

# **An Evaluative Case Study of a Daily Gross Motor Exercise Programme for Students with Special Educational Needs in a Mainstream Primary School**

**In the current inclusive educational environment schools are challenged to serve an increasingly diverse student population. This requires an imaginative approach to creating authentic initiatives which can move beyond traditional parameters. This article describes a research project which was undertaken to evaluate one such initiative; a daily gross motor exercise programme (EP) for students with special educational needs (SEN). It reports the findings of the study, their impact on the research site and potential implications for other schools.**

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## **INTRODUCTION**

As a result of the increased drive towards inclusive practice, many students, who traditionally would have attended special schools, are enrolled in mainstream schools (Griffin and Shevlin, 2007; Lynch, 2007). Standard learning support in mainstream schools has been confined to literacy and numeracy (Department of Education and Science (DES), 2000; 2005). However, there is a growing perception that just as proficiency in these key areas could facilitate a range of learning opportunities motor competence could also enable participation in a variety of social, emotional, physical and educational contexts. The development of physical competence is as important to children's education and overall development as numeracy and literacy (National Summit on Physical Education, 2005). Yet students who need it most, those from lower socio-economic backgrounds, girls and those with special educational needs (SEN) risk being excluded from participation (Kirk, 2005; Cale and Harris, 2006; Marsden and Weston, 2007).

Fundamental motor skills should be mastered by children functioning in the average range by age seven (Sugden and Wright, 1998). However, Jess, Dewar

and Fraser (2004) report that this rarely happens in our modern culture with increasingly sedentary lifestyles. This suggests that without specific targeting of these skills, children may be unable to benefit from the broader curriculum. Difficulty with motor competence may affect as many as ten per cent of the student population (Macintyre and McVitty, 2004). This figure equates with the number of students entitled to support for problems with literacy. In addition, children with learning difficulties are often behind their peers in levels of fitness (Lieberman and Houston-Wilson, 2002). As the severity of the learning disability increases so does the incidence of motor difficulty and students may need significant intervention, adaptation and support (Vickerman, 2007). Some children experiencing motor difficulties can learn to avoid anticipated negative feedback and withdraw from activity, thus putting subsequent skill development and social emotional growth at risk (Sherrill, 1993).

Small-group daily physical education (PE), of varied content, was standard practice in a number of special schools that the author visited over the years. However, interventions targeting motor development did not appear to be in place in mainstream primary schools. In consultation with students, parents, teachers and an occupational therapist (OT), a generic daily group exercise programme (EP) with pupils sanctioned for low incidence teaching hours was set up. This initiative aimed to create a safe environment where children could work on fundamental movement skills the mastery of which was taken for granted among the general student population.

The daily exercise programme EP was gradually extended to other students experiencing motor difficulty, including some without a diagnosed SEN, making up two groups of twelve, who met daily in the school hall for consecutive twenty-minute sessions. A number of special needs assistants (SNAs) supported the students together with two resource teachers who facilitated the programme. Recommendations from physiotherapists and OTs for individual students were incorporated into the general schedule. Students attended on a short- or long-term basis as was appropriate to their need. Those attending on a short-term basis were assessed at the start and finish of their intervention period. Students attending on a long-term basis completed the same tests at the start and end of an academic year. Length of attendance was generally decided in consultation with students, parents, teachers, OTs when relevant, and SNAs. The student participants of the present study were long-term attendees.

The programme was designed around a series of repeated six-week units. The first three weeks focused on building strength, stamina, balance and coordination.

These skills were generalised into a variety of contexts throughout the latter three weeks. One week each was assigned to skill circuits, personally chosen targets and a student designed obstacle course. Caring for and acceptance and understanding of self and others were central to the programme ethos. Having been two years in operation, the programme was formally evaluated to ascertain its efficacy as perceived by the stakeholders and to examine student engagement in both the EP and general curricular PE.

### **Inclusion**

While the principle of inclusion is generally accepted, the reality of practice at school level may not match stated policies (Florian, 1998; National Council for Special Education (NCSE), 2006). Evidence suggests that students with SEN can remain relatively isolated in mainstream schools (Ainscow, Farrell, Tweddle and Malki, 1999). In order to create equality of educational opportunity for all, systems must be created where difference is celebrated and where individuals are treated fairly but differently so as to fulfil requirements for general accessibility and entitlement (Vickerman, 2002).

A paucity of international research relating to the effective inclusion of students with SEN in mainstream PE is widely acknowledged (Kirk, 2005; Bailey, 2006; Sandford and Armour, 2006; Smith and Thomas, 2006; Hein and Hagger, 2007) and there is a dearth of evidence to suggest how best to facilitate this inclusion (Fitzgerald, Jobling and Kirk, 2003; Cale and Harris, 2006). Specific programmes of intervention for children with motor impairment appear to be unusual in mainstream Irish primary schools despite the increased enrolment of students with SEN and the co-morbidity of physical difficulty (Sweeney, 2007). However, it would appear that a flexible school based programme which can respond to student diversity can make a significant difference to children with motor impairment (Sugden and Chambers, 2006). Such a programme should directly target the development of children's perceptions of competence, intrinsic motivation and enjoyment of physical activity in order to facilitate the engagement and the transfer of skills to lifelong physical activity habits (Ireland, 1999; Bailey, 2006; Ommundsen and Kvalo, 2007). Student involvement in setting clear, attainable, personal goals could enhance perceived competence and personal development (Baron and Downey, 2007; Sugden, 2007). An overemphasis on sport and traditional games may exclude some students (Smith, 2004; Marsden and Weston, 2007). Hence, the overarching research question in this study centred on the efficacy of the programme being evaluated in supporting the inclusion of students with SEN in mainstream education.

## **METHODOLOGY**

A predominantly qualitative research approach was adopted and involved an interpretative, naturalistic approach to its subject matter (Lincoln and Guba, 1985). The research focused on the EP as it was experienced by six sixth class students with SEN. It explored their perspectives and observed their engagement in both the intervention setting and general class PE. Maximum variation purposeful sampling (Patton, 2002) was used to identify a wide range of personnel thus offering a diversity of perspectives. The views of a variety of the stakeholders were included to deliver triangulation.

Rehearsal and pilot interviews were conducted to increase the researcher's situational competence (Flick, 2002) and inform the schedule of questions. Small focus groups were assembled to get a variety of perspectives and increase confidence in emergent patterns of response (Patton, 2002). In addition, group numbers were restricted to three and member checks were carried out at the end of each session to enhance reliability.

Qualitative data from direct observation contrasts with, and can usefully complement, information obtained by interviewing, yielding depth and completeness (Robson, 2002) - recording what people do as opposed to what they say they do (Wolcott, 1992; Denscombe, 2007). Observation of direct student experience in the school hall and on the sports field was included to give depth to the investigation. A quantitative data collection instrument was added to increase the potential objectivity (Robson, 2002) of the observed PE participation and this was administered on three occasions. Numeric values were assigned to two aspects of participation, namely level and standard. The level denoted the observed attention and effort applied to the task, while the standard measured the performance of the six students relative to that of their peers.

The key personnel chosen for this study were six students with SEN in sixth class, aged twelve and thirteen years, all of whom had attended the EP for a minimum of two years. These students were judged to be in a unique position to reflect and report on their experience of the programme. Each was sanctioned for low incidence teaching hours; three had a diagnosis of developmental co-ordination disorder (DCD) and three received support for emotional behavioural disorder. They were interviewed in two groups and observed in both the EP and the sixth class PE lessons over a period of eight weeks.

The students' parents, the sixth class teacher, three SNAs, two resource teachers in the role of programme facilitators and three class teachers were also consulted to access broad programme impact. Three OTs who supported the students from two health service agencies were included to create a broad multi-dimensional participant profile and yield depth to the inquiry. The total number interviewed was twenty-three.

Specific measures were employed throughout the research to enhance the credibility of inferences (Greene, 1998). Negative case analysis, member checking, reflexive self-scrutiny and peer debriefing were carried out to enhance the accuracy of accounts (Robson, 2002). An audit trail was kept, demonstrating a full record of all activities carried out during the study, thereby facilitating transparency. It should be noted however, while these stringent measures were applied to counter threats to trustworthiness, the fact that the study was carried out by a sole researcher who designed the EP, in her own professional environment, must limit the potential transferability of the findings.

## **FINDINGS AND DISCUSSION**

There was a general consensus among all the participants that group support for children with physical difficulties should be available to students in mainstream schools. The OTs believed that facilitating motor development was not "rocket science". It was well within the existing capabilities of primary school teachers. As one put it, "Having people who have the knowledge who can actually come up with solutions and supports and systems within the school, even if they are not absolutely perfect" is invaluable. They believed such intervention could potentially reduce the demand for specialist OT services. This viewpoint is supported by Sugden and Chambers (2006) who recorded significant positive effects following an intervention for students with DCD facilitated by teachers and parents.

All participants acknowledged the value of physical exercise and the EP, citing physical, social, emotional and intellectual benefits. This reflects the aims of the revised curriculum (Ireland, 1999) and findings of Bailey's meta analysis of international research (2006), which reported consistent research evidence on the link between positive motor experiences and physical, social, emotional and to a less evident degree, cognitive benefits.

Opportunities to develop social skills through exercise and the EP were acknowledged among all the participant groups, with some highlighting the

opportunity to work in teams as an important advantage of physical activity. However, one parent reflected that teamwork presented a particular challenge for her child as the speed of body and thought demanded by the task was beyond her present capability, “They are all getting better and more competitive” and “Mary hates GAA [Gaelic Athletic Association]”. This reflects the potential exclusion that can occur when traditional team games become the focus of PE (Smith, 2004; Marsden and Weston, 2007).

SNAs reported that the students with SEN were more able to participate in popular physical activities in the yard, for example skipping, as a result of getting extra help in areas of personal motor difficulty. The OTs believed that the small multi-class group situation of the EP ensured that students were exposed to many learning opportunities within a safe environment, which allowed them to work on skills without risking ridicule. Agreeing, the programme facilitators stated that students with SEN, who may be left till last in class team selection, were never isolated in the EP, which in turn could create emotional benefits.

Working in a small group of children with a diversity of movement problems was regarded by the adult participants as an important contributory factor in enabling the development of self-confidence and perceived competence among the students. The six students viewed their competence in PE as “goodish”, “quite good”, “pretty good” and “okay”. All the students believed that the EP enabled them to work on skills necessary to facilitate participation in class PE, “It makes you feel stronger like... builds up your muscle in your legs, so you can run for longer” and “Then you can feel better about PE”. As emphasised by Vickerman (2002), additional supports may be required for students with SEN if curricular accessibility and entitlement are to be enabled.

Withdrawal from class, particularly for the second EP, was cited by the class teachers as the main problem associated with attendance at the EP, causing disruption and creating difficulties in ensuring that the students do not miss out on core learning. However, there was a general recognition that adequate targeting of individual needs was problematic within the general class PE lesson, where there are high numbers or where children may present with complex physical disabilities or challenging behaviour - as was the case with the students in this study. This issue reflects Kauffman, Landrum, Mock, Sayeski and Sayeski’s (2005) position that students may need to work in a group of peers of comparable ability if effective learning is to be enabled. It was suggested that additional in-class support for children with motor difficulty could minimise the need for withdrawal, particularly at the junior level.

Quality PE sessions should target student enjoyment (Ireland, 1999; Kirk, 2005; Bailey, 2006; Cairney, Hay, Mandigo, Wade, Faught and Flouris, 2007). There was a general consensus among the participants that all the students enjoyed the EP, with the students saying, “I think it is good fun in the EP” and, “It’s good crack”. They believed that the general student population would like to join it and should have the opportunity to do so at some level. Participants reported a high level of fun, which suggests that the EP may have countered a tendency for students with motor difficulty to report low levels of enjoyment in connection with physical activity (Cairney et al., 2007). Personal target week was highlighted by parents, students, teachers, SNAs and OTs as exceptionally helpful. This resonates with research by Baron and Downey (2007) who found that students were motivated to participate when achievable targets were presented within a realistic time frame.

OTs reported that a significant number of students with SEN employ diversionary tactics so as to avoid participation in curricular PE. This corroborates the assertion that students experiencing difficulty may develop an activity deficit (Sherrill, 1993). However, findings of the present study suggest that when an appropriate support is put in place participation can be enabled. Teachers and SNAs reported instances in the general class where students attending class PE lessons were able to demonstrate skills which they had practised in the EP.

The students were formally observed at five different class PE lessons, three of which were facilitated by a GAA instructor in a local sports field. Findings indicate that the student participants engaged fully in the EP and generally, to the best of their ability in regular class PE lessons with some context dependent caveats. This contrasts with the tendency for students to withdraw, as identified in the literature and described by the OTs. Reported levels of enjoyment, combined with much observed fun, may have contributed to this higher than predicted pattern of engagement. The EP appeared to have impacted positively on student participation in curricular PE and overall availability for learning. Mindful that factors such as school ethos may have influenced results, these findings should be interpreted with a degree of caution.

## **CONCLUSION**

This evaluative study investigated the efficacy of a daily EP to support students with SEN in a mainstream primary school using interviews and observation schedules. A general consensus emerged that while there are some challenges associated with programme implementation as discussed above, the benefits to the students more than compensated for these. Early in-class intervention measures

for children with physical disabilities could reduce the need for student withdrawal. The broad range of participants in this study believed that motor competence is an essential foundation for overall child development and rated its importance as equal to literacy or mathematics. Therefore, as is the case for these subjects, students experiencing difficulty should be entitled to receive learning support on identification of need.

Students in the study were observed engaging fully in the EP and this was perceived to impact positively on their participation in general class PE and overall availability for learning. In the light of that, it is envisaged that the programme will continue to be implemented subject to ongoing consultation with staff, students and parents. In the same vein, other mainstream schools could benefit from implementing an EP. This could potentially help the child with SEN in primary school avoid the pain of unaddressed needs. In addition, the possibility of reduced costs of specialist OT services to the exchequer cannot be discounted in the current economic climate.

The effective inclusion of students with SEN in mainstream education presents ongoing challenges. The current research project constitutes one small step in the “never ending search to find better ways of responding to diversity” (Ainscow, 2007, p. 155). Despite its limitations, it contributes to the sparse knowledge base on the inclusion of students with SEN in general curricular PE in Ireland. The format of a daily EP may enable students with significant levels of physical impairment and those with an emotional behavioural disorder work on personally relevant skills which can positively affect overall development and participation in education. Further research is required.

*As a result of this study, several changes have been made to the original model of the EP. The number of daily sessions has been reduced to one and more in-class support is taking place which enables the early identification of motor difficulties. “Bring a Friend Friday” has been introduced with the dual purpose of broadening the social circles of group members and enabling all the school students to participate. Further details of the EP are available from [info@enniskerryins.ie](mailto:info@enniskerryins.ie).*

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