavioural interventions. The exchange of views within the focus group gave us, as researchers, a better insight into group and organisational dynamics within schools. The discussion that ensues in a focus group also helps individuals in the group to clarify their own meanings and it is not unusual for people to change their opinions in the course of the focus group. From the children's point of view, the focus group provided a safer environment in which children could put their views forward and provide a valuable complement to individual interviews (Morgan, Gibbs, Maxwell and Britten, 2002). Once again focussed activities were provided, e.g., discussion of a photograph or picture depicting a challenging behaviour. Focus groups with children also provided the researchers with the challenge of managing a group of children. Guidelines for expected behaviour within the group had to be explored at the beginning of each group. The researchers discussed with the children what would happen if the group became disruptive. In some cases, focus groups were rescheduled to a time when the children were more settled and better able to give their attention to the

group. Focus groups with children cannot be too long and care needs to be taken that quieter members of the group get the chance to give their opinions. Incidentally, the same applies in adult groups!

Monitoring of individual behaviour

A combination of the methods described above was used to assess the effectiveness of interventions taken at a whole-school and class level. Interventions were also undertaken on an individual and small-group level. Once again interviews with participants in these interventions were used to assess their effectiveness. In designing interventions for individual children, however, systematic assessment of behaviour was employed, in particular, systematic gathering of baseline data around a specific behaviour, e.g., getting out of one's seat. Teachers were asked to monitor how often this behaviour occurred, what preceded it and what happened after that behaviour. This kind of systematic information-gathering is part of the applied behavioural analysis approach but is central to planning any behavioural intervention and in measuring its effectiveness.

Lessons learned and some direction for schools

The first lesson learned from the Working Together project was that even the process of designing research within a school is productive as it raises issues about school life. For example, if we are going to administer a questionnaire, to whom should it be administered? Should it include Special Needs Assistants, learning support and resource teachers or just classroom teachers? In our case, deciding to distribute the questionnaire to each of these groups raised awareness that behaviour is an issue for everyone in the school. For schools research should begin with an issue of concern. Starting from this point is part of the action research tradition, which involves systematically examining our practice, making changes and then systematically evaluating the effect of that change (McNiff, Lomax and Whitehead, 2003). Before embarking on data-gathering schools need to be clear about what exactly they are trying to measure. Thus, the initial period of research involves clarifying meaning and objectives.

Before embarking on such research consideration will have to be given to a number of ethical issues. To what use will the research results be put? Participants should be made aware of the purpose of the research, the format in which results will be reported and the audience for those results. Consideration needs to be given to what will be done with the research information. Will the views of parents, for example, be taken into account in the school in reforming school practice? Research participants can become disillusioned if their views are canvassed but not acted upon. Indeed in the case of children, McCauley and Brattman, 2002 warn that 'A tokenistic approach to consultation is worse than not doing it at all and is likely to be counterproductive' (p. 13).

Parents need to give their consent for the interviewing of children. In the Working Together project great care was taken to explain the purpose of the

research and the activities in which children would be engaged in simple, everyday language. Adult participants were asked to review reports of interviews and focus groups before those reports were disseminated. The issue of obtaining informed consent from children to participate in research is fraught. Researchers should take care to explain the research to children as carefully as they can in language that is understandable to the child (Society for Research in Child Development, 2007). Any limits that there might be on the confidentiality of the interaction between researcher and child should be explained, without causing undue alarm. For example, in our research we explained to children that if there was something that was bothering them or that they might need help with, we would talk to them about that and then we might talk to the principal or their parent/guardian. Even if children consent to take part in the research, the researcher should be very aware of any non-verbal cues that indicate that the child is uncomfortable and would rather not continue. Teachers who engage in research need to be especially careful as to how they work with children as research participants to ensure that they do not abuse their authority as teachers.

Systematic information-gathering techniques can be usefully used by schools to gather the information they need to make decisions. Each of the research techniques used within the Working Together project can be used by schools to examine their practice. While it is possible to design a questionnaire for distribution to young children the results need to be interpreted very carefully and we need to be aware of who is distributing it. Interviews with young children are better held in pairs and researchers need to be prepared to manage behaviour in groups. Simple questionnaires, for example, get schools beyond general statements of 'what everyone thinks' that have no foundation. The act of designing a questionnaire also requires clarification of meaning which is useful.

Focus group discussions are useful within a school in order to discuss issues and air alternative views. Focus groups should have a focus – a particular topic to be discussed. Focus groups can be particularly useful with groups of children and with parents. The difficulty that emerges for the school is making sure that the facilitator of the group is seen as open enough that views can be expressed frankly. Questionnaires might provide an alternative for sensitive information. Systematic information-gathering techniques can help to bring clarity around issues that have an objective dimension, e.g., how often something occurs. Simple counting of a behaviour could, for example, establish just how many children arrive late on a particular morning, or how much disruption is caused by an event.

Monitoring and careful data-gathering is essential in the case of individual interventions. It is best if such interventions are not begun on the basis of impressions. Beginning like this increases the risk of starting off on the wrong

track. Furthermore, since behavioural change tends to be slow and incremental, starting without an adequate baseline means that success will be missed. I will not know that I have achieved a small change unless I know what the situation was like initially.

Of all the methods used, observation was probably the most illuminating for the researchers, who were not teachers in the school. It would be a very useful experience for any teacher to take ten minutes and observe one of the children in his/her class. Such observations tell us a great deal about the social world of the classroom. Perhaps teachers could arrange such brief observation periods while a colleague directed their class in an activity or indeed at breaktime.

Conclusions

Teachers and schools can engage with the world of research in order to understand published research and also to understand their own situation. Research takes time and does not bring with it magic solutions. Teachers in our study were often impatient with the time it took to analyse our results and also with the complex picture those results painted. Nonetheless, school is a complex social world. Examining this world systematically allows us to make sense of it and to base our decision-making on firm foundations.

Did my engagement in Working Together help me to work with my students as described at the beginning of this article? Undoubtedly, it did. Not only because of the behaviour management lessons I learned from the teachers who participated in the project and the professional development opportunities presented by the project but also by the results of the research process. I learned about the issues that were important to parents, teachers and children. I was also challenged to make my research relevant and useful to those who took part. School and university can seem to worlds apart. If research in schools is to be effective in contributing to our educational knowledge and practice, the responsibility is on teachers and researchers as professionals to develop shared understandings and research agenda (Matoba, Shibata, Reza and Arani, 2007). This process if often frustrating and discouraging but it is worth it for the learning it brings.

In the course of my engagement with the Working Together project I learned about what works in classrooms from the real experts, the children themselves. Research offers us a golden opportunity to gain insight into the opinions, hopes and dreams of the children who participate in our educational system and their parents. For too long, educational research has focussed on the interpretations and understandings of teachers, partly, because its easier to do so. We are now faced, however, with the challenge of opening our eyes and ears to children, whose welfare, is after all, supposed to be the whole point.

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Motivation and Literacy – why academic motivation declines in adolescent years and strategies for improving it.

Catherine Flanagan

'Motivation is recognised as a crucial element in all learning'
Csikszentmihalyi, 1990

Introduction
This paper examines how and why the academic motivation of all, but particularly struggling readers, diminishes as they move up through school. It includes a discussion on methods identified by the research community with potential for improving student motivation for reading.

Student Motivation to Learn
In general terms, student motivation refers to 'a student's willingness, need, desire and compulsion to participate in, and be successful in, the learning process' (Bomia, Beluzo, Demeester, Elander, Johnson and Sheldon, 1997:1). Skinner and Belmont (1991:3) develop the definition further, noting that students who are motivated to engage in school

> 'select tasks at the border of their competencies, initiate action when given the opportunity, and exert intense effort and concentration in the implementation of learning tasks; they show generally positive emotions during ongoing action, including enthusiasm, optimism, curiosity and interest'.

Less motivated students ' are passive; do not try hard, and give up easily in the face of challenges' (Skinner and Belmont, 1991:4).

Student motivation is often divided into two categories
- Extrinsic motivation
- Intrinsic motivation

Extrinsic motivation
A student who is extrinsically motivated engages in learning 'purely for the sake of attaining a reward or for avoiding some punishment' (Dev, 1997:13).

Intrinsic motivation

Intrinsically motivated students actively engage in learning out of curiosity, interest or enjoyment or in order to achieve their own intellectual and personal goals (Brooks, Freiburger, and Grotheer, 1998). According to Dev (1997: 13) an intrinsically motivated student 'will not need any type of reward or incentive to complete a task'.

While any kind of motivation seems preferable to none, there is compelling evidence to suggest that students who are more intrinsically than extrinsically motivated fare better (Brooks et al., 1998; Lumsden, 1994). Most researchers believe that the task-mastery goal is more likely to foster long-term engagement and learning than the performance goal, especially when the performance goal emphasizes failure (Ames, 1992, Maehr and Midgley, 1996). In fact, some research demonstrates that using extrinsic motivators to engage students in learning can both lower achievement and negatively affect student motivation (Dev, 1997; Lumsden, 1994).

Some researchers object to describing motivation as either intrinsic or extrinsic. Sternberg and Lubart (as cited in Strong, Silver, andTuculescu, 2002) argue that most successful people are motivated by both internal and external factors, and suggest that teachers build on *both* types when working to engage students more fully in school.

Teachers beliefs about motivation

The value teachers place on motivation is supported by a robust research literature that documents the link between motivation and achievement (Elley, 1992; Gambrell and Morrow, 1995; Guthrie, 1996; Purves and Beech, 1972; Wixon and Lipson, 1991)

According to Westwood (2003:12) many teachers believe motivation to be 'an innate trait of learners, rather than a variable that is significantly influenced by outside factors'. On this issue Galloway, Rogers, Armstrong and Leo (1998:17) have remarked 'Too often motivation is seen as a characteristic of pupils, perhaps not quite as unchanging as age or eye colour, but nevertheless firmly embedded in their make-up'. Galloway, et al., argue that it is the product of an interaction between pupils and the varying situations in which they find themselves at school. For many students with learning difficulties the problem is certainly not an innate lack of motivation but rather a marked reluctance to take risks or make any new commitment in a learning situation (Covington and Teel, 1996). Work by Barr (1974) shows that the approaches adopted by teachers has a strong influence on the strategies used by children. He noted that the natural strengths of the learner are often ignored by teachers. Shaw and Hawes (1998) point out that teachers tend to teach in a way that suits their own learning styles and not necessarily that of their students. Approaches to teaching literacy, they argue, should take into account the individual profile of a learner's development, especially for students with learning difficulties.

Motivation and Literacy
"Motivation is an integral component of reading instruction' (Gambrell, Palmer, Codling and Mazzoni, 1996). It is well recognized that motivation is at the heart of many of the pervasive problems faced by post-primary teachers in teaching students to become skilled readers.

Self-efficacy is a construct synonymous with confidence and refers to 'a person's judgment about his/her capability to perform a task at a specified level of performance' (Seifert, 2004). Students who are not confident or perceive themselves incapable may avoid tasks that are seen as challenging or difficult (Schunk, 1984,1985; Bandura, 1993).

Schunk and Zimmerman (1997) reviewed research showing that students with high self-efficacy see difficult reading tasks as challenging and work diligently to master them, using their cognitive strategies productively. High motivation to read is associated with positive self-concept and high value assignment, while low motivation is associated with poor self-concept and low value assignment.. (Ford, 1992; Henk and Melnick, 1995).

According to Pressley (1998; 228-229) other facets of student motivation that can affect reading include:

- Reading challenge: how challenging a book is for a reader at a particular competence level can impact on whether the book will be read.

- Reading curiosity: students are more likely to read about topics that are interesting to them

- Importance of reading: recognition that reading is important can affect motivation to read and to be a good reader.

- Social reasons for reading: opportunities to read with family and friends can affect motivation to read.

Academic motivation in Fifth and Sixth Class Primary School
Research shows that intrinsic motivation often declines during the latter years of primary school (Eccles, 1993; Harter, 1990; Stipek, 1996). Academically, lower primary school children believe they can do anything. In contrast, students in higher classes in primary school are much less confident that they will meet teacher and parent expectations with respect to academic achievement. They are more aware of their failures than their successes (Kloosterman, 1988) The weaker the student the more pessimistic the self-appraisal and the less enthused the student is about academic activities (Renick and Harter, 1989). McKenna, Ellsworth and Kear (1995) have clearly documented the declines in student attitudes about reading in upper primary school grades across the United States. They discovered a number of contributing factors.

In early years of primary school students equate success with effort but in latter years they explain successes and failures more in terms of ability than effort. Successes are considered to be indicators of high ability and failures low ability (Pressley 1998: 232). That students in the adolescent years increasingly believe their failures are due to low ability probably goes far in explaining their decreasing motivation to tackle academic tasks. Thus the older the struggling reader the more the struggle will be 'interpreted as reflecting low ability with the child unmotivated to learn to read' (Pressley 1998:233). Students with learning difficulties are much more likely than their normally achieving classmates to believe that their academic performances are determined by ability (Jacobsen, Lowery and Ducette, 1986; Pearl, 1982). A student's continued failures lead to negative effect and decreasing expectancies for future success (Covington and Teel, 1996). Learned helplessness – a belief that nothing one does can lead to success – develops in such a situation (Dweck, 1987).

"Intrinsic motivation is killed off by academic failures' (Pressley, 1988:237). An important reason that such failures are more devastating in the adolescent years is that competition between students accelerates during these years. Competitive classrooms foster the attribution that ability is what matters (McKenna et al., 1995). Pressley (1998) suggests that greater academic motivation and more sophisticated reading occur in classrooms where students are graded on improvement rather than in comparison to other students.

Research shows that young children compare the tangible goodies they have with those of another child, but tend not to compare with respect to psychological characteristics such as intelligence, reading ability or prior knowledge (Ruble, Boggiano, Feldman and Loebl, 1980). With increasing age, however, students become concerned with their academic standing relative to others (Ruble, 1983). Again, because surrounding most students there will be more capable others, the increasing focus on comparisons magnifies potential for leading to negative conclusions about one's own ability. Such conclusions can then translate into reduced motivation to achieve (Pressley, 1998).

Students who receive learning support are acutely aware that it is because their level of attainment is not equal to their classmates. This may contribute to a decline in motivation and confidence, perceiving that they are not as good as others.

Increasing Student Motivation for Literacy
The research community has identified a variety of methods with the potential for increasing student motivation for reading. These include:

- **Attribution Retraining**
  Pressley (1998:255) suggests that students should be encouraged to attribute their successes to expending appropriate effort and their

failure to lack of effort. He claims that this principle is as important for good students as it is for weak ones. Attributing success to high ability provides no motivation for trying hard. If the weaker student believes that failure is due to low ability then there is no incentive to believe that effort will matter. Students should be encouraged to believe that intelligence is not innate and fixed, but rather ever changing (Dweck, 1987). People who believe the incremental theory of intelligence have greater reason to try hard than those who apply an entity perspective on intelligence. According to Pressley (1998:225) students should be encouraged to interpret failures as a natural part of learning rather than believing that failures reflect low ability.

- **Assuring Student Success**
  To remain motivated students must experience success and in the words of Pressley 'perceive that they are successful' (2002:290). This can be achieved by ensuring that students are attempting tasks that are within their reach. 'Tasks are motivating when they are appropriately challenging, rather than too easy or too hard' (Pressley, 1998:254)

- **Providing Autonomy Support**
  This refers to the teacher's guidance in helping students make choices in texts and tasks to attain the knowledge and learning goals. (Guthrie, 2000). Not only is providing choice a prominent practice among reading teachers(Baumann, Hoffman, Moon and Duffy-Hexter, 1998) but studies of teachers' beliefs about motivation in general (Nolen and Nichols, 1984) , and reading specifically (Sweet, Guthrie, and Ng, 1998), reveal that they believe students need choice to develop independence. Turner (1995) found that teachers, successful at motivating students, often provide choices during a lesson – students choose both the reading material and the instructional sequence. When students are supported in choosing from a wide selection of texts, sustained reading and measured achievement increase (Morrow, 1996). Choice is motivating because it affords students with control. Students' need for self-direction can be met in reading instruction through well-designed choices (Guthrie, 2000).

- **Scaffolding Student Learning (Strategy Instruction)**
  Strategy instruction 'involves the explicit teaching of behaviours that enable students to acquire relevant knowledge from texts' (Guthrie, 2000). Explicit instruction includes teacher modelling, scaffolding, and coaching, with direct explanation for why strategies are valuable and how and when to use them (Duffy, Roehler, Sivan, Rackliffe, Book, Meloth, Vavrus, Wesselman, Putnam and Bassiri, 1987; Paris,

Wasik and Turner, 1991). Fundamental to most theories of intrinsically motivated learning is self-perceived competence (Bandura, 1997; Deci and Ryan, 1987; Harter, 1990). In the domain of reading, students are given a sense of self-perceived competence when they are taught strategies for learning from text (Pressley, 1997). Students can scaffold one another by cooperating and interacting over literacy tasks – discussing books worth reading, helping one another with difficult words during paired reading (Pressley, 1998:255).

- **Praise and Rewards**
  'Providing praise and rewards is a pervasive strategy for encouraging effort and attention' (Guthrie; 2000). Wlodkowski (1985) suggests that praise should be "3S – 3P": praise that is sincere, specific, sufficient, and properly given for praiseworthy success in the manner preferred by the learner'. If students interpret praise as manipulative, their motivation may decline because they feel they are being treated as objects (Flint, Boggiano, main, Barret and Katz, 1992). However, 'when praise is sincerely given, and interpreted as recognition of achievement, it can increase students' self-perceived competence and motivation' (Guthrie and Wigfield, 2000:414).

Conclusion

Academic motivation declines from the onset of schooling through secondary school. Declines in enthusiasm for and interest in reading parallel the general developmental decline in academic motivation (Pressley, 1998:257). Johnson and Johnson (2005) believe that teachers should promote co-operative learning environments wherein students work together to accomplish shared goals. They present evidence to show that higher levels of motivation to learn occur for all ability students when they interact together. The richness of the educational experience is improved for all students when they are active participants in a mutually supportive environment. Teachers sometimes believe that to be effective they have to control the learning environment particularly for students with learning difficulties. Once sufficient guidance is given teachers should not be afraid to give students more control over their own learning and not restrict the opportunity for them to become autonomous learners

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Catherine Flanagan has been a mainstream teacher of Mathematics and Chemistry for many years in Salesian Secondary College, Pallaskenry, Co Limerick. Her extensive experience of teaching mixed ability students nurtured in her a considerable interest in the Special Educational Needs/Learning Support area. When the opportunity arose in her school she completed the Grad Dip in Learning Support Education followed by a Masters in Learning Support Education (Mary Immaculate College, Limerick). She is currently involved in Learning Support/Resource teaching. Her special area of interest is in developing classroom environments that foster the attribution that effort is what matters.

Including Children with Dyspraxia/DCD in Irish Primary Schools

Catherine Sweeney

Inclusion is a value system which holds that all students are entitled to equal access to learning, achievement and the pursuit of excellence in all aspects of their education. The practice of inclusion transcends the idea of physical location and incorporates basic values that promote participation, friendship and interaction (NCSE, 2006, p.2).

Dyspraxia is one of an increasing number of recognized hidden disabilities, and the fact that it is hidden brings with it a whole set of challenges and difficulties.…In order to become truly inclusive there is a great deal of work to be done (Dixon and Addy, 2004, p. 55).

The combination of the above two excerpts (Guidelines on the Individual Plan Process, 2006; Making Inclusion Work for Children with Dyspraxia: Practical Strategies for Teachers, 2004) reflects the challenges of implementing good inclusive practice for children with dyspraxia/DCD in Irish Primary Schools.

This paper summarises research based good practice to support children with the complex disorder of dyspraxia/DCD in Irish Primary Schools. The suggestions are based on wide ranging relevant research literature and also on findings of the first survey of both parents of children with dyspraxia/DCD and Resource and Learning Support Teachers in Irish Primary Schools. (Sweeney, 2006).

"Promoting Dyslexia and Dyspraxia Friendly Schools" is a project to promote good inclusive practice in County Durham in the UK (Coffield and O'Neill, 2004). Key elements in their inclusive policy framework for schools/management are publishing a SEN policy and working closely with parents/carers. Appropriate training ensures that teachers and all staff have a knowledge of appropriate strategies to facilitate curriculum access and have high expectations for children with SpLD. ICT training is provided and children are encouraged to become independent learners, involved in planning/monitoring their own progress. Effective communication and record keeping for all key stages is encouraged. This framework appears to compare well with key elements listed in Irish inclusive education legislation and DES policies.

The Irish Government has enacted the Education for People with Special Education Needs Act (EPSEN Act, 2004) which clearly defines inclusive practice for children with Special Education Needs (SEN) in Ireland. The National Council for Special Education (NCSE) was established together with the Special Appeals Board to administer SEN provision nationwide as endorsed in the EPSEN Act (2004). The Department of Education and Science (DES) has supported government policies on inclusion. It has guided and supported schools by issuing circulars, reports and Curriculum Guidelines. The most notable of the circulars is Special Education Circular (SP ED, 02/05), which "is intended to make possible the development of the truly inclusive schools". Teacher knowledge about dyspraxia/DCD is of critical importance for good inclusive practice (Dixon and Addy, 2004; Portwood, 2005). However, in the survey of Sweeney (2006) only 63.2% of RT and LS Teacher respondents reported being knowledgeable about dyspraxia/DCD and only 7.9% reported having very good knowledge of dyspraxia/DCD. RT and LS Teachers are considered the experts in SEN within the school community to support Class Teachers and parents (NCCA, 2000: SP ED, 02/05).

Dyspraxia is also known as Developmental Co-ordination Disorder (DCD) and for the purpose of this paper both terms will be used. While DCD is the official term used in international research literature, dyspraxia is the name commonly used in the UK, Ireland and Australia. Dyspraxia is the term used by the Department of Health and Children and the Department of Education and Science in Ireland who list it as a physical and sensory disability.

Dyspraxia/DCD is often called a hidden disability because it is difficult to identify as most children with the disorder have average or above IQ average ability levels (Kirby and Drew, 2003).

Reid (2005) suggests that it is more useful to focus on the individual profile of the child with dyspraxia/DCD that relate to 'barriers to their learning' rather than on their condition. These children may begin Primary School lagging a number of years behind their peers in gross and fine motor skills, perception, speech and language, thinking skills and social skills (Dixon and Addy, 2004).

Confusion about a definition exists because "the literature describing dyspraxia/DCD includes wide ranging terminology and criteria" (Portwood, 2005, p.153). In support, Missiuna and Polatjko (1995) say that the various assessing professionals such as Neurologists, Pediatricians, Occupational Therapists, Physiotherapists and Psychologists all have their preferred labels for defining the same condition. Neither is there a consensus on whether dyspraxia is the same as DCD (Dyspraxia Foundation UK, 2006) or is a sub-type of DCD (Dixon and Addy, 2004) but both terms are commonly used for the disorder (Grant, 2005).

The definition given in the Diagnostic and Statistical Manual of Mental Disorders (DSM IV: 1994) uses the term "Developmental Coordination Disorder (DCD)" and lists four criteria for diagnosis:

Criterion A: There is a marked impairment in the development of motor coordination

Criterion B: The diagnosis is made only if the impairment significantly interferes with the academic achievement or activities in daily living

Criterion C: The diagnosis is made if the coordination difficulties are not due to a medical condition (e.g.Cerebral Palsy, Hemiplegia or Muscular Dysprophy) and does not include Pervasive Developmental Disorder

Criterion D: If mental retardation is present, the motor difficulties are in excess of those usually associated with it.

(American Psychiatric Association, 1994, p. 53-55).

The Dyspraxia Association of Ireland (DAI, 2005) uses the term dyspraxia including DCD. Its definition states, "some children despite adequate teaching, a stimulating environment and with a generally normal intellect have difficulty with movement and specific aspects of learning". Children with dyspraxia/DCD may also "have difficulty with thinking out, planning and carrying out sensory and motor tasks". Unlike the definition of DSM IV (1994) the definition of the DAI emphasises the thinking and planning difficulties as well as sensory and motor tasks of children with dyspraxia/DCD.

Increasingly, dyspraxia/DCD is defined as a Specific Learning Disability (SpLD). Portwood (2000, p.6) identified SpLDs as "particular academic skill areas that have failed to develop as expected given the child's intellectual ability and educational experience". Poustie et al (1997, p.47) state that "dyspraxia is a specific learning difficulty in gross and fine motor planning which is not caused by muscle/nerve damage". Reid (2005, p.8) says that "it is important to recognise that SpLD can be seen as a spectrum of overlapping difficulties".

There are no official statistics of prevalence of dyspraxia/DCD available in Ireland. But, the Dyspraxia Association of Ireland (DAI, 2005) suggests 6% prevalence rates for children in Ireland**.** These percentages of prevalence have significant educational implications with the figures suggesting that there is one child with dyspraxia/DCD in the average class (Portwood, 2000). High overlap rates with other conditions in the SpLD spectrum also complicate the measurement of the prevalence of dyspraxia/DCD which Kaplan (2005) says "is the rule rather than the exception". In the Irish research of Sweeney (2006) about a third of the children with dyspraxia/DCD were diagnosed with another SpLD. The highest overlap was with Specific Speech and Language Disorder (SSLD). This is not surprising, as about 50% of children with dyspraxia/DCD

"will have some oral and/or verbal dyspraxia as a component of their motor profile" (Ripley, 2001, p.33).

More boys than girls have dyspraxia/DCD as shown by statistics on gender ratios. In the UK boy/girl ratios of 4 to 1 are suggested (Kirby and Drew, 2003). This contrasts with a boy/girl ratio of 2.3:1 in the Irish survey of parents of children with dyspraxia/DCD (Sweeney, 2006). However, Grant (2005) questions the accepted unequal gender ratios because many girls are not identified until they are adults.

Gubbay (1975) found that there was a family history in 21% of a group of children with dyspraxia/DCD (Cermak et al, 2002). However, in the DAI parent research of Sweeney (2007) 18.6% reported having family members with the disorder. Also, 32.5% of them reported family members with dyslexia.

Researchers of dyspraxia/DCD acknowledge that there is no single cause for the disorder. The causes are thought to include a number of interdependent factors including neurological, genetic, hereditary, nutritional and environmental influences (Kirby and Drew, 2003; Portwood, 2000, 2005; Ripley et al, 1997; Richardson, 2005). In the research of Sweeney (2006) 46.6% of the parents surveyed reported illness or concerns during pregnancy. In addition, 25.5% reported premature births and 41.9% reported birth difficulties. Also, 67.5% of the children with dyspraxia/DCD experienced health difficulties during their first year.

55.8% of DAI parents said that their children with dyspraxia/DCD either had delayed or did not reach normal stages of development. Significantly, 46.5% of their babies did not crawl (Sweeney, 2006). These reflect the research of Macintrye (2001) and Ripley et al (1999). Also, some parents reported the retention of primary reflexes beyond the first year. These can affect development of balance, motor control, oculo-motor functioning and perception (Goddard Blythe, 2003).

In Irish Primary Schools whole school planning and early identification and intervention is the policy of the DES with a staged approach to identify all children with SEN and to provide suitable provision for them (DES, Circulars SP Ed, 24-03; 02-05; NEPs, 2007). At Stage 1, Class Teachers may identify children's difficulties with the help of checklists and developmental profiles such as those of (Addy, 2003; Jones, 2005 and Portwood, 2000). A short support plan is devised and delivered preferably with the support of the children's parents. If the children's difficulties are not resolved after a number of reviews they may move to Stage 2 of the assessment process.

Children who are identified with mild characteristics of dyspraxia/DCD will also be included in Stage 2 of the assessment process. They will be referred to

RT/LS Teacher/s for supplementary teaching. The school will seek a formal assessment for children who have more severe characteristics of dyspraxia/DCD.

Children who are formally diagnosed with dyspraxia will be listed at Stage 3 and entitled to 3 hours additional RT hours. A multi-disciplinary team is seen as the best way to assess the overall difficulties of the child (Jones, 2005). An in-depth profile of the child is assembled through parent, teacher and child interviews coupled with results of informal and formal school assessments. Formal Assessment is usually requested from an Educational Psychologist (EP), Occupational Therapist (OT) Physiotherapist, Speech and Language Therapist (SLT).

Most children with the disorder have average or above IQ average ability levels (Kirby and Drew, 2003). Similarly, the DAI parent survey showed that 18.6% of the children had high average ability and a total of 58.2% were reported in the average or low average ability range (Sweeney, 2006). Reid (2005) recommends differentiating teaching and learning as an effective strategy to remove the barriers to curriculum access of children with dyspraxia/DCD. Differentiation could also address the needs of gifted children (Kerry and Kerry 1997 cited by Westwood, P. 2003, p.203). The use of ICT is seen as being particularly useful in differentiation (NCCA, 2002, p.20).

It is recommended to assess all children's gross motor skills in infant classes. Also, it is useful to deliver motivating and structured motor skills' programmes as class lessons for all learners. Further, collaboration with OT, Physiotherapist, parents and teachers with parents and teachers facilitates successful motor skill intervention programmes for children with dyspraxia/DCD (Mc Garry, 2005). Some OTs employed by Enable Ireland deliver the CoSMo programme (Enable Ireland, 2003). Using lighter balls or balloons, pairing up weak and strong catchers can help ball skills. Wrestling, pushing, pulling, carrying everyday objects that have extra weight added to increase resistance, may help strengthen hips and shoulders and movement control in gross motor skills (DAI, 2004; Kirby, 2006). The content of the 6 strands in the PE curriculum (NCCA, 1999) may be adapted to include children with dyspraxia/DCD. Many of these children may excel at individual sports especially swimming. In addition, adapting PE equipment, varying speed direction and activities can support children with dyspraxia/DCD to improve balance and co-ordination (Ripley, 2001). Other strategies include small group work, well-planned lessons introducing new skills in small steps, individual progress records and a quiet wind down time prior to returning to class (Hull Learning Services, 2006).

A partnership of assessment and intervention is often a crucial strategy to help children to understand their fine motor difficulties and suggest a solution (Henderson, 2005). To support the fine, scissors and handwriting skills motor

difficulties of children with dyspraxia/DCD, Jones (2005, p.43) recommends a "Tool Box" of "readily available resources". Included are play dough, threading beads, clothes pegs and lacing cards with a variety of types of scissors, card and paper of different thickness. In addition, Ripley (2001) suggests finger games, peg patterns, posting and pen and pencil activities. Kinaesthetic writing programmes are very useful (Theodescu and Addy, 1996 ; Addy, 2004). A Swedish Music and movement programme for the development of pre-writing and writing skills is being increasingly used in other European countries (Oussoren, 2000). Also, learning to write correctly with correct posture, writing slant, spacing and pencil grip, slanted writing surface, dycem to prevent paper slipping, ridged ruler, raised lined paper, hand hugger pens and pencils, graphite pencils, ball point and gel pens are considered helpful (Henderson, 2005; Jones, 2005). Culligan (2005) advises teaching a fluent cursive style from the early stages of writing development.

Children with dyspraxia/DCD having speech and language impairments will require one to one help from a Speech and Language Therapist (SLT). However, because of limited services, teachers may need to support the children's expressive and receptive language difficulties by integrating a programme devised by the SLT into the curriculum (Ripley, 2001, p.34). Strategies include teaching and constantly practising vocabulary and language needed for daily school activities and instructions. Ripley (2001) also recommends the use of visual representations that "do not fade like the spoken word" such as "visual timetables, cue cards and flow diagrams". In addition, Addy (2003) suggests using gestures, spontaneous expression, sequencing games, fun raps, mimes, guessing games and chants to encourage variation in pitch, speed and intonation and singing rhymes to develop verbal rhythm.

Many children with dyspraxia/DCD present with a Non-verbal Learning Difficulty (NLD) profile but they do not need special teaching. Effective teaching strategies could apply to all learners grouped by their learning styles (Portwood, 2005). They may have strengths in verbal, visual and kinaesthetic learning styles and like to work in a detailed methodical way (Chinn and Ashcroft, Kirby and Drew, 2003; Reid, 2005). Difficulties in visual perception of text are common in children with dyspraxia/DCD and the use of coloured overlays or print and background colours best suited to their individual needs may greatly help (Grant, 2005).

Strategies to support the children's cognitive characteristics include cross-age peer tutoring to improve both literacy and social skills (Barry, 2005). Mind mapping may improve comprehension, memory, and word recognition in literacy skills (Buzan, 2003; Portwood, 2000). 'Visualising and verbalising' techniques could improve comprehension and oral language skills (Bell, 1991). Other literacy strategies include: multisensory teaching methods, practical activities, wait time, ensuring that they understand the language for tasks, and

frequent repetition (Gardner, 1983; Kirby and Drew, 2003; NCCA, 2007; Westwood, 2003).

Many children with dyspraxia/DCD will present with difficulties in most areas of maths and some may even be considered to have co-morbid dyscalculia (Dixon and Addy, 2004; Yeo, 2003). Most of the research-based strategies are based on assessing the maths' learning style of the children and adapting multisensory teaching and learning to suit their needs (Dixon and Addy, 2004; Henderson, 1998; Yeo, 2003). Children with dyspraxia/DCD typically present with 'inchworms' type learning styles with a preference for analytical and clearly defined methodical ways of working (Chinn and Ashcroft, 1993).

Their poor number sense may be helped by clear organised instructions and use of discrete resources such as cubes, counters or adapted number lines (National Numeracy Strategy, 2001). However, spatial organisation may be their most significant difficulty that will affect many areas of maths including place value. Helpful strategies include: squared paper and assigning a square to each digit, providing a coloured line of direction for calculations and using specific colours for hundreds, tens and units (Dixon and Addy, 2004). Also, the understanding of the language of maths may be helped by a programme of Circle Time communication sessions (Nash and Lowe, 2004). Finally, ICT activities provide supportive interventions (NCTE, 2006).

The voice of the child with SEN, including dyspraxia/DCD, should be respected in decisions involving his/her educational provision (Cowne, 2003; Jones, 2005). The child with dyspraxia/DCD can give information on his/her difficulties and preferred learning styles that may suggest good inclusive teaching strategies (Addy, 2003).

79% of DAI parents said that their children had social and communication difficulties and 44.2% said that their children had been bullied at school (Sweeney, 2006). Most children with dyspraxia/DCD will benefit from intervention strategies to improve their social skills. Social Stories (Gray and Garand, 1993) are written "to describe a situation in terms of relevant cues and common responses". Others include a pragmatic social skills programme (Schroeder, 1996), Circle Time activities (Mosley, 2000), Strand Units in the SPHE Primary Curriculum (NCCA, 1999) and Guidelines for MLD (NCCA, 2007).

Strategies to support organisational and planning characteristics include adapting the classroom environment, having the child's table being at the correct height so that his/her feet would be flat on the floor and hips at 90 degrees when seated. The table could be positioned against a wall to assist with shoulder support. Clear pathways around the child's desk and suitable lighting to help visual sensitivity and a quiet corner where work could continue undisturbed are recommended (Dixon and Addy, 2004).

For children with Dyspraxia, ICT can play an important role in their education. Internationally, ICT is increasingly being used to enhance their learning. ICT has enormous potential to reduce learning difficulties and compensate for disabilities. ICT's can be used to integrate the pupil into the school and within the wider community (NCTE, 2006).

In addition, ICT can help children with dyspraxia/DCD in social skills, in word processing to support students with handwriting difficulties in the entire writing process, in work presentation, motivation and self-esteem. Also, ICT accommodates their differing learning styles, gives instant feedback and extra practice to master basic skills, is non judgemental and gives control of their learning (NCTE, 2006). Keates (2000) lists inexpensive low-tech ICT products to support the motor difficulties of children with SpLD including dyspraxia/DCD. Interactive Whiteboards (IWB) are popular in the USA and in the UK. However, to date, very few Irish schools "are exploring how these devices can open up new horizons in the business of teaching and learning" (O'Leary, 2006, p.43). Children with dyspraxia/DCD who have mobility problems can control the IWB from their seat. Also, mind mapping software such as graphic organizers can support comprehension, organizational, memory and thinking difficulties according to IARE (2003) that reviewed 29 scientifically based research studies (Inspiration Software, Inc, 2003).

The transition from Primary to Secondary School is very stressful for many children with dyspraxia/DCD and they need adequate planning to support them. Kirby and Drew (2003, p.87) state "that poor preparation can result in lasting damage throughout the secondary school days". According to the research of Sweeney (2006), 72.1% of DAI parents were worried about this transition. However, three quarters of parents and RT and LS teachers were in favour of transition planning but less than a quarter of schools in both surveys had a transition programme. The EPSEN Act (2004) puts an onus on Primary School Principals to collaborate with their 2nd level counterparts to support the transition of children with SEN. Useful strategies include preparation during two terms prior to transfer, wide assessment of the student's priority needs and regular liaison with Secondary School SEN team. In addition, information about the child's learning profile and effective inclusion strategies should be given. Also, getting a map, timetable of the new school and visiting the school is considered helpful. (Regan, 2003; The Dyspraxia/DCD Association, 2006; Special Education Support Service (SESS), 2007).

In conclusion, there is a dearth of research about dyspraxia/DCD in Ireland but it is hoped that this paper will add to the body of knowledge about this complex disorder. Children with dyspraxia/DCD are a heterogeneous group. Therefore, whole school planning, teacher knowledge, parental involvement, holistic individual assessment and research-based interventions are crucial. However, transferring this vision of inclusion to good inclusive practice in Irish Primary

Schools requires teachers to have a "state of mind that really requires an attitude of motivation and acceptance" (Dixon and Addy, 2004, p.55).

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A Rough Guide to Reading Partners – A cross-age, peer tutoring approach

Mary Nugent

Introduction
Schools continue to be concerned to meet the needs of students with reading difficulties and identifying and implementing effective interventions is a key issue. Peer tutoring is known to be effective form of learning, highly cost effective, easily established and durable in its organisation, (see Topping and Ehly 1998). It has a well-established history of success (see Goodlad, 1996). There are extensive, large sample, controlled experiments which record excellent gains for participants in paired reading programmes (see Brooks 2002). Topping (2001) reports,

> '*The general picture in published studies is that paired readers progress at about 4.2 times the 'normal' rates in reading accuracy during the initial period of commitment. Follow-up studies indicate that gains are sustained and do not 'wash out' over time'.*

In relation to the development of reading skills, peer tutoring has been found to improve the reading ability of both the tutee and the tutor, (Winter 1996, Topping 1998). There is also extensive evidence of improved social behaviours for both tutees and tutors, including more positive attitudes to other students, better school attendance and improved self-esteem and social confidence. These gains are also seen when students involved in peer tutoring have learning difficulties, whether they participate as tutees or a tutors (Nugent 2001). This article provides a rough guide to organising such a system in schools and is based on my experience of developing this approach in Irish schools, including primary, secondary and special schools.

The Reading Partner Scheme
The programme set out here is described as a Reading Partners Scheme. It is a cross-aged peer tutoring approach, in that the tutor would normally be at least two years older than the tutee. It is possible to run such a programme in mainstream primary or secondary schools, or indeed in a special school setting. Schools are encouraged to select children with literacy difficulties to participate in the scheme both as tutors and tutees. The emphasis is on the importance of the partnership being egalitarian. Although the terms **tutor** and **tutee** are preferred in the academic literature, I prefer the terms **helper** and **learner,** as students can easily understand these terms.

Participation in a reading Partners Scheme should have a number of benefits;

- increased reading skill of learners and of helpers
- increasing confidence and self-esteem of helpers
- creating a positive attitude to reading for both parties

Managing a Reading Partner Scheme
Research suggests that, compared to other reading intervention projects, peer tutoring is more cost effective and not unduly demanding of resources, including staff resources, Topping and Ehly (1998). Nonetheless it would be naive to expect such a project to be established without time and commitment from a co-ordinating individual, and from classroom teachers and school leadership. In order for a Reading Partners scheme to be successful, a named teacher must have overall responsibility for co-ordinating the programme, and this will need some time allocation. This can be a learning support/resource teacher or can be another member of the school staff who can give some time and energy to the project.

Who should participate in such a scheme?
Reading interventions normally target those who need additional help with reading and the Reading Partner Scheme certainly targets this group, but may also embrace other children. Schools may choose to target struggling readers, both as readers and as helpers, while others may be invited to participate in order to build their self-esteem or their social skills. Generally, identifying those who need extra help with reading can be done through the schools' own screening and through information from the class teachers, learning support/ resource teacher. Results of standardised reading tests can be helpful in clarifying levels of need. Participation in a reading partner scheme may be particularly suitable for children at Stages 1 and 2 of support (class based support or as part of a learning support intervention).

Attendance is a key issue and if a child has poor attendance, there needs to be some contingency in place to address the needs of the partner. For example, there could be a substitute helper/ learner available. It is with some reluctance I have to suggest that children with very poor attendance may not be suitable for this approach, as it is unfair to committed individuals to have an unreliable partner.

Models of partnerships that I have seen operate successfully include:

- Sixth class helpers working with younger learners
- Transition years students working with first years
- Older special school pupils working with younger special school pupils

Selecting Helpers
Students can be selected by learning support teachers, nominated by class teachers or can volunteer. I have found it easier to work with students who had volunteered for the scheme, or at the very least, had given consent for teachers to nominate them. In some settings (for example secondary schools) students can be asked to complete an application form to be allowed to train and operate as a reading partner. Transition year students may be able to use the scheme to obtain credit for the Gaisce awards. This is an extra incentive for participation and attendance.

It is important to note that helpers may have reading skills that would be considered delayed in comparison to the mainstream population, and some may even be weak in comparison to their own classroom peers. For example a fourteen-year old helper may only have a reading age of nine years. In fact this does not prove to be a difficulty if the helper and learner are carefully matched, with the learner having significantly weaker skills and the helper having at least enough expertise to be helpful to the learner.

When selecting 'helpers' it can be very beneficial for the helper group to include some children with advanced reading skills and/or high social status. This avoids the possibility that participation as a helper is seen as a negative stigma (the scheme is perceived as being for weak readers). This kind of mix confers a certain status on the scheme and is very important in the psychology of participation. A very successful way to engage weaker older readers in the scheme is to 'reframe' their difficulties. For example, while acknowledging that their own reading skills might not be perfect, it is an opportunity to value the work they have done. I usually say something along the lines of, '*You have made so much progress…are doing so well… and of course, you know what it's like for younger kids when reading is tricky… so you will be really understanding…*' This puts the helper in a positive role. It can be particularly beneficial to sixth class weak readers who may be ready to 'graduate' from a learning support setting and who need to build their confidence before transfer to secondary school. Participation in a reading partners scheme as a helper can have many social benefits for helpers. As Topping (1988) says, '*The tutors develop a sense of pride and accomplishment, and learn trust and responsibility*' (p3).

Matching Partners
There is some initial work in managing the logistics of matching partners. When matching partnerships, it is important to consider both chronological and reading ages. Ideally, there should be at least a two year gap on both, and often times the gap can be considerably greater. In fact, anecdotal evidence suggests that learners preferred their partners to be a number of years older, perhaps because this age difference legitimises the difference in reading ability. Same sex reading partners seemed to work best socially. There may also be factors of personality or social issues to be considered.

A Time, a Place and a Book
Reading partners need to have access to a range of books, including fiction and non-fiction and books with high interest and low reading age. These might be available in the leaner's classroom, in the school library or in a resource/learning support room. Partnerships should ideally meet three times per week or more. Meetings can happen during lunchtime, at designated times in the school day (such as immediately after lunch) or after school. Each meeting will need approximately 20 minutes. The model chosen in any one school will depend on the age and maturity of participants, constraints of the time table and availability of suitable space.

In my experience, a satisfying block of time for partners to meet might be for one term (approximately 3 months). This time-frame allows for a relationship to build up between the partners, but does not create an unlimited commitment. Autumn and Spring terms tend to work best, as the summer term can be disrupted by trips and visits and the alternative temptations available in good weather!

Training of Reading Partner Helpers
Many researchers into peer tutoring make the point that training is vital if peer tutoring is to be successful. (See Goodlad and Hirst 1990, Foot, Morgan and Shute 1990). Accordingly, helpers need to be trained. This can be done in a single session, delivered by a teacher in the school.

A typical training session might follow the outline below;

- Nominated helpers are invited in a group to a training session.
- They were complimented on their ability to read and praised for their assumed progress over the years.
- Students were also encouraged to reflect on what it had been like to learn to read.
- The scheme is briefly outlined and students are told very clearly that participation in the scheme involves a commitment, and their consent is sought before further training progresses.
- The three key tasks are then explained; to remember to go to appointed meeting place at the right time, to listen to a child read, to be friendly.
- The strategy of Pause, Prompt, Praise (outlined below) is explained.
- The process of using these strategies can be role played by adults.
- Helpers then have the opportunity to practice the skill with another helper.

Pause, Prompt, Praise is a simple approach suitable for use by peer tutors (see Wheldall 1995). The procedure involves the following simple steps:

- the child encounters an unfamiliar word;
- instead of stepping in immediately and giving the word, the teacher/tutor waits a few seconds for the child to work it out;
- if the child is not successful, the teacher/tutor prompts the child by suggesting he or she perhaps guess from the meaning of the passage, or attend to the initial letter, or read on to the end of the sentence, etc.;
- when the child cannot get the word after brief prompting, the teacher/tutor quickly supplies the word;
- the child is also praised for self-correcting while reading

This initial training only needs about twenty minutes. At this point the matched learners can be invited to join the training. Responsibilities for the learner include remembering meeting times, coming to the appointed place, selecting a book and keeping a record of each session (if the learner is very young, the helper may have this responsibility). The readability of the book chosen is primarily a matter for learner selection. In the event that the book proves 'too hard' during a session, helpers are advised to read it to the learner and, at the end of the session, ask the teacher/ co-ordinator to supply an 'easier' book for next time.

During the second part of the training session these learner responsibilities are described. Both partners complete their first record form together. This gives them a chance to learn each other's names, identify the place where the partnership will meet and make a note of the meeting days. There is also time for a brief trial reading partner session, closely supervised by the attending adults.

Finally, the incentive of earning a certificate can be introduced to the group. The Reading Partners Certificates can be earned by partnerships that have met successfully over a number of times during the term. Some schools like to offer a hierarchy of awards, for example:

- A certificate for partnerships meeting ten times
- A certificate for partnerships meeting twenty times
- A certificate for completion of the Reading Partners Scheme

In all the training sessions do not require more than forty minutes.

Monitoring the Reading Partner Scheme
In my experience some amount of monitoring and trouble shooting is needed. The most common difficulty is absenteeism of one of the partners, but difficulties may also arise in relation to the selection of books at an appropriate level, the availability of suitable places to meet or personality clashes. It has been found that some ongoing feedback to helpers is helpful in sustaining commitment.

The co-ordinator (and possibility class teachers, depending on the context) needs to take on responsibilities such as remembering to encourage helpers to keep appointments, helping learners to select appropriate books and accommodating partnerships in the classrooms. The reading records, which are the primary source of evidence of attendance, need to be monitored and collected periodically. Certificates need to be awarded as needed. Whenever possible, it is helpful to integrate such a scheme into structures already in place in the school. For example, the reading partner certificates and prizes, can be included in the termly/ annual prize giving assemblies.

In some schemes, the reading partners' co-ordinator may bring partners to visit the local library as part of the scheme or plan a celebration/party for participants after completion of the scheme.

Conclusion

Peer reading is an effective form of literacy intervention for students in many educational settings. It not only is easily established, but is cost effective. For many participants, not only are there impressive gains in literacy skills, there are also other gains, such as improved self-esteem, attendance and social skills. Dearden (1998) argues that if peer learning '*is of such value to both parties involved, then there needs to be a way of ensuring it happens*' (p257). It is hoped that this Rough Guide will encourage teachers to accept the challenge and implement such a programme in their own schools.

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MARY NUGENT

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Cross-Age Peer Reading in a Secondary School – An Evaluation

Mary Nugent and Pat Devenney

Introduction

The Reading Partners Scheme was part of a multi-element literacy action research project undertaken in the academic year 2006-2007. The project aimed to raise reading standards and was a joint initiative involving the staff of a secondary school and the NEPS psychologist, with the assistance of a trainee educational psychologist. The school is a public girls' secondary school in a socially mixed small town, with 423 students. It has 3 mixed ability first year classes and one transition year class. The school appointed a member of the teaching staff to co-ordinate the reading initiative.

Following literacy screening and reports from their English teachers, 14 first year students were identified as in need of additional support in literacy. These selected students were paired with volunteer students from transition year.

It was anticipated that the scheme would have a number of benefits such as:

- Increased reading skills for learners and helpers
- Increase in confidence and self-esteem among helpers
- The development of a positive attitude to reading for both parties

Literature Review

Peer tutoring is known to be an effective form of learning, highly cost effective, easily established and durable in its organisation (see Topping & Ehly, 1998). Peer tutoring as an intervention for accelerating learning has a well-established history of success (see the meta-analysis by Cohen, Kulik & Kulik, 1982; and the summary reviews of Kalkowski, 1995; and of Goodlad, 1996). Peer tutoring has been defined as 'an approach in which one child instructs another child in material on which the first is an expert and the second is a novice' (Damon & Phelps, 1989a, p.11). Topping and Ely (1998) give a broader definition of peer-assisted learning as, 'the acquisition of knowledge and skill through active helping and supporting among status equals or matched companions' (p.1).

It was decided to propose a cross-aged peer tutoring approach to the school based on the Reading Partners Approach which was developed by Nugent (2001). The benefits that emerged from the scheme included progress in reading, enhanced feelings of self-worth and more positive attitudes to school.

This scheme provided a useful blue print for a peer tutored approach which could be adapted to suit the profile of the school and selected students. Topping (1998) and Imich (1990) reported improvements in student's self-esteem following peer tutoring intervention. In relation to the development of reading skills, peer tutoring has been found to improve the reading ability of both the tutee and the tutor (Winter, 1996; Barbetta, Miller, Peters, Heron & Cochran, 1991; Topping, 1998). Imich (1990) also reported improvements in student's self-esteem.

Therefore a peer reading approach was recommended based on knowledge of the positive research basis for this intervention, both as a strategy for improving reading standards and as a means of building self-esteem and confidence.

Organisation of the Reading Partners Scheme
The school invested in new reading materials and the reading partners' co-ordinator was given advice on the types of books to purchase. The psychologist recommended a range of books, including, high interest and low reading age books. Incentives for participation in the Reading Partners Scheme were finalised. It was agreed between the psychologists and the reading partners' co-ordinator that both partners would receive the following identical certificates. The certificates emphasised the equal partnership. These were as follows:

- A certificate for training as a reading partner
- A certificate for partnerships meeting ten times
- A certificate for partnerships meeting twenty times
- A certificate for completion of the Reading Partners Scheme

Additionally, the reading partners' co-ordinator proposed that the partners would visit the local library as part of the scheme and that there would be a party for participants after completion of the scheme.

Recruitment and Training of Reading Partner Helpers
Many researchers into peer tutoring make the point that training is vital if peer tutoring is to be successful. (See Goodlad & Hirst, 1990; Foot, Morgan & Shute, 1990). Therefore reading partners in this scheme were carefully recruited and trained. Transition year students were invited to apply to become reading partners. They demonstrated high levels of motivation.

'I think I would be suitable because when I was in first year I found reading difficult and I didn't have anyone helping me, so I think helping someone else, would be very beneficial to them. I would really love to get involved and would be very committed to it. I think that helping them improve will give a sense of achievement'

'I would love the opportunity to help other students in the school. I think this scheme would be a great experience and since I am in transition year, it is an ideal opportunity to become involved.'

The transition year reading partners were trained to use 4 particular strategies as follows:

- Students were advised to listen to their partners attempt difficult words themselves and then supply the word if the child appeared to be struggling.
- Segmentation: the breaking of words into smaller units and helping their partners to pronounce each segment, then joining them to complete the word.
- Pause, Prompt, Praise (PPP)
- the last 5 minutes of each reading session were to be utilised to discuss the books and ask questions about the text.

Pause, Prompt, Praise was developed by Professor Glynn and his associates at the University of Auckland. It has been applied very successfully in many remedial intervention schemes, and can be taught to parents, aides, peer-tutors and volunteer helpers in schools as a strategy to use with the children they are assisting (Pumfrey 1991; Wheldall 1995). This was a further strand in training the helpers.

Pause, Prompt, Praise involves the following simple steps:

- the child encounters an unfamiliar word;
- instead of stepping in immediately and giving the word, the teacher/tutor waits a few seconds for the child to work it out;
- if the child is not successful, the teacher/tutor prompts the child by suggesting he or she perhaps guess from the meaning of the passage, or attend to the initial letter, or read on to the end of the sentence, etc.;
- when the child cannot read the word after brief prompting, the teacher/tutor quickly supplies the word;
- the child is also praised for self-correcting while reading

Implementation of the Reading Partners Scheme
The Reading Partners Scheme ran for twelve weeks, three days each week for 30 minutes. The reading partners' co-ordinator took on the responsibility of encouraging helpers to keep appointments and helping learners to select appropriate books. The readability of the book chosen was primarily a matter for learner selection. In the event that a book proved too difficult, helpers were advised to read it to the learner and to ask the reading partners' co-ordinator to supply an easier book for next time.

Ten partnerships started the scheme; however one partnership ceased due to absenteeism of the first year partner. Most of the first year reading partners came to the after-school sessions between 25-35 times over the 12 week period. The transition year partners managed to meet their first year partners on average 15 times over the same period. The discrepancy between the two groups attendance arose largely due to the busy schedule of the transition year students. When the transition year students were unable to attend the following alternatives were arranged:

1 The local librarian came to the school each day for a week and got the children to read valentines poems and to look up chocolate recipes in books supplied by the library. The first year partners also reviewed picture books for story time in the library and wrote short reviews.
2 The first year partners went to the library to register and borrow books.
3 When a transition year partner was missing and their first years partners were present pairings were doubled up.

Evaluation

The evaluation process included two focus groups with students, (one for first year learners and another for Transition Year helpers) a parental questionnaire, as well as gathering further information for the reading partner co-ordinator. Below are the key issues that arose from the evaluation process.

Attendance

Five of the first year partners commented that they felt let down when their reading partners did not attend. The transition year reading partners group commented that whilst the commitment involved in becoming a reading partner was outlined to them, they didn't realise the reality of the undertaking.

Strategies used

The first year group was asked if their reading partner was good at helping them. McCoy (1995) suggests that peer tutors are skilled at using simple direct language and can demonstrate things more rapidly and effectively than many teachers. All nine of the first year partners thought that their tutors were good at explaining the words they found difficult to them. Here are some of their comments:

- '*She gave me a chance to guess and then helped me with the word*'
- '*My partner helped me to break up the word*'
- '*My partner helped me to pronounce the word*'

The transition year students were asked the question '*What strategies did you use to help your reading partner?*' All nine of the transition year partners' commented that they used at least one of the strategies. By the end of the scheme, five of the transition year partners had noticed that their first year

partners had started to use some of the strategies, such as segmentation of words and reading the remainder of the sentence to prompt them to guess the word. All of the transition year partners noticed a definite improvement in their first year partners reading and their confidence to work out difficult words.

The transition year students were asked if they found the training they received useful. The group commented that felt confident carrying out the strategies and that they had received sufficient training.

Confidence/Approach to Reading

All of the first year partners said that they are more confident with reading and that they read more often. One of the first year students said that she hated reading in class but now she doesn't mind it. Eight of the nine first partners are now members of the library and six attend regularly.

The transition year partners felt particularly positive about themselves when helping their first year partners improve. They identified skills that they have developed such as how to relate to younger girls, being patient and dealing with frustration. One of the transition year partners said that she was really proud of herself because she didn't realise how much she could help even though she considers herself a poor reader.

The reading partners' co-ordinator commented that two of the first year partners had no experience of the library previously and had asked on a visit how they were going to finish reading the books before they left. They didn't realise they could borrow them. The Reading Partners scheme had provided this extra experience for them. The reading partners' co-ordinator commented that the first year English teachers had noticed a definite improvement in confidence in reading which was due in her opinion to the Reading Partners Scheme.

Social Interaction

There is extensive evidence of improved social behaviours for both tutees and tutors, including improved locus of control (Lazeran, Foster, Brown & Hummel, 1998) and more positive attitudes to other students (Raschke, Dedrick, Strathe, Yoder & Kirkland, 1998) following this type of intervention. There was a positive social aspect to the Reading Partners Scheme. The first year's group was made up of partners from 3 classes and all of the partners commented that they are all friends now. *'I made friends with other first year students from different classes who I wouldn't have met if I wasn't in the Reading Partners' Scheme'.*

The first year students also commented that they were shy at first with the transition year partners but that they became more confident and they built up relationships with them. All of the first year partners said that their partners say *'hello'* to them in school. The transition year group identified *'getting a chance*

to meet some of the first year students' as one of the best things about the scheme. Information from parents also indicated that the Reading Partner Scheme was highly valued by them. For example, one parent commented, '*The social aspect of the paired reading did her the world of good'*.

Would you participate in the scheme again?
All of the first year students said that they would participate again and 5 of them commented that they would like to be *'helpers'* when they are in transition year. The transition year students said that they would definitely recommend the scheme to the next transition year group.

Progress in Reading
Finally, data about reading ages, suggests that students who participated in the reading partner scheme made significant gains in reading, consistent with Nugent (2001), it was the helpers who made the most significant gains. For example TY students (helpers) who participated in the scheme made twice as much progress in reading comprehension than those who did not participate. Their gains, of almost four standard score points, represents excellent progress. In real terms it means that students made two years reading progress over a one year time span.

The first year learners showed a more varied pattern of progress, not least because some of them had long term difficulty with literacy. Additionally, there were difficulties with the test- retest reliability of the group reading test. Nonetheless, as a group they made more progress than an average child (without learning difficulties) would be expected to make, which for individuals can represent very significant gains. One child, who had the best attendance, made gains of 2 years and 4 months over the period of the research.

Issues for Consideration
There were weaknesses apparent in the scheme. The most significant weakness was the poor attendance by transition year reading partners. How to improve attendance was discussed with the reading partners' co-ordinator and the two focus groups. The following suggestions were made:

1. The scheme could start in September and run for 20 sessions. This would allow transition year students to attend as many after school activities don't occur until after Christmas. If the scheme started at this time the transition year students could use the scheme to obtain credit for the Gaisce awards. This would be an extra incentive for participation and attendance.
2. Three after-school sessions a week was difficult to achieve. It may be possible to offer the opportunity for one lunch time meeting. Within the school the lunch-time meeting would have to be negotiated carefully as most of the recreational sports occur during this time.

3. The certificates for training and attendance had not been given out and these were intended to reward attendance and to be motivational. This aspect could be improved upon. Additionally, the certificates could have been gathered back from the transition year reading partners and recognition of their participation could have occurred on the graduation night.

4. Whilst interviewing the transition year partners the psychologist told them how much confidence the first years had got from the scheme and how much they appreciated their help. The transition year group commented that if they had known how beneficial the scheme was for their partners they would have made greater effort to attend. Therefore, some ongoing feedback might be very helpful in sustaining commitment.

Summary

Eighteen students received reading intervention that they wouldn't have without the scheme. It was apparent from data collected that participants had made social gains, not only befriending students from other classes from the same year as evident from the first year reading partners but also a positive bilateral connection was made between the transition and first year reading partners. Self-reports during the focus group indicated that students were more confident about their reading ability. Additionally, the reading partner co-ordinator noted that class teachers had noticed the students increased confidence to read aloud in class. Data about reading scores showed significant levels of progress for both helpers and learners.

In summary, this was a highly effective intervention, with gains in reading skills, academic and social confidence and social benefits. This approach allows schools to make best use of their resources. The best resource in any school is the children, who can help each other make gains in learning, social skills and self-confidence. Therefore it is strongly recommend that schools consider adopting this approach.

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PAT DEVENNEY

Pat Devenney is currently working as an Educational Psychologist in private practice. A former teacher, he has extensive experience of Irish education, having worked at both Primary and Postprimary level.

The Range of Difficulties which Third Level Dyslexic students experience at College

John Phayer

Abstract

It is well established that Dyslexic students experience a variety of difficulties throughout school which can severely affect their school performance in many subjects, particularly in the areas of (a) reading, (b) writing and (c) spelling. As the student gets older and progresses to college, these difficulties become more intense due to the fact that additional pressure is placed on them in terms of reading, writing and spelling. Although much literature has been written about the problems associated with Dyslexic children at primary and secondary school level, the purpose of this article is to examine the types of difficulties affecting them at college. Particular emphasis will be placed on various studies carried out by a range of academics and researchers in this field.

Introduction

It must be remembered that the majority of third level Dyslexic students starting college are actually 'young adults' and the problems of the young adult Dyslexic are particularly acute for third level Dyslexic students. The range of problems for the third level student with Dyslexia are quite similar to the problems experienced by the primary or secondary school student but are more acute due to the wider range of skills that they require to achieve their academic goals.

McGrath (2000: 1) reports that within the last decade there has been a significant increase in the number of students with Dyslexia partaking in third level education. Singleton (1999, Connelly, Campbell, MacLean and Barnes, 2006: 176) explains that this is due firstly, to more accurate identification of Dyslexics and secondly, to effective support from schools prior to commencing third level. **Figure 1** provides a discussion of the most problematic difficulties affecting third level students with Dyslexia in terms of reading, writing, spelling and memory whereby particular emphasis will concentrate on some of the most specific academic related problems like reading and revising material, reading vocabularies, reading from computer screens, reading comprehension difficulties, taking lecture notes, essay writing, doing exams, using computers and using the Internet.
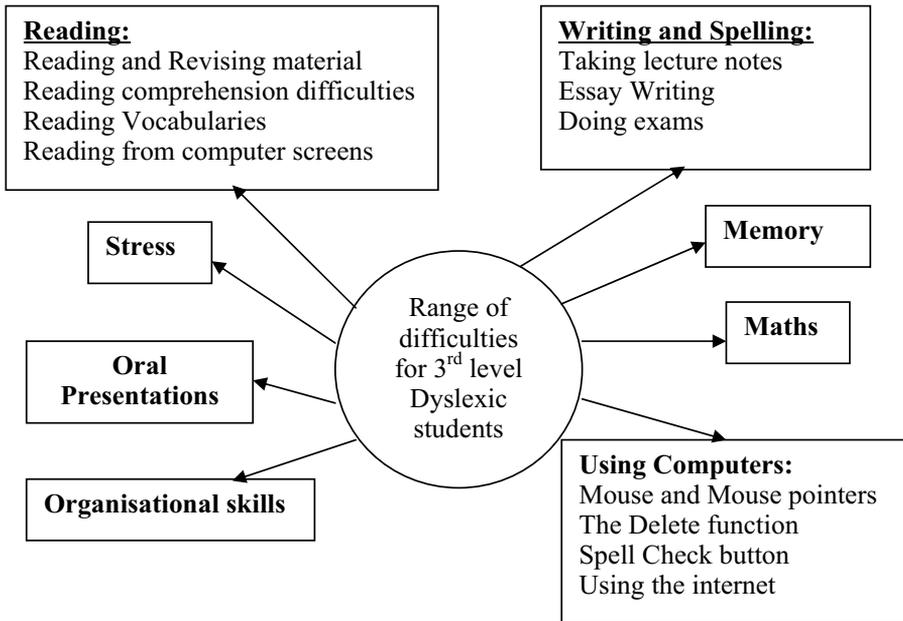
Figure 1: Range of literacy related problems for third level Dyslexic students

Reading

Third level Dyslexic students may read more slowly than their peers at college whereby they may read each word separately or reread a passage several times which leads to difficulty in identifying and comprehending the main points (Thomas, 2005). Consequently, they generally need more reading time than non-Dyslexic students and on certain occasions, some of them can also have problems reading aloud (Johnston, 2007). Third level students with Dyslexia can have an inability to scan text and quite often find a glare with reading text from white paper or whiteboards (Baird, 2007).

Many third level students with Dyslexia encounter severe difficulties with word recognition and at times may be unable to hold their position when reading dense text. Consequently, by having these problems in combination with poor memory and poor reading speed, this results in reading comprehension difficulties (Thomas, 2005). The third level Dyslexic student may encounter hesitant reading which can further affect reading comprehension and can compound problems with reading accuracy (Reid and Kirk, 2001: 3).

Reading and Revising Material

Many Dyslexic students at third level can have particular difficulties adapting to academic reading tasks (Given and Smailes, 2007: 10). For example, Krupska and Klein (1995, cited in Given and Smailes, 2007: 10) report on one study which investigated the difficulties for third level students with Dyslexia

associated with reading and revising short excerpts of text. They found that these students tend to find reading and revising an extremely arduous task due to the amount of time it requires. It is emphasised by the authors that if these students have visual processing problems, they will have severe difficulties with reading comprehension and in addition if they have auditory processing problems, the third level student with Dyslexia will endure impairments with reading new words.

Furthermore, Krupska and Klein (1995, cited in Given and Smailes, 2007: 10) stress that as a result of these students enduring spelling and Short Term Memory difficulties, it can subsequently affect the production of written notes from reading their text. Third level Dyslexic students can also find it problematic to concentrate when reading their course material. They can become easily sidetracked which leads to the reading process becoming exceptionally tedious in addition to the flow of reading becoming less focused (Krupska and Klein, 1995, cited in Given and Smailes, 2007: 10).

Reading Vocabularies

Hanley (1997, cited in Connelly *et al.*, 2006: 177) reports that third level Dyslexic students have smaller reading vocabularies than non-Dyslexic students. It is important to remember the practice of reading assists in acquiring and developing a wide range of vocabulary for these Dyslexic students. Therefore, if they have a limited vocabulary, this can severely affect their final written product (Beard, 1986, cited in Connelly, *et al*, 2006: 177).

Reading from Computer Screens / Overhead Projectors

Although computer technology can be used to greatly enhance the learning environment and experience for students with reading and writing difficulties (Kamstrup, Rygvold and Saltness, 2002: 1), there are still potential barriers which prevent them from benefiting fully from their use. Sawaki (2001, cited in Al-Othman, 2003: 120) states that reading information from computer screens is becoming more popular in today's education as is the availability of online reading material. There are many factors which influence and contribute to the difficulties associated with reading text on a computer screen. Ankrum (1999, cited in Kamstrup, Rygvold and Saltness (2002: 1) states that reading information from long passages on a computer screen is very tiring for readers and a better alternative is to provide print outs of such long documents. Other difficulties can be associated with the position and orientation of the computer monitor or screen, with Dyslexic students encountering problems when the screen is at certain angles. Research has shown that reading text from a computer screen is about 25% slower than from paper whereby the main difference becomes apparent with increased reading speed (Sawaki, 2001, cited in Al-Othman (2003: 121). A study carried out by Dillon (2000, cited in Kamstrup, Rygvold and Saltness, 2002: 1) also found that students read much more slowly from a computer screen than when they are reading from paper.

Research carried out by Kamstrup, Rygvold and Saltness (2002: 1) investigated how to make effective use of computer screen technology in an effort to support and improve Dyslexic students reading and writing. The study primarily examined the effects of adapting screen text to the reader's individual profile. The brand of text functionality used by the researchers was based on a typographical tradition of print whereby the model was designed in such a way, it would adapt to the needs of the Dyslexic student. Each student could create their own profile and subsequently all passages of text that they chose to read were formatted according to their own profile. Six different font sizes were made available to the Dyslexic students and two font styles of type Arial and Times New Roman were selected. The students with Dyslexia were provided with four different line lengths to choose from depending on the reading level and ability, in addition to window and screen size. All text was left justified with an uneven right hand margin. Kamstrup, Rygvold and Saltness (2002: 2) decided not to opt for hyphenation at the end of the lines as Dyson and Haselgrove (2001, cited in Kamstrup, Rygvold and Saltness (2002: 2) point out that it can make reading more difficult. The Dyslexic students were provided with three optional choices of line spacing and four levels of word spacing to support those who needed additional assistance in identifying word limits as well as using specific colour and contrast. The reading performance was measured by the speed and number of errors in reading the text on the screen and in books. The results of the study showed improved reading performance in terms of speed and accuracy when reading from a computer screen. Haugen (2001, cited in Kamstrup, Rygvold and Saltness (2002: 2) claims that this improvement could be attributed to increased motivation and improved legibility of formatted text.

Reading Comprehension Difficulties

Although many Dyslexic students at third level may have the ability of single word reading that is within average standards for the general population (Simmons and Singleton, 2000: 178), McLoughlin (1997, cited in Simmons and Singleton, 2000: 179) states these students may have developed strategies to compensate for their difficulties experienced earlier in their life.

Singleton (1999, cited in Simmons and Singleton, 2000: 179) states that reading comprehension difficulties can be most prevalent when third level students are taking lecture notes, revising for exams or trying to understand large volumes of information. Oakhill and Garnham (1988, cited in Simmons and Singleton, 2000: 180) explain that text-level reading comprehension skills involve the reader understanding sentences in order to identify the linguistic structure of text and then producing the meaning from linguistic and non-linguistic information. Consequently, the reader must try to integrate the meanings of the sentence in order to produce a logical picture of the information which they read.

One study carried out by Everatt (1997, cited in Simmons and Singleton, 2000: 179) explored the reading comprehension abilities of young Dyslexic adults at college and compared them with a control group of non-Dyslexic students. The results of the study found that the Dyslexics demonstrated a similar level of performance on tests involving reading single words but major difficulties with spelling and reading comprehension tests.

Another study carried out by Everatt (1997, cited in Simmons and Singleton, 2000: 180) also explored the reading comprehension abilities of Dyslexic students at an undergraduate level in university. It was found that they performed significantly worse than their non-Dyslexic peers on a GARADOL reading comprehension test, but when the NEALE Analysis Test was administered, differences that did emerge were not as significant.

Simmons and Singleton (2000: 181) carried out another study to explore the reading comprehension abilities of a group of Dyslexic students at university which were compared with non-Dyslexics. A new type of standardised test was designed to distinguish between these students according to their reading comprehension skills. The test was composed of a passage of text followed by two types of multiple choice questions – 5 inferential and 5 literal questions presented alternatively. The literal questions required information from the Dyslexic students that was presented in the passage. The inferential questions requested the Dyslexic students to integrate more than one piece of information or alternatively use their existing knowledge to translate an indistinguishable statement. Although Simmons and Singleton (2000: 182) point out that this was not designed to place additional strain on the decoding skills of the students with Dyslexia. If the students demonstrated a good standard of proficiency on the literal questions and problems with the inferential questions, it would suggest a problem with inference/assumption questions.

The study also allowed for greater understanding about comprehension difficulties which were as a result of poor decoding ability. The passage consisted of 655 words based on a story regarding a factory (Simmons and Singleton, 2000: 182). The complexity of the passage was made more difficult by the use of long sentences with difficult syntax structures. The Dyslexic students were asked to read each passage carefully and were required to read and complete multiple choice questions while having access to the passage. The researchers measured the time it took each student to read the text and answer each question even though the Dyslexic students were advised that no time limit was being placed on them to read and answer the questions.

A minute difference emerged between the average scores of the Dyslexic group and the Control Group on the literal questions. However, the Dyslexic students scored significantly lower on the inferential questions (Simmons and Singleton, 2000: 183). This suggests that Dyslexic students were somewhat able to decode

words within a passage but at the same time endured difficulties in making assumptions about the answers. The results further suggest that Dyslexic students who have poor decoding skills can have impaired reading comprehension.

Writing and Spelling

Hatcher, Snowling and Griffiths (2002, cited in Connelly *et al.*, 2006: 176) point out that writing is the biggest difficulty for Dyslexic students at third level as writing forms a major part of their life. Many students with Dyslexia will try to rewrite sentences in order to avoid words which they are unable to spell due to possessing severe spelling problems. These third level students may have continuous spelling errors when writing which can lead to severe difficulties with sequencing of words (Reid and Kirk, 2001: 3). Johnston (2007) states that third level Dyslexic students may have the capability to check the correct spelling of words in a dictionary, but at the same time still find it difficult to memorise the correct spelling of it. These severe spelling problems often lead to difficulties with poor punctuation, misuse of connecting words and the omission of functional words when writing (Thomas, 2005). Other writing problems which can be present are poor essay planning skills and lack of structure, order and fluency with written work.

Reid and Kirk (2001: 3) allude to the unexpected differences between oral and written expressions. Dyslexic students often have poor grammatical structure when it comes to writing which may compound problems when taking lecture notes or writing in exams (Reid and Kirk, 2001: 3). Difficulties such as the logical progression of ideas and arguments may increase when producing longer documents. Quite often they may be unable to identify errors when revising their own work (Johnston, 2007) and may prefer to print rather than linking letters in their handwriting which can slow them down. This means their handwritten work can often appear disorganised (Johnston, 2007). Dyslexic students can also encounter difficulties getting stuck on a particular point of a topic when writing and consequently are not able to move from it to proceed and develop their flow of writing (Department for Education and Skills, DfeS: 2007).

Taking Lecture Notes

Given and Smailes (2007: 7) state that Dyslexic students can experience note taking difficulties arising from poor short term memory, spelling problems and problems taking in auditory information at a rapid speed. Other problems which affect the writing process for them can arise if the Dyslexic student cannot make out the words on a board or on an overhead display due to the lecturer's poor hand writing or small font size in a Word Processor presentation. Connelly *et al.*, (2006: 176) emphasise that taking lecture notes is a highly complex skill which involves a number of linguistic and non-linguistic processes.

Berninger *et al.* (2002, cited in Connelly, *et al.,* 2006: 176) state that '…
transcription and executive functions are the foundational base that contributes
to text generation within a working memory environment'. The process of
transcription involves handwriting and spelling skills, whereas executive
functions involve planning, monitoring, reviewing, revising, organising notes
and attending lectures. Rice (2004: cited in Connelly, *et al.,* 2006: 176)
suggests that fluency and speed problems are central to why third level Dyslexic
students would encounter difficulties with writing lecture notes and
transcription.

One particular study carried out by Hatcher, Snowling and Griffiths (2002)
investigated the problems and processes of taking lecture notes for Dyslexic
students at third level. The results of this study showed that the sample of
students investigated who copied text and were measured for their speed of
taking these notes was much slower than their chronological age controls.
Hatcher, Snowling and Griffiths (2002, cited in Connelly, *et al.,* 2006: 177)
explain the primary cause of this difficulty lies in problems associated with
transcription skills. This can have a 'domino effect' on the number of words and
spelling errors produced in a piece of text. The difficulty could also impact on
other aspects related to spelling such as punctuation and capitalisation. But the
researchers could not definitively state whether these transcription problems
would lead to difficulties with other higher order writing skills or not.

Another study carried out by Sterling, Farmer, Riddick, Morgan and Matthews
(1997, cited in Connelly, Campbell, MacLean and Barnes (2006: 178)
investigated the problems associated with taking lecture notes by Dyslexic
students at third level. It was found that they produced greater errors in their
text when writing as opposed to their Control Groups. They also produced
fewer words overall in addition to being limited in their choice of words. One
example of this found by the researchers was in terms of the students producing
lower number of words which had more than three syllables. As a result of this
finding, it was assumed that the third level students with Dyslexia were limited
in their vocabulary use. The outcome of the study showed that the overall
writing quality of text was significantly impaired and of poor standard unlike the
control groups in addition to limited differences in spelling, in production of
words and in vocabulary range.

Essay Writing

One study carried out by Connelly, Dockrell and Barnett (2005, cited in
Connelly, *et al.,* 2006: 177) explored the topic of essay writing by Dyslexic
students at university. One of the main findings of the study was that the
students in sample were found to have the handwriting fluency normally
associated with 11 year olds. The investigators determined that exam essay
writing was heavily constrained by the fluency and accuracy of handwriting.

Another similar study carried out by Sterling *et al.* (1997, cited in Connelly, *et al.,* 2006: 178) investigated the essay writing on an unspecific topic by Dyslexic students at third level. In this study, the students were asked to write an essay about their lives as a student. The participants were provided with a writing frame which offered prompts that should be included in their essay. The results of the study indicated that when these Dyslexic students were asked to write about an unspecified topic, even when prompts were provided, they still encountered significant difficulties in constructing essays (Sterling *et al.*, 1997, cited in Connelly, *et al.,* 2006: 178).

Connelly, *et al.,* 2006: 175) carried out another study to specifically explore the effects of Dyslexia on the writing abilities of third level Dyslexic students. This experiment also explored other issues such as the relationship between the Dyslexic students' writing skills, literacy skills such as spelling and their working memory (Connelly, *et al.,* 2006: 176). The researchers wanted to specifically examine how the Dyslexic students' performance in written language could provide a better understanding of the difficulties endured by them as opposed to their non-Dyslexic students (Connelly, *et al.,* 2006: 176). Connelly, *et al.,* 2006: 178) decided to compare and contrast the Dyslexic students with two control groups which comprised of a chronological age control group and a spelling age control group. The reason why a spelling age group was adopted for the project was to allow for a more detailed comparison and also to enable the researchers to determine if the writing skill was poorer than expected given the spelling skills of these students (Connelly, *et al.,* 2006: 178).

The researchers administered a handwriting fluency test to all Dyslexic students so that information could be provided on other aspects of the translation skill apart from spelling (Connelly, *et al.,* 2006: 178). Twenty-one Dyslexic students participated in the study with an average age of 19 years. In the chronological age group, twenty non-Dyslexic adults attending college also participated in the study (Connelly, *et al.,* 2006: 181). In the spelling skill control group, nineteen participants were involved in the test. To ensure a valid match with a wide range of Dyslexic spelling skills, the sample varied in ages from 11 – 31 years with an average chronological age of 18. A series of words was dictated by the researchers to each Dyslexic student who wrote them down as accurately as they could and each student's score was calculated by the number of correctly spelt words. The writing task required the participants to write an essay on lined white paper, by hand, and students were given a written prompt as an aid to complete the task within 30 minutes (Connelly, *et al.,* 2006: 182). This prompt was spoken to the Dyslexic students by the researcher so that each of them fully understood the prompt.

Each of the essays was typed up by the researchers while preserving the spelling errors and 'cross outs' of sentences to reduce the unfairness from poor handwriting and was rated using specific criteria. The essays were also evaluated

for four other actions: word count to calculate essay length; spelling errors; a calculation of the average sentence length and a measure of the number of different words used (Connelly, *et al.,* 2006: 184). The results of the study showed that all the Dyslexic students found the writing task quite demanding. Even though each student completed the task and produced essays according to the prompts provided, the number of words produced in 30 minutes was small. The average sentence length for each Dyslexic student appeared longer than expected due to the type of essay which was required to be written. The Dyslexic students performed a lot worse compared to the two comparison groups on non-word reading in addition to many spelling errors emerging in the written essays (Connelly, *et al.,* 2006: 185). The students with Dyslexia also produced more spelling mistakes when writing than the two other control groups. The Dyslexic students were significantly impeded with handwriting fluency compared to their control groups. The average handwriting fluency was equivalent to 12-year old school children (Connelly, *et al.,* 2006: 187).

In conclusion, the overall essay writing quality of these students was significantly poorer than the chronological age control group due to spelling accuracy problems and the difficulties with the fluency of handwriting. These students' essays also contained more spelling errors than expected given their dictated spelling skill. It is clear from this study that the acts of handwriting fluency and spelling play a major role in essay writing quality for third level Dyslexic students (Connelly, Campbell, MacLean and Barnes, 2006: 192).

Doing Exams – Time Constraints

At times Dyslexic students who need extra time to complete an examination will not utilise it as they do not want to be seen as the last person finished. The Dyslexic students who do require extended time may also request to write the exam in a different room so that nobody will notice how long it will take them to complete it (Carpenter and Thompson, 2001).

Spelling

Dyslexic students can demonstrate difficulties recognising words which are associated with poor knowledge of the corresponding sounds in addition to problems with spelling words. Bruck (1993: 173) states that these students can demonstrate various profiles of spelling skills and spelling problems. Firstly, they may use many sources of linguistic and visual information for spelling, but at the same time, can demonstrate poor knowledge with the technique of spelling. Secondly, these students with Dyslexia have to overcome basic problems in lower level order skills which involve corresponding the sounds of words with their associated spelling. Consequently, by having these spelling difficulties, it reflects more serious spelling problems involving the use of information.

One study carried out by Bruck (1993: 171) investigated the spelling component skills of Dyslexic students at third level who had been identified as

having Dyslexia as a child. The purpose of the study was to identify some of the basic impairments which affected their spelling difficulties and to also determine if these difficulties which mimic Dyslexic children also characterise Dyslexic students at third level. Fifteen third level students with Dyslexia participated in the project and were required to complete three tasks which analaysed the use and knowledge of various types of information used to spell words. These included a dictation task, a spelling recognition task and a non word spelling task (Bruck, 1993: 177).

The first step was a dictation task which consisted of reading 100 low frequency words aloud. The second step was called the recognition task and examined the ability to recognise the correct spelling of a word, based on the visual appearance of it on a computer screen. The 100 words used in the dictation task were also utilised in the recognition task which acted as the stimuli (Bruck, 1993: 178). Each Dyslexic student was required to locate the correctly spelt word which appeared along with three alternative words and which could not be eliminated due to incorrect spelling patterns on the computer screen e.g. balcony, balconey, balcany. For each trial, the experimenter dictated each word and the three alternatives appeared on one line in lower case letters on the computer screen (Bruck, 1993: 178).

These alternatives were labelled in numerical order and each Dyslexic student pressed the key on the keyboard that corresponded to the number of the correct answer. If all the spellings on the screen 'appeared' incorrect, the student was informed to press a fourth button called 'none of these is correct'. The response rates were calculated from the start of the stimulus on the screen to the reaction of the student's response. These rates were determined by the reaction times for each correct response (Bruck, 1993: 178).

The third task was called the 'non-word task' and assessed the knowledge of a number of English conventions. Twenty of the 'stimuli' words required knowledge by the Dyslexic students of various conventions in English (Bruck, 1993: 178). These were presented in written sentence format with certain endings of words having been deleted. The results of the study found that the Dyslexic students' problems were associated with their failure to acquire sufficient knowledge of the mappings between the spelling and sounds of words in English. The students also produced more spelling mistakes than non-Dyslexic students with all word groups (Bruck, 1993: 180). They also endured more difficulty with the most basic component spelling skills that involve the use of spelling-sound correspondences in words with invariant spellings (Bruck, 1993: 180). The Dyslexic students also presented difficulty which required more extensive knowledge of spelling sound associated patterns.

Hanley (1997: 22) emphasises that recent research has demonstrated that the range of problems associated with reading and spelling affecting Dyslexic

children in school persists into adulthood particularly at university level. Another similar study carried out by Hanley (1997: 22) investigated the performance of a number of Dyslexic college students on a series of reading and spelling tests at university. A certain number of these students only noticed their Dyslexic difficulty when experiencing extra reading and writing demands involved in their undergraduate studies. On the other hand, there were other Dyslexic college students who did know about their problem and struggled throughout their course of study but, at the same time, felt their writing difficulties needed to be addressed (Hanley, 1997: 22). The thirty-three Dyslexic participants involved in the project were those who showed major impairments in reading and spelling tests and other difficulties whose performance dropped below a certain level of a sample of non-Dyslexic undergraduate students (Hanley, 1997: 23). The results of the study found that those students who were never identified as having Dyslexia had major difficulties in terms of reading, in particular with spelling, as opposed to the control group of non-Dyslexic students (Hanley, 1997: 29). The number of words and reading vocabularies of the students with Dyslexia was also significantly lower than the control group of non-Dyslexic students (Hanley, 1997: 29).

Memory

Students with Dyslexia can have poor short term memory when attending college and can result in problems like failure to meet deadlines as well as being late for lectures (Thomas, 2005). Mortimore (2003: 49) also states that the student with Dyslexia can encounter problems with both short term memory and working memory. It can happen when short term memory represents the phase where information, sounds and symbols are processed temporarily before being discarded or transferred into long term memory. Having these memory problems can lead to learning difficulties for third level Dyslexic students. For example, Reid and Kirk (2001: 3) claim that third level students with Dyslexia can have difficulty transferring the mode of learning from one subject to another as well as not being able to focus on a number of instructions if given at the same time due to concentration difficulties. One study carried out by Baddeley (1986, cited in Connelly, *et al.,* 2006: 177) found that students with Dyslexia typically demonstrate lower performance levels on tasks involving working memory. These differences have been found in activities which calculate phonological working memory (Witruk, 2003, cited in Connelly, *et al.,* 2006: 177). Connelly, *et al.,* 2006: 177) point out that the skill of writing is closely associated with the levels of working memory. This can happen when the high cognitive demands that are placed on the student to produce written text overloads the language system that reduces the processing levels in Working Memory. Consequently, this results in high levels of errors and reduced text lengths for the Dyslexic student (Connelly, *et al.,* 2006: 177).

Maths

Beacham, Szumko and Alty (2003: 14) outline a misconception amongst ordinary people that third level students with Dyslexia only have difficulties with reading and writing information. Many students with Dyslexia can also have problems with Maths especially in recognising scientific symbols. Confusion can arise with certain symbols like multiplication i.e. the * symbol and addition i.e. the + symbol (Thomas, 2005). Similarly, Baird (2007) points out that third level Dyslexic students can have major problems with numeracy which can affect these students with maths formulae and can lead to weak computational skills. Carpenter and Thomson (2001) believe that Maths exams can require these students to show their work on graph paper. However, graph paper is only beneficial for students who have experience and are confident with lining up numbers. Consequently, this can have major implications for third level Dyslexic students who are not acquainted with using this procedure.

One study carried out by Gillis *et al*. (1995, cited in Beacham, Szumko and Alty, 2003: 14) investigated the range of academic difficulties particularly in the area of Maths experienced by Dyslexic students in Higher Education. The investigation found that between 50% and 100% of these students had various difficulties performing Maths.

Many of the Dyslexic students were found to have poor long term memory for remembering various number facts and procedures which ultimately led to poor numeracy skills. Certain Dyslexic students found it quite difficult to memorise and recall various theorems and formulae which led to problems performing Maths procedures and operations. Furthermore, this led to more frequent overload problems in memory for the student with Dyslexia resulting in them failing to succeed with the subject. These students also experienced difficulties reading words that describe a Maths problem, particularly if the main problem was hidden in large amounts of information. At times, this resulted in them reading the question quite slowly or even misinterpreting what they had just read. Quite often, these Dyslexic students substituted names that began with the same letter e.g. diameter for diagram, classify for calculate. The presentation and positioning of figures and data on a page was extremely poor in addition to these Dyslexic students enduring difficulties transferring between medium e.g. reading the questions on paper and transferring the information to a computer. Finally, Beacham, Szumko and Alty (2003: 14) have identified other associated Maths difficulties that Dyslexic students will present with such as major copying errors and processing information quite slowly.

Using Computers

Dyslexic students can encounter visual disturbance difficulties when using computers. The high contrasting colours, especially background colour, can generate severe visual problems for them. The black and white on a page of text can also cause blurring of words or even sudden movement and swirling of text

(U.S. organisation, Education-Otherwise, 2007). Computer window screens can prove to be a minefield for a Dyslexic person whereby excessive and unused icons can clutter a screen and can lead to confusion when accessing them (Anderson, 2007:1).

Dyslexic students can encounter severe problems operating a computer mouse if they are left handed. Anderson (2007: 1) states the computer mouse is set by default for right handed users. This means that if the mouse is to be used by a left handed Dyslexic, it will have to be customised for use on the left side of the keyboard in addition to reversing the functionality of the buttons (Anderson, 2007: 1). Some Dyslexic students can encounter problems with the size of the mouse pointer. Due to its small size, it can become lost amidst the other icons on the screen (Anderson, 2007: 1).

Dyslexic students at third level can make several simple mistakes when working with information (Anderson, 2007: 2) such as deleting highlighted text. Dyslexic students endure major problems with sequencing as a result of having to remember and process many instructions, resulting in accidentally deleting or overwriting the wrong file during 'Save' operations (Anderson, 2007: 2). These students can encounter terrible confusion when using the two delete buttons which result in the wrong letters and text being deleted. The first delete key (the button with the back arrow) deletes characters to the left and the button with the word 'delete', erases characters to the right. Another function similar to the delete key is the Insert button. If this is accidentally touched by a Dyslexic student who can suffer from poor motor skills, subsequent typing will replace the existing text resulting in loss of work (Anderson, 2007: 3).

Great difficulties can also be encountered by Dyslexic students when using the spell checker. Anderson (2007: 3) states that when Dyslexic students activate the spell checker, they have to first decide which of the suggested spellings they want and then make the correct selection. Anderson (2007: 3) points out that if Dyslexic students have a problem with reading they will also have a spelling difficulty which will result in their selecting the first word or a word that looks near enough to the correct thing. As a result of experiencing poor memory, poor reading or poor motor skills, selecting the right option on the spell check facility is difficult.

Despite the fact that the Internet has many advantages as a tool for independent research (Gaimster and Gray, 2004: 1), there are many barriers which prevent students, especially those with Dyslexia, from using it effectively. These barriers include lack of access to Information Technology, inadequate knowledge about using the Internet, insufficient knowledge and experience in effective information seeking techniques, in addition to lack of confidence in using Information Technology. Although the Internet is identified as a tool which has the potential to assist students with more flexible approaches to learning due to

the fact that the learner can choose the time, the place and the pace at which to study, Fayter (1998, cited in Gaimster and Gray, 2004: 1) believes that the Internet often represents another major obstacle to success for Dyslexic students at college.

Gaimster and Gray (2004: 1) carried out a study to determine whether the Internet was a beneficial tool or not by allowing third level students, including a minute group of third level Dyslexic students, engage in independent research. The objective of the study was to allow these students to 'harvest' new knowledge about a topic by using the Internet. They were provided with tuition about effective Internet searching techniques and the study also determined whether these 'harvesting' skills on the web were taught to an adequate functional level. The students utilised a variety of strategies to search the Internet and select the most suitable sites.

The findings from the study demonstrated that the most confident and experienced third level students used the most effective strategies (Gaimster and Gray, 2004: 7). The students' confidence levels differed from 'extreme confidence' to 'extreme anxiety'. Those least confident users were identified as having little experience and limited access to the Internet. In addition, a minority were identified as having major problems with spelling and having severe Dyslexia (Gaimster and Gray, 2004: 7). Literacy skills such as having a poor level of English, or an inability to use other resources like a dictionary, or having poor confidence in their use of spelling and grammar in addition to having Dyslexia, significantly increased the difficulties in successfully searching for information on the Internet. These third level Dyslexic students also encountered problems such as acquiring the necessary time to learn the appropriate skills in searching for the information; as well as feeling overwhelmed by the volume of information offered on the Internet; in addition to feeling ill-equipped to analyse and evaluate this content (Gaimster and Gray, 2004: 8).

Organisational Problems

Many third level students with Dyslexia can experience severe problems with organisation as Thomas (2005) indicates the students may know what they want to say, but find it difficult to organise and sort out their thoughts in written format. Dyslexic students can also present organisational problems in terms of poor awareness of time and other problems with time management (Baird, 2007). The Department for Education and Skills in the United Kingdom (DfeS, 2007) further state that third level Dyslexic students can have problems with organization and that these difficulties increase as the organisational structure becomes more complex (e.g. a discursive piece of writing is more difficult to organise than an account of an event).

Oral Presentations

Third level Dyslexic students can often find it quite difficult to make an oral presentation (Reid, 2004: 3) as they often find it hard to prepare their presentations in a logical structure. At times there may be difficulties with the mispronunciation of words and the student may demonstrate high levels of distractibility which requires high levels of energy to focus on the task at hand (Baird, 2007). Reid (2004: 3) also states the Dyslexic students can display signs of increased anxiety, especially if they are asked to deliver a presentation to a seminar group. On occasions they may endure problems reading from their notes and demonstrate a lack of fluency. Reid (2004: 3) further states the Dyslexic students may have a tendency to speak exceptionally fast at presentations and quite often it can become noticeable that there is a significant discrepancy between seminar performance and written work.

Stress

Substantial evidence exists to show that Dyslexic students experience high levels of stress at third level due to the vast array of problems endured in the learning environment (Hartley and Watkins, 2001: 1). A number of possible causes of stress have emerged as reported by Hartley and Watkins (2001: 2) which can be divided into two categories: – a cognitive group and a social/emotional type. Sources of stress in the cognitive category can generate difficulties in phonological Working Memory which can lead to problems like remembering appointments or following a lecture, which can, in turn, lead to further stress. These problems will be further impacted by misreading questions, resulting in research activities taking longer which further intensifies the stress levels of third level students with Dyslexia (Hartley and Watkins, 2001: 2).

Hartley and Watkins (2001: 2) also point to a number of social and emotional stress categories which can affect a Dyslexic student at third level. Certain students with Dyslexia at third level may try to conceal their disability from their peers and lecturers which in itself can cause stress. Gauntlett (1990, cited in Hartley and Watkins, 2001: 2) further states these students will try to hide their disability if they have encountered negative feedback or reactions in the past and Gilroy (1991, cited in Hartley and Watkins, 2001: 2) suggests they may use avoidance tactics to hide their Dyslexia. Finally, Hartley and Watkins (2001: 2) point out these students with Dyslexia may for whatever reason be unable to cope with their difficulties leading to further stress for them at university.

Conclusion

It is quite clear from the above discussion that Dyslexic students do experience a variety of problems at third level, of which, the greatest difficulties are in terms of reading, writing and spelling. The studies mentioned above further illustrate how these difficulties severely affect Dyslexic students in a classroom/lecture environment in the most basic but important tasks, e.g. (a) reading and revising material, (b) taking lecture notes or even (c) delivering oral presentations. No

matter how acute these difficulties appear to be for them in college, it can have devastating long term consequences when they leave third level education and enter employment. Given the range of problems outlined in this article, it is imperative that a range of compensating strategies are constantly investigated by third level institutions in addressing the various problems of the third level Dyslexic student.

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