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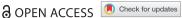
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Teacher leadership in school self-evaluation: an approach to professional development

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ABSTRACT

The importance of school self-evaluation (SSE) as a school improvement mechanism has been acknowledged by increases in the number of countries with legal requirements for schools to conduct self-evaluation. Despite the provision of a range of support to schools to encourage their engagement with SSE, many implementation challenges have been highlighted in research from various jurisdictions, where SSE has been introduced. The provision of professional development (PD) to schools is a common response to such challenges, yet there is a dearth of research into the models of PD that might best support schools to apply the learning and address the common implementation issues that have been identified in the literature. This action research study explored a PD intervention for teachers leading SSE in Irish post-primary schools. The findings explored the experiences and perceptions of staff from 15 of the schools involved, and in particular focused on the features of the intervention that supported participants to apply the learning, by leading the SSE process in their respective schools. The findings indicate that this model of PD for teachers leading SSE may offer some useful solutions to the ongoing challenges experienced by schools in relation to SSE.

Introduction

The widespread culture of performativity has resulted in governments increasingly expecting schools to demonstrate effectiveness and to engage in evidence-based quality assurance processes (OECD 2013). Frequently, these include an external process of school inspection combined with an internal process of school self-evaluation (SSE) (McNamara, Brown, et al. 2021). SSE is described by the authors as an internal, collaborative, cyclical, evidence-based review and improvement process that assists schools to identify actions that aim to improve outcomes for learners and overall school performance.

Research indicates that SSE can have a positive impact on school improvement (McNamara, Skerritt, et al. 2021; Schildkamp et al. 2012) and outcomes for students (Caputo and Rastelli 2014; Antoniou, Myburgh-Louw, and Gronn 2016). In addition, engaging in SSE can result in useful learning for the school and a range of 'process outcomes' for the participants such as enhancing shared understandings; a sense of ownership and self-determination (Patton 1997). According to Vanhoof and Van Petegem (2011), the quality of a self-evaluation process is strongly determined by how that self-evaluation is carried out. Van der Bij, Geijselb, and Ten Dam (2016) summarise some of the conditions for successful self-evaluation including user-friendliness of instruments and procedures; use of standards; harmonisation with inspection framework; relevance for stakeholders; availability of external support; positive perception of the process among participants in regard to transparency, ownership and impact on school culture; and a cyclical approach.

Across Europe, specialist training in SSE is offered to schools in over half the education systems and is provided by a range of bodies including ministry departments, teacher support services and higher education institutions. It appears that training is frequently targeted at school management and can involve teachers but is often optional and is delivered in a number of formats including seminars, workshops and online modules (European Commission/ EACEA/ Eurydice 2015). However, there is a dearth of research on the actual models of PD used to train and support school staff to engage in SSE.

Schools often experience SSE implementation challenges which relate to the poor understanding of the SSE process, lack of confidence in leading SSE, technical aspects of gathering data, setting targets and measuring impact (O'Brien et al. 2020; McNamara, Brown, et al. 2021). Similar implementation issues in relation to both SSE and data-use more generally, are also highlighted in a number of other studies (Mandinach and Gummer 2013; Marsh 2012; Young et al. 2018). Other issues highlighted in the literature relate to teachers' attitudes to SSE, as not only do they perceive it as difficult to implement, but also associate it more with accountability than improvement in the classroom. Therefore, it is often seen as a role and responsibility for school management rather than teachers (Bowers, Shoho, and Barnett 2014; Vanhoof et al. 2014). In many studies, teachers show resistance to data-driven improvement processes which may appear incongruous with their identity as classroom teachers (Wrigley and Wormwell 2016). Referring to changes in the role of teachers in the United States, Valli and Buese (2007) claim teachers' work 'has increased, intensified and expanded in response to federal, state and local policies aimed at raising student achievement' which has resulted in 'teacher discouragement, role ambiguity, and superficial responses to administrative goals' (520). Systematic SSE also appears to be an improvement process that is difficult to imbed in the culture of schools and is often viewed by teachers as something to be done as a requirement of the school inspection process (Hopkins et al. 2016). Teachers frequently adopt negative attitudes towards school reform claiming that they do not have time outside their core teaching role to engage in such practices and that past reforms have not resulted in improvements in the school (Terhart 2013).

This paper explores the elements of a specific professional development (PD) intervention for SSE which aims to train teachers to lead a whole school SSE process in their respective post-primary schools (age group 12–18 yrs), the detail of which is outlined in Table 2. In Ireland, it is common for teachers or a member of the school

leadership team to lead SSE cycles, as opposed to schools employing staff with specific data literacy skills to undertake such work. Frequently, the teacher leading SSE volunteers to undertake this role for the duration of an academic year in addition to their normal teaching duties, often motivated by the expectation that such leadership will improve promotional opportunities (O'Brien et al. 2020). This intervention was tested with two cohorts of teachers over two separate academic years and involved 20 teachers from 20 schools. In each case, following completion of the PD intervention, data were gathered through focus groups. It is described as a pragmatic approach as it incorporates elements that reflect the realities of schools and teachers and the established elements of effective PD. The term pragmatic is defined as 'dealing with things sensibly and realistically' and is associated with terms such as: purposeful, practical, realistic, useful, active, applied, experiential, in the field, rational, and efficient (Oxford English Dictionary 2018). An evaluative framework for the PD intervention is presented along with a description of the training programme. The main research question investigated is, what aspects of the PD intervention supported school staff to apply the learning, and to lead the SSE process in their respective schools?

Framework for evaluating the PD intervention

The evaluative framework chosen for the current study is based on the extended evaluative framework for mapping the effects of PD initiatives as proposed by Merchie et al. (2018), aspects of which are largely based on Desimone's (2009) model of evaluation and similar to that of Guskey's (2000) widely used model. Merchie et al. emphasise an evaluation that focuses on the key features of the intervention including core (substance of PD), structural (characteristics of the activities' structure or design) and trainer features; changes in teacher quality (knowledge, skills and attitudes); teacher behaviour; student results; contextual factors (micro context and macro conditions) and teachers' and students' personal characteristics. Merchie et al. acknowledge that few studies apply the entire evaluative framework, suggesting that research questions can be operationalised according to specified subcategories. Therefore, in this study, only the core and structural features of the PD intervention are evaluated.

In order to identify the core and structural features of a PD intervention that supports teachers to lead SSE, it is necessary to explore what constitutes effective PD in order to inform the design of the evaluation framework. As time is often a barrier to teacher participation in programmes of PD, it is important that such programmes are designed and delivered in a manner that would demonstrate 'value for money and some signs of impact' (Powell et al. 2003, 390). PD for teachers is a much researched area of literature and there appears to be general consensus on the key characteristics of effective PD as outlined by Desimone (2009) which she identified from various studies and which she claims, 'are critical to increasing teacher knowledge and skills and improving their practice, and which hold promise for increasing student achievement' (183). These include: (a) content focus, (b) active learning, (c) coherence, (d) duration and (e) collective participation.

In addition to exploring the general features of effective PD, this study seeks to identify the specific features of PD for SSE where the learning will be applied by teachers at a whole school rather than the classroom level. In order to identify the key elements of

a PD intervention for SSE more specifically, a range of literature is explored. Nelson, Ehren, and Godfrey (2015) suggest that various terms are used synonymously with SSE: 'internal evaluation, (school) self-evaluation, self-review, data use, data-based decision making, inquiry, internal accountability' (3), and therefore the literature review considers PD associated with such improvement processes. It is important to note that data use and data-based decision making also relate to activities other than school improvement processes and SSE as a process varies greatly. While there are many similarities in policies and approaches to SSE across jurisdictions, there are also differences in the way in which such practices are designed, introduced, implemented and supported, such as SSE at both the whole school and classroom level (O'Brien et al. 2017; OECD 2013).

A core feature of an effective PD intervention is the inclusion of evidence-based content which relates to the data literacy including the knowledge, skills and attitudes (Desimone 2009) required by teachers in order to successfully lead SSE in their schools. Antecedents (Stake 1967), such as prior knowledge and experience of SSE among participants, should also be considered as such elements may determine the quantity and depth of content included in a training programme. Mandinach and Gummer (2016) highlight the importance of 'dispositions or habits of mind' (372) that may be addressed within a data-use training programme for teachers.

Wayman, Jimerson, and Cho (2012) claim that teacher capacity to use data will increase through participation in frequent learning opportunities, coherently linked to practice, which allows them to usefully try out new skills and knowledge. They propose professional learning activities that are job-embedded and collaborative. Wayman and Jimerson (2014) characterised conditions for the delivery of effective PD such as contextual, coherent, active, credible, timely, resourced and followed up. This suggests the importance of relevant training that builds on prior learning, which is active or immediately applied and delivered by a credible trainer who checks with teachers to see how they are applying the learning. Coherency is further enhanced by PD which is aligned with teachers' goals and current reforms (Merchie et al. 2018). These conclusions are supported by the wider literature on professional learning for educators (Desimone et al., 2009).

Various commentators refer to the importance of a structured approach to PD (O'Brien et al. 2019; Schildkamp and Poortman 2015; Boudett, City, and Murnane 2005) or a 'step-by-step protocol' (Gearhart and Osmundson 2009). Ryan, Chandler, and Samuels (2007) suggest that those promoting self-evaluation in schools should pay attention to the realities of schooling and to be more realistic about expectations for evaluation. This approach is supported by other commentators (Marsh 2012; Wayman, Jimerson, and Cho 2012; Farley-Ripple and Buttram 2014; Wayman and Jimerson 2014). The engagement and support of the school Principal throughout the process are also important in terms of accommodating the practical aspects of the process, emphasising its importance and ensuring that the findings of the process are utilised (Emstad 2011). The design of a pragmatic approach recognises 'that the amount of time allocated to the processes should be sufficient in order to achieve the task and process outcomes yet efficient in the use of time and resources' (O'Brien, McNamara, and O'Hara 2015, 391). Related to the recognition of the practicalities of schools is the notion of 'just in time support' which is highlighted in the research on 'data-teams'

(Poortman and Schildkamp 2016). O'Brien et al. (2019) reported that teachers felt 'overwhelmed' when they received SSE training 'up front', but reported that the provision of focused support and training at the specific point where it was required and could be applied, appeared to result in significant learning for participants.

It follows that the evaluation framework developed in the context of the current study purposefully focuses on two core and six structural features as outlined in Table 1. This framework informs the data that are gathered in order to answer the key research question and the presentation of findings.

Research project

The pragmatic model was developed and delivered by a member of the research team based in the Centre for Evaluation, Quality and Inspection based in Dublin City University and was tested in a total of 20 schools. These schools included all that volunteered to become involved in the research project after information on a proposed PD intervention for SSE was circulated to 146 schools in the region surrounding the university. The training programme was called 'Let's Help You to Lead SSE in Your School' and was aimed at the staff member in each participating school who was responsible for leading the SSE process in their school during a given year. The training was provided at Dublin City University over 4×2.5 h sessions and aimed to support participants 'one step at a time' and where '*each session prepares the participant for the next stage of the SSE process back in their school*' (DCU 2016). The timeframe for the delivery of the training, over the period of a school year, the course content and the timeframe for the enactment of learning is outlined in Table 2.

Methodology

The study uses an action research methodology to explore a specific method of PD for SSE in Irish schools. The research attempts to find 'practical solutions' (Reason and Bradbury 2008, 1) to the SSE issues experienced by schools, as previously outlined, rather than generating knowledge for its own sake (Newby 2014). Following Elliott's model of action research (1991), the research cycle involved a number of activities including reconnaissance, general planning, developing action steps, implementing action steps, monitoring the implementation and effects. Overall a pragmatic orientation to action research is employed, in that it explores the practical application of an intervention (Johansson

Table 1. Framework for evaluating a PD intervention for leaders of SSE.

Key features of the PD intervention
Core features
Includes the development of knowledge, skills and attitudes for SSE
Coherent and evidence based
Structural features
PD provided to teacher with responsibility for leading SSE (job embedded)
Consideration of practical arrangements, based on the realities of school
Simplified and structured, just in time support, frequent meetings, sustained over time
Delivered by an experienced expert in SSE
Active and applied learning in a real school context
Collaborative learning

Table 2. Let's help you lead sse in your school: a pragmatic model of PD for teachers leading SSE course outline.

Timeframe Training	Content of four training sessions	Timeframe Application	Application of learning at school level
Sept.	Introduction to SSE, stages of SSE, project timeframes. Establishing the SSE team, identifying the focus, identifying tasks to be completed, SSE outputs and outcomes, the role of the SSE leader.	Sept–Nov	Establish SSE Team, agree timeframe with school management, agree focus. Facilitate 1st SSE team meeting introducing the SSE stages, tasks, outputs and outcomes. Discuss data to be gathered.
Nov.	Data gathering and analysis, training in the use of online data gathering tools. Responding to challenges and issues.	Nov–Dec	Facilitate 2nd SSE Team meeting. Finalise data to be gathered, finalise data gathering tools and organise data gathering by members of the SSE Team. Following which data are gathered from key stakeholders and analysed before the next team meeting.
Feb.	Writing an SSE Report Responding to challenges and issues.	Feb–March	Facilitate 3rd SSE Team meeting. Discuss findings and complete an SSE Report. Identify priorities for improvement.
April	Writing a school improvement Plan. Monitoring, measuring the impact of actions, reviewing and embedding practice. Responding to challenges and issues.	April–May	Facilitate 4th SSE Team meeting. Agree targets, actions for improvement, how impact will be measured, on-going monitoring, establishment of implementation team. Further consultation with stakeholders towards final completion of plan. Plans are subsequently implemented in the following years.

and Lindhult 2008), where the aim is improvement in workability of human praxis. The key research question is: what aspects of the PD intervention supported school staff to apply the learning, and to lead the SSE process in their respective schools?

Data collection and analysis

The PD intervention was tested in 20 schools, over a two-year period. Eleven teachers/ schools participated in year 1 and 9 participants/ schools participated in year 2. For each cohort, following completion of the PD intervention, data were gathered through focus groups where participants were asked to discuss the key features of the intervention that supported them to lead the SSE process in their respective schools (Creswell 2014). In order to address potential bias, all data were gathered and analysed by three researchers from Dublin City University who were not involved in the development or the delivery of the PD intervention. The focus of the questions related to the key components of the evaluative framework as outlined in Table 1. For each cohort, a focus group was held with course participants and a second focus group with members of school management from participating schools. Following the first intervention, 8 of the 11 schools participated in the research, with 8 teachers participating in the focus group and 2 members of management (Principal/Deputy Principal). Of the 9 schools participating in year two of the research project, 7 course participants engaged in one focus group with 4 members of management from 4 schools in the other. Focus groups generally lasted between 1 and 1 h 15 min. The focus groups were audio recorded and transcribed verbatim. In order to ensure credibility, a rigorous and systematic approach was used to reduce

and interpret the data. Data were analysed following Braun and Clarke's (2006) six-step approach to thematic analysis using the qualitative data analysis software Nvivo Pro. This involved reading the transcripts and recording initial codes, developing categories, coding on, data reduction and consolidation. Both a deductive and inductive approach to thematic analysis was employed. The former was informed by themes from the evaluative framework (Table 1) while the latter resulted in the identification of codes that had not been preconceived by the researchers, such as posts of responsibility; teachers in a leadership role; staff resistance; advocacy for SSE; and usefulness of data collected. In total, the data analysis resulted in 16 categories and 172 codes. The external support was provided by an expert in SSE who, in the findings, is referred to as X. The 15 schools that participated in focus groups are referred to as schools A-O. Participants are identified according to their school and role, e.g. a teacher from school A is identified as TA, while a member of management from school A is identified as MA.

Reliability and validity

In order to ensure that the findings are consistent with the data collected and an audit trail was maintained throughout in relation to each part of the action research cycle. A systematic approach to engaging with the 'action' or intervention was employed with both cohorts including PD content, activities, frequency and duration. A consistent approach was used in relation to the questions asked at each focus group, which were audio taped and transcribed. Data were systematically coded and analysed using Nvivo Pro. Ensuring that the research team who conducted the focus groups and who analysed the data did not include the person who developed and facilitated the PD intervention. Therefore, participants were free to anonymously voice their opinions. The findings include the use of rich, thick description in the form of quotes from participants.

Findings and discussion

The overall findings from the study are presented according to the framework for evaluating a PD intervention for leaders of SSE, as outlined in Table 1.

Features of the PD intervention

Includes the development of knowledge, skills and attitudes for SSE

Participants in the research generally agreed that the model of PD was very effective in preparing them to lead the SSE process in their schools. Most participants reported that they had little or no prior experience of leading SSE and had started at a very low knowledge and skill base in terms of SSE. The consideration of antecedents (Stake 1967) in the design of the training programme was acknowledged by participants. The content of the training programme is similar to those outlined in other studies where they reflect the key steps in an improvement cycle (Boudett, City, and Murnane 2005; Steele and Boudett 2008; Marsh 2012; Poortman and Schildkamp 2016).

> It was great that no assumptions were made about what we knew, basically, I just arrived at the training session, straight from teaching all day, and not only had I not read the SSE guidelines, I had given zero thought to how I would start this whole thing. (TB)

PD therefore, concentrated on introductory knowledge, skills and attitudes required by teachers leading an SSE process for the first time. While the content was evidence based and included some aspects of all five components of Mandinach and Gummer's (2016) knowledge and skills for data literacy, the emphasis was on including sufficient content that would allow participants to carry out the SSE process for the first time and to experience success in doing so. It is acknowledged that four sessions would not result in the development of teacher competence in relation to all five components. All 15 teachers reported that they successfully lead an SSE cycle in their respective schools. This is evidenced by the outputs of the process which were achieved by all 15 schools and included the establishment of SSE Teams, gathering and analysis of data, target setting, completion of an evidence-based SSE report and the completion of a school improvement plan for a specific area of focus. Participants reported that the training programme prepared them to enact every stage of the process without exception.

Apart from the development of knowledge and skills for leading SSE, a key purpose of the research project was to improve 'dispositions' (Mandinach and Gummer 2016) or attitudes towards SSE among participants. Similar to teachers' attitudes to SSE in other studies (O'Brien et al. 2020) most participants believed that SSE was a difficult process to understand and initially, many voiced a great deal of anxiety about the prospect of leading a team through an SSE process. One of the overwhelming responses from participants is that the training changed their perception regarding the complexity of an SSE process and their ability to lead it as articulated by participant TB '*it's a lot simpler than before*'. They also appeared to have more confidence in the usefulness of data and SSE as an improvement process for schools. Despite this, many participants admitted that they had only volunteered to lead SSE as it may enhance their promotional opportunities, while others stated that having led the process once, they '*had done their bit for the school.. someone else can take it on, next time*' (TO). Similar to previous research findings, 'role ambiguity' (Valli and Buese 2007) was an issue for participants, many of whom felt that leading SSE was more of a managerial role and therefore incongruous with their primary identity as classroom teachers (Wrigley and Wormwell 2016).

> I don't think a teacher at the classroom level has the time to do all this … there should be someone on staff who will be in charge of that and would then be in charge of communicating that to the rest of the staff. (TC)

Only those teachers who had an appointed post of responsibility for SSE indicated that they would use the new knowledge and skills in the future, which points to a more sustainable approach than one where schools are required to arrange training for new SSE team leaders at the start of each new cycle.

Coherent and evidence based
Participants generally agreed that one of the main reasons why they attended the course is that it aligned with national policy and specifically supported them to engage with the model of SSE as outlined by the DES Inspectorate (DES 2016a, 2016b). They appeared not interested in learning about the theory of school improvement, evaluation, data-driven decision making or in developing research skills more generally. Therefore, the pragmatic approach included knowledge, skills and attitudes in order to enact policy in their schools. As the training was aligned to the national guidelines on SSE it

incorporated the language, and procedures for SSE as outlined in *School Self-Evaluation Guidelines for Post-Primary School* (DES, 2016b) and also harmonised with the inspection framework (Van der Bij, Geijselb, and Ten Dam 2016). This enhanced the value of the PD initiative among school Principals in particular, who acknowledged that the participation of the school in the research project was motivated by the potential for building capacity among participants who may engage in future SSE processes. Participants generally acknowledged that the training addressed a number of implementation issues experienced by schools in Ireland (O'Brien et al. 2019) and elsewhere (Marsh 2012). While the design of the PD intervention was evidence based in terms of content and methodology, participants did not demonstrate an awareness of such considerations, and appeared to focus more on its usefulness in assisting them to lead SSE in their respective schools.

PD provided to teacher with responsibility for leading SSE (job embedded)

In advance of the training programme, all course participants had been identified as the person who would lead SSE in their respective school, for the year in question. Of the 15 schools represented in the focus groups, only five appeared to have been allocated an ongoing assigned role or 'post of responsibility' for leading SSE in the school. In all other schools, it was clear that the participating teacher did not expect to continue in this role going forward. Some participants commented that prior to taking on the role, they had attended some staff information sessions on SSE but had not felt it was relevant to their role as teacher. It was clear that PD only became relevant to them once they were assigned responsibility for leading SSE. Teachers who had a specific 'post of responsibility' for leading SSE were particularly keen to attend a training programme that provided practical guidelines on 'how to lead SSE' as opposed to more generic training 'about SSE'.

The findings back up the assertions of Wayman, Jimerson, and Cho (2012) with regard to the provision of 'job-embedded' and 'content embedded' training to teachers and the importance of teachers having an opportunity to apply learning linked directly to their role. The findings also highlight inconsistencies in the allocation of responsibility for SSE in Irish schools. Participants also acknowledged that the degree to which they have an ongoing allocated role in leading SSE, impacts greatly on their commitment and ability to undertake the role going forward. There was also inconsistency in the amount of time available to those with a post of responsibility for SSE, as some had a number of competing responsibilities attached to the post, while others did not. While it could be argued that the training provided was job-embedded for all participants, it was only a small aspect of the teachers' overall role in the school, and for many it was only a temporary role. This issue raises the question of whether the investment in training is sustainable when it is provided to teachers with no long-term responsibility for SSE.

Consideration of practical arrangements, based on the realities of school

One of the most important features of the pragmatic approach as highlighted by participants was the provision of guidelines to SSE leaders in relation to the time that should be allocated to SSE team meetings and activities. Participants generally agreed that while the DES guidelines for SSE are not difficult to understand, they do not address practical arrangements such as the amount of time staff should spend on the development of an

SSE report and school improvement plan, how many SSE team meetings, how to organise SSE team meetings, how much data to gather, when in the school day and year SSE team meetings should occur. These practical aspects of applying the learning were addressed in the PD intervention and this feature was most frequently praised by course participants.

> it was so clear, there was a set number of meetings, there were certain tasks to do at each meeting, and if you followed the plan the thing got done … I mean, like, nobody this time, would feel that their time was wasted. (TL)

Some theorists may reject a prescriptive approach to school improvement, arguing that a reductionist and technicist approach that does not acknowledge the professional expertise and ability of teachers or the unique context of the school (Thrupp and Willmott 2003; Wrigley 2004). Yet, the reality of Irish schools is one where teachers have little time to, not only lead SSE processes, but also to develop an understanding of how they should be carried out effectively (O'Brien et al. 2020), which has led to various implementation issues (O'Hara 2016). However, it should be noted that in the pragmatic approach schools were free to select the focus of the SSE, who to involve, what data to gather and the subsequent actions in order to improve the school. The only aspect that could be described as somewhat prescriptive was the amount of time proposed for meetings and the proposed use of that time in meetings. It could be argued that such practical considerations should be the starting point for the design of improvement processes such as SSE rather than SSE being as one teacher described '*something we are expected to fit in, maybe at lunchtime, in between sandwiches, if anyone was free or if there was nothing more important on*' (TM).

Consideration of the practical arrangements was also very important to school management, as they were informed in advance, how much time and resources were required for SSE Team meetings, how often they would occur, expected duration and expected outputs.

> we've found it really, really useful because it's clear. There's a specific time frame. There's a beginning, a middle and an end. It follows logically on … people engage with it positively because they know what the workload is going to be … and it's not excessive, it was enough to get the job done. (MO)

While the literature emphasises the important role of school leaders in creating opportunities for staff to participate in and apply PD (Emstad 2011; Wayman, Jimerson, and Cho 2012; Farley-Ripple and Buttram 2014), the findings from this study suggest that if Principals perceive the PD to be well designed both in its delivery and planned application, then school leaders are more likely to allocate valuable resources for such interventions. The findings support the recommendations from Marsh (2012) and Wayman, Jimerson, and Cho (2012), regarding the importance of addressing practical arrangements while emphasising the impact on teachers' perception of the do-ability of the process, when such arrangements are in place.

Simplified and structured, just in time support, frequent meetings, sustained over time

The PD intervention was designed specifically for full-time teachers whose main role was as a classroom teacher and who had to 'step into' the role of leading a whole school

process at a number of points throughout the school year. Bearing this in mind the content was simplified (O'Brien, McNamara, and O'Hara 2014) and delivered in a staged approach over four training sessions (Boudett, City, and Murnane 2005; Desimone 2009). Each training session focused on how participants would lead an SSE Team to complete one stage of the SSE cycle at a time. Following each training session, participants applied the learning at their school before returning for the next training session. In this sense, learning was scaffolded and training was provided 'just in time' (Poortman and Schildkamp 2016).

This feature of the PD intervention was very positively received by participants and frequently referred to in focus groups as 'teacher friendly' as it recognised the reality of the teacher's main role in school and the lack of time available to them to figure out how SSE should be carried out. Simplifying the process, providing a clear structure about how they could undertake SSE in practice, a clear time frame for enactment and recommended agendas for SSE team meetings provided participants with great reassurance and confidence that they were leading it correctly as exemplified by the following comments:

> I found the 'just in time' training was very, very good. I am very busy at school. I've so many things on my mind that this approach works, because it's so focused … when I came here and did one session, I am now focused on this. I think the step by step approach is super, in that it empowered. I felt I was in charge of the meeting at my school and I felt confident that I knew what I was doing. (TB)

The importance of a structured process (Boudett, City, and Murnane 2005; Mandinach and Gummer 2016) links with the notion of addressing practical arrangements as outlined earlier. The structured process used here follows the traditional improvement cycle and the 'just in time support' is similar to other useful approaches as outlined by Schildkamp and Poortman (2015). Participants reported that they felt less overwhelmed by information when it was provided as they needed to apply it, rather than if it was frontloaded in advance. The provision of focused support and training at the specific point where it was required and could be applied, appeared to result in significant learning for participants.

> Other courses can be very overwhelming, because you're getting all this information over, like, five hours, and it's like, you know, and this, and this and this … And, it's just, you're coming out of it going, just feeling overwhelmed, and where do you even start? Whereas I found this was bite sized. (TK)

The frequent sessions and sustained support reduced isolation as participants attempted to apply their learning and the approach also provided an opportunity for participants to discuss progress and issues arising.

Principals and Deputy Principals agreed that the pragmatic model of PD improved how they carried out SSE, and was described by MO as being '*very clear, very logical, and easy to follow*'. Several school leaders referred to previous unsuccessful attempts to engage in SSE that went off track, dragged out over long periods and had not resulted in the completion of SSE reports or improvement plans (MM).

Delivered by an expert in SSE

Similar to other studies (Merchie et al. 2018) on PD for teachers, this study also found that the quality of the trainer was an important factor in participant's learning and

their ability to apply the learning. Participants recognised the knowledge, skills and experience of the trainer, which appeared to provide credibility among participating teachers and school management. This had resulted in the development of trust and confidence, as participants felt that the guidance they were receiving had previously been tried and tested.

> we were fortunate in that X, had actually done this before, she went into schools, she tested this out and when she says 'this approach will work', I trust she knows what she is talking about … I don't know any other trainer who has done this with SSE. (TH)

Overall, the quality of the trainer impacted on the effectiveness of the training and the effectiveness of participant's ability to lead SSE in their schools.

Active and applied collaborative learning in a real school context

Participants acknowledged that the training programme mainly involved active learning. The four university-based training sessions involved a variety of teaching approaches including lectures, group-work, reflection on practice, discussions, questions and answer sessions, the use of online resources, as well as practical training in data collection and analysis. During each training session participants discussed how SSE was progressing in their school and issues that arose in leading the SSE process were addressed. The main learning activity, as reported by participants, was in the application of learning by each teacher 'in situ' as a workday embedded role (Wayman, Jimerson, and Cho 2012).

> X often talked about facilitating the meetings, managing time, keeping people engaged and all that, but it's only when you actually do it, and I was very much out of my comfort zone, it's harder than you would think to be sort of … in charge of colleagues and asking them to take on jobs without being the Principal. (TG)

The focus on active learning in this PD intervention supports the literature on effective PD (Desimone 2009) and also supports the recommendations in the literature (Marsh 2012;) that a PD for data use should use real data in a real school setting in order to retain the interest of those involved and reinforce the learning.

While only one teacher from each school attended the training, there were many opportunities for collaboration and the provision of mutual support within the training sessions which included opportunities for teachers to share and discuss their experience of leading SSE in their school.

> When we come here, it's great to have the chance to talk to teachers who are all trying to do the same thing, facing the same problems, at the same time. I mean, who could I talk to in my school about leading SSE? No one else had done it. (TE)

In this sense learning was very much a social experience for participants, where they got to know each other professionally. Participants referred to the atmosphere at the training sessions such as 'lighthearted' (TD), 'fantastic' (TG), 'enjoyable' (TB) and 'never felt stupid asking a question' (TO). The collaborative nature of the work resulted in a shared sense of purpose and achievement as all participants who completed the course, also completed the SSE process in their respective schools, within the given timeframe.

Conclusions and recommendations

This action research study explored a PD intervention for teachers leading SSE in Irish post-primary schools. The findings indicate that the pragmatic model of PD for teachers leading SSE may offer some useful solutions to the ongoing challenges experienced by schools in the implementation of SSE. It could be argued that Irish teachers are being offered an opportunity to become actively involved in an important improvement process in their schools, and are being encouraged to do so in a low stakes accountability environment where inspection is more 'improvement focused' rather than 'accountability focused' (O'Brien et al. 2019). Yet despite this positive environment, challenges remain. With a perceived lack of official school-based structures for engaging in SSE and a perceived lack of detailed national guidelines for the practical application of SSE, it would appear that there is still much to be done, in terms of developing a culture of systematic engagement in SSE.

Based on the research findings, it is recommended that the key features of the PD intervention for teachers leading SSE, as outlined in this study, should be considered by those charged with leading SSE in any jurisdiction. Not only should each of these factors be considered when PD programmes are being designed but also, prior to that, when SSE guidelines are being developed. Policy makers promoting SSE as a key school improvement process, have a responsibility to ensure that related PD provided to schools is fit for purpose. Well-designed PD, incorporating the features outlined in this study can make the SSE process more straightforward and easier to carry out in schools. It is important to remember that SSE is a means to an end, improving outcomes for students, and as such those who develop and support SSE processes should consider the most efficient and straightforward process that would assist schools to identify, and more importantly undertake actions that would lead to such improved outcomes.

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