

SCEL Fellowship Programme

Area of Enquiry

**A Report on how data-driven interventions may help raise attainment of low achievers in Scotland: Implications for school leaders**

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In recent years, I have had the opportunity to work with the Scottish Government, my local authority and third sector organisations on developing strategies to support school leaders in improving attainment for young people experiencing social and economic disadvantage. This enquiry is influenced by this work, in particular with regard to the use of data to support school leaders in implementing interventions to improve attainment for their students. Adopting such an approach requires a clear focus on effective leadership at all levels and in particular a systems' leadership approach. My enquiry therefore draws upon my professional learning as part of the SCEL Fellowship programme, especially with regard to leadership practices for greater equity in Scottish schools and networked, collaborative and community leadership (SCEL 2016).

During the past few years, significant policy decisions in Scottish Education have focused on addressing the challenge of closing the 'attainment gap'. The Scottish Government (2015<sup>a</sup>, p.5) asserts that the key challenge for Scottish education is "Closing the gap in attainment, achievement and wellbeing between children and young people living in our most and least deprived areas". In a report commissioned by the Joseph Rowntree Foundation, Sosu and Ellis (2014, p.3) highlight that there is "clear evidence of a persistent attainment gap between pupils from the richest and poorest households in Scotland". Indeed in launching the Scottish Attainment Challenge in 2015, the First Minister highlighted the need to bring "a greater sense of urgency and priority" to the issue of achieving equity in educational outcomes (Scottish Government, 2015<sup>b</sup>, p.1).

There is significant research providing alternative strategies for addressing this challenge. Current key drivers for Scottish Education, the Scottish Attainment Challenge (SAC) and the National Improvement Framework draw on this research, including the work of Sosu and Ellis (2014) and studies of earlier improvement programmes such as the London Challenge. This is however a highly complex issue as "Studies of the complexity of (educational) practice highlight that there is not one 'gap', nor one 'solution' for how gaps can be closed" (Florian, 2016, p.3). Furthermore it is essential that we reflect on the meaning of poverty to ensure that we do not have a narrow definition which excludes significant numbers of young people from valuable interventions.

Clearly the scale of such a challenge is beyond the scope of this enquiry, therefore the focus is on one area which has been highlighted in research and Government policy. This area is that:

Improved data on children's progress at key stages, including differences between those from the least and most deprived areas, will allow for planning further interventions to ensure that all children achieve as well as they can.

(Scottish Government, 2016<sup>c</sup>, p.11).

## Critical question

In what ways can a greater understanding and management of the use of the Scottish Index of Multiple Deprivation (SIMD) and other data support school leaders in introducing effective, targeted interventions to address the challenge of closing the attainment gap and impact on outcomes for young people?

The concern relating to this question is that schools are data rich environments – but do our school leaders and teachers understand this data? Can they interpret it, analyse it and use it? This enquiry will aim to show that if school leaders can gain a greater understanding of individual pupil data and develop a manageable system to track their progress, then there is potential to more easily identify young people who require interventions, and then to design support which will more effectively achieve equity and improve outcomes for all.

## Literature Review

Currently in Scotland, there is a clear focus on equity through the SAC. The Education (Scotland) Act 2016 seeks to improve the attainment of pupils from poorer backgrounds stating that, "Achieving excellence and equity is a national endeavour" (Scottish Government, 2016<sup>a</sup>, p.14). Scottish Government policy is based on research which points to the existence of an attainment gap. A key study is by Sosu and Ellis (2014), which provides evidence to show that the gap in attainment between children from low and high socio-economic backgrounds emerges at an early age and widens further as children progress through their schooling. This is further reinforced in research conducted in 2015, which demonstrates that attainment at SCQF Level 6 for school leavers increases steadily as deprivation decreases (Marcus, 2016).

In addressing the equity dimension to raise attainment there is a clear focus on young people living in areas of deprivation. This has implications for school leaders who, as Dimmock (2016<sup>a</sup>, Presentation for SCEL) highlights:

Possess a strong values orientation towards meritocracy combined with equity; while the gifted at one end are encouraged to achieve to their potential, as are middle achievers, low achievers are given compensatory resources and support to close the attainment gap.

Compensatory approaches to address the educational impact of poverty are being developed through the SAC, however it is important to highlight recent research which shows that:

the 'attainment gap' is not just that the least well off 20% do badly and everyone else attains at similar levels. Rather, the 'gap' with the most well-off pupils exists for all other pupils too. (Marcus, 2016, p.29).

In working towards equity we need to ensure that all learners' needs are met. It is also essential to be aware that in measuring attainment, we need to avoid a narrow definition based only on examination performance. It is important to include different forms of achievement as highlighted by Edgar (2016), such as community involvement and the development of transversal skills.

In considering compensatory approaches, we need to find a measure which enables school leaders to accurately identify young people experiencing poverty that is impairing their attainment. Currently most schools use the Scottish Index of Multiple Deprivation (SIMD), which has been developed and produced by the Scottish Government (Scottish Government, 2016<sup>b</sup>), as the key indicator of deprivation. Indeed the National Improvement Framework (2016) impresses on school leaders the need to know the breakdown of children's progress by deprivation using SIMD. However, as the Commission on Widening Access (2016) reports, SIMD identifies deprived areas, not deprived individuals. Targeting interventions exclusively on pupils who live in deprived areas, does not offer a comprehensive solution. Furthermore, Fischbacher (2014), insists that we must avoid labelling students as 'deprived' and use SIMD alongside other data sources.

This highlights that it would be more efficient to apply a basket of measures to identify children living in poverty. Free School Meals (FSM) is often used as an indicator of deprivation in educational policy and research. Indeed in assigning an additional £120 million per year to the SAC through the Pupil Equity Fund (PEF), the Government announced in February 2017, that this funding would be allocated based on FSM. However the Government is not applying the PEF based on a basket of measures, but only one, and school leaders should be aware of the limitations in only using this measure. In this instance, funding will be awarded based on the percentage of pupils receiving free school meals, not on the total number eligible. Moreover, research suggests that FSM fluctuates with economic cycles and that parents may feel stigmatised when registering their children as eligible, making them reluctant to do so. This can result in too many or too few students being recognised as disadvantaged (Sutherland, 2016).

School leaders therefore have a range of tools to support them in identifying young people experiencing poverty. How then can they use these and other data to implement targeted interventions? In Ontario a study of the practices of some high performing principals has shown success in closing achievement gaps. One of the 'Five Big Ideas' in the study stresses the need to:

Keep the focus on student outcomes at all times, bringing a wide range of data to the discussion and ensuring that teachers become deeply involved with the collection and analysis of this data (Ontario Leadership Strategy, 2012, p.43).

It is important to note however that the outcomes need to be wide-ranging, not just based on examination results. Furthermore a key implication for school leaders is to ensure that the attainment data they use, reflects consistency of teachers' judgement. If decisions are not taken on consistently accurate data across all students, the gap might indeed widen, not close. Such research highlights the importance of informed evidence-based decision making, especially in relation to identifying students who are underperforming and in implementing the most effective intervention strategies.

There is significant evidence to suggest that a key intervention strategy is to engage parents. Sosu and Ellis (2014), highlight the importance of parental involvement programmes and of engaging families and communities. Sherer (2008), argues that it is crucial for principals to encourage teachers and other staff to initiate and sustain relationships with parents. However, while it is generally accepted that parental involvement is important, Yap and Enoki (1995) assert that there is little agreement on how it may best be implemented. This enquiry focuses on engaging with parents to find out what they feel works for them, rather than imposing strategies which we, as school leaders, believe will work. In the same way, all stakeholders should have a voice in identifying the best strategies to address, what Cook et al. (2014), describe as the multi-faceted deprivation-education relationship. The activities of the enquiry group reported in this study have therefore gathered and analysed such information from pupils and teachers.

Addressing the problem of closing the attainment gap using data and targeted interventions, needs a focus on high quality leadership at all levels and a systems leadership approach. Chapman et al. (2016, p.6) suggest that "policy-makers should be investing even more heavily in developing research and development interventions between schools and beyond schools". While it may be over ambitious to aspire to achieve what Hargreaves (2011, p.26) describes as "high collaborative capital", it is hoped that this enquiry will reflect a collaborative approach, motivated by a sense of moral purpose and driven by system leaders who, as Dimmock (2016b, p.2) describes, "care about and work for the success of other schools as well as their own".

## Research Enquiry: Methodology and Data Collection

The focus of this enquiry has involved working with school leaders in North Lanarkshire Council to gain a greater understanding of data on individual young people in order to develop a system to track their progress. Our goal has been to develop an approach which enables school leaders to have a strategic overview of every young person in their school. It is also to enable senior leaders and teachers to identify young people who require interventions and to design targeted support based on individual need.

The enquiry involves seven secondary schools, which represents over 30% of all secondary schools in the Authority. Each school is represented in the enquiry group by a senior leader who has the authority to make strategic decisions. A member of the Community Learning and Development team (CLD) and a Performance Analyst are key members of the group.

The group came together in October 2016 and followed the approach to Collaborative Professional Enquiry outlined by Drew et al. (2016). The four research priorities in our Collaborative Plan and our methodology and data collection approaches are outlined below:

To consider existing practice with regard to tracking pupil progress; to use this information to develop a tracking approach that is compatible with existing school management information systems.

Participants from the seven schools reviewed existing tracking systems. All schools agreed to trial an approach based on the model used by two schools which has impacted positively on improved attainment in these schools, as explained below.

The approach is based on extracting pupil data from the schools' management information system and presenting it on Excel spreadsheets due to their ease of access and flexibility of data manipulation. This information can be extracted in a range of formats to show progress for groups and individuals over time, thereby identifying gaps in attainment. The information can be filtered and used by teachers at departmental and class level.

To consider which data, including SIMD, is most helpful to facilitate identifying individuals and groups for interventions.

Our research highlighted flaws in using only SIMD as a measure of deprivation and therefore we agreed to use SIMD together with FSM and Clothing and Footwear Grants. We also agreed to include information on each young person's prior learning, current level of performance across all curricular areas and personal information including attendance and Looked After status.

#### **To consider staff training implications in understanding and using pupil data.**

One school developed and delivered a training session for all seven schools in using the tracking system and in extracting and analysing pupil data. In addition, one school developed a training resource to support staff in understanding and using SIMD as an indicator of deprivation.

#### **To gather and analyse pupil, parent and teacher views on targeted interventions.**

One school surveyed 403 pupils across all stages. The survey was anonymous and conducted using electronic mobile devices to ensure privacy. Almost all of S1- S3 participated and more than half of S5 and S6 took part. Only one third of pupils in S4 participated therefore the findings for this year group may not be fully representative of that cohort. All seven schools are continuing to obtain pupil views using the survey and the

group will, as Drew et al. (2016) suggest, continue to reflect and act on their findings. One school is using an exciting approach based on Learner Conversations. Other schools are trialing this approach and will provide feedback to the group later this session.

Three schools participated in gathering parent views. One school used a focus group approach, while the other two schools used questionnaires. While the information obtained is very useful, the sample sizes are relatively small. The other schools in the group are continuing to gather additional parent views to ensure a more robust analysis.

In gathering teachers' views, one school has taken the lead in this area and facilitated subject-based focus group discussions with 55 teachers.

## Our findings and the impact of our work

The impact can be evidenced in a number of ways. We have successfully developed a tracking system which enables school leaders and teachers to have the full picture of each pupil at their fingertips. All of the participating schools are currently implementing this approach and all have reported evidence of impact at this early stage.

One school has established a 'Pathways to Success' interventions programme for a group of 17 pupils in S3 who were identified as underachieving. The interventions have taken place over a two-month period. Based on the most recent tracking data (February 2017), every pupil has shown improvement in at least 1 subject and some have improved in 5 or 6. Commenting on this early success, the teacher leading the programme stated:

The data allowed us to identify the pupils we wanted to work with and gave us information about possible factors that may be acting as barriers to success for these pupils. We used this to plan a programme of interventions to support them and their parents. The extremely positive news is that every pupil has improved in at least one subject.

Other participating schools have used the tracking approach to successfully implement a range of initiatives, including a Family Learning programme and subject based Parent Workshops. One school has used the tracking system to identify pupils to participate in an S2 boys nurture programme. 7 pupils have taken part in enrichment activities to raise their confidence and self-esteem. Pupils have commented that they feel more confident and more prepared to engage in learning. Based on recent tracking data, there is evidence of improved attendance and attainment for 5 out of the 7 pupils involved.

The enquiry has also impacted on professional learning for staff. All seven schools have participated in training in using the tracking system. This has enabled the schools to train their staff and trial this approach using their own pupil data.

In designing effective interventions, the views of all stakeholders have been of critical importance to the group.

The pupil survey has shown that young people at all stages prefer interventions which support them in learning how to study and prepare for examinations, including advice on using technology for this purpose. As pupils progress to the Senior Phase, they prefer interventions which focus on specific subject support. Members of the group were surprised to note that pupils do not consider one-to-one mentoring and homework clubs to be the most helpful forms of intervention. This feedback reflects the work of Sosu and Ellis (2014), who state that after-school activities such as study support should have a clear academic focus.

Analysis of parent feedback highlights the value parents place on effective communication between school and home. The views of parents reflect students' feedback on the need to focus on subject specific support. Parents stressed the need for more information about courses and approaches to teaching, learning and assessment.

Feedback from teachers is consistent with the views of parents and pupils. Teachers feel that the most useful interventions are subject based, linked directly to coursework. They are mindful of the need to address the educational impact of deprivation and highlight the importance of strategies which create a positive ethos with high expectations for all. In order to ensure effective targeted support, especially at classroom level, the overwhelming response from teachers, is the need to have additional training in understanding and using pupil data.

Whilst it is possible to demonstrate initial impact of the enquiry, the group is not yet able to demonstrate impact for all schools based on attainment data. This can only be achieved when all schools have extracted data at the end of their scheduled tracking periods and can track on a longer basis, attainment vs. the basket of measures to understand pupil progress.

## Implications of findings and recommendations for School Leaders

Initial trials suggest that the approach developed offers both sustainability and scalability. A recommendation for school leaders is therefore to develop a similar model, based on a wide range of data, which provides a strategic overview of the progress of every young person in their school. A further recommendation is that school leaders should not rely solely on using SIMD to identify young people living in poverty but use a basket of measures.

In developing this approach, there are implications for school leaders to support the continuing professional learning of staff, particularly through providing training for teachers in analysing and using their own pupil data.



While there is no magic bullet to address the impact of deprivation on educational outcomes, this enquiry demonstrates that a combination of targeted interventions may be helpful. School leaders may find it beneficial to engage with their stakeholders to design intervention strategies which reflect their own local context.

This enquiry has been driven by a research model based on a culture of collective enquiry. Feedback from participants reinforce Dimmock's (2016<sup>c</sup>, p.22) argument that:

Together, schools that are research engaged and professional learning communities offer a compelling future for mobilizing knowledge and closing the research-policy/practice divide.

This is reflected in the feedback from one participant:

I feel the project has been very worthwhile. Working collaboratively with colleagues and sharing ideas in a supportive environment has really helped move things forward for me.

The enquiry has demonstrated the way in which our model has supported the scaling up of our approach to seven schools. We are now in a position where our work has the potential to be scaled up further across all secondary schools in the Authority. A final recommendation for school leaders therefore is to encourage them to become research-engaged in order to impact on improving outcomes for their students.

## My personal reflections and development journey as part of the SCEL Fellowship Programme

In leading this enquiry and in participating in the Fellowship Programme, I have gained a deeper understanding, on both a conceptual and practical level, of what it means to be a systems leader.

Developing a conceptual framework has enabled me to appreciate the theoretical framework underpinning my enquiry. Working collaboratively with colleagues, I have been able to use this theoretical context to engage in action research.

This research has shown that developing tracking systems, based on a range of pupil data can support school leaders in improving outcomes for young people by identifying students who require interventions. This research has also enabled me to challenge the value of using only a geographic approach to address the impact of deprivation on attainment. There is a clear implication therefore for school leaders to reflect on broader aspects of poverty and to gather and use a wide range of data on every young person in their school. This will enable them avoid stereotyping disadvantaged students as all experiencing similar barriers simply because of where they live.

While this enquiry has shown that data can help identify young people who require interventions, critical evaluation of this research has helped me to fully appreciate that it is what school leaders and teachers do with this information that can really make a difference; not just for one group but for every young person, in every school.

The success of this research has helped to build the confidence and sense of collective efficacy among the members of the enquiry group. They have described how, in working together, they have felt empowered to affect change. On a personal level, my Fellowship journey has had a significant impact on my own professional learning and has enabled me to develop a greater sense of my own self-efficacy. In leading this enquiry, I have established an effective and sustainable network of school leaders who have shown that they are genuinely research-engaged and committed to making an educational difference for all our students. This, as Dimmock (2016) argues, is at the core of system leadership.

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