The factors that inform school leaders' decisions when adopting programmes to use in schools

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ABSTRACT

More teachers are now engaging with external research evidence. However, when choosing approaches to teaching, recent evidence from survey research suggests that decisions are influenced by personal experience, the experiences of colleagues and staff in other schools, and by non–research–based professional development. The decision-making process is complex and a better understanding of this may provide insight into the best way to improve evidence-informed decision-making in schools, which could lead to the adoption of more evidence-informed teaching approaches in schools. We conducted this study with a cluster of schools in Wales to explore the factors that influence school leaders' decisions when choosing which programmes to adopt into use. We conducted interviews with school leaders from two secondary schools, six primary schools, and one special school. Our results support previous research findings and provide greater knowledge of the interrelated factors that influence decision-making. We address gaps in the knowledge and suggest how policy makers, researchers, and school improvement professionals can improve decision-making in schools to improve the transmission and adoption of evidence-informed approaches to teaching.

Keywords: evidence-informed teaching, evidence-based, decision-making, schools, evaluation, diffusion of innovations theory, Wales

Introduction

There is a renewed focus on evidence-based approaches to teaching across jurisdictions in the UK, and this has been reflected in a range of government policies and initiatives (Donaldson, 2015; DfE, 2010, 2016; Institute for Effective Education, 2019; OECD, 2014, 2017; Welsh Government, 2014, 2021). In Wales, the National Strategy for Educational Research and Enquiry (NSERE) outlines the Welsh Government's long-term plans to create a culture of research and enquiry in the education system, in which education professionals routinely use research and evidence to inform decision-making. (Welsh Government, 2021). While there is little robust evidence demonstrating that an evidence-informed approach to teaching leads to a positive impact on learner outcomes, many agree that decisions grounded in research and evidence are more likely to lead to the uptake of more effective teaching approaches where resources (time and money) are used more efficiently (Goldacre, 2013; Gorard See and Siddiqui, 2020; Slavin, 2008, 2020). Furthermore, evidence-informed decision-making avoids the take up of novel and popular approaches (Greany and Brown, 2017).

Despite efforts to promote a culture of research and enquiry in schools, research suggests that there is a lack of consistent and regular use of research evidence to inform decisions in schools (Brown and Zhang, 2016; Coldwell et al., 2017; Gorard et al., 2020; Walker et al., 2019). The UK government has made promising efforts to improve the mobilisation of research evidence in education (Higgins et al., 2016), but barriers to evidence use persist. For example, teachers often lack the time during a busy school day to access and read research articles, and often view it as complex and irrelevant to the practical realities of teaching (Hemsley-Brown and Sharp, 2003; Van Schaik et al., 2018). Subsequently, when making decisions about approaches to teaching, findings from survey research suggest that teachers more commonly rely on their own experience and the experience and expertise of colleagues and staff from other schools (Gleeson et al., 2022; Nelson et al., 2017; Walker et al., 2019). The findings from Nelson et al. and Walker et al. align with diffusion of innovations theory, which is a theoretical framework that outlines the process by which new ideas are adopted into use within organisational settings and spread through a social system (Rogers, 2003).

Not enough is known about the factors that inform decisions when school leaders are choosing approaches to teaching. Rogers's (2003)

diffusion of innovations theory is a useful conceptual framework that can be applied to increase understanding of the decision-making process in schools. Increased knowledge about the factors that influence decisions may provide useful insight that can be used by policy makers and researchers to develop ways to improve evidence-informed decision-making in schools, which may lead to the transmission and adoption of more evidence-informed approaches to teaching.

To improve the quality and equity of the education system, education policy makers across the United Kingdom have renewed their focus on an 'evidence-based' or 'evidence-informed' approach to teaching and learning, which is reflected in several significant reports (Donaldson, 2015; DfE, 2010, 2016; Institute for Effective Education, 2019; OECD, 2014, 2017; Welsh Government, 2014, 2021). Following disappointing performance in the Programme for International Student Assessment (PISA) in 2009, the Welsh Government's Department for Education (DfE) commissioned the OECD (2014) to conduct an independent review of the Welsh education system. To build professional capital and raise educational standards within the Welsh education system, the OECD (2014) recommended the need for a more collaborative and research-informed approach. Subsequently, Qualified for Life: An Education Improvement Plan (Welsh Government, 2014), and Education in Wales: Our National Mission (Welsh Government, 2017) outlined large-scale initiatives to enhance the quality and equity of education through a self-improving system. More recently, the National Strategy for Educational Research and Enquiry (NSERE) emphasised the importance of robust research and inquiry in education to drive improvements in teaching and learning outcomes across Wales (Welsh Government, 2021). Specifically, the document highlights the need to foster a culture of evidence-based teaching and learning, ensuring that decisions regarding education policies, and approaches to teaching are informed by rigorous research and evidence.

There is value in adopting an evidence-informed approach to education to raise standards in schools (e.g., Cooper et al., 2009; Department for Education, 2010, 2016; OECD, 2017; Welsh Government, 2015, 2021). There is also growing evidence to suggest that access to, and use of, research findings have a positive impact on the knowledge, skills, and confidence of educators, and that this positively impacts approaches to teaching and provision in schools (Cordingley et al., 2015; Greany, 2015; Brown and Greany, 2018; Godfrey, 2017; Mincu, 2015; Nelson and O'Beirne, 2014). By using research and evidence to inform their decision-making, school leaders are more likely to use scarce resources, such as time

and money, more efficiently to improve the quality of teaching, and are less likely to make decisions based on the latest novel or popular approach (Gorard et al., 2020; Greany and Brown, 2017; Oxman et al., 2009; Styles and Torgerson, 2018). However, despite the focus on the use of evidence and research in education, there is currently very little evidence to suggest that research use directly impacts learner outcomes (Godfrey and Brown, 2018; Gorard et al., 2020).

There remains an ongoing debate about what constitutes reliable research evidence in education. Many policy makers and scholars favour evidence from high-quality experimental research, which includes the use of randomised controlled trials or other quasi-experimental designs (Goldacre, 2013). The creation of research organisations such as the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre), the Research School Network run by the Education Endowment Foundation (EEF), Evidence 4 Impact (E4I) and the Best Evidence Encyclopaedia (BEE) reflects a wider movement – both in government and research circles – towards the promotion of a more evidence-based education system (Welsh Government, 2021). However, there are concerns about the problems associated with a 'prescriptive' approach to education policymaking, which some argue does not consider the multiple and complex factors that influences school leaders and teachers' decision-making when choosing approaches to teaching (Biesta, 2007; Bristow et al., 2015; Nutley et al., 2013; Sharples, 2013). The term 'evidence-informed' was coined to adequately capture the complex process of using research evidence to inform teaching and learning and recognise the important role of teachers' professional expertise and judgement (Nelson and Campbell, 2017).

To date, there remains a lack of consistent and regular use of external research evidence by teachers to inform their approaches to teaching (Brown and Zhang, 2016; Coldwell et al., 2017; Nelson et al., 2017; Walker et al., 2019). Historically, educators have been unable to access the external research and have lacked the time and necessary skills to understand it (Hemsley-Brown and Sharp, 2003; Schaik et al., 2018). Whilst these barriers still exist, the creation of research repositories has allowed some evidence to be available in a more accessible format. However, the results from two teacher surveys found that the availability of evidence repositories such as the EEF only had a small to moderate influence on decision-making in schools (Nelson et al., 2017; Walker et al., 2019).

Despite the greater availability of research evidence, one of the notable barriers to the adoption of evidence use in schools is the lack of relevant,

practical, and useable information (Hemsley-Brown and Sharp, 2003; Van Schaik et al., 2018). Results from a systematic review undertaken by Connelly et al. (2018) indicates that all randomised controlled trials conducted in education from 1980 to 2016 neglected to address implementation and causal process. The consequence of this is an evidence-base that does not provide teachers with the information required to understand if a teaching programme has utility in their school setting. Furthermore, the proliferation of research literature, research repositories, and differing criteria for rating the strength of evidence, has resulted in a growing evidence base that is viewed by many as disjointed, complex, and often contradictory and inconclusive. Importantly, this can result in teachers feeling sceptical about the value of education research (Broekkamp and Van Hout-Wolters 2007; Gorard et al., 2020).

The well-documented barriers to evidence use pose a challenge for developing an evidence-informed practice in schools (Hemsley-Brown and Sharp, 2003; Schaik et al., 2018). Important research has been conducted in recent years to address these barriers. This research has found that high-quality, relevant research that addresses the questions pertinent to teachers, teacher-friendly summaries of evidence, and research collaborations are some of the key facilitators (Cooper et al., 2009; Gorard et al., 2020; Nelson and Campbell, 2017; Schaik et al., 2018; Slavin, 2017). In addition, it is suggested that school leaders must create a culture of evidence use in schools and demonstrate their alignment to an evidence-informed practice by accessing and using research and evidence when decision making (Brown and Zhang, 2016; Coldwell et al., 2017; Nelson and O'Beirne, 2014). According to an attitude survey by Ager and Pyle (2013), 67 per cent of school leaders claim to have consulted the evidence base when planning approaches to teaching, with nearly half referring to the EEF Toolkit when deciding how to spend their Pupil Premium (Ager and Pyle, 2013). A more recent survey published by the Sutton Trust (2018), found that 59 per cent of senior leaders now access the Teaching and Learning Toolkit to inform teaching. Whilst this presents some evidence of engagement, it does not determine the extent that decision-making is underpinned by research evidence (Higgins, 2016). Gorard et al. (2020) proposes that evidence from external sources may increase user knowledge but has very little impact on teaching practice. Furthermore, the results from a study by Pegram et al. (2022) found that 30 per cent of all interventions in use across ten schools had causal evidence of impact on pupil outcomes, 67 per cent had no evidence,

and three per cent had evidence of ineffectiveness. These results suggest that an increased awareness of the use of research and evidence across education settings over recent years has not necessarily translated into evidence-based decision-making in schools.

If the evidence-base lacks the information that teachers require when decision-making, then it is unsurprising that teachers more often turn to the expertise of colleagues as the best available source of information (Walker et al., 2019). Recent research indicates that teachers more often draw on their own experiences and the expertise and views of colleagues and staff in other schools when choosing approaches to teaching (Gleeson et al., 2022; Nelson et al., 2017; Walker et al., 2019). Nelson et al. (2017) and Walker et al. (2019) also found that non-research-based professional development events also had a major influence on teaching practice.

There are a host of theoretical frameworks that attempt to describe the process of implementing new ideas and practices (implementation of innovations) within an organisational context, and several reviews have attempted to synthesise the broad range of literature (e.g., Dooley, 1999; Greenhalgh et al., 2004; Kapoor, Dwivedi, & Williams, 2014; Wisdom et al., 2014). One of the earliest ideas is diffusion of innovations theory, which defines how new ideas or practices spread through a social system (Rogers, 1995). Rogers's (1995, 2003) diffusion theory comprises five main phases, with the first three phases defining the pre-implementation or adoption phase. Phase 1 is *knowledge* – an adopter becomes aware of an innovation and how it functions. For example, an adopter will seek an innovation that is compatible with existing values, needs and resources; one that is cost-effective, impactful, simple to use and adaptable, and can be trialled and the perceived benefits observed. Phase 2 is *persuasion* – the adopter forms an attitude towards the innovation, initiated by a change agent, who may be inter-organisational or external to the organisation but from similar contextual backgrounds. Phase 3 is *decision* – the adopter engages in a decision to adopt or reject the innovation. More recent evidence from a narrative synthesis of adoption of innovation theories by Wisdom et al. (2014) reports similar findings. For example, Wisdom et al. found that inter-organisational and external social networks influence decisions to adopt, as do the characteristics of an innovation. Innovations that are clear and simple to use, advantageous (cost effective, feasible and beneficial), require minimal resources to implement, observable, and compatible with existing norms and values are critical facilitators of the adoption process. Wisdom et al. also found that innovations deemed

compatible with existing practice and with clear research evidence and practice efficacy, were more likely to be considered.

Diffusion of innovations theory (Rogers, 2003) is a useful framework for attempting to understanding how new ideas and practices are adopted into schools and spread through a school system. If decision making in a school setting is consistent with Rogers's theory, then it is suggested that when making decisions about approaches to teaching, school leaders will draw on the knowledge and experience of colleagues, and other school leaders or teachers in other schools (change agents). Furthermore, decisions about which approaches to adopt will be influenced by factors such as relative advantage, compatibility, ease of implementation, and the ability to observe effectiveness in another school. As described earlier, findings from recent research conducted in schools using closed–response surveys supports Rogers's concept of change agents (Nelson et al., 2017; Walker et al., 2019). However, we believe that there are other factors that facilitate decision–making in schools that have not yet been explored.

Drawing on the concepts outlined in Rogers's (2003) diffusion of innovations theory and building on the findings from the research conducted by Nelson et al. (2017) and Walker et al. (2019), we sought to explore the range of factors that influence school leaders' decisions when choosing new approaches to teaching. We believe that our findings will provide policy makers and researchers with important insights into the decision-making processes used by school leaders and will help identify and improve pathways to increase the use of evidence in schools.

The following study was conducted with an established cluster of schools in Wales to explore the factors that inform school leaders' decisions when choosing which teaching approaches to adopt. The cluster included two secondary schools, seven primary schools and one special school. With the intention of moving towards a more evidence–informed practice, the cluster had entered a research partnership with the Regional School Effectiveness and Improvement Service for North Wales (GwE) and the Collaborative Institute for Education Research, Evidence and Impact (CEIREI), Bangor University, to commission this evaluation work alongside other close–to–practice research projects. Throughout the project, the school leaders and senior leaders were closely involved in the development and planning of research and worked collaboratively with the lead researcher who was embedded within the cluster.

Through semi-structured interviews, we aimed to explore the factors that inform school leaders' decisions when choosing which programmes to

Table 1: Definition of a programme

Definition	Examples
A programme is a 'scheme' that is designed to achieve specific learning outcomes through a systematic approach to teaching. Programmes are used by schools to teach new knowledge and skills in a subject area, build fluency, and/or change behaviour. A programme typically includes sequential procedures, predefined rules or principles, instructional strategies or activities, and a system for assessing learning or behaviour change.	Read Write Inc, White Rose Maths, Sumdog, Friends for Life, Good Behaviour Game

use in schools (see Table 1 for our definition of a programme and examples). We asked the following research question: What factors influence school leaders' decisions when choosing which programmes to adopt?

Methods

Ethics

The study was conducted under ethical approval from the School of Education Research Ethics Committee, at Bangor University (ref: 18–03). Consent was obtained from the participating head teacher in each school. Participants were provided with examples of the questions before commencing the interviews. To protect anonymity, identifiable information such as school and head teacher name are not included in this paper.

Participants

We conducted our study with the school leaders from a cluster of ten schools made up of seven primary schools (six English medium and one Welsh medium), two secondary schools (English medium), and a special needs school (English medium). As this was an existing research partnership, it is considered a convenience sample. Nine school leaders participated, and first author was unable to organise an interview with the remaining head teacher.

Interview design and procedure

When designing the semi-structured interview questions, we drew on the method used in the surveys conducted by Nelson et al. (2017) and Walker et al. (2017) and chose to focus the interview questions to a specific programme that the head teacher had recently adopted. This would provide a realistic insight into the variety of factors that inform the teaching approaches used in each school. We asked the school leaders two very similar interview questions: to think of a literacy or numeracy programme that they recently adopted and explain why they chose it (question 1); and, to think of a well-being programme that they recently adopted and explain why they chose it (question 2). We chose these two questions to determine if there is a difference in decision-making for the two broad areas (academic [literacy and numeracy] and well-being). To extract more detail, we prepared the following three probes: What factors influenced your decision? Who did you consult? What information did you access? For this study, the participant characteristics were not deemed relevant.

An email invite was sent to each of the school leaders inviting them to attend a one-to-one audio recorded interview with the first author. The interviews were conducted during the summer term of 2018 in a meeting room in each school. Each interview lasted around 30 minutes.

Analysis

We chose to adopt the Reflexive Thematic Approach (RTA) outlined by Braun and Clarke (2013, 2019, 2020). This approach was chosen because it acknowledges the impact of the researcher on the analytic process and on knowledge creation. Unlike other more structured approaches to thematic analysis, the RTA process requires an organic and recursive coding approach, and advocates for deep reflection on, and engagement with, data (Braun and Clarke, 2019). We adopted a constructionist epistemology, and both an inductive and deductive approach to evaluate the data most effectively. We employed a deductive analysis to identify themes that aligned with diffusion of innovations theory (Rogers, 2003) and the findings from Nelson et al. (2017) and Walker et al. (2019), and chose an inductive approach to ensure a more comprehensive understanding of the decision-making process in the context of a school setting.

We analysed the data using the six stages of RTA as outlined by Braun and Clarke (2013; 2019; 2020). In phase 1 we transcribed the recorded data and read the dataset twice to establish familiarity; phase 2 involved the generation of initial codes for the salient and interesting comments; in phase 3 the coded data was reviewed and analysed to generate themes; in phase 4 a recursive review of potential themes was conducted and themes were refined; in phase 5 the themes were defined and named; and, in phase 6 a narrative description was created using the themes. In accordance with the reflexive approach of thematic analysis, we refrained from pursuing consensus from an independent reviewer/coder. RTA is 'the researcher's reflective and thoughtful engagement with their data and their reflexive and thoughtful engagement with the analytic process' (Braun and Clarke 2019, p. 594). Figure 1 and 2 displays the themes derived from the data set and the relationships between themes.

**Figure 1. Themes derived from the data for question 1
(think of a literacy or numeracy programme that you recently
adopted and explain why you chose it)**
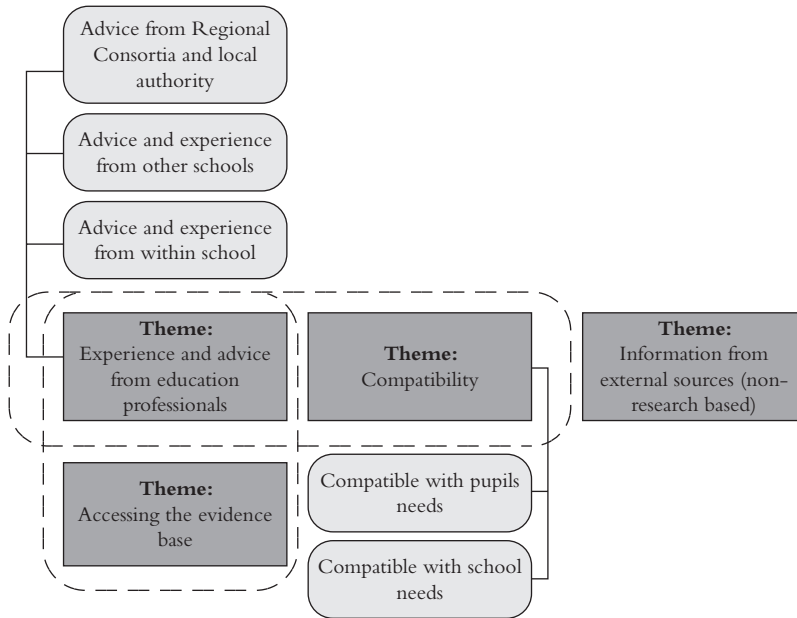
**Figure 2. Themes derived from the data for question 2
(think of a well-being programme that you recently adopted
and explain why you chose it)**
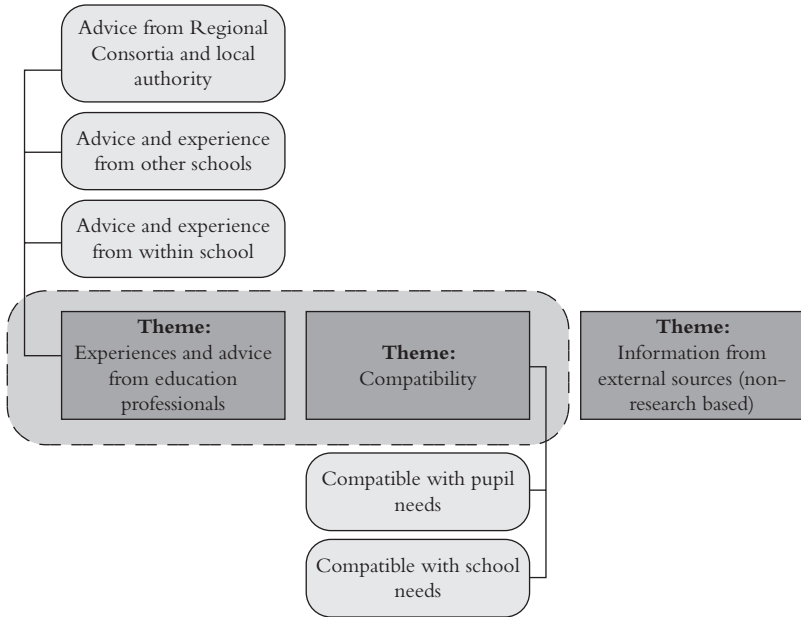
Results

Theme: Experience and advice from education professionals

This theme and the associated three subthemes were identified from
discussions about both academic and well-being programmes that they
recently adopted.

Advice and experience from within school

Several of the school leaders referred to drawing on their own experience
when selecting programmes. As described in extract 1 below, the head
teacher chose to use Catch-Up reading because they were already

familiar with the functions of the programme. Extract 2 illustrates how one of the school leaders used their own skills and experience to create a bespoke approach to mindfulness. A common feature was the inclination of school leaders to seek advice and experience from colleagues within school when choosing both academic and well-being programmes. School leaders indicated that when seeking advice from colleagues in school, they would more often consult with members of the senior leadership team (extract 3). Another head teacher described how the school encourages a process of collaborative decision-making between class teachers, the head teacher and the senior leadership team when adopting new ideas (extract 4).

> Extract 1: 'The literacy programme that I've implemented since September is Catch-Up reading, so I chose Catch-Up reading because I was familiar with this'.

> Extract 2: 'I've implemented our own approach to mindfulness since I've been here. So, all staff have been trained, parents been trained, we're doing class by class delivering mindfulness sessions. But it's not something I've purchased, we put it together ourselves … It was my own background, I came from a school where actually we developed a mindfulness curriculum, and it's also where I would like us to go.'

> Extract 3: 'I meet with my senior leadership team and my well-being mentor, and we discuss things.'

> Extract 4: 'I think it's the culture within the school it's not just from me, if anybody has an idea, they write a paper. Just a couple of ideas about how much it's going to cost and what they think the impact is going to be. They write a paper, email it to me, I read it and discuss it in the senior management meeting.'

Advice and experience from other schools

When choosing academic (literacy or numeracy) and well-being programmes, all the school leaders referred to seeking advice from, and drawing on, the direct experiences of school leaders already using the programmes in other schools. As illustrated in extract 1, one head teacher sought other schools that were also using the Place2be programme (a service designed to improve mental health), so they could observe the programme being delivered and gain insight into the factors that enable good quality implementation and positive impact on learner

outcomes. This helped the head teacher to determine the compatibility of the programme and the likely impact in their context. Extract 2 provides a similar example of how another head teacher adopted a programme after observing it being delivered in another school. It was evident from the comments that the school leaders valued and trusted the advice from colleagues in other schools, particularly those that were homophilic (for example, extract 3 presents a good example of this). All the school leaders from the cluster that took part in the study referred to consulting with and drawing on the advice of other school leaders from within the cluster and extract 4 provides a good illustrative example of a how a programme could be adopted or rejected based on advice from within the cluster.

> Extract 1: 'I would contact people that I know in the cluster but also out of the cluster and across County that I know have done similar work. We are going to have a look at Place2be after Easter, because we would like to see it in action. Because I think if you actually go to a school where it's working, they can tell you all the pitfalls as well as the benefits and guide you through it.'

> Extract 2: 'We first saw it in a meeting over in the xxx cluster, they were trying it, and it just seemed to hit the nail on the head for what some of our children were struggling with.'

> Extract 3: 'We consult other professionals and go to other schools and talk to people we can see have lived our life, walked in our shoes, and delivered in spite of it. They are the people we trust!'

> Extract 4: 'Certainly all the heads in the cluster. We would discuss it in our regular meetings, and if anybody said I found this programme, we've trialled it, it is working. You know I think it is good. Or we found this program and actually it was a waste of time.'

Advice from regional consortia and local authority

Many of the school leaders' comments referred to seeking out advice and/or receiving recommendations from school improvement advisors and other education professionals. Across the responses, it was common for the school leaders to refer to recommendations from the regional school improvement service. Extract 1 presents an example of how one school

adopted a reading fluency programme after using it as part of a research project, which was promoted by the school improvement advisor. In extract 2, the head teacher indicated that they actively seek advice about evidence-based practices from the regional school improvement advisor when considering well-being provision. Moreover, the head teacher refers to viewing the role of the regional school improvement advisor as a facilitator of evidence-based practice. In extract 3, the head teacher further identified that the regional school improvement advisor provides recommendations about approaches and strategies that are most compatible with the needs of the school. When considering which well-being programmes to adopt, the school leaders often draw on the advice and recommendations from education professionals in local authority such as the healthy schools well-being co-ordinator, welfare officer and educational psychologist (for example, see extracts 4 and 5 for evidence of this). Furthermore, in extract 4 the head teacher referred to the healthy school's co-ordinator as being knowledgeable about the needs of the school.

> Extract 1: 'Headsprout came about as part of a research project, a joint working project with xxx (supporting improvement adviser from the regional school improvement service) a couple of years ago, with a group of schools. I had never heard of it before then so that's how it came about.'

> Extract 2: 'xxx xxx (supporting improvement adviser from the regional school improvement service) would be the first port of call. Years ago, I would have probably done it and said it is my gut reaction, I'm doing this. Whereas now, what is the research saying? If there is research, can we find out what it's saying about it. We're doing some work at the moment on all sorts of things, well-being is one of them. PSE through the school. Where are the gaps in it? What does the research say to improve it? And that is their (supporting improvement adviser from the regional school improvement service) job in the cluster to find out more about it.'

> Extract 3: "We have regular visits from xxx (supporting improvement adviser from the regional school improvement service) to monitor standards and things like that. When working together, sometimes areas are identified that need a bit of work on and because they have got so many contacts in other schools and are aware of initiatives, they might guide to something that might suit our school.'

> Extract 4: 'We have a well-being member of staff who is healthy schools and well-being coordinator, and she works closely with xxx xxx, who is the deputy county council healthy school's well-being person, who makes schools coordinators aware of

initiatives and training that are going on, which schools might be interested in. She is a regular visitor to the school. She knows some of the issues that we deal with.'

Extract 5: "I would ask the education welfare officer and the educational psychologists. I would definitely because we are looking at putting PASS into our school, and want to know what would be appropriate, and for what groups. I would definitely ask the educational psychologist.'

Theme: Compatibility

This theme and subthemes were identified from discussions about academic (literacy and/or numeracy) and well-being programmes.

Compatible with pupil needs

It was clear from many of the comments that the needs of pupils were the main influence on decisions about which programmes to adopt. Several of the school leaders referred to choosing a programme based on its functional compatibility with existing pupil needs. For example, in extracts 1 and 2 the school leaders describe how the skills and knowledge objective of the programmes aligned well to the needs of learners. Similarly in extracts 3 and 4, the school leaders revealed that the primary reason for choosing the programmes was to support the pupils with learning and behavioural difficulties.

Extract 1: 'To fit in with what we want to do. We've always got children in school that are struggling with reading and comprehension throughout the school' … 'This one seemed to hit the reading early on, and particular the comprehension element of it is good, drawing on the skills that they need.'

Extract 2: 'It's very topical at the moment, mental health, the lack of mental health facilities is everywhere, and especially for vulnerable pupils and their parents, it's even more so. So, it's about trying to give them strategies they can independently apply.'

Extract 3: 'The reason we chose it was because children were falling behind in their literacy skills. And having conducted an audit it was pretty apparent that some children were behind with their literacy skills. We felt that we needed to find something that would make a difference to those children that are falling behind and that's how we ended up with Catch-Up Literacy. Catch-Up numeracy

came on after literacy for the same reason really, we could see that the children needed a boost with basic skills to achieve their full potential.'

Extract 4: 'It was the year group that had a high number of behaviour and learning difficulties; and that's what prompted that'.

Compatible with school needs

The importance placed on the compatibility of programmes with the needs of the school was evident throughout the dataset. Most of the school leaders talked about characteristics of the programmes that suited the needs of the school. They often referred to choosing programmes based on their efficient use of staff time and school resources. For example, in extract 1 the head teacher refers to choosing programmes that require minimal support from one or two staff members and highlights that programmes delivered via digital platforms are important. In extract 2, the head teacher refers to the ability to conduct programmes with multiple learners with varying abilities and needs. Moreover, in extract 3, school leaders were influenced by online programmes that can be used at home.

Several of the school leaders described adopting programmes because of their functionality and their ease of use. In extract 4 the head teacher describes the importance of using programmes or approaches that are simple to use and require limited preparation. In this example, the ability to link with a mobile phone application was also important. Again, in extract 5, the head teacher highlights the need for simplicity, ease of use and availability of resources. In extract 6, the head teacher illustrates how a programme requires only minimal resources, is efficient to use and easy to deliver.

Extract 1: 'We look for a programme that can be done alongside an adult maybe two children doing it or an adult working with someone else whilst keeping an eye. So having something computerised is quite important to us.'

Extract 2: 'A lot of children can do it at once, so time-wise, you can have a room full of children at different levels.'

Extract 3: 'There's nothing they can access at home, so we've now bought into Sumdog, which is gaming, but maths gaming online. So were using that and again we're seeing that children are accessing that an awful lot at home'.

Extract 4: 'We've tried to keep it as simple as possible, there is nothing complicated, there is not a massive amount of preparation. It is something that anybody could pick up and go. It is something that works really well with IT and the mindfulness apps, so we tried to combine it, so you can have it on your mobile phone. Really keep it simple.'

Extract 5: 'Again, I think going back to the whole package, they have the whole pre- and post-assessments with it, it was very structured, it was scripted, and even all the resources were in it.'

Extract 6: 'It's quite easy to deliver and the children can get on and do it themselves. The time allocation is not too draining on the staff and the timetable.'

Theme: Information from external sources (non-research-based)

This theme was identified from discussions about both academic (literacy and numeracy) and well-being programmes.

Several of the school leaders' comments described adopting programmes after attending a course or seeing it on a website (see extract 1 and 2). Two of the school leaders specifically referred to programmes being promoted very effectively during training courses (see extract 3 and 4). One head teacher referred to adopting a programme based on the marketing on the website.

Extract 1: 'It was at a course I went on, based on speech and language. Talk Boost!'

Extract 2: 'The reason we picked IDL, the SENCO had been on training, and had seen it there.'

Extract 3: 'I chose that because I went on a training course for it and to be honest it was sold very well on the training course… They were talking about places that it had been used, and the benefits, and other places nationwide. They did mention a bit of research.'

Extract 4: 'Because it looked from the website a very good programme.'

Theme: Accessing the evidence-base

This theme was only identified from discussions about academic (literacy and numeracy) programmes.

Two of the school leaders interviewed referred to adopting a literacy programme based on an established evidence base. See extract 1 and 2. In extract 2, the head teacher also refers to having previous knowledge of Catch-Up reading, which equally influenced the decision.

> Extract 1: 'It's well-researched. We trained up the TAs (teaching assistants) in order to deliver it, it's been delivered across the school consistently. It's got a good body of knowledge behind it'.

> Extract 2: 'So I chose Catch-Up reading because I was familiar with it, and it was well-researched'.

Discussion

There is a renewed focus on the use of research and evidence to inform decision-making in schools across the UK (e.g., DfE, 2010, 2016; OECD, 2014, 2017; Welsh Government, 2014, 2021) The creation of the education research repositories such as the EEF Toolkit means that schools now have greater access to research evidence to inform their decisions about which teaching approaches to use in schools (Sutton Trust, 2018). However, when choosing approaches to teaching, it seems that decision-making is rarely influenced by research evidence (Gorard et al., 2020; Pegram et al., 2022). Findings from Nelson et al. (2017) and Walker et al. (2019) suggest that decisions about approaches to teaching are primarily informed by the expertise and experiences of staff in schools.

Currently there is a paucity of knowledge about the range of factors that may facilitate decision-making in schools. Drawing on the concepts outlined in diffusion of innovations theory (Rogers, 2003) and building on the closed-response survey findings from Nelson et al. (2017) and Walker et al. (2019), this study used semi-structured interviews to gain a more complete understanding of the factors that influence school leaders' decisions when choosing which programmes to adopt into schools. The decision-making process is complex, but a better understanding of the factors that influence school leaders' decisions will help policy makers and researchers identify ways to improve the quality of decision-making in schools and could lead to the transmission and adoption of more evidence-informed approaches.

We asked the school leaders two similar interview questions related to specific programmes they had recently adopted into use. First, we asked school leaders to explain why they chose a literacy or numeracy programme, and the second question asked them to explain why they chose a well-being programme. We analysed the data using thematic analysis and this revealed a total of four main themes across the dataset. Notably, three of the themes (experience and advice from education professionals, compatibility, and information from external sources [non-research based]) were derived from the data when discussing both academic (literacy and/or numeracy) and well-being programmes, and the fourth theme (accessing the evidence base) was only identified in the data from discussions focused on academic (literacy and/or numeracy) programmes. As expected, most of the themes were interrelated. For example, experience and advice from education professionals was interrelated with compatibility, and experience and advice from education professionals was linked to accessing the evidence base.

Research has found that teachers often seek advice and information from other teachers and schools when choosing their approaches to teaching (Gleeson et al., 2022; Nelson et al., 2017; Walker et al., 2019). This is consistent with the concept of a change agent, outlined in diffusion of innovations theory, where a person within an organisational network persuades and/or influences decision-makers (Rogers, 2003). Our study also found that school leaders often consult with and draw on the experience and expertise of other school leaders when making decisions about teaching approaches. In addition, we found that the school leaders in our study most often consult with and draw on the experience and expertise of other school leaders within the cluster and in other schools across the region, and occasionally beyond. In alignment with diffusion of innovations theory (Rogers, 2003), we found that it was common for a school leader to visit another school to observe a programme of interest in use to determine compatibility and to understand the characteristics of the programme that promote or hinder success. Furthermore, our findings support Rogers (2003) conclusion that school leaders trust and value the advice and experience from staff in other schools and will often adopt or reject a programme based on the information they receive.

In addition to seeking the expertise of school leaders, we found that advice is also frequently sought from linked regional school improvement adviser, educational psychologists, and healthy schools' co-ordinators. According to diffusion of innovations theory, a change agent may also be

from an external social network that has a similar contextual background (Rogers, 2003). The school leaders in this study more often referred to seeking out and/or following recommendations from their school improvement adviser (from the regional school improvement service), who was considered a trusted source of knowledge for research and evidence-based teaching approaches.

Diffusion of innovations theory explains how adopters will search for information about the characteristics or functions of an innovation to establish its compatibility with existing values and needs (Rogers, 2003). The school leaders we interviewed highlighted the influence that pupil mental health and academic needs had on the adoption of programmes. Some of the comments suggested that the needs of particular groups of learners often led the school leaders to seek out programmes that were functionally compatible. Diffusion of innovations theory also identifies several factors that facilitate the adoption of new ideas, including simplicity, advantage, observability, and low resource demand (Rogers, 2003). In our study, participants also cited these factors as important considerations when choosing programmes. Specifically, they valued programmes that were easy to use, did not require a lot of staff time or money, saved time, could be delivered online or through digital platforms, and could be accessed from home.

The evidence from previous research by Walker et al. (2019) found that teachers' decisions were also influenced by continuing non-research-based professional development events, and our findings offer some support for this. For example, a few school leaders referred to adopting programmes after attending a course. Our data also revealed that some school leaders adopted programmes following an effective sales pitch at a training course. Finally, one school leader described how a programme was marketed effectively on a website and this led to the take-up of the resource.

Only two of the school leaders that we interviewed referred to choosing an academic programme because it had evidence of effectiveness. In one of the comments the school leader refers to being influenced by research evidence and by previous experience of using the programme. Notably, there was no mention of research evidence influencing decisions when choosing well-being programmes. Therefore, the findings from this study might suggest that the external research evidence still lacks relevant, practical, and useable summaries of evidence (Gleeson et al., 2022; Hemsley-Brown and Sharp, 2003; Van Schaik et al., 2018; Connelly et al., 2018).

Limitations

Whilst we have been able to collect rich contextual data from a cluster of schools in Wales, we recognise that data derived from a small number of participants in Wales may not necessarily generalise to other schools. However, our findings support the results from recent research (Gleeson et al., 2022; Nelson et al., 2017; Walker et al., 2019) and align very well with many of the concepts from diffusion of innovation theory (Rogers, 2003). It is important to note that the experiences, and opinions of the first author may have influenced the analysis and interpretation of the data, particularly as the first author was embedded within the cluster as part of a three-year research studentship. Additionally, the nature of the studentship may have influenced the school leaders' responses to the interview questions.

The results from this study provide a greater depth of understanding of the interrelated factors that influence school leaders' decisions when choosing which programmes to adopt. Gaining a better understanding of these factors provides policy makers and researchers with information to identify ways to improve decision-making in schools and the transmission and adoption of evidence-informed approaches. Future research might consider a replication of this study with a wider and more diverse set of senior leaders and teachers from other schools across the UK. Further research could also be directed at answering the following questions. First, how can policymakers ensure that information about the compatibility and usability of evidence-based teaching approaches is communicated to schools? Second, how can we ensure that this information is communicated to schools more effectively, and how do we prevent the spread of non-evidence-based and ineffective approaches?

Our findings suggest that school leaders require information to determine which teaching approaches are likely to be compatible with culture, needs and available resources, and the evidence-base currently lacks this type of relevant and usable evidence (Connelly et al., 2018; Van Schaik et al., 2018). There is an important role for researchers here to improve the quality of schools' decision-making during the *knowledge* and *persuasion* phase of pre-implementation (Rogers, 2003). Subsequently, it is important that researchers provide school staff with a more relevant and practical evidence-base to help determine what has the greatest chance of working, in what context and how. If schools are to adopt approaches that have positive causal evidence, then researchers should provide a

wider range of mixed methods evaluations of programmes that include evidence from process evaluations and social validity research together with information on effective implementation (EEF, 2018, 2019).

We also know that the adoption of programmes is influenced by staff from within and across school networks, and from members of external social networks such as regional school improvement advisers. For this reason, we suggest that school networks, and relationships between schools and knowledge brokers (e.g., school improvement professionals, researchers), should be further developed and nurtured, including a more formalised and planned process for disseminating evidence about programmes. The findings from this study and the existing literature indicate that teachers are more likely to engage in evidence-based approaches if they are supported by evidence supplied from a 'trusted practitioner and/or a 'trusted conduit' (Coldwell et al., 2017; Gorard et al., 2020; Nelson et al., 2017).

To improve decision-making in schools at the *knowledge* and *persuasion* phases of the pre-implementation process (Rogers, 2003), we propose that there should be a focus on improving the transmission of evidence-based approaches between schools. We offer the following two practical solutions. First, create more opportunities for researchers and school improvement professionals to work together to create useful research summaries that include high-quality evidence from robustly designed impact evaluations, process evaluations and social validity research that can be shared with school leaders. Second, school improvement professionals should work closely with schools to provide opportunities for staff to share information and experiences of using evidence-based approaches in schools. This should also include opportunities to observe the implementation of programmes in schools.

Conclusion

Drawing on the framework of diffusion of innovations theory (Rogers, 2003), and building on the findings from previous survey research (Nelson et al., 2017; Walker et al., 2019), this study used semi-structured interviews to gain a better understanding of the factors that influence school leaders' decisions when choosing which programmes to adopt into schools. The findings show that school leaders will often seek advice from, and draw on the experiences of, other school leaders when making

decisions about the adoption of programmes. However, there is promising evidence that some school leaders will seek out and/or follow recommendations from education professionals from external networks and stakeholders; for example, obtaining advice regarding evidence-based approaches from a school improvement adviser. This study has also confirmed that the compatibility of programmes with needs, values, culture, and resources greatly influences decision-making. We suggest that these findings should be used by policymakers, school improvement professionals and researchers to improve the quality of decision-making at the *knowledge* and *persuasion* phases of the diffusion of innovations process (Rogers, 2003), and could improve the uptake of more evidence-informed approaches in schools.

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