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Understanding the diffusion of non-evidence-based health interventions: The role of experiential evidence

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Abstract

Objective: The utilisation of evidence-based health interventions remains a challenge in educational settings. Although driving forward the scientific evidence-base may contribute to the diffusion of such approaches, abstract notions of population-level impact may not be prioritised within localised settings. This paper considers the alternative forms of evidence that inform schools' decision-making in relation to the adoption and implementation of health programmes.

Design: Pragmatic formative process evaluation was conducted of a non-evidence-based social and emotional learning intervention, the *Student Assistance Program*. Case-study methodology was utilised.

Setting: Cases comprised of four socioeconomically contrasting secondary schools (free school meal eligibility ranging from 11.3% to 36%).

Method: Semi-structured interviews were conducted with fifteen programme stakeholders. **Results:** The results explore: (a) how school staff acquired belief in the merit of the Student Assistance Program through an intervention training course; (b) how experiential evidence gained in this course is utilised in the effort to secure intervention adoption; (c) how intervention implementation may be limited by the lack of opportunities to develop experiential evidence within the educational setting.

Conclusion: Alternative forms of evidence, specifically experiential evidence, are of importance in the diffusion of interventions within educational settings. Evidence-based approaches need to further acknowledge and accommodate these alternative forms of understanding in order to enhance their uptake and implementation.

Keywords: Evidence-based intervention, diffusion, implementation, social and emotional learning; schools

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Background

The under-utilisation of evidence-based health interventions remain a pressing concern (Armstrong et al., 2006; Ward et al., 2012). Evidence-based interventions are presently defined as approaches that have demonstrated effectiveness through conduct of outcome evaluation. Conversely, non-evidence-based interventions are defined as approaches where there has been no demonstrable impact in outcome evaluations or where the effectiveness is unknown due to a lack of outcome evaluation. Frameworks, methodologies and mnemonics have proliferated in the attempt to generate and disseminate scientifically robust evidence of effective approaches (Craig et al., 2008; Glasgow et al., 2003; Pawson, 2013). Resources continue to be invested in the early stages of programme conceptualisation and development, and the more recent reconfiguration of complex interventions as the interaction of theory, context and implementation, illustrates efforts to enhance the amenability and feasibility of evidence-based practice within real-world settings from the outset (Moore et al., 2015; Pawson, 2013). Equally, a wealth of translational research, driven by concepts of knowledge exchange, co-production, diffusion, and normalisation, has sought to augment the adoption and sustained utilisation of high quality research evidence (Albrecht et al., 2016; Armstrong et al., 2006; Evidence Based Intervention Work Group, 2005; La Rocca et al., 2012; May, 2013; Newlin and Webber, 2015; Ward et al., 2012).

Despite the concentration of theoretical and empirical work at the interface of research and practice, the assimilation of evidence-based interventions into real-world settings remains a substantial challenge, particularly in schools and other educational institutions (Cousins and Walker, 2000; Dagenais et al., 2008; Dagenais et al., 2012; McNamara, 2002; Williams and Coles, 2003; Williams and Coles, 2007). A litany of barriers and facilitators have been identified, including: the accessibility and relevance of research evidence; communication and collaboration between researchers and practitioners; the skills and perceptions of practitioners; and organisational readiness (Behrstock et al., 2009; Dagenais et al., 2012; Hultman and Horberg, 1998; Maras et al., 2014; McNamara, 2002; Miretzky, 2007; Poet et al., 2010; Williams and Coles, 2003; Williams and Coles, 2007; Wilson and Easton, 2003). Solutions to such barriers have predominantly centred on improving mechanisms for research uptake, which Oliver et al. (2014) suggest are theoretically naïve and restricted. They suggest that formal notions of evidence, as defined and adjudicated by evidence hierarchies, are not always of paramount importance to adopting agents and institutions, thus suggesting that the fundamental problem may lie with academics' conceptualisation of 'knowledge' rather than practitioners' lack of responsiveness to translational processes. Indeed, in some instances research evidence may be presumed irrelevant due to antipathy or contestation over what constitutes knowledge, with epistemological divisions seeing practitioners demand different types of evidence from that offered by gold standard trials (Glasgow et al., 2003; Greenhalgh, 2014;). Debates also abound about whether scientific evidence devalues tacit knowledge, the subtlety of experience, and the idiosyncrasies of the individual (Greenhalgh, 2014). This remains a particular issue in educational settings where local, contextualised knowledge of practitioners may be viewed as more insightful and instructive than abstracted, population-level data (Nicholson-Goodman and Garman, 2007).

One of the most frequently elided factors at play in explaining non-evidence-based practice, is the privileging of a particular form of knowledge, namely beliefs. Despite conviction and commitment to a programme's vision and values being notable moderators of fidelity (Beets et al., 2008; Domitrovich and Greenberg, 2000; Wandersman et al., 2008), the process through which this belief is engendered and circulated through acts of proselytism remains empirically under-explored. Proselytism is defined here as the process of converting

organisations and their composite members to a position of believing in the value of the intervention as the best course of action.

Social and emotional learning (SEL), which generally addresses social and emotional attitudes toward self and others, positive social behaviour, conduct problems, emotional distress and academic performance (Durlak et al., 2011), provides an opportune domain to explore how the privileging of belief might encourage non-evidence based practices. Despite the ascendency of wellbeing as a health and educational priority in recent years, there has often been a dearth of outcome evaluation in the UK. Trenchant critiques of the SEL agenda have suggested that debates over evidence have been subsumed by a persuasive and powerful discourse, whereby "wellbeing" and "happiness" have been zealously promoted as uncontentious, unproblematic and morally desirable outcomes (Craig, 2007; Watson et al., 2012). As Ecclestone (2012: 82) observes:

Far more than other policy fads which have been promoted *evangelically* [emphasis added] as the solution to perceived problems with the education system over the past 15 years or so... the unchallenged rise of interventions that claim to develop children's social and emotional well-being has captured the imagination of policy makers, researchers and practitioners.

The present paper explores the role of belief in the diffusion of a non-evidence-based SEL programme, the Student Assistance Program, and the acts of proselytism associated with the generation of this belief. This analysis is located within the structure-agency nexus (Giddens, 1984, 1993), supposing that phenomena are contingent on the agency of the individual to reflexively employ their resources, and that this agency is simultaneously enabled and constrained by the broader structures within which these resources are exercised. This avenue of inquiry has the potential to provide invaluable insight into why interventions without demonstrated effects gain traction within educational settings, and how alternative forms of evidence may be prioritised during the complex process of decision-making during intervention diffusion. Understanding why non-evidence-based interventions are practised, rather than the traditional preoccupation with barriers and facilitators to utilisation of evidence-based interventions, may elicit a novel set of mechanisms, persuasions and priorities on the part of adopting practitioners and institutions, which may potentially be exploited to enhance the uptake of research evidence.

The Student Assistance Program (SAP)

The *Student Assistance Program* (SAP) is a school-based SEL intervention that aims to enhance children and young people's social and emotional competencies (Watkins, 2008). The intervention has been recommended by the Welsh school inspectorate as best practice in managing challenging behaviour (Estyn, 2006). It has not been subjected to an outcome evaluation to assess effectiveness and existing research provides qualitative data on acceptability and implementation practices (Evans et al., 2014a; Evans et al., 2015; Carnwell and Baker 2007, Carnwell et al., 2008; Taylor and Baker, 2012).

The intervention is a complex approach, comprising twelve interrelated components: (1) SAP leadership and administration, which involves the appointment of change agents as regional and school coordinators to oversee delivery; (2) integration of the SAP into local authority and community policies and procedures; (3) an advisory committee of school/community representatives to input expertise into SAP activity; (4) education of school staff about SAP and wellbeing; (5) improving staff wellness; (6) education and support of parents and community; (7) networking with the community to

provide additional support and developmental opportunities to students; (8) infusion of SEL activities into the curriculum; (9) broader prevention activities; (10) identification and referral procedures for student support groups; (11) a student support group addressing the social and emotional competencies of targeted individuals exhibiting social, emotional or educational problems; (12) evaluation of the student support group by staff and students.

Methods

This paper presents data from a pragmatic formative process evaluation of the Student Assistance Programme (Evans et al., 2014b). Case-study methodology was utilised (Yin, 1994), with schools serving as the unit of the case. Data were generated with four mixed sex, state-funded secondary schools in Wales implementing the intervention. Purposive sampling was undertaken to ensure maximum variation according to pre-specified criteria. Schools reflected a range of academic and socio-economic profiles. Attainment of GCSE A*C grades in core subjects or equivalent¹ ranged from 16.9% to 59.8%. Free school meal entitlement (a proxy for family socio-economic deprivation) ranged from 11.3% to 36%.

Fifteen semi-structured interviews were completed with individuals across schools. Participants were purposively sampled to encompass a range of professional roles, which included: intervention author (n=1); regional programme coordinators (n=3); senior school leaders (n=3); school-based intervention coordinators (n=4); and school-based intervention delivery agents (n=4). This number of participants allowed for theoretical saturation to be reached, whereby no new conceptual insights were being generated by the data. Interviews lasted 40 minutes to two hours. Interview schedules comprised pre-determined but non-standardised questions, and were modified according to the professional role of each individual. The topic guide broadly addressed: participants' involvement with the SAP; receipt of training and knowledge; adoption; implementation; system-level determinants of diffusion processes; adaptation; and sustainability. Interviews were undertaken by the primary researcher (RE) and were conducted at the school site. Data were recorded digitally and transcribed verbatim.

Participant observation was conducted alongside the semi-structured interviews. The primary researcher participated in one series of student support group meetings in each school. Thirty-two sessions were observed. Sessions lasted for two lesson periods, which was approximate eighty minutes. Each group comprised of one school coordinator, one delivery agent, and 8-12 students. Forty-one students participated, including 20 boys and 21 girls. Structured observation schedules were completed (Supplement A), with additional ethnographic field notes documenting additional contextual observations (Emerson et al., 2011)

Thematic analysis was conducted. Data were first coded to identify pre-specified research themes, before a second reading was taken in order to detect novel codes and concepts. A subset of data were initially indexed by the primary researcher to construct a coding framework, with these codes being confirmed by the other members of the research team before being applied to the remaining corpus of data. Axial coding was then undertaken whereby codes were causally linked to generate analytical categories (e.g. acts of proselytism) (Strauss and Corbin, 1990). Categories were assembled in terms of their significant determinants, consequences, and pertinent contextual influences. Categories were developed by the primary researcher, with the research team meeting to discuss the

¹ General Certificate of Secondary Education (GCSE) qualifications (or equivalents) are compulsory national qualifications typically undertaken by secondary school students aged 14-16 in England and Wales. In Wales, core subjects are English, Welsh, Mathematics and Science.

interpretation of themes and verify the categories constructed. Data collection and analysis were conducted iteratively, with emergent themes being addressed in subsequent interviews. The qualitative data analysis computer software package N-Vivo supported data storage and analysis. Ethical approval for the study was provided by [Cardiff University's School of Social Sciences Ethics Committee].

Results

Data revealed that the translation of the non-evidence-based Student Assistance Program (SAP) into educational settings was driven by processes affording opportunities to develop commitment to and strong belief in the intervention, with these process being mediated by both individual and institutional evidence and knowledge of the intervention specifically, and SEL more broadly. The research findings present the narrative of intervention diffusion, and the efforts to promote and resist belief at each stage of diffusion. Firstly, they consider how the SAP training course offers a vital proselytising process, drawing practitioners into the notion of SEL as a public health problem and compelling them to advocate for the intervention within their respective organisations. Belief in the intervention is a result of the acquisition of 'experiential evidence'. Secondly, they explore how this belief serves as the primary resource employed to convince colleagues of the value of the intervention and to enact organisational change. Thirdly, they highlight how the impact of this resource may be modified and even limited by an entrenched set of institutional counter-beliefs about SEL, whereby the perpetual replacement of interventions ensures that many staff are disillusioned and reluctant to believe in the value of a new approach.

Intervention Training as an Act of Proselytising: Developing Experiential Evidence

The diffusion of the SAP commenced with a three-day intervention training course facilitated by the programme author and national coordinator, and funded by local education authorities. On receipt of an invitation from the national coordinator to attend the training, schools had limited knowledge of the intervention and there was no evidence of site readiness or diffusion strategies. Only a couple of senior school leaders demonstrated an awareness of implementation in other local authorities. Training uptake was then seen as an opportunity to learn about the programme and explore its potential to support students, whilst satisfying the wellbeing quality indicator of the school inspectorate's inspection framework (Estyn, 2010). Senior school leaders were also keen to take advantage of programmes that were freely available in the hope that they might work within their organisation, even though they were unable to comment on the perceived effectiveness of interventions that had been provided to them previously without cost.

Senior school leaders selected two to three staff to attend the training course. The professional roles of these individuals varied, and comprised: school nurse; counsellor; student support officer; and teacher. These practitioners were felt to be best placed to support students' wellbeing and had expressed an interest in SEL. The intention to adopt and implement the intervention was borne out of the training experiences of these individuals, who voluntarily emerged as key change agents serving as intermediaries between the intervention author and schools, whilst championing the intervention and harnessing staff support for delivery activities (Rogers, 2003). This process of emergence was summarised by one school senior manager:

Um, what I thought was going to happen at that time, was that, someone within the school with a pastoral responsibility, or maybe the head of special education needs

or someone like that was going to lead on it. But is became apparent fairly soon that both Andrea and Julie [School Coordinators] as non-teaching staff were keen and interested and um, had the where-withal to be able to do it. (Senior School Leader, School 01)

What locked practitioners into the identity of change agents and motivated them to advocate for this new set of organisational practices was the belief that they acquired in both the value and values of the SAP during training. In fact, a number of participants referred to the intervention author as a 'missionary', with the training serving as a vital site for 'missionary work'. As one participant observed of her transition into the role of school-based intervention coordinator:

'the only reason it ended up with me was because I'd done the training with Keith [National Coordinator], and really you get infected with his belief in it, and then you get it'.

(School-based Intervention Coordinator, School 02)

Although the training offered a number of elements, including presentations on the academic research underpinning SEL interventions and group work to prepare implementation strategies, it was simulation of the student support group that offering a proselytising process and engendered belief. This was because it afforded individuals the opportunity to partake in the group and experience postulated outcomes. Drawing on spiritual vernacular, many described their participation as 'transformative' and 'life-changing'. For one school-based intervention coordinator in School 01, the experience had 'given me my life back', by providing a restorative and reflective space:

Immediately before I went on the SAP training, um, oh, I was quite cheesed off working here. Various different reasons, you know, I couldn't expand my role in the way I wanted to. I felt. I felt that a few things had been dumped on me. Both of my parents had been ill. And I had been treated differently to other members of staff with parents who had been ill and different things... And then I went through the training, and the change came in the forgiveness week [Session 7] when you write letters of forgiveness to people...And I cried. I cried from the beginning, I cried writing the letters, and I purposely made myself read those letter out in some shape or form, because I broke my heart in that... And I just felt that it was, at long last stuff off my chest basically.

(School-based InterventionCoordinator, School 01)

Another individual described how the experience had been cathartic, whilst empowering her to address enduring communication problems within the family:

Like I said, I was going through a lot at the time when I went to SAP and I was always told by my mother that it was 'what goes on within the four walls is nobody else's business'. You know, you find it hard then not to talk to anybody. And after the training I went back to my mother and went through everything we'd gone through and now she's a little bit more relaxed about it as well. So it's had a big impact on my life and on my family's.

(School-based Intervention Coordinator, School 03)

Through the proselytising process offered by the intervention training, participants thus had the opportunity to develop a belief in the SAP, with this belief being underpinned by the acquisition of what we term experiential evidence. This form of evidence results from the personal experience of intervention effectiveness. It is termed evidence rather than knowledge, as it is a posteriori rather than *a priori*, and grounded in empirical observation and experience rather than abstracted reason or thought.

Proselytisation within Institutions: Securing Support for the Intervention

On returning to their respective institutions, change agents sought to secure the support and investment of senior school managers and school staff, primarily through promotion of experiential evidence. This process involved attending key meetings where resources for interventions were negotiated and distributed, urging colleagues to invest in the SAP through the sharing of their training experiences. One school-based intervention coordinator in School 02 acknowledged the evangelical nature of her efforts to encourage intervention adoption and implementation:

I could see the benefit of it. So I came back to [School 02] and went around with my flag and banner to any meeting that I could get to... Actually, one person did say to me 'you sound evangelical'. And I remember looking at her and thinking I am the least religious person you'll meet. (School-based Intervention Coordinator, School 02)

Other participants recognised that the most effective mechanism available for enhancing the credibility of the intervention and encouraging organisational buy-in was to pursue interpersonal communication with individuals, or 'word of mouth'. This approach was powerful as it provided an opportunity to relay the pseudo-religious experience undertaken during the training. Reflecting on how they sought to garner institutional support, one staff member trained in school-based intervention delivery revealed how they encouraged staff commitment by sharing their own experiences of participation:

Like I say, some of the staff are a bit, not that enthused by it then. And me and [School Coordinator], we were then 'It's really good, we've seen really positive effects from it... And I enjoyed it'. (Intervention Trained Staff Member, School 04)

When considering the resources employed in the effort to secure support for the intervention, it was evident that change agents privileged experiential evidence over other forms of evidence and persuasive mechanisms. However, although in many instances this was impactful, structural barriers could mitigate the power of this communication.

Structural Barriers to Proselytisation: Institutional Ambivalence and Disillusionment

Whilst the previous sections suggest the significance of proselytism and belief in driving intervention diffusion, there were limits to this process. Entrenched institutional ambivalence served as a barrier to intervention adoption and implementation, morphing and often impeding change agents' efforts to utilise their resources to enact comprehensive and sustained change.

Insusceptibility to belief was largely due to cynicism around the introduction of new interventions into school settings. A range of participants, particularly senior school leaders,

interpreted the local education authority's funding of the intervention as the consequence of the marketisation of education rather than the provision of a contextually relevant programme that would offer sustainable improvements. Indeed, two senior school leaders expressed reticence to become too invested in the intervention, predicting that it was simply being sold as the latest educational trend, with a risk that it would be quickly dispensed with and replaced:

It's not that I, I had a particular perception, apart from a little bit of 'is this the latest fad' type of thing. You know. Cos we get so many things that come to the school and say 'you know, this is great. You ought to do this' and so on. And the people who want you to do it say that it's great even if it's not. So at the outset, it's quite difficult to discern whether, you know, is this a piece of quality or not. (Senior School Leader, School 01)

Senior School Leader: Some [interventions] go out of fashion. Researcher: Do you think it will go out of fashion at some point? Senior School Leader: Yes. Because I've been teaching now for about thirty years and you can see. What I'm doing now is project work, which was introduced when I was in school in the seventies. So there are swings and roundabouts if you stay in the profession long enough.

(Senior School Leader, School 02)

Concerns about schools' continual replacement of one intervention for another prevented school staff from developing a belief in the value of the SAP, and disenchantment with SEL was evident. In the case of one school, the intervention coordinator felt that the constant waves of intervention actually served to undermine both new and existing approaches. For example, school staff perceived the SAP to be similar to the Social and Emotional Aspects of Learning (SEAL) programme, an SEL intervention already being implemented. This led to some staff concluding that the SAP was being implemented because the SEAL intervention was ineffective. However, because the SAP was viewed as being similar to SEAL, many felt that it would also not be effective. because the SAP was viewed as being similar to the SEAL programme, there was no reason to believe it would be effective either:

[School-based Intervention Coordinator] said that she had tried to win the staff around by giving staff presentations, but she said that their response was 'So what? What's the point?' One senior member of staff in particular had told her 'SEAL, SAP, whatever. It's all the same thing. None of it works'. (Field-notes, School 02)

Thus within a context where interventions were deemed 'faddish', transient, and easily dispensable, efforts to capture the imagination and commitment of staff through acts of proselytism were limited. This was particularly true if staff have not been engaged in the extensive process of interpersonal communication, or 'word of mouth', explored in the previous section. Change agents sought to combat these challenges by aiming to introduce markers of intervention permanency in order to mitigate fears of transience, predominantly through the establishment of a designated SAP room. However, despite these efforts, many of the staff across the four schools remained disengaged, and failed to invest in the intervention. Whilst this constraining force of structural level ambivalence may be interpreted as an indication of the failings of privileging belief in the theorisation of non-evidence based practice, and intervention practices more broadly, it potentially supports the contrary position. In the case of the SAP, the dearth of opportunity to engender institutional-level belief, and the failure to allow staff to develop an embodied knowledge of effectiveness, ensured that minimal support was developed. In the short term, this merely strengthened school-based intervention coordinators' resolve to diffuse the intervention, with one – coordinator maintaining that 'if I could keep that full of enthusiasm, I just know I could show the changes to other members of staff' (School 01). However, this coordinator eventually experienced disillusionment and isolation. As a result the intervention was largely discontinued, with only the most sporadic implementation problems, it may play an important role in explaining and motivating intervention adoption, delivery and sustainability.

Discussion

Within a context where concerns abound concerning the underutilisation of evidence-based health interventions, particularly within educational settings, one of the most pertinent questions to ask is: if the strength of evidence of effect is not sufficient to secure the adoption of evidence-based interventions, then what alternative forms of knowledge are privileged, and what can we learn from the translational processes associated with this knowledge?

Approaches not subjected to rigorous scientific evaluation but in routine practice, such as the Student Assistance Program (SAP), may be the key to our understanding, and this paper has sought to elucidate the persuasive features of this non-evidence-based approach that has allowed it to gain traction. From this analysis, it is apparent that formal constructions of scientific evidence are not the primary criteria against which school assess the value of programmes, and different forms of knowledge may be enlisted to justify and maintain practices (Dix and Murray-Harvey, 2011; Maras et al., 2014).

Of paramount importance in the case of the SAP is experiential evidence, which is defined here as the personal experience of an intervention's mechanisms of change and stipulated outcomes. In this study, this evidence was developed throughout the proselyting process of the intervention-training course. Indeed, participants experienced a personal transformation during the course, and subsequently imputed the with personally constituted evidence, with this being deemed a sufficient and perhaps more contextually relevant form of knowledge within the adoptive setting.

Entrenched institutional ambivalence to SEL interventions, and educational interventions more broadly may serve as a structural barrier to the power of proselytising processes however. Thehe perpetual replacement of interventions with new approaches ensured that staff felt unable to become emotionally invested in the programme, amidst concerns that it would be abandoned for an alternative in the near future. Although this structural problem is indicative of the limitations of individual agency in enacting organisational changes, it may also illustrate the need to engage with notions of belief and evidence at an institutional level. Such an assertion resonates with Rogers (2003) theory of intervention adoption, which suggests that organisational members can resist changes to the semblance of stability if a period of clarification is not provided, whereby they are afforded the opportunity to adjust to the introduction of a new approach. As part of this clarification, with this investment being equal to or greater than the approach that is intended to be displaced (Rogers, 2003, Author, 2015). Thus there is a need to foreground conviction and commitment for all staff during the initial period of developing institutional preparedness and

subsequent delivery (Dagenais et al., 2012; Humphrey et al., 2010; Lounsbery et al., 2011). To this end, diffusion activities should not be the sole preserve of the few, and a more collective decision making process should be pursued, where staff are provided the opportunity to become invested, and are encouraged to debate and discuss the intervention in the effort to dissipate tensions and apprehensions.

Through the identification of the process of proselytism, and the importance of experiential evidence as part of this process, it is evident that the non-uptake of research evidence needs to be further theorised, and efforts to address antipathy towards existing evidence-based approaches needs to be revisited (Oliver et al., 2014). Based on the present study we may suggest the re-orientation of our focus, and a move away from the simple aim of re-culturing schools' perspectives of evidence, as this process often neglects the relevance of localised meaning, interpretations and priorities.

(Shute, 2012; Oliver et al., 2014). Moving forward, we may suggest the development and evaluation of knowledge translation interventions that seek to enhance the uptake of evidence-based approaches whilst remaining sensitive to the experiential knowledge and evidence of practitioners (Turley et al., 2016).

Limitations

The study was limited by the number of schools that participated in the generation of data, although there is no evidence to suggest that the four secondary schools were atypical of schools in Wales. Despite limits to generalisability, the case study data are instructive in the development of theoretical propositions that could be explored in future. The presented data may also have relevance to other health fields where there exists equivocality regarding research evidence.

Conclusions

The dearth of research on the implementation of evidence-based health interventions remains a challenge, particularly in educational settings. Rather than focusing on the barriers to the diffusion of evidence-based approaches, this paper has sought to understand why an expanse of non-evidenced interventions have gained traction. It is apparent that whilst scientific evidence is not completely discounted, other forms of evidence are prioritised. Experiential evidence is of particular importance to schools. To support the future uptake of evidence-based approaches, diffusion practices require the promotion of forms of knowledge and evidence that are locally privileged and likely to serve as a catalyst for change.

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Declaration of Conflicting Interests

The authors declare that they have no conflict of interest.

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