ACHIEVING EVIDENCE-INFORMED POLICY AND PRACTICE IN EDUCATION: EVIDENCED

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ACHIEVING EVIDENCE-INFORMED POLICY AND PRACTICE IN EDUCATION: EVIDENCED

BY

CHRIS BROWN
School of Education and Childhood Studies, University of Portsmouth, Portsmouth, United Kingdom

United Kingdom – North America – Japan – India – Malaysia – China

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INVESTOR IN PEOPLE

For Wendy Brown, for always supporting me.

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About the Author

Dr Chris Brown is Professor of Education at the School of Education and Childhood Studies, University of Portsmouth. With a long-standing interest in how evidence can aid education policy and practice, Chris has written or edited five books (including *Making Evidence Matter* and *Leading the Use of Research and Evidence in Schools* for UCL IOE Press), several papers and has presented and keynoted on the subject at a number of international conferences in Europe and North America.

Chris has extensive experience of leading a range of funded projects, many of which seek to help practitioners to identify and scale up best practice, and was recently awarded a significant grant by the Education Endowment Foundation to work with 100+ primary schools in England to increase their use of research. In 2015 Chris was awarded the American Educational Research Association 'Emerging Scholar' award (Education Change SIG). The award is presented to an individual who, within the first eight years of the career of an educational scholar, has demonstrated a strong record of original and significant scholarship related to educational change. Chris was also awarded the 2016 AERA Excellence in Research to practice award and the 2016 UCEA Jeffrey V. Bennett Outstanding International Research award.

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Chapter 1

Introduction

This book brings together seven articles that encompass a range of research projects and ideas in relation to evidence-informed policy and practice (EIPP) in education. These projects and ideas all share a single overarching purpose: providing insight into how EIPP in education can be achieved. The reason for my focus on EIPP is clear cut: although it is true that the notion of using evidence to aid policy or practice is not without controversy or debate (e.g. see Hammersley, 2013), I firmly believe that educationalists engaging with evidence is socially beneficial. This is because policy decisions or teaching practice grounded in an understanding of what is or could be effective, or even simply an understanding of what is currently known, are likely to be more successful than those based on experience or intuition alone. The book itself is premised on a number of fundamental ideas with regards to what EIPP is and how it can be established. Because these ideas are not always explicitly stated within its chapters, I explore them here in the introduction in order to provide context for what is to come.

The first set of ideas underpinning my work concerns the nature of EIPP. For the purposes of this book I define the policy and practice elements of EIPP separately. My definition of evidence-informed practice (EIPr) is adapted from England's Department for Education (2014), which suggests that EIPr represents: 'a combination of practitioner expertise and knowledge of the best external research [and/or] evaluation-based evidence'. More specifically in relation to this definition, I consider the notion of 'external research' as high quality qualitative or quantitative research that has been peer reviewed and published by academic researchers. I have altered the DfE's definition to include the phrase '[and or]' because in some areas we are relatively light in research findings, also because some research simply provides new ways to understand the world rather than any concrete calls to action. Nonetheless as I detail below, in both cases such research can and should be used to improve decision making. Other times evidence can provide more concrete suggestions for how to improve teaching and

learning and here the phrase 'evaluation-based evidence' is considered to comprise meta-analyses or syntheses such as those produced by Hattie (2011) or the Sutton Trust-EEF's *Teaching and Learning toolkit* (Sutton Trust-EEF, 2013) which indicate the effectiveness of types of intervention (such as homework or feedback). Evaluation-based evidence also comprises the evaluation of specific named interventions (such as 'Philosophy for Children') often through use of randomized control trials (e.g. see Slavin, 2008 or the Education Endowment Foundation). This research can be usefully employed both by itself and in conjunction with other forms of research. The use of the term 'combination' within the DfE's definition, meanwhile, also highlights an evolution in thinking about research informed teaching practice; representing a move from the idea that teaching can be *based* on research evidence (e.g. see Biesta, 2007; Saunders, 2015), to the realization that it is more realistic, relevant and effective to consider a situation where teaching practice is *informed* by research evidence. In other words, the coining of the phrase *evidence-informed practice* represents a change of emphasis, to consider how teachers can employ research alongside other forms of evidence such as their tacit expertise, in order to make effective pedagogic decisions in specific situations.

It is also worth highlighting here the substantiated benefits associated with EIPr, which includes correlational evidence that where research and evidence are used effectively as part of high quality initial teacher education and continuing professional development, with a focus on addressing improvement priorities, it makes a positive difference in terms of teacher, school and system performance (Mincu, 2014; Cordingley, 2013; Godfrey; 2014, 2016). CUREE (2010), meanwhile, lists a range of positive teacher outcomes that emerge from EIPr including both improvements in pedagogic knowledge and skills, and greater teacher confidence. Furthermore, the experience of 'research-engaged' schools that take a strategic and concerted approach in this area appear to be positive, with studies suggesting that research engagement can shift school behaviours from a superficial 'hints and tips' model of improvement to a learning culture in which staff work together to understand what appears to work, when and why (Godfrey, 2016; Greany, 2015; Handscomb & MacBeath, 2003). In addition, it is also noted by Godfrey (2016) that schools that have made a commitment to practitioner research report increased numbers of application for teaching posts, high teacher work satisfaction and increased staff retention.

Evidence-Informed Policy

When considering evidence-informed policy-making (EIPo) I draw on the definition of Davies (2004, p. 5), who defines it as:

> An approach that helps people make well informed decisions about policies, programmes and projects by putting the best available evidence from research at the heart of policy development and implementation.

With the notion of 'best available' evidence regarded as synonymous with the notions of external research and 'evaluation-based evidence' detailed in the definition of EIPr above. The pursuit of evidence-informed policy is based on the premise that policy outcomes will be improved if decision making is aided by knowledge that is both *of quality* and *pertinent* to the issue in hand. This premise is explicated through the work of advocates such as Oakley, who argues that evidence-informed approaches ensure that 'those who intervene in other people's lives do so with the utmost benefit and least harm' (2000, p. 3); also described by Alton-Lee (2012) as the 'first do no harm' principle. Failing to employ available evidence can also lead to situations where public money is wasted and members of society not offered treatments or interventions at points in their lives where doing so might provide most benefit (e.g. Scott, Knapp, Henderson, & Maughan, 2001 and Lee et al.'s 2012 analysis for the *Washington State Institute for Public Policy*).[1] Oxman, Lavis, Lewin, and Fretheim (2009) summarize the benefits of being evidence-informed by suggesting that the evidence use increases the probability of policy being more effective, equitable and value for money.

How Should Policy-Makers and Teachers Engage with Research?

How EIPP materializes will be a function of how teachers and policy-makers are expected to act following any engagement with research (Dimmock, 2016; See, Gorard, & Siddiqui, 2016). In my experience the goals of teachers in using research are typically one of the following: (1)

[1]See http://www.wsipp.wa.gov

to aid the design of new bespoke strategies for teaching and learning (or indeed approaches to school management) that are to be employed as part of their and/or their school's teaching and learning (or management) activity in order tackle specific identified problems. As Coldwell et al. (2017, p. viii) note 'for teachers, evidence-informed teaching usually meant drawing on research evidence to integrate and trial in their own practice'. One example is a school I worked with in Chapter 5 who used research to design a 'mistake typology': informed by Dweck's (2006) work on growth mindsets, this typology was designed to help teachers and pupils recognize various types of mistakes and how different mistakes could be used as the basis to improve how pupils learn and approach their work; (2) a second goal is that teachers use research to provide ideas for how to improve aspects of their day-to-day practice by drawing on approaches that research has shown appear to be effective. For instance research can provide clues for how to respond to pupils during lessons in order to maintain their resilience or grit (Duckworth, 2016); (3) teachers can also seek to use research to expand, clarify and deepen concepts, including the concepts they use to understand students, curriculum and pedagogical practice (Cain, 2015, for instance provides a case of teachers examining the notion of 'gifted and talented' pupils and the way in which such pupils might be identified and the nature of a suitable curriculum for such a group). While this third goal does happen, it is less common: Coldwell et al. (2017) for example suggesting that in their study of schools teachers' use of research evidence was prompted by a need to solve a practical problem; finally (4) teachers and schools may also seek out specific programmes or guidelines, shown by research to be effective, which set out how to engage in various aspects of teaching or specific approaches to improve learning (again typically to tackle identified problems). For example, programmes which suggest how to begin each lesson in order to minimize disruption or poor behaviour, or specific schemas for providing feedback. The goals of policy-makers may be considered similar although often their intention is to develop the directives or guidelines that will be used by teachers or affect the governance or operation of schools. Drawing on Stokes' (1997) research typology, this implies therefore that the research teachers and policy-makers value most will have elements of practical application. Although these goals seem relatively clear cut, we still need to consider how research is actually employed within policy and practice.

There are numerous studies and commentaries that have examined the ways in which research evidence can affect policy and practice (e.g.

Biesta, 2007; Cain, 2015; Cooper & Levin, 2010; Edwards, Sebba, & Rickinson, 2007; Hammersley, 1997; Nutley, Walter, & Davies, 2007), including the seminal work of the late Carol Weiss (e.g. 1979, 1980, 1982). Here however I illustrate the key issues involved by engaging with recent work undertaken by Penuel and colleagues (2017), which broadly encapsulates the core issues involved. The particular study undertaken by Penuel et al. (2017) involves the development of a survey to capture a broad range of potential uses of research evidence in order to gain baseline assessment of school leaders' use of research. Adopting categories first identified by Weiss and Bucuvalas (1980), Penuel et al. (2017) use their survey to examine *instrumental*, *conceptual* and *symbolic* uses of educational research by school and school system leaders. They explain the first of these use-types — instrumental use — in the following way: 'when policy-makers encourage education leaders to use research to inform their decision making, they implicitly invoke a theory of action in which evidence from research findings directly shape decisions related to policy or practice' (Penuel et al., 2017, p. 2). In other words instrumental use is the use of research 'in the service of a particular decision' (*Ibid.*). Penuel et al. then define conceptual use, as occurring 'when research changes the way that a person views a problem or the possible solution spaces for a problem'. Symbolic use, meanwhile, occurs when research evidence is used to validate a preference for a particular decision or to justify a decision already made (*Ibid.*).

What is clear in examining these definitions is that the difference between instrumental and conceptual use is premised on *how* educators use research to make decisions and so take action as a result. Specifically, instrumental use is thought to involve a *direct* translation from research to practice: that is with instrumental use research evidence is seen as pointing towards a solution in relation to a problem of practice, with this solution or strategy subsequently being accepted and/or implemented. Typically, this type of use is thought to go hand in glove with notions of 'evaluation-based evidence' since proponents of instrumental use typically believe that through the use of randomized control trials or systematic reviews, evaluative research can provide concrete calls to action through the provision of research informed guidelines or interventions that can be implemented with fidelity (Fixsen, 2017). In other words an instrumental decision is one of 'this is what we will do and how'. Conceptual use, meanwhile, is regarded as more indirect in that it points to situations in which research evidence guides or informs thinking in relation to a given problem/solution to that problem. With conceptual use, therefore, research evidence is not regarded

as the sole source of information upon which educators base their decisions (the decision made thus being 'these are the kinds of things we will do'). Returning to the definition of instrumental research use, its definition, albeit implicitly, appears to imply action in strict adherence with what the research says should be done, thus ruling out of any other forms of knowledge coming into play (since this would result in the action following use of the research being customized rather than teachers acting with fidelity in relation to the research). What's more, in theory at least, the more concrete direction research can provide, the more instrumental its use can be. A key question therefore must be how realistic the scenario represented by the instrumental use of research is?[2]

Even if we just consider the more instrumental goals teachers may have for using research (e.g. goals one and four of those listed above), a variety of sources would seem to imply that the answer is 'not very'. Notwithstanding the fact that often a given evidence base is not concrete enough to provide a definitive course of action in relation to a problem of practice (not every intervention has been evaluated and not all meta-analyses go into depth about how the intervention in question operates: research on how to encourage relationship building amongst children with autism being one example of the former, research on homework being an example of the latter) teachers simply do not seem to employ research in this way. For instance, Coldwell et al. (2017, p. ix) suggest that there is 'limited evidence from [their] study of teachers directly importing research findings to change their practice. Rather, research more typically informed their thinking and led — at least in the more engaged schools [studied by Coldwell et al.] — to experimenting, testing out and trialling new approaches in more or less systematic ways'. Likewise, März and Kelchtermans (2013, p. 13) conclude from an examination of the relationship between research and its implementation that 'teachers' practices are never simply a matter of

[2]It is also noteworthy that Penuel et al. (2017) themselves suggest that when seeking to measure research use approaches involving direct observation tend to result in higher rates of conceptual use than those involving surveys. This suggests a 'methods' effect in which interpretation of and response to survey questions by respondents involves a mental shortcutting process and so a failure to fully explicate the decision-making process respondents engage in when employing research. Survey self report data are also more prone to social desirability bias (where it might be assumed that instrumental uses of research can be viewed by educators as 'a good thing'). Observation techniques, on the other hand, allow direct analysis and more nuanced interpretation by researchers in terms of what is occurring (in terms of how decisions are made or research engaged with) and why.

executing prescriptions and procedures'. Issues in marrying centrally prescribed, 'research-based' solutions with local context have also been reported in professions such as medicine and social work. For example, Rexvid, Blom, Evertsson, and Forssen (2012) examined general practitioners' and social workers' reactions to initiatives to implement 'research-based' guidance. Here they found that both types of professional expressed numerous concerns regarding the impact of the guidance on their ability to carry out patient/client centric practice. Gambrill (2010) reports that such difficulties occur because practitioners' decision-making processes are complex; involving the synthesis of knowledge relating to local and individual characteristics, values, preferences and resources as well as the domain specific knowledge associated (in the case of this book) with teaching. In addition to these factors, the work of Polanyi (1958) suggests that tacit knowledge and perspectives shape how individuals come to experience explicit knowledge such as research. More constructivist/socio-cultural perspectives meanwhile flag the importance of participation in cultural (e.g. organizational) practices in determining understanding (e.g. see Collins & Evans, 2007; Paavola, Lipponen, & Hakkarainen, 2004).

As such I suggest that research use is never 100% instrumental and since this is the case EIPr should be thought of as decision making that encompasses a combination of knowledge types. This makes research use fundamentally conceptual in nature but with research evidence playing a greater or lesser role depending on a variety of factors such as the availability of research evidence and its level of concreteness, but also the presiding contextual factors and practical knowledge also in play. This is recognized in the definition of EIPr put forward by Furlong (2014) who argues that evidence-informed practice results from the coming together of: (i) practical expertise, (ii) subject and pedagogical understanding and (iii) research engagement — the last of these involving research-based knowledge, theory and scholarship. Likewise, Cain (2015) posits that evidence-informed practice introduces a 'third voice' into practice alongside the voices of teacher values and experiences and those of their colleagues. In other words, evidence-informed practice is viewed as desirable by many commentators exactly because it serves to improve teaching practice through the conjoin of new of ideas and approaches with existing 'chalk face' experience and expertise (e.g. Godfrey, 2016; Hammersley-Fletcher & Lewin, 2015). An example of how this combination can be facilitated is described in Chapter 5 which outlines the process of 'knowledge creation' used within Research Learning Communities (RLCs). Within the book I also apply this same

thinking to policy-making and so to the notion of EIPP generally (and Chapter 8 describes how knowledge creation might occur within policy learning communities).

Conceiving EIPr in this way (as opposed to instrumental perspectives on research use) means that it is not possible to suggest which of the four goals set out above is likely to be more effective — since it is not research alone that drives decisions. What's more such a conception also coheres nicely with other extant thinking concerning the spread of educational interventions. For example, it is suggested that the scale-up of interventions is achieved through adaption not adoption (Bryk, 2016; Dede, 2016; Peurach, 2016): that is that schools should seek to replicate interventions, not as faithful copies, but in ways best suited to their settings. We can liken this notion of adaption to that of translation (Eco, 2003). As a result, adaption can be considered as finding the best approach to convey original meaning in a new setting and with the opportunities and constraints afforded by the context for that setting. Continuing with the analogy of translation, when the translation of a text is attempted on a word by word basis, the result, when read in its entirety, typically fails to fully capture the author's original meaning (Eco, 2003). Instead *effective* translation focuses less on stand-alone words and more on what the author intended. The implication for the spread of interventions is clear: rather than attempt to copy exactly how individual parts of an intervention were operationalized, schools should (and policy-makers should be encouraging schools to) instead seek to understand the role these parts were playing as part of an overall process designed to realize change of one form or another (Cartwright, 2013). Such thinking has substantive implications for EIPr as a driver for the development and scale-up of effective educational interventions (i.e. represented by goals one and four above). Specifically, it implies that to facilitate EIPr there is a need to conceive of approaches that aid teachers in understanding of how research evidence or evidence interventions can be translated so as to be effective in new contexts (Cartwright, 2013; Dimmock, 2016).

Further thinking on this and what it means to be 'evidence-informed' are set out in the final chapter 'Moving Forward'. It is worth noting here however that one mooted way to aid teachers' contextualization of research evidence or evidence-informed interventions is through the use of theories of action (ToA, Brown & Graydon, 2017; Hubers, 2016). ToA are described by Earl and Timperley (2015, p. 19) as the reasoning organizations use to describe how they will make change in the world; with the 'theory' aspect of a ToA providing an 'explanation of why

certain things [will] happen'. ToA are thus perhaps best thought of providing the logic underpinning a given approach to teaching and learning, the activities used to operationalize this thinking as well as how these aspects combined within a given setting to create desired changes in knowledge and action. As an example, the ToA for professional learning communities might resemble the following IF/THEN statement (Fixsen, 2017):

- IF there are professional learning communities, THEN there will a scheduled time for teachers to discuss their work and the work students produce.
- And IF teachers share their work and the results with each other, THEN they will be able to learn from each other's successes and draw upon the expertise of their colleagues around common challenges.
- And IF teachers draw upon the expertise and successes of their colleagues around common challenges, THEN teachers will be able to incorporate new and successful strategies into their practice with support from their colleagues.
- And IF teachers incorporate successful strategies into their practice, THEN students will benefit from more effective teaching.

When it comes to EIPr therefore, using ToAs can help educators consider how to design approaches to teaching and learning that will make a difference; with the logical reasoning for why these approaches will have impact coming both from a combination of research evidence and teachers' own practical knowledge and the understanding they have of their school or setting and what is and isn't possible (with research and practical knowledge brought together through knowledge creation).

Leadership

Also key to realizing EIPP is the role of leadership, a theme that underpins all of part one of the book. Starting with EIPr, it is noted elsewhere (e.g. Finnigan, Daly, Hylton, & Che, 2015) that school leaders can act either as a barrier or a gateway to evidence-informed teaching practice. This is because of the myriad ways in which school leaders are able to influence the operation and performance of schools, including the teaching and learning that occurs within them. Such influence stems from school leaders' ability to:

1. Provide vision
2. Develop, through consultation, a common purpose
3. Facilitate the achievement of organizational goals and foster high performance expectations
4. Link resource to outcomes
5. Work creatively and empower others
6. Have a future orientation
7. Respond to diverse needs and situations
8. Support the school as a lively educational place
9. Ensure that the curriculum and processes related to it are contemporary and relevant
10. Provide educational entrepreneurship (Day & Sammons, 2013, p. 5)

In themselves these qualities can be divided into the 'transformational' aspects of school leadership and 'pedagogic' or instructional leadership (Day & Sammons, 2013). The former is described as a process based on increasing the commitment of those in a school to organizational goals, vision and direction and has been shown to have positive impact in relation to the introduction of new initiatives or the remodelling or restructuring of school activity (Bush & Glover, 2003). The latter is seen to relate to the efforts of principals in improving teaching in their school and their focus on the relationships between teachers, as well as the behaviour of teachers vis-à-vis their work with students (e.g. Timperley & Robertson, 2011). True research engagement within and across schools therefore requires school leaders to address both the 'transformational' and 'learning centred' aspects of becoming research and evidence engaged. How they might do so is tackled in Chapters 2–5. Again transposing these ideas to policy also suggests that those who direct policy-efforts should also be focusing on both vision and the day-to-day realities of policy-makers using research. A key recommendation to help policy-makers to do so — policy learning communities features in Chapter 8.

Marrying Theory and Practice

The second set of ideas underpinning this book concerns how EIPP can be realized. These ideas first and foremost are theoretical in nature, with practical considerations resulting from this theory. The first of these theories is that of Optimal Rationality (Brown, 2014a; Brown & Zhang, 2016). Simply put this is a theory of rationality that suggests what we

do is sometimes not fully aligned with what we know might be the best course of action. This is because short term needs or requirements can lead us to pursuing actions that are, at a given point in time, more preferable. One example this type of rationality 'gap' relates to our diet: World Health Organization guidelines suggest that we consume at least 400g of fruit and vegetables per day. In countries such as the United Kingdom, Germany and United States, this recommendation has materialized as the notion of eating five different fruits and vegetables a day.[3] These recommendations are well known, yet a recent survey suggests that, for a variety of reasons, nearly two thirds of people do not eat 'five a day'.[4] A rationality gap also exists with the use of evidence to improve education: it is something promoted and known about but not always undertaken.

A key question then is how we might reduce this gap. For this I turn to the theoretical frame of semiotics. Semiotics is the notion that all phenomenon and things convey meaning to individuals. As one of the most preeminent semioticians of our age, Umberto Eco, suggests, semiotic analysis is something that is 'concerned with everything that can be *taken* as a sign. A sign is everything which can be taken as significantly substituting for something else' (Eco, 1979, p. 7). In other words, semiotic analysis is concerned with the interpretations that you, I and others associate with words, images, objects or anything else that can be used to signify [indicate] some meaning or other. A comprehensive list of what might constitute signifiers may be found in the *Introduction* section to Eco's *A theory of semiotics*. Broadly, however, I have found that most things we come across in the social world tend to signify something, which in itself implies that society can be thought of as comprising a huge web of signs. Because semiotics is concerned with perception it can be used to better understand why people behave in the ways they do — in other words how they respond to any given sign — as well as explore how signification might be altered in order to help change behaviours.

For example, I often draw on the work of Jean Baudrillard (e.g. 1968) who suggests that 'consumer objects' typically convey semiotic values that send out messages regarding their *use*, *exchange* and *sign* (this equates to how something might be employed, its cost to purchase

[3]See http://www.nhs.uk/Livewell/5ADAY/Pages/5ADAYhome.aspx
[4]See http://www.immediate.co.uk/nearly-two-thirds-of-population-do-not-eat-5-a-day-indicates-bbc-good-food-study/

and the prestige associated with that object — typically expressed through the currency of a brand or label). Again transposing this to the use of evidence by educationalists, we might think of research evidence as being considered in terms of how useful it is (e.g. in terms of immediate usability OR how it has enabled teachers and policy-makers to better understand ideas), how costly it might be (can research evidence be quickly and easily accessed? can it be readily understood or is training required? did the research itself have to be commissioned? etc.) and what the use of research evidence signifies and its place within the wider web of signification: this last value comprising a marrying of factors such as how individuals perceive being evidence-informed, how individuals want to be perceived as teachers, the wider culture within which they work and what this culture values (e.g. the attitudes and priorities of the school and colleagues). This analysis also holds for policy-makers and governments, with additional elements such as power differentials also affecting who 'controls' the signification associated with research evidence (Brown, 2013a).

Closing the rationality gap can thus be undertaken through approaches and interventions that explicitly tackle these different values. For example, the RLCs approach detailed in Chapter 5 is designed to help teachers and schools engage more readily and effectively with research evidence, thus increasing the *use* value of research evidence whilst reducing its *cost* value. In Chapter 4, the notion of trust is spotlighted — increasing trust again helps reduce the *cost* value of using research since you are more likely to expose yourself to the risks of experimenting with new ways of working knowing you will be supported by your peers. High levels of trust also means that research evidence or interventions based on evidence are more likely to flow around schools as the signification associated with research evidence is enhanced through being associated with a trusted colleague. While not always explicitly grounded in semiotics, each of the chapters presented has implications for one of these three core values of *use*, *cost* and *sign* and in turn what might be causing the rationality gap or helping us understand how it might be closed. Each chapter also attempts to engage with the complexity of the social world and employ new ways to understand it (and consequently what might be causing the rationality gaps we come across). Thus, as you read through the chapters, what you are presented with is a holistic journey of discovery and experimentation: of an engagement with the work of thinkers and authors from Eco to Flyvbjerg, via Habermas, Foucault and Aristotle; of ideas ranging from phronesis to trust and social relations; and with diverse

research methodologies, including such approaches as social network analysis and decision tree predictive modelling. The result is both descriptive and prescriptive: as well as outlining the research and its findings, practical suggestions and strategies for achieving evidence use both in educational policy and practice are provided throughout.

Content

The content of the book is effectively divided into two parts, with the first four chapters (part one) examining EIPr and the last four chapters (part two) examining evidence-informed policy-making in education. The section on evidence-informed practice begins with an examination in *Chapter 2* of the rationality of evidence use ('Is Using Evidence to Inform Teaching Practice Rational?'), based on an article by Brown and Zhang (2016) that first appeared in the *British Educational Research Journal*. Specifically, exploring the question: 'if the pursuit of EIPr represents a rational decision on the part of schools, why aren't all teachers engaged in it?', the chapter examines whether the beliefs and perspectives of teachers in relation to EIP, align with their evidence-use behaviours. I then assess what factors (if any) prevent teachers/schools who wish to engage in EIP from doing so. To examine beliefs, instances of, and barriers to evidence use, I illustrate how in Brown and Zhang (2016) we used a *Gradient Boosted Tree* predictive model to analyse data from a survey of 696 practitioners in 79 schools. I then detail how the findings from this analysis suggest that, should they wish to increase EIP within their schools, school leaders need to: (1) promote their vision for evidence-use (i.e. actively encourage its use); (2) illustrate how research and evidence can be effectively employed to enhance aspects of teaching and learning; and (3) establish effective learning environments, in which learning conversations around the use of evidence, can flourish.

Chapter 3 (previously unpublished) continues with this theme of rationality. Specifically, it presents pre-intervention empirical evidence to provide an indication of what might facilitate more effective research-to-practice connections using the case of one federation of schools in Hampshire, England. The analysis is *explicitly* framed by the two theoretical perspectives outlined above, that is (1) optimal rationality, and (2) semiotics. These perspectives are used to explore what evidence-use means to teachers, why they do or do not seek to use evidence to improve teaching and how these positions might be shifted

in favour of more optimal evidence-informed approaches. Interviews were conducted with 15 teachers (the entirety of the teaching staff from the federation concerned). The chapter concludes that teachers need practical experience of research use to engage with it, but they also need encouragement and support in relation to networked collaboration if research use is to move out of individual classrooms and become a cultural norm at the level of the school/federation.

The purpose of *Chapter 4* (based on an article by Brown, Daly, & Liou, 2016 that first appeared in the *Journal of Professional Capital and Community*) is to examine what drives teachers' perceptions that their school encourages the use of research evidence to support improvements to teaching, and whether improvement strategies in their school are grounded in research on effective practice. Reviewing extant literature, it is hypothesized that teachers' perceptions of research use are related to their perceptions of: the presence of in-school organizational learning factors; whether teachers work in high-trust environments; and also to the frequency and quality of their 'expertise-seeking' relationships and interactions. Using a survey to measure organizational trust, trust and school research use climate, data from 828 teachers in 43 schools is analysed. The chapter concludes by illustrating the importance of learning and trust in facilitating the types of relations needed to provide teachers with access to the research/evidence centred social capital that resides within schools.

Chapter 5 (previously unpublished) discuss the concept of RLCs and also examine the effectiveness of the approach by focusing on one specific RLC: a teaching school alliance situated in the south coast of England ('Excellence Together TSA'). It begins by setting out the origins of the original RLC project; the theoretical and conceptual thinking that underpins the model as well as the practical elements of how RLCs are run and delivered. It then uses the case of 'Excellence Together…' to illustrate how the RLC approach has led not only to teachers within this specific alliance engaging in EIPr, but also how this practice has begun to transform teaching and improve student outcomes within participating schools. Scales and a methodology for identifying and measuring both EIP and transformative teaching/improved student outcomes are presented, along with the results for 'Excellence Together…'.

Chapter 6 (based on Brown, 2014b and which first appeared in *Evidence & Policy*) marks the book's shift in focus towards EIPo, and begins by considering the notion of power. In particular the chapter examines how power differentials between researchers and policy-

makers and the epistemological and ideological preferences of government affect the nature of policy and the types of policy decisions that are made. The findings of a literature review are presented along with the analysis of and 24 in-depth semi structured interviews with researchers and policy-makers (from the education sector in England). Bringing these together, the chapter presents a new theoretical framework through which to analyse these issues. It concludes that the 'what works' type preferences of policy-makers, the ideologies that guide them and the and the manifestation of power and discursive dominance will tend to lead to the development of government policy informed solely by knowledge which investigates the subject areas that policy-makers are interested in, using the methods they prefer. It is also argued that this narrowed foci of evidence moves policy-making away from the more effective, efficient and equitable (i.e. more optimal) outcomes that can accrue by taking a fully evidence-informed approach.

Chapter 7 builds on from Chapter 6 by examining the strategies researchers can employ to better inform education policy. Taken from Brown (2012) (which appeared first in *Evidence & Policy*) the chapter examines the notion of 'knowledge adoption': the process, in all its complexity, of policy-makers digesting, accepting and then 'taking on board' research findings, noting their relevance, benefits or future potential. Arguing that current knowledge adoption models fail address a number of issues that are central to any fundamental conceptualization of knowledge adoption or to its successful realization, the chapter presents a new model of knowledge adoption based in extant sociological theory and derived from a systematic review of existing literature. Within the chapter I also illustrate how the model was empirically tested and illustrate the implications of the model for the notions of research impact and of EIPo more widely.

In *Chapter 8* (based on Brown, 2013b, which first appeared in *Prometheus*), I engage with the notion of 'expertise' in evidence use, and with Flyvbjerg's (2001) idea of *phronesis*. I also detail how the *phronetic* approach can be adopted by policy-makers and its potential implications for the policy development process. I contend that, given the issues that abound with current attempts to embed and enact evidence-informed policy-making, that the *phronetic* approach presents an alternative and viable way of both perceiving how evidence is currently used and for establishing enhanced levels of evidence use. In particular, that it spotlights a need for policy-makers to be continuously incorporating the most up to date evidence into their thinking; enabling it to be intuitively conjoined with other pertinent and salient factors in order to

provide a holistic and well-rounded decision in relation to given issues. I end the chapter by positing policy learning communities as the mechanism required to facilitate *phronetic* expertise as well as outline the cultural issues that need to be addressed in order that policy learning communities might be realized. Following this, the final chapter, 'Moving Forward', draws together the themes explored in the book. In doing so it examines what next for evidence-informed policy and practice in education; something which I am hoping this book inspires you to consider as well.

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