

# EDUCATIVE EVIDENCE-BASED PRACTICE IN MUSIC EDUCATION



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## About this book.

Brad Fuller and James Humberstone

This book is a research book. It's written by some of the finest minds of music education research, practice, and related fields. Many of them are university professors with long records of doing impactful research, published in the best journals and with the best academic book publishers. Others are music teachers who have undertaken research methods study at universities and have the skills to do both.

And *Evidence-Based Practice* is all about evidence, often best gleaned from research, which means that we are able to present you with a book of evidence about Evidence-Based Practice (EBP), something that, as we will show in the introduction, is often missing in the field of EBP in education, let alone specifically in *music* education.

But, while evidence is important for EBP, it's nowhere near as important as *Practice*. For all the preparation, gathering of data, analysis, theory-building, testing, and further application, nothing comes close to the *practice* of music education, which happens in classrooms, in studios, on stages, in ensembles, over video hook-ups, and a myriad of ways. This *practice* happens within a relationship between the teacher and the student or students, a relationship that is hopefully inspiring, joyful, enlightening, relevant, and more about making music than talking and testing.

So we researchers have written this book for practitioners, first (though, hopefully it will be useful for other researchers to build upon in the future, too). When we called for contributions to this book, we asked the most professor of professors to write their chapters in the language they would use themselves in the classroom (or in their case, the tutorial): direct research-jargon-free language (or, when complex terms needed to be used, explaining them first), and written in ways that will relate to someone who is a music teacher and *not* trained in research methods. We hope that that makes this a very readable book, whatever your experiences.

There are a few research best-practices that we've left in, though, because they're actually really important so that practitioners can advocate for their own professional autonomy (which, as you'll see in the next chapter, is one of the most important things in EBP in the research literature). First, we've left references in – they look like this: (Fuller & Humberstone, 2023, p. 265). A reference like that tells you that the point that is being made is backed up by at least one other research study – in other words, *it's reliable information, and here's where it came from*. At the end of the chapter we provide the full references (the book or journal article that the information came from) which includes the name of the publisher or journal, the page range of the article or book chapter, the journal numbers, and a web link which may be in the form of a DOI, which is a kind of web link that researchers use to make sure that links to their work don't "go dead" if a website moves or updates.

Teachers may never look at the references to find out where the ideas came from, but it's important that that information is there first for those who *do* want to learn more, and second for those who practice is influenced by ideas in this book, but need to justify it to heads of departments, or school principals.

We've also been very careful to make sure we use references responsibly, too, which has meant breaking with our own style guide a little. In every instance, we asked the researchers and teacher-researchers who wrote the chapters in this book to provide a *page range* for the specific idea they're drawing on in a reference, after the names of the author(s) and the date of publication. You can see this in our example reference. Not every academic style does this, but we think it's (again) really important for teachers who are making changes in their practice and need to be able to refer to the exact research-evidence for doing what they're doing. The one exception to the page-reference point, is where a reference is provided for further reading, or where the author is literally referring to all of the ideas contained in the whole research publication. The vibe. Sometimes specific ideas will be over two or more pages, in which case the reference might be written something more like this: *Music education has been affected over the last 100 years by changes in education more broadly, and even in politics and significant historical events (Fuller & Humberstone, 2023, pp. 265-267).*

Finally, the intention of this book is to free every music teacher to undertake their *own* Educative Evidence-Based Practice (EEBP). In our model for music education (see pages xxx – xxx), drawn from the best models of medical EBP which provide a more robust platform than the mostly-absent educational models, the practitioner's experience is as important as the evidence that they are applying to/following in their practice. Equally important are the student's values and circumstances, and the classroom context (Fuller, 2023, pp. 121-122), because all children are different, and all schools and communities are different. After reading this book, and following the examples of EEBP set out in many of its chapters, we hope music teachers will design their own EEBP curriculum to suit *their* students in *their* school.

All that said, sometimes a few starting points or more specific models, which can then be personalized, or maybe spark a creative tangent, can be useful. Therefore, we have created a companion book of lesson plans based on the content of this book, with links to digital music education resources teachers can use; *and* a student workbook, quite unlike any student workbook you've seen before (no filling in manuscript or comprehension worksheets!), focused on journaling the creative process and sharing work-in-progress. You definitely don't need these resources to start using this book, though. We really hope that by the time you've read some of the research presented here, your own creative juices will be flowing, and that you'll be inspired to bring Educative Evidence-Based Practice to your own music classroom.



## Introduction.

James Humberstone and Brad Fuller

In the time that Brad spent undertaking his PhD, we went around in a lot of circles. Or perhaps it might be more accurate to say that we went around the same circle, over and over again.

The circle in question is the path around Narrabeen Lagoon on Sydney's northern beaches. On the east side of the lagoon it passes through the main shopping strip of the Narrabeen suburb, over the bridge (which features pelicans sitting atop its lighting), and along the side of the busy Wakehurst Parkway. Over this period of time, the main Narrabeen strip has also been our meeting place, a breakfast location, and home for Brad; and its bridge was one border of an exceptional lockdown over Christmas 2020, when the Northern Peninsula of Sydney's northern reaches had its own COVID outbreak before there was any vaccination or known protections.

Figure 1. An aerial photograph of Narrabeen Lagoon, itself a wobbly circle that we ran around, again and again, discussing the ideas that led to this book.



The western side of the lagoon is a different story. The path becomes a rocky, dirt track through the bush where cockatoos and rainbow lorikeets do their best to drown out our conversation. Where sometimes we have had to slow to pass a six foot diamond python, and where at other points where you travel along raised pathways over the water, the marshes, past herons and Australian pied cormorants. The view from the western end especially around sunrise is incredibly picturesque, and

there are many points where you could be forgiven for thinking you were in rural Australia rather than passing through several suburbs of Australia's most populous city.

Figure 2. The view Middle Creek Reserve, at the western end of Narrabeen Lagoon, taken by James before a morning run.



Ostensibly, we two middle aged men jog around in this circle again and again to stay fit. They say that fitness is good for mental health. We would probably say that the jog is actually more about our mental health than about our fitness each week, and sometimes several times a week, especially during the 2020 and 2021 pandemic lockdowns. We joke about an agenda as we start off (straight after the creaks and groans that our bodies offer at 6:30am), and very often seriously work our way through one while trying to get our running pace below six minutes per kilometer (Brad thinks he once read that six kilometers per hour is “conversation pace” and that if you can run five kilometers at six minute pace, it means you are “fit”).

The topics of our conversations are incredibly varied. It might be assumed that only when we are talking about our families, our finances, or our workloads, are dealing with the issues that affect our mental health, but in many ways when the lead items on the actual agenda are the philosophy of music education, the impact of political policies on education, qualitative and quantitative research methods, epistemology, ontology, and smuggled-in-assumptions in a new government policy documents or syllabus, we’re still very much dealing with the matters that go deepest to us and affect our everyday well-being.

The academic side of our conversations, as we have run around in circles, has largely been dictated by the directions of Brad's PhD research, but James has often thrown in curveballs, which through some kind of Jungian synchronicity have often moved the research or our discussions on the research forward. Some eight years later, as we cross the bridge from the Middle Creek Reserve at the western end of the lagoon to the footway, towards the Wakehurst Parkway, we reference conversations that we have had that exact part of the run years earlier. The pace of the run, the momentum of our energy, the time of day, and the things we are thinking about reverberate through the years.

It's comforting to know that we can go again this week, and bring a catalog of thoughts with us from these years of running around in circles, years in which our lives and careers have also changed.

So, before we get into defining *Educative Evidence-Based Practice* (EEBP), a model for Evidence-Based Practice in Music Education that is based on the best and most applicable approaches from Medical Evidence-Based Practice (medical EBP or MEBP), which (we contest) has a much more robust scientific, reliable, and relevant application than the existing versions of Evidence-Based Practice that have been used without clear efficacy in education more broadly; before we get into that, we want to assure you of three things. First, we are teachers. Second, we are musicians. And third, we really, really care about young people. You can skip the rest of the introduction if you want to get into the research, and how it can be applied in the music classroom, but if you do, please take these three points as a given, because they are the facts that guide our approach to writing and editing this book. We truly understand the pressures on teachers to conform to government education models, to teach to high stakes assessment, and to therefore prioritise teaching content in the music syllabus the same way “everybody” does, to prepare students for exams. We appreciate those teachers who, as Brad once said to his final-year high school class, “try not to let the [music exam course] get in the way of learning music”.

It's also important that you know we're musicians, because in the thousands of words that follow, it's going to be very easy to get caught up in the weeds – working through educational theory, philosophy, measurement, technical vocabulary – and forget that at the end of all this, we're doing it so that young people can explore and become themselves through music, and that we do that by meeting them as musicians and working with them musically. Which brings us back the third point that we need you to accept as a given, which is that we really really care about young people. We've both taught in the government system (although James never held down a permanent job in a public school) and the independent system. We've taught young people from terribly difficult backgrounds and young people from incredibly privileged backgrounds. *Our* privilege comes from meeting them in and through music, through an act that brings joy, that welcomes rebellion as much as harmony, and walking alongside their path to discovering music, whether that be through sharing a Spotify playlist, learning an instrument in concert band, composing their first song, raving about a concert, or Deejaying their



first party. We take joy in celebrating dozens of young people as they take these steps, and we fade in and fade out of their lives, which are musical lives, as we're needed.

Brad and James have quite different life stories and musical stories, but we come together on these three core ideas. And if you don't want to take our word for that, well: you'll have to read the rest of this introductory chapter.

### **Brad's personal and musical background**

Figure 3. Brad



## James' personal and musical background

Figure 4. James



## Our educational backgrounds

**The privilege that is teaching music to young people**



## CHAPTER ONE: DEFINING EDUCATIVE EVIDENCE-BASED PRACTICE

Brad Fuller and James Humberstone

### Defining “Evidence-Based Practice” in education

“Evidence-Based Practice” (sometimes referred to as “Evidence-Informed Practice” (Hargreaves, 1999, p. 246)) has become such a well-used phrase in education, that we all seem to assume that we know what it is, even if we’ve never read about it in detail. The “Practice” in question surely must be teaching, and “Evidence-Based” means that evidence, probably in the form of published, peer-reviewed research, but also perhaps data gathered from your own students, is directing what the teaching will do.

Type this term into your favorite search engine, and you’ll find a wide variety of results. Unless you specifically look for a definition for *education*, you’ll discover that there’s a lot about medical practice and the social sciences, and less about teaching and learning. Guide your search *toward* education specifically, and you’ll find a lot of government board-of-education-type websites, with a definition that usually goes something like

*Evidence-based practices [...] are “derived from or informed by objective evidence—most commonly, educational research or metrics of school, teacher, and student performance”*

(Department of Education, United States of America, 2023)

or like this

*both individual teaching expertise and the best and most up-to-date external evidence from systematic research*

(Department for Education, UK Government, 2017)

or this

*Evidence-based practices are those practices that are supported by research evidence. The practice has been the subject of academic research and there is a broad consensus within the research community that it works.*

(Australian Education Research Organisation<sup>1</sup>, 2023)

Pretty vague, but your first guess (if you needed to guess) was probably close to those. If you search the popular press, there is the same assumption that we all know what EBP is, while many journalists press home its importance to wider society. Here are a few quotes from recent articles here in Australia:

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<sup>1</sup> AERO is an independent research organization, but one that was set up by the Australian Government to promote EBP.

*The report also suggests the time is ripe for an overhaul of teaching practices. A failure to use the best evidence-based teaching practices inside classrooms is also holding Australian students back, the report warned.*

(Lucy Carroll & Adam Carey, Sydney Morning Herald, 2022)

or

*“We need to focus on practices that deliver the most effective learning outcomes,” Donovan said. “We know what those practices are. The evidence is extremely robust, up there with the most evidence-based stuff there is. We know what works. We are talking here about explicit instruction, the teacher being responsible for the learning of students; teachers revisiting the content to ensure it is learnt and maintained.”*

(Paul Kelly, The Australian, 23 July 2021)

The definition of EBP from governmental documents and the press is therefore varied, but there are clear themes. All of these documents outline the importance of using evidence from research, and some refer to practitioner expertise, too. The government documents confirm that the EBP process works and is good, and in the press, the impression is that the very practices shown to work by the evidence are already settled, and teachers just need to get on with it. The words “what works” often align with the call for EBP (Biesta, 2007, p. 3, 2010, p. 494; Centre for Education Statistics and Evaluation, 2020, p. 4; Fuller, 2022, p. 3; Hargreaves, 1999, p. 245), as do teaching approaches like “explicit instruction” (you may be more familiar with the term “direct instruction”, which is often used interchangeably<sup>2</sup>).

So how can this be contentious, and why aren't we getting on with it? There are a number of answers to this question.

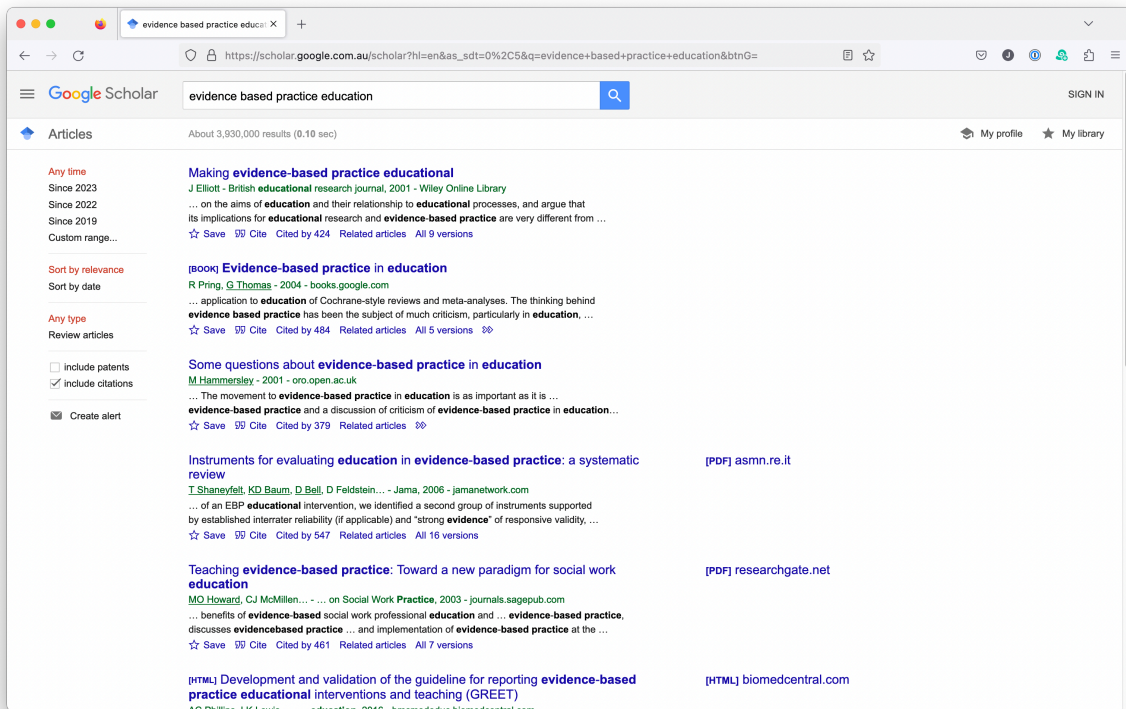
### **What the evidence says about EBP in education**

Despite the claim that “The evidence is extremely robust, up there with the most evidence-based stuff there is”, if you aim your research on EBP in education *at the research itself* (perhaps through a dedicated research search engine such as Google Scholar (<http://scholar.google.com>)), you will notice two clear things. First, that the idea that EBP is backed by evidence itself is contested, and second, that a lot of the research on the topic isn't actually about education, but (as mentioned earlier) about medicine and the education of medical practitioners. We'll come back to that second point later.

Figure 5. A search on Google Scholar for “Evidence Based Practice Education” reveals much research *critical of* EBP in education, and also a lot of medical or medical training research

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<sup>2</sup> A Google search using the phrase “direct instruction vs explicit instruction” reveals a plethora of variations on these terms. For example, capitalised Direct Instruction as distinct from lower case direct instruction or explicit teaching, or the whole kit and kaboodle, capitalised “Explicit Direct Instruction”.



So, adopting an approach to the evidence on Evidence-Based Practice that any teacher could take, what is the most-cited research saying about EBP? John Elliott (2001) takes issue with an earlier paper by David Hargreaves that extended a push from academia for EBP in education.<sup>3</sup> Those ideas were first shared in a 1996 presentation in England given by Hargreaves, called “Teaching as a research-based profession: possibilities and prospects” (Hammersley, 2005; Hargreaves, 1996). Its opening statement set the scene for a debate that has now been raging for a quarter of a century. He said “teaching is not at present a research-based profession. I have no doubt that if it were, teaching would be more effective and more satisfying” (Hargreaves, 1996, p. 1).

Hargreaves was scathing in his observations on the state of research in education and opened the door to government intervention in education research by stating “left to ourselves, we educational researchers will not choose the necessary radical reforms” (p. 4). He believed “radical reforms” were necessary to elevate teachers to the level of public prestige enjoyed by the medical profession, particularly doctors in hospitals, which he linked to the growth of research medicine. In order to enjoy doctor-level prestige, Hargreaves urged the teaching profession to abandon education theory derived from psychology, sociology, philosophy, and history and, instead, look to the evidence to determine “what works” (p. 5). Following Hargreaves’ lecture, both the UK’s Office for Standards in Education (OFTSTED) and the Department of Education and Employment (DfEE) released reports on

<sup>3</sup> The authors would like to acknowledge that some parts of the following sections of this chapter are replicated from Brad’s PhD (Fuller, 2023).

educational research in 1998, leading to government policy which aimed to “resurrect educational research in order to raise standards” (Hammersley, 2005, p. 318).

In his 2001 repost, Elliott pointed to the problems with Hargreaves’ model for EBP in education, especially that it relied on positivist epistemologies, which is to say, an outlook that believes in a formulaic approach to teaching and learning, the “engineering model”, where when one does a thing to a child, the child gets a certain benefit, and so the learning outcome is improved (the “performative teacher”, p. 558). Not only did Elliott question this way of thinking about the messy science of learning as “a crude and naive positivism” (p. 557), but he also pointed out that it de-professionalized teachers, negating individual expertise (pp. 556, 558, 560). Elliott claimed that because Hargreaves’ “evidence” was drawn towards generalizable models, it negated the whole problem with generalizations in the social sciences: which is to say that contexts (the children in a classroom, the knowledge, skills, and temperament of the teacher, the individual backgrounds and ability of each child, the complex web of relationships between them, and so on) mean that generalizations are often deficient (p. 557). Importantly, Elliott also pointed to a growing ideology around the time that connected EBP, outcome-based education, and political educational policy-making (2001, pp. 558, 560). Indeed, as we have already seen, in the initial definitions of EBP shared above, governments, *not* educational researchers, are often its main proponents today (Biesta, 2007, p.1; Parkhurst, 2017, p.4; Thomas, 2023, p. 1297). In 2001, Elliott had warned: “Hargreaves’s vision of government ministers distancing themselves from their ideological preferences and pragmatically attending to evidence of what works is somewhat fanciful and no basis on which to sanction restrictions on teacher autonomy” (p. 560).

Next in our Google Scholar search for research publications on EBP in education is Richard Pring and Gary Thomas’s (2004) edited book, *Evidence-based practice in education*, with chapters contributed by a number of education researchers in the UK, which stands as one of the most influential publications on EBP in education. The book is divided into three parts: (1) What is evidence-based practice?; (2) Evidence-based practice in practice; and (3) Questions. Researchers are often critical of government-directed EBP, and the simplistic approaches taken in its early years in the UK, but they do engage with what EBP *could* be, and some are proponents of the *idea* of EBP, if presented under a more sophisticated and, dare we say it, evidence-based model.

For example, Thomas begins the book with a discussion of the definition(s) of “evidence”, showing that the way it is often thought of in education EBP is a simplistic expectation of causality (pp. 11-12, also discussed in this volume by Pring, pp. 203-12; Hodkinson & Smith, pp. 151-2, 156-7; and Sebba, pp. 35-36), and chiding existing approaches for their lack of accounting for the social nature not just of education, but of research practices themselves (p. 7; see also Gallagher p. 126-9). Several authors (Davies, p. 31; Gough, 52-53; Sebba pp. 34-35) explain the way EBP for education was set-up in the

UK was through the establishment of independent groups (several in universities<sup>4</sup>) that would perform systematic reviews of already-published research to establish what was known about certain interventions in teaching and learning. A systematic review is research process in which the methodology reveals a very precise and objective way of synthesizing all of the research on a particular question to offer the most reliable answers ((M. Newman & Gough, 2020, pp. 1–4; Torrance, 2004, p. 187)). Some authors (Andrews, p. 68; Davis, pp. 21, 24, 26; Gough, p. 60; Peile, p. 107) criticize the process of these reviews because of their reliance on positivist epistemologies (again, the idea that they reduce the complicated process of education to simplistic steps or dichotomies) or on quantitative experimental research that can easily be reduced to (again, the implication is simplistic) statistics, especially in the production of meta-syntheses (Torrance, p. 188). However, other authors show that these research centers do focus on a wide range of quantitative and qualitative research, have nuanced ways of approaching past studies, are very open with their methodological process for the work, and are also open with the inherent limitations of such studies (Andrews, pp. 69, 71; Davis, p. 30; Gough, p. 51, 53; Sebba, p. 38). In doing so, they provide an account of some of the best approaches to the systematic review as well as what the problems can be.

Some authors make a case for EBP as an activity for teachers, rather than as a university or government-led process to be used to direct teachers in what to do (Eraut, pp. 92, 101; Cordingley, pp. 80, 86-7), and point out that even good research may have to be watered down for “generic management” (Hammersley, p. 142) (a managerial class that moves between industries and political positions, but does not have the kind of detailed knowledge and understanding of education or education research required to understand publications properly (Hodkinson & Smith, p. 157-8)). The answer to this problem, according to these researchers, is the re-centring of teachers, rather than politicians or managers, in the assessment of evidence “to provide insights that might be valuable” (Hodkinson & Smith, p. 160), and decision making about how it should affect practice, although there is a risk that time-poor teachers may submit to the same failures as generic management (p. 161). Several authors (Hodkinson & Smith, p. 151; Torrance, p. 190-97) also point to examples of teachers working *as* researchers, to conduct their own research, although Cordingley does not think this is a reasonable expectation (p. 80).

Some of the authors of this seminal book, which is still the most cited on the topic two decades later, do suggest changes to the models adopted (or dictated by governments) in the early days. Torrance and Elliott suggest that teachers treat research findings “as hypotheses to be *tested* in the classroom by practitioners, not simply accepted as conclusions to be implemented” (p. 189), and that the claims of

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<sup>4</sup> The Evidence for Policy and Practice Centre (EPPI Centre) is at the Institute of Education, University College London; the Centre for Reviews and Dissemination is at the University of York.

research are best tested through practice, rather than blindly applied. Hodkinson and Smith proposed a model in which teachers, researchers, and policy makers work together.

Returning to our initial Google Scholar search, it's worth noting that the Elliott paper that appears as most relevant is also included in the book which appears second in the list. The third listed paper is Hammersley's, which is also included as a chapter in this book. Yet despite the book providing so much insightful critique of the problems of EBP, and suggesting improvements to the model, its pages read as representative of the debate still raging on the topic today. The next few most relevant research papers are related to medical research and teaching, then social work education, based on the same medical model, rather than about EBP in education itself. It is only when we arrive at Slavin's 2002 Dewitt Wallace-Reader's Digest Distinguished Lecture, *Evidence-Based Education Policies: Transforming Educational Practice and Research*, that we read the first strongly pro-EBP in education research text that aligns with the governmental policy (in this case, in America) at the time. It is worth noting that it was also written under funding from the government.

Slavin points to the successful use of Randomised Controlled Trials (RCTs) in medicine to identify "what works best", explaining that

In a randomized clinical trial, patients are assigned at random to receive one treatment or another, such as a drug or a placebo. Because of random assignment, it can be assumed with an adequate number of subjects that any differences seen in outcomes are due to the treatment, not to any extraneous factors. Replicated experiments of this kind can establish beyond any reasonable doubt the effectiveness (or lack thereof) of treatments intended for applied use. (Slavin, 2002, p. 16)

Slavin draws on the progress evident in other fields, including agriculture and engineering, in addition to medicine, that had used RCTs as the most reliable way to establish causal relationships. He chides the education field for being slow, for a century, in comparison, in adopting establishing proven, research-based interventions. While he agrees that non-experimental research can be useful, he considers the same process as in these other fields is entirely possible, stating that "the experiment is the design of choice for studies that seek to make causal conclusions, and particularly for evaluations of educational innovations" (p. 18).

### **The international heavyweights and the debate today**

The debate established in these most-cited texts that feature in a Google Scholar search for "Evidence Based Practice Education" are, as suggested above, indicative of the ongoing debate today, and perhaps the reason why there appears to be such a chasm between the statements made by politicians, statements made by government departments, reporting in the popular press, and the actual evidence itself about Evidence-Based Practice in education. Heavyweight academic battles have played out in journal articles and books, often between those in favour of EBP in education, whose research has



been drawn-upon and promoted by government departments, and those who have taken the critical view evident in the early texts. For example, high profile European education research experts Gert Biesta and Pasi Sahlberg have railed against EBP in education, while Australian and New Zealander John Sweller and John Hattie have found their theories popular in Government-promoted interventions, and have written in support of these changes.

Biesta points out that he is not against the use of evidence in teaching, but is more interested in the kind of role evidence should play (Biesta, 2010, p. 492). He critiques the “what works” conceptualization as a deficit model epistemologically (the knowledge deficit), ontologically (the efficacy deficit), and in practice (the application deficit), dismissing Slavin’s earlier reasoning of EBL’s importance in education (as described above):

The language of systems theory is helpful because it can highlight that whereas much talk about ‘what works’ is premised on the assumption of closed deterministic systems, social reality—the reality of many of the practices that are supposed to developed into evidence-based practices—is anything but a closed deterministic system. Much talk about ‘what works,’ to put it differently, operates on the assumption of a mechanistic ontology that is actually the exception, not the norm in the domain of human interaction. This is one of the reasons why “the extraordinary advances in medicine, agriculture and other fields” that are supposed to have been the result of “the acceptance by practitioners of evidence as the basis for practice,” particularly evidence from the randomised controlled trial (Slavin 2002, p. 16), cannot be expected that easily from a field like education since the dynamics of education are fundamentally different from the dynamics of, say, potato growing or chemistry. (2010, p. 497)

Biesta points out that “what works” for many children, in terms of improving their school grades, could be to take them away from their parents, yet we do not do this as a matter of course. As a result, he suggests that these are values judgements, and calls for Values-Based Practice, instead. One of his European allies, Pasi Sahlberg, points to the resulting tension for policy makers as between “competing ideologies about the process and purposes of schooling” (Murgatroyd & Sahlberg, 2016, p. 9).

Sahlberg, best known for his books on the successes of Finnish education, coined the term *Global Education Reform Movement* (GERM) to identify changes in national education policies and reforms since the 1990s which he describes as neoliberal (“the idea of marketization of education” (Sahlberg, 2006, p. 262)), featuring “competition between schools” (league tables), “standardization of teaching and learning”, “increasing priority of basic literacy and numeracy”, “test-based accountancy”, and the “privatization of public education” (Sahlberg, 2023, pp. 4–6)). Sahlberg, drawing on Ravitch, says that “GERM is based on policy driven evidence - that is evidence carefully selected so as to support the

policy as opposed to evidence-based decision-making” (Murgatroyd & Sahlberg, 2016, p. 12). Further, Sahlberg claims that the only persuasive evidence about GERM policies is that they have uniformly failed in Sweden, England, the US, Australia, New Zealand, The Netherlands, and Denmark (Sahlberg, 2023, p. 4). Yet at the same time, equally influential academics were publishing research in support of EBP, and the wider global education reforms it supported.

John Sweller is best known for his development of the hugely impactful Cognitive Load Theory, and its subsequent raft of empirical research. Cognitive Load Theory (CLT) defines processes of learning biologically secondary knowledge, which is cultural knowledge humans have constructed (such as reading and writing) (Sweller et al., 2011b, pp. 7–8, 11–13; van Merriënboer & Sweller, 2005, pp. 153–155). These processes describe how humans process information, and then store it in working memory, and transfer it to long-term memory. They reveal completely new ways to understand and conceptualise how long-term memory works (Sweller et al., 2011a, p. 22). CLT has therefore contributed significantly to the thinking on instructional systems, giving teachers clear ideas about how to avoid overloading the working memory (i.e. the cognitive load) of students (de Jong, 2010, pp. 106–108). Sweller is not known for his contribution to ideas about in EBP in education, but instead for the focus that the EBP movement has given his theories. His contribution to the debate is more centred around his opposition to constructivist ideas about education (the idea that humans learn best when they construct knowledge themselves through their own experiences, rather than have it given to them by a teacher):

The consequences of requiring novice learners to search for problem solutions using a limited working memory or the mechanisms by which unguided or minimally guided instruction might facilitate change in long-term memory appear to be routinely ignored. The result is a set of differently named but similar instructional approaches requiring minimal guidance that are disconnected from much that we know of human cognition. (Kirschner et al., 2006, p. 77)

CLT therefore provides not only a critique of some pedagogies due to an alleged lack of empirical evidence, but it also provides strong research-based support for direct/explicit instruction, which as explained above, is often a central recommendation from governments championing EBP.

John Hattie believes that evidence needs to come from the classroom, but conversely provides lists of actions that teachers have to prioritise which has been replicated in lots of EBP government policy: “The first part of the model is to address teachers’ expectations and target setting, as these are key drivers in the enhancement of learning – or can be the greatest barrier to such enhancement” (Hattie, 2005, p. 15). The model of which he speaks is that found in his influential *Visible Learning* series of books (Hattie, 2012, 2013; Hattie & Yates, 2014), which he called “an explanatory story, not a ‘what works’ recipe” (Hattie, 2013, p. 3). The explanatory story is based on effect sizes calculated by synthesizing hundreds of meta-analyses, a special kind of research method in which rather than

gathering new data designed to answer a research question, the investigator calculates a way to answer a research question by drawing on all of the *previous* studies that provide pertinent information about that question (Hattie, 2013, pp. 12–15). The resulting effect sizes give a numerical value which suggests the effects of a particular teacher intervention: the higher the value, the more impactful that intervention on student learning (Hattie, 2013, pp. 18–21).

Despite Hattie’s urging that the books not be reduced to a “what works recipe”, and despite the scholarly care taken to point out that readers should not “mistake correlates for causes” (p. 3), his recommendations for teachers, such as the above one, have become very much directives for teachers as part of the EBP in education model. This is not surprising, because the focus of these books is very much on the teacher and teacher actions that affect student learning:

“One of the powerful ideas in evidence-based models of teaching and learning is that teachers need to move away from considering achievement data as saying something about the student, and start considering achievement data as saying something about their teaching. If students do not know something, or cannot process the information, this should be cues for teacher action, particularly teaching in a different way (the first time did not work!)” (Hattie, 2005, p. 17).

Despite Hattie calling his approach an “evidence-based accountability model” (Hattie, 2005, p. 19), he has more recently distanced himself from the movement, saying “I am not very happy with the word evidence-based because it implies that there is no thinking behind it. That is why I moved from talking about evidence-based, to talking about ‘know thy impact’” (Knudsen, 2017, p. 256). Indeed, in his book *Visible Learning: A synthesis of over 800 meta-analyses relating to achievement*, Hattie wrote “Certainly it could be claimed that more than 800 meta-analyses based on many millions of students is the epitome of ‘evidence based’ decision making. But the current obsession with evidence-based too often ignores the lens that researchers use to make decisions about what to include (as evidence), what to exclude, and how they marshal the evidence to tell their story” (Hattie, 2013, p. 237).

### **The mess that’s left**

As we move toward the end of the third decade of published evidence about Evidence-Based Practice in education, the field is in the same messy state that it started in. In many ways, the debate seems an ideological one, and because of the way government has been involved, a political one. But in actual fact, in terms of *evidence*, rather than politics, the debate is an epistemological one – a philosophical understanding of what knowledge is, how knowledge is made or found (*research methods*), and how truth is judged. Hodkinson and Smith (2005, p. 157) explain this as a simple metaphor in which knowledge is represented by a wall. The EBP proponents understand the wall by designing experiments to determine “the quality of each brick, then of the mortar, and then of the way they have been put together” (p. 156-7). While these measurements are accurate, and provide an excellent

foundation for the building of future walls, those critiquing the experiments point out that “a wall is not reflexive” (p. 157). In other words, while it may be possible to take a snapshot of a classroom, or of a teaching intervention, in a particular moment, in “real life”, the children in the classroom, the teacher in the classroom, and the outside influences bearing on the classroom are all moving, and self-reflexive (responding to one another and their own impetus). Returning to the metaphor:

The quality of the brick does not change because of the ways in which the wall is put together, and the quality of the mortar does not change the quality of a brick. In the world of learning, as with other human relations, the situation is different.

The mess we’re in may be not because either epistemology is “wrong”, but because from the start, they have been approached as a dichotomy, or binary (Dekker & Meeter, 2022, p. 2; J. Newman, 2017, p. 212; Wrigley & McCusker, 2019, p. 111). We have pointed out in past publications that Dewey warned of such false dichotomies a century ago (Fuller & Humberstone, 2023). Often the critics of EBP in education begin their analysis by writing something like “I am not suggesting, however, that as educators we should be opposed to evidence” (Scott Webster, 2009, p. 215), but often undermine this openness by offering no alternative approach to it. As seen, Hattie sits somewhere on the midline, distancing himself from EBP, and sharing the limitations of his own methods, yet directly contributing to the “accountability” pressure for teachers, and working with governments to enact EBP-fuelled change (Knudsen, 2017). And those more direct proponents of EBP, such as Sweller, tend to straw man other epistemologies as they attack them, for example:

On one side of this argument are those advocating the hypothesis that people learn best in an unguided or minimally guided environment, generally defined as one in which learners, rather than being presented with essential information, must discover or construct essential information for themselves. [...] On the other side are those suggesting that novice learners should be provided with direct instructional guidance on the concepts and procedures required by a particular discipline and should not be left to discover those procedures by themselves. (Kirschner et al., 2006, p. 75)

As Newman says:

My contention here is that, like most scholarly dialogs, the debate over evidence-based policy is not really a debate, because critics and defenders of evidence-based approaches to public policy are not engaging squarely with arguments emanating from the opposing camp. As a consequence, this discourse is at risk of losing its intellectual value, as it becomes divided into separate streams of scholarship that are increasingly unable to engage with one another but that alone are not especially relevant. (J. Newman, 2017, p. 212)

Could there be a way forward, then? A way that accepts that evidence, however defined (or perhaps that provides an acceptable middle-definition of evidence), is useful and needed, but which also accepts that in social sciences, not every behaviour is predictable or generalizable (ref)?

Brad's answer to this in his 2023 PhD thesis was to go back to the more successful medical model of Evidence-Based Practice, to see whether there were clues there for a new middle road that education (and, latterly, music education) could take.

### **The Medical Model (medical EBP)**

Although medical practitioners had a history of using evidence to inform practice dating back to at least the eighteenth century (Claridge & Fabian, 2005), the model which has come to dominate the field traces its origin to the medical school established in Canada's McMaster University in the 1970's (Claridge & Fabian, 2005; Dawes et al., 2005). Constrained by the brevity of the course (just three years), evidence-based pioneer David Sackett developed a degree in which students would work directly with patients instead of attending lectures (Hoffman et al., 2013). Rather than teach the students everything they would need to know (impossible in the time allotted), they would learn how to seek information from "the best available evidence", most notably Randomized Control Trials (RCTs), and apply it to their practice (Guyatt et al., 1992; Pring & Thomas, 2004).

RCTs, came to prominence via English EBM pioneer Archie Cochrane who produced another seminal text in 1972 which established the "vital importance" of RCTs in determining the efficacy of treatments (Claridge & Fabian, 2005, p. 552). Cochrane's work led to the establishment in 1993 of the Cochrane Center (later the Cochrane Collaboration) which gathers and synthesizes RCTs into "systematic reviews" prepared by volunteer editorial teams drawn from the field. Then, shortly after the establishment of the Cochrane Center, Sackett moved across the Atlantic to establish the world's first center for EBM at Oxford University in 1994 (Claridge & Fabian, 2005, p. 552).

Sackett is credited with coining the term Evidence based Medicine at McMaster (Claridge & Fabian, 2005) and by 1996, he had added a hyphen and a definition. In a seminal paper from 1996. He said:

Evidence-based medicine is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence-based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research. (Sackett et al., 1996, p. 71)

In addition to defining the term Evidence-based Medicine in his seminal paper, Sackett (1996) sounded a prophetic warning to the myriad of professions which would subsequently adopt EBP. He said:

Without clinical expertise practice risks becoming tyrannised by evidence, for even excellent external evidence may be inapplicable or inappropriate for an individual patient. External clinical evidence can inform, but can never replace, individual clinical expertise. (Sackett et al., 1996, p. 71)

Ironically, that same paper may have abetted the very tyranny it was warning against. Sackett's definition of EBM has consistently been quoted in the fragmented form presented above (Hoffman et al., 2013, p. 3) but his full definition states that:

The practice of evidence-based medicine means **integrating individual clinical expertise** with the best available external clinical evidence from systematic research. By individual clinical expertise we mean the proficiency and **judgment** that individual clinicians acquire through **clinical experience** and **clinical practice**. Increased expertise is reflected in many ways, but especially in more effective and efficient diagnosis and in the more **thoughtful identification** and **compassionate use** of **individual patients' predicaments, rights, and preferences** in making clinical decisions about their care. (Sackett et al., 1996, p. 71, emphasis added)

### **The practitioner's role in EBP**

This second section of Sackett's definition offers a clear definition of the role of the practitioner that the literature on EBP in education (as investigated above) identifies as lacking. This approach is consistent with Fischman and McLaren's (2000) description of "democratic pedagogies" (p. 168), which they define as:

... those that motivate teachers and students, schools and communities to deliberate and shape the choices that they make with the overarching purpose of contributing to increased social justice, equality, and improvement in the quality of life for all constituencies within the larger society. (p. 168)

Further clarification of the practitioner's role in medical EBP comes from another seminal paper known as the "Sicily Statement" (Dawes et al., 2005). The paper is a "consensus statement" produced by delegates attending the 2003 Conference of Evidence-Based Health Care Teachers and Developers. The paper advocated for:

A clear statement of what Evidence-Based Practice (EBP) means, a description of the skills required to practise in an evidence-based manner and a curriculum that outlines the minimum requirements for training health professionals in EBP. (Dawes et al., 2005, p. 1)

The five-step process described in the paper could even be used as a guide by education practitioners to reposition themselves within the EBP framework. The steps are:

1. Translation of uncertainty to an answerable question



2. Systematic retrieval of best evidence available
3. Critical appraisal of evidence for validity, clinical relevance, and applicability
4. Application of results in practice
5. Evaluation of performance (Dawes et al., 2005, p. 3)

The authors believe that practitioners using this framework with a critical stance towards their own practice and to evidence fosters greater scientific literacy in being able to:

- distinguish evidence from propaganda (advertisement)
- probability from certainty
- data from assertions
- rational belief from superstitions
- science from folklore (Dawes et al., 2005, p. 4)

The penultimate recommendation from the “Sicily Statement” reminds us about our students, who are often left out of the EBP discussion:

[EBP] requires that decisions about health care are based on the best available, current, valid and relevant evidence. These decisions should be made by those receiving care, informed by the tacit and explicit knowledge of those providing care, within the context of available resources (Dawes et al., 2005, p. 4)

The Sicily Statement specifically mentions “those receiving care”. Extrapolated to education, we might imagine that students (those receiving care) and teachers (those providing care) are explicitly involved in the decision-making process at an individual level. If this particular medical model for EBP were adapted for education, it would give teachers and students a much clearer role in the educative process, in addition to a better understanding and more active interpretation of “the evidence”.

If EBP for education were based on the Sicily Statement, students and teachers would be at the centre, supported by a variety of sources of information and informed by context. Several models exist in the literature for many of the professions practicing EBP, which can help educators (including music educators) understand and advocate for the equal weighting of these components. In fact, this thinking is not new. Writing in Pring and Thomas’ seminal 2004 book *Evidence-based practice in education*, Hodgkinson and Smith had already come to the conclusion that because of the “contested and uncertain nature of research findings” (p. 161), as well as the political and managerial nature of top-down EBP in education, that they needed to propose “an alternative configuration: that researchers, some policy-makers and some practitioners can usefully work together to construct a better understanding of work-based learning” (p. 162). In the following section, we suggest that rather than inventing an “alternative configuration”, we can draw on medical models of EBP that have been more successful and more widely accepted than their education counterparts.

## Models of medical EBP

Haynes et al's "seminal" or "vanguard 'three circles' model" as shown in Figure 6 first appeared in 1996 (Satterfield et al., 2009, p. 369).

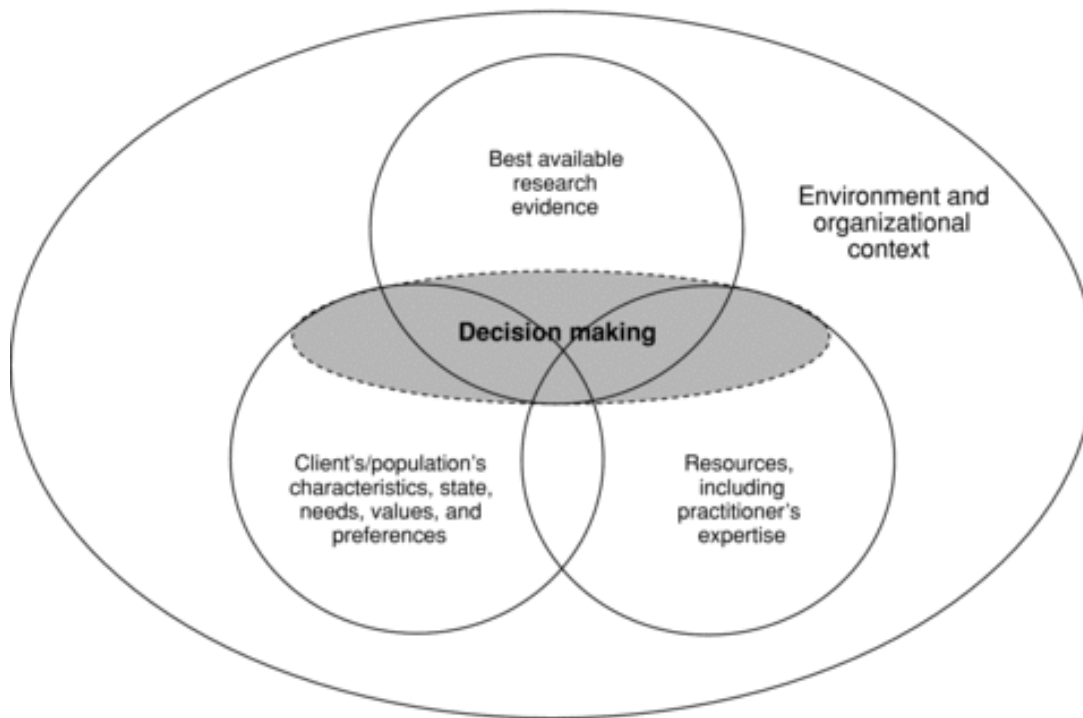
Figure 6. The Three Circles Model of medical EBP



Building on the three circles model, in 2009, Satterfield et al identified the "core issues and challenges" in medical EBP by "comparing and contrasting" medical EBP models across "various health disciplines", and used that information to present a "unified, transdisciplinary medical EBP model" (p. 368), which is "grounded in an ecological framework and emphasizes shared decision making" (p. 381). They claimed the model addressed "historical shortcomings" by "redefining the contents of each model circle, clarifying the practitioner's expertise and competencies, emphasizing shared decision making, and adding both environmental and organizational contexts" (p. 369). The model featured:

- Recognition that environment and organization are important to evidence-based decisions in all disciplines via an external frame which contains environment and organisational factors to create a cultural context that moderates the acceptability of an intervention, its feasibility, and the balance between fidelity and adaptation that is needed for effective implementation
- A prominent place for the practitioner's voices as per the 1996 template
- A reconceptualization of clinical expertise in a particular intervention or technique as a resource to be evaluated as part of the decision-making process
- Decision making at the centre: the cognitive action that turns evidence into contextualized evidence-based practices
- Recognition that decisions are not solely the practitioner's but are shared among the practitioner(s), clients, and other affected stake-holders (pp. 382-384)

Figure 7. Satterfield et al's Unified, Transdisciplinary medical EBP Model

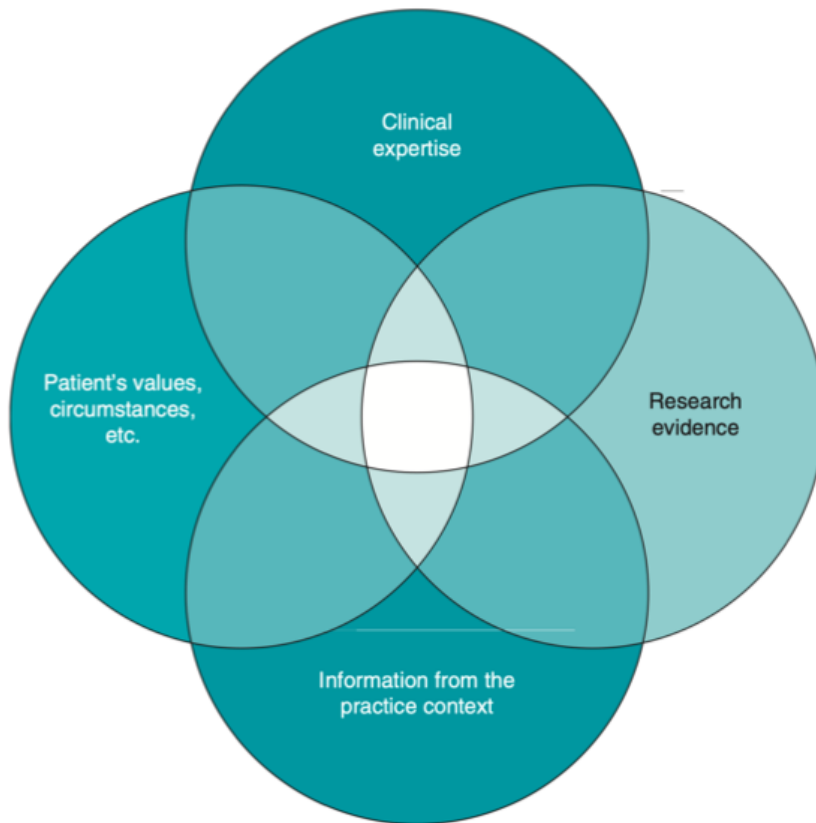


Another model was proposed by Hoffman in 2013. The model was adapted from an explanation of medical EBP by Strauss et al (2011) which was designed for the “health professions”. Hoffman’s “Four Circles Model” (see Figure 8) describes a model of medical EBP which:

Involves the integration of the best research evidence with clinical expertise and the patient’s unique values and circumstances. It also requires the health professional to take into account characteristics of the practice context in which they work. (Hoffman, 2013, p. 3)

Again, some of the early critics of EBP in education had made comparable recommendations: Pring (2004) wrote “That is why evidence-based practice needs to look carefully at the particular contexts (the implicit rules and expectations which shape behaviour and which are sometimes embodied within the institutions the learners belong to) in which professional judgement and decisions are to be made” (p. 207).

Figure 8. Hoffman’s Four Circles medical EBP Model



### **What might the medical models offer EBP in education?**

These updated and revised models from outside of the field of education support the research of Gert Biesta on the topic of EBP as it has been adapted within the field of education. Biesta (2010) maintains that using evidence as a basis for informing practice makes intuitive sense— teachers should surely, at least, be aware of the best available evidence. He says that “the question is not should evidence be used to inform professional action but rather what role can evidence play and what role should it play?” (p. 492). In Biesta’s theorization of EBP, the researcher/teacher is brought back into the EBP frame through “critical inquiry into normative and political questions about what is educationally desirable” (Biesta, 2007, p. 21).

In his 2007 critique of EBP, Biesta uncovered a tension within the versions of EBP being promoted in education, between “scientific and democratic control over educational practice and research” (p. 3) which applies in the context of government publications about “What Works Best”. Biesta proposed that such publications are based on a “technocratic model” (p. 5), by which the “evidence” (rather than teachers) sets the agenda by privileging questions about “the effectiveness of educational means and techniques” (p. 6) while smuggling in assumptions (presented as “natural” or “facts”) about what is educationally desirable. In this process, the teacher is disempowered to make individualised, contextualised judgements about the applicability and suitability of what works best in their classrooms (p. 5). In the above sections, we gave examples of how recommendations from Hattie

(2012, 2013; Hattie & Yates, 2014) and Sweller (2009; van Merriënboer & Sweller, 2005) were delivered as directions for teachers, top-down from government, rather than as collegial recommendations to be considered for practice. Biesta calls this the “democratic deficit” of EBP (p. 20).

Following Devries, Biesta maintains that top-down publications focus on the technical role of research—means, strategies, and techniques to achieve given ends— in a democratic society, research should have a technical *and* cultural role. Allowing the cultural role of research—helping educational practitioners to acquire a different understanding of their practice, in helping them to see and imagine their practice differently— to work in concert with the technical role promotes an “open and informed discussion about problem definitions and the aims and ends of our educational endeavours” (Biesta, 2007, p. 1).

On this basis, he maintains there is a gap between the “knowledge that can be generated through experimental research and the way in which it can be utilised” (Biesta, 2010, p. 496). Therefore, evidence generated through experimentation cannot furnish rules which dictate actions: there will always be an insufficient “knowledge base” for practice. Biesta calls this the knowledge deficit of EBP: “knowledge about the relationships between actions and consequences can only ever provide us with possibilities, never with certainties” (p. 496). It is clear how these ideas align with the international government reforms, that Sahlberg criticized in his identification of the Global Education Reform Movement (2023, pp. 4–6). Could it be that these medical models offer a way to consider the evidence but avoid the warnings of Biesta and Sahlberg?

### **First Do No Harm?**

Guided by the dictum to “first do no harm”, medical researchers must also consider the “unintended adverse effects”, or “side effects” of potential interventions. The existing top-down model of EBP in education reduces the complexity of the medical model by ignoring “potential harms” in its pursuit of “what works” in educational research (Zhao, 2017, p. 1). So, for example, when “What Works Best” publications (for example, Centre for Education Statistics and Evaluation, 2020) makes prescriptive recommendations, they mute the discussion of side effects, and ignore potential harm that can result from these interventions.

Zhao argued that:

studying and reporting side effects as part of studying effects will help advance education by settling long fought battles over practices and policies and move beyond the vicious cycle of pendulum swings in education. (2017, p. 1)

Indeed, Sokol (2013) maintained that harm is inherent in the medical model and that “first do no net harm” is a more accurate statement. He says:

At an individual level, clinicians must balance their obligation to benefit the patient (the principle of beneficence) against their obligation not to cause harm (the principle of non-maleficence). These twin obligations go hand in hand and are weighed against each other. (p. 1)

Acknowledging the existence of side effects and the injunction to do no net harm, the medical EBP approach transferred to education might recognize the complexity of teaching and learning, and add further weight to the need for a re-democratising of its processes (tempering if not removing the top-down model). In the medical model, the harm-benefit analysis is informed by the evidence, which presents effects and side effects, but it is not a “purely clinical exercise” (Sokol, 2013, p. 2). Judgements must be made in the “context of other moral principles, such as justice and respect for autonomy” (p. 2). Given that perceptions about harms and benefits vary from person to person, the clinician and patient must cooperatively decide what “constitutes an acceptable risk or an acceptable quality of life” (p. 1) for that particular patient in that particular circumstance. In the education context, this approach is mirrored in Democratic Pedagogy as described by Fischman and Macleran (2000) who wrote that:

Democratic pedagogies are embedded in a web of social relations, where the rights and duties of the learners and educators are evaluated not only for the transmission of knowledge (these days most often reduced to the results of standardized tests) but also for the possible consequences of the participants’ actions (those of teachers, administrators, students, and communities) in the ongoing democratization of the larger society. (p. 168)

Therefore, building on a fuller understanding of the models developed for EBP in medicine, a fully realised adaptation of EBP into the field of, education, then, specifically, *music* education would restore “students and teachers as people in education” (Elliott and Silverman, 2015, p. 18) and bring them back into the decision-making process. It would embrace all Four Circles of Hoffman’s medical EBP Model, restoring equal weight to practitioner expertise, students’ values and needs, and information from the classroom context in the decision-making process. It would present side effects alongside claims of interventions that “work”. These claims would be presented as possibilities rather than certainties, and teachers would be equipped to critically appraise that evidence for validity, clinical relevance, and applicability. Before implementing interventions into their classrooms, teachers would seek to “first do no net harm” (Sokol, 2013, p. 2) by carefully evaluating the benefits and risks of that intervention with and for their students.

### **What is important in music education?**

[There is a section we’re working on that goes here that orients the above definitions which are broadly about all education, towards *music* education. We need a definition of what music education is *for* before we can get onto the full model. As suggested below (which does a bit of that job, but



without full context), we'll mostly be drawing on the praxial philosophy of music education (Elliott & Silverman, Alperson, & Regelski.)

### **Establishing the model for Educative Evidence-Based Practice in Music Education (Fuller, 2023, pp. 119-123)**

As discussed, the theorization of a new model for EBP in education, and specifically music education, arose from a wish to find a “middle way” between the binarized debates outlined earlier in this chapter. The medical models inspire our model, and in this section we argue that there is solid support in the music education literature for an implementation of EBP into classroom music education that is consistent with those medical approaches. Fuller’s (2023) model of Educative Evidence-Based Practice rejects prior examples of EBP in education and reimagines medical EBP specifically for music education by adapting it into the field of music education through the context of “educative teaching and learning” (Elliott & Silverman, 2015, p. 16). Fuller (2023, p. 121) calls this model Educative Evidence-Based Practice (EEBP).

Elliott and Silverman (2015) define educative teaching and learning, which is rooted in the work of John Dewey, as that which “puts the care, growth, and positive transformation of students as persons at the centre of every music teaching-learning situation” (p. 18). Jenlink and Jenlink explain Dewey’s definition further:

Teaching, in order for it to be educative, cannot simply be the application of an approved set of purportedly effective pedagogical strategies authorized as best practices. As Dewey (1916, 1938a) argued, educative teaching is not a value-neutral technicism but involves decisions to be made by the teacher, in the best interest of each and every student. (2019, p. 167)

As we have shown, the current model of EBP being employed in education in most countries that we have reviewed is, according to many researchers, exactly set out as “an approved set of purportedly effective pedagogical strategies authorized as best practices”, or “what works best”. Jenlink & Jenlink demonstrate that educative teaching and learning is more congruent with the medical EBP models, especially Hoffman’s Four Circles Model, because it also promotes the voices of teachers and students in making decisions about what happens in their classroom. Educative teaching and learning is also consistent with principles for guiding decision making from the medical model, requiring teachers to “pay attention” to the “end purpose of the experiences being presented to the learners and within this context to decide what is best for the learners” (Jenlink & Jenlink, 2019, p. 167). Furthermore, educative teaching and learning practices require teachers to make value judgements which:

include judgments of cognition and social consciousness, connectedness and consistency, as well as justice and equity. That is, decisions on what actions are

deemed to offer the most value for the learners as persons, at a particular time, in consideration of democratic ideals. (Jenlink & Jenlink, 2019, p. 167)

Jenlink and Jenlink (2019) assert that it is “these sorts of judgments and decisions that define teaching as either educative or mis-educative” (Jenlink & Jenlink, 2019, p. 167). Indeed, Biesta argues that it is “only in light of decisions about the aims and ends of educational practices that questions about evidence and effectiveness begin to have any meaning at all” (2010, p. 501). As shown earlier, he calls for a “Values-based Education” where evidence plays a “subordinate” role to the “values that constitute practice” as educative teaching and learning. He says:

There is, after all, no evidence to generate or collect if we do not first decide about what the aim or purpose of the practice is. This is not to suggest that once such a decision has been made evidence can take over, because to the extent to which evidence can be generated it always needs to be ‘filtered’ through decisions about what is educationally desirable. (Biesta, 2010, p. 510)

Following on, Biesta, drawing on Dewey, says that although research generated evidence cannot provide us with rules and dictates for action, it can inform educative teaching and learning by making “our action and problem solving more intelligent”.

Knowledge about what has worked in the past is, of course, tremendously important in our attempts to deal with problems in the here and now, as it can provide us with new and different ways to understand the problems we encounter in the here and now and because it can provide us with hypotheses for problem solving in the present. (Biesta, 2010, p. 496)

### **Personal direction and values for music teachers**

So, if evidence is to be subordinate to the aims and purpose of the musical pursuits chosen by music teachers and their students, how should they decide what is valuable? Elliott and Silverman’s (2015) praxial philosophy of music education might be useful by providing a schema for music teachers to critically reflect on the aim or purpose of their practice. The philosophy is underpinned by a Deweyan concept of educative teaching and learning. They say that:

To help students achieve the values of both music and education, [music teachers] need to be as informed as possible about the natures and values of education, teaching, learning, and allied issues. (Elliott and Silverman, 2015, p.115)

Following Dewey, they provide a heuristic that can guide music teachers to “first do no net harm”. They remind us that Dewey thought education is “principally a matter of facilitating students’ growth and renewal and that the outcome of students’ growth is more growth” (p. 132). He said that “life and education are meaningful so long as they remain continuously active, broader, and deeper processes”

and insisted that “teaching and learning are educative only if students leave formal and informal educational contexts more prepared and motivated to engage in new and future experiences” (p. 132).

Therefore, as part of their dialogic, critically reflective practice, music teachers might ask:

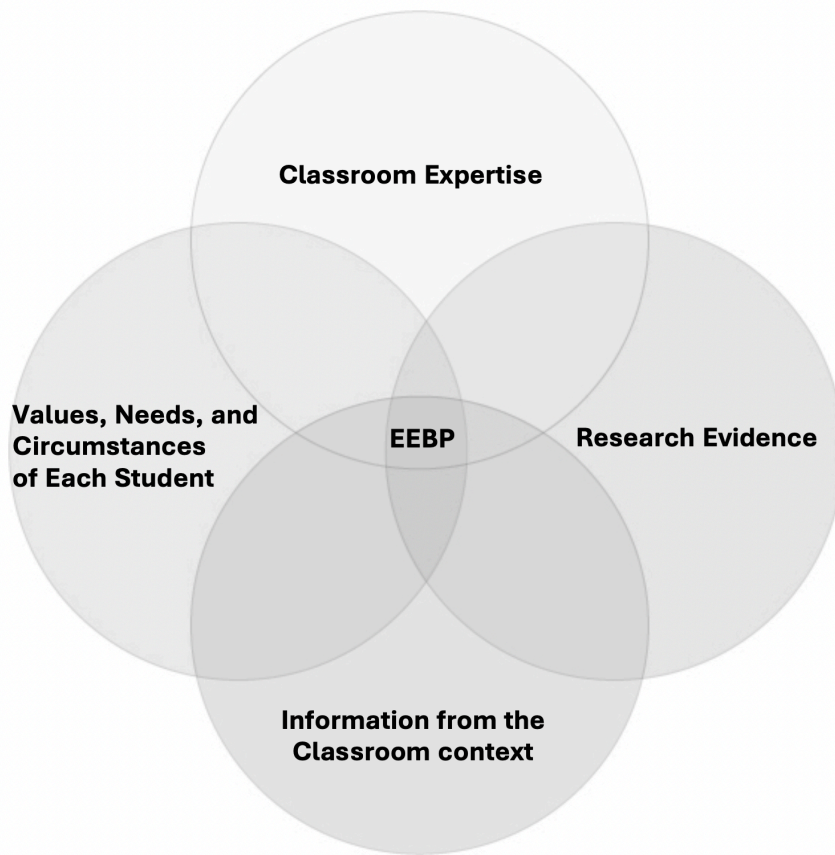
- Do I understand my students as “persons who are in and of the world”?
- Have I involved the students in deciding the aims of their own learning?
- Are the planned learning activities and experiences “challenging” and “integrated with students' prior experiences and teachers' considerations of where any given teaching or learning situation may lead students as members of social groups”?
- Based on this knowledge, how can I “plan future experiences designed to develop their growth toward broader and deeper abilities and understandings”?
- Is this growth aimed toward “the good life” of “human flourishing”? (Elliott and Silverman, 2015, pp. 133-135)

Finally, Elliott and Silverman paint a picture of the educative music teacher. They say that “educative, ethical, and caring” music teachers, work “with and alongside” their students as “experienced, resourceful, empathetic, and authoritative guides, not authoritarian taskmasters” (Elliott and Silverman, 2015, p. 135).

Here, we are asserting that the Deweyan understanding of educative teaching and learning which is embedded in the praxial philosophy of music education is congruent and consistent with the medical model of EBP and should be considered by music teachers as a means of replacing the current forms of EBP in education. In Figure 9 we offer Fuller’s (2023, p. 122) adaptation of Hoffman’s (2013) Four Circles Model for use as a theoretical model for EEBP in music education. The model introduces the concept of “pedagogical reasoning”, adapted from the medical EBP concept of “clinical reasoning” to capture the process by which CMTs make decisions with their students about what is musically and educationally valuable. These values then inform planning for the kinds of educative teaching and learning activities and experiences that draw on the values, needs, and circumstances of each student; the CMT’s musical and educational expertise; the; information from the classroom context; and research evidence.

#### **Fuller’s model for Educative Evidence-Base Practice**

Figure 9. Educative Evidence-Based Practice (EEBP)



Note. Educative Evidence-Based Practice involves using pedagogical reasoning to integrate information from four sources: research evidence, classroom expertise, the values, needs, and circumstances of each student, and the classroom context. (Adapted from Hoffman et al., 2013, p. 4)

An adaptation of Hoffman's (2013) description of medical EBP could provide the basis for a reset of the understanding and use of EBP in education and a move toward EEBP. Following Hoffman, Fuller (2023, pp. 121-122) proposed that:

Educative Evidence-Based Practice is not just about using research evidence, as some critics of it may suggest. It is also about valuing and using the education, skills, and experience that you have as a [teacher]. Furthermore, it is also about considering [each student's] situation and values when making a decision, as well as considering characteristics of the [classroom] context (for example, the resources available) in which you are interacting with [each student]. This requires judgment and artistry, as well as science and logic. The process that [teachers] use to integrate all of this information is [pedagogical] reasoning. When you take these four elements and combine them in a way that enables you to make decisions about the [education] of a [student], then you are engaging in [educative] evidence-based practice. (2013, p. 3, adaptations for education in square brackets)

## Putting EEBP to test, and into use in Music Education

EEBP can be used in a number of ways: it does not have to be used in research, and it does not have to directly affect future practice, because it can be used as a reflection tool. It can be used in any and all of these instances. Let's explore a fictional (Kallio, 2015) example that illustrates these ideas.

### Vignette: reflecting and planning

Charlie teaches a choir (chorus) in a primary (elementary) school. Her school is in a district where the majority of students are from middle class, comfortable, but not academically aspirational, homes. The majority are local born and bred, but the area also has a 15% population of immigrants from an adjoining continent, a mix of first and second generation, and in both cases, the language spoken at home is not Charlie's first language. Choir is mandatory, so every child in the school sings (which is great!), but engagement is low, and with the school district and department of education focused on improving literacy and numeracy, music is being squeezed in the curriculum, both in terms of time on the timetable and in terms of standing within the school and wider community.

Charlie knows that she needs to do something, but isn't sure what. She has over two decades' experience taking choir, a great catalogue of songs that her students used to engage with, but wonders if she needs to make some changes. She also has strong views about what makes a good choral arrangement and is suitable repertoire for young voices.

Just as we did at the start of the book, Charlie looks for recent and well-cited research on Google Scholar with the search terms "engagement choir/chorus". Charlie does not have the time nor the training to write a formal literature review, but she does have a burning desire to solve her problem. She picks five papers which, from the abstracts, seem to align with her problem, and is immediately inspired by a PhD on the topic of *Transformative Singing Engagement* (Sparks, 2014), which sets out that "Pedagogical practices in singing need to be responsive to the challenges and leverage the affordances of engaging young singers that are growing up in today's fluid and fast-changing digital age". Through case studies in Kenya, Cuba, Denmark, and Ukraine, in addition to the author's context in Canada, approaches for "personal meaning making" are established, as well as strategies for "how to engage students in making their own meaningful connections" (p. 101). This is exactly what Charlie wants to achieve.

The other texts offer Charlie little "nuggets" of ideas to incorporate into her planning. Romey, Sweet, and Wanyama (2009) write about their experiences as women choral conductors, and draw Charlie's attention to a common assumption that the conductor is the "composer's advocate" (Leinsdorf, 1981), which demotes choral singers "to a subservient position to the object of music", specifically "the physical object of the score" (Romey et al., 2009, p. 75); in response, they draw on Small (1998) to suggest that the participants of music and their experiences should be prioritized over the composer's intentions. Nolker and Sinclair's (2020) provocative paper asks where the individual learning is

supposed to happen in a curricula choir, and draws on Self-regulated learning theory to suggest that while the choir (or *chorUS*, as they write!) performs as a whole, complex learning phases go on within the learner's personal actions in response "to internal dialogues and [as] shaped by feedback" (Nolker & Sinclair, 2020, p. 13). While these papers take completely different approaches to completely different choir-related problems, both make strong suggestions about focusing on and prioritizing the individual singer's experience, which gives Charlie time to reflect on her approach to the podium. In many ways, Charlie feels like she already knew all of this, and that it is "common sense", but that she is being reminded, by the literature.

Finally, another PhD thesis (Gurgel, 2013) focuses in detail on the levels of engagement in a racially diverse choir class. While the choir that is examined is much more racially diverse than Charlie's, she reads for the first time about culturally responsive pedagogy, and the thesis documents all kinds of factors that can contribute to (dis)engagement, such as the mood of the director, the familiarity or unfamiliarity of a song, the musical elements of a song such as groove or school arrangements, and much more. It provides a catalogue of "behavioral signals of (dis)engagement in choir class" (Gurgel, 2013, pp. 146–188), and the "effects of students' (dis)engagement in the music classroom" (pp. 189–224). Charlie doesn't have time to read it all, but she skims through the whole tome, eagerly looking for tidbits that might provide hints for her own practice.

Having finished reading, and with the next school term approaching, Charlie uses the EEBP model to broaden her consideration from the focus so far, which has been her own **classroom expertise** and knowledge as well as these new ideas from **research evidence**, to the **classroom context**, and the **values, needs, and circumstances of each student**. The first change she decides to make is to repertoire. As mentioned, Charlie has strong views about what "good choral repertoire" is, but she also wants to engage with the ideas of student personal meaning making, and to prioritise the student experience over any abstract musical "value". She has become aware that being culturally responsive doesn't just mean including repertoire from the cultures of the town's immigrant population, although she now has a plan to do that, but also engaging with the musical cultures that young people are invested in. This probably means more up-to-date pop music arrangements, so Charlie takes to YouTube and several publishers' websites to listen for arrangements that meet her high standards.

The second change that Charlie makes is about classroom context, but it is more about demeanour and attitude than any physical change. In addition to making repertoire changes, Charlie wants choir time to be more fun, and to include student voice. She draws on games and activities outlined in the Nolker and Sinclair paper, as well as the multi-layered approach of "emergent curriculum, transformative pedagogy, reflective practice, and deliberate practice" from Sparks' (2014, p. 110) *Transformative Singing Engagement* model, namely "(a) connections between sources of music learning and the learner, (b) a focus on the learners' views of their own learning, (c) a collaborative approach, and (d) socially and culturally transformative experiences" (p. 110).

By considering the four circles of the EEBP model, Charlie is ready not only to teach new repertoire, but to change *how* she teaches and even what her pedagogical aims are. Since EEBP is not a top-down model, the changes are Charlie's and she maintains teacher autonomy and professionalism, but at the same time, her approach to teaching is refreshed and better informed by the evidence base that she has engaged with.

### **Is this not Action Research?**

EEBP could certainly be used as a model for Action Research (AR). AR is commonly taught in ITE degrees internationally, and its use in educational research is common, although not necessarily in published music education research. One of the key features of AR in education is that it is cyclical and iterative (McAteer, 2013). Teachers identify a need for change in their curriculum, try that change (that *action*, or intervention), measure the effect of the change (qualitatively and/or quantitatively), and then think about how findings drawn from analysis of the collected data might influence the next change. AR does include a literature review process, which aligns with the idea of engaging with the evidence to solve a problem in EEBP, but which has the intention of framing formal research (an epistemological paradigm, designing an intervention, methods of collecting data, methods for analysing data), whereas the exploration of research evidence in EEBP is not linear nor hierarchical in regards to the other three circles (that is to say, the evidence is no more or less important than teacher expertise, student experience, and context).

EEBP could very much be used as a lens to structure practice in AR. In addition, EEBP could be extended with formal methods to be used in other forms of research. However, EEBP stands separately to AR because of its lack of linearity: it is possible to use EEBP to reflect on past practice, with no intention of changing anything in the future; or to use it to design new curriculum where there is no past practice (but still teacher expertise) to consider.

In the above vignette, EEBP followed the process of (i) considering the teacher's expertise; (ii) considering the research evidence around a challenge the teacher encountered; (iii) applying the ideas generated by the research evidence but modifying them for the values, needs, and circumstances of each student and in the context of the classroom. In this latter application, the teacher's expertise remained influential and consistent.

However, since EEBP is not linear, and does not prioritise any one circle over the others, it could be used to (i) consider the values, needs, and circumstances of each student and identify improvements required in their learning experiences, (ii) narrow down improvements available within the context of the classroom, and only then (iii) explore the research evidence, as informed by the teachers' expertise (including knowledge of the students), prioritizing the considered improvements according to the literature. In many ways, this is the "opposite" process to the one outlined in the vignette, yet it is still clearly EEBP, because all four circles are considered, and neither has priority over the other. As

another example, a teacher might (i) peruse the research evidence out of general interest in their own professional field, or perhaps as part of professional learning provided by their institution, and then only later consider (ii) their own expertise, the students, and the context, in either reflection (What have we been doing? Why? For what reasons?) and/or as a plan toward improvement (What should we do next? How? What is the ambition?).

Finally, EEBP can be repeated, iteratively, like AR (McAteer, 2013), gradually improving some element of teaching and learning longitudinally; but it does not have to be repeated.

### **The rest of the book**

Hopefully you have a good idea of what EEBP in music education looks like, and how it works. The following chapters approach EEBP in several different ways, and each is in its own section:

1. EEBP praxis: Music Teachers from around the world, and of many different musics, teaching in many different situations, consider how EEBP has been or might be useful in their practice.
2. EEBP examined: Music Education researchers examine EEBP in practice in others' classrooms, or in their own. Some gather empirical data and are able to show how EEBP does or does not impact learning and teaching, while others reflect on existing pedagogies or past learning experiences that align with our definition of EEBP.
3. EEBP critiqued: Music Education philosophers, theorists, and researchers engage with our framing of EEBP and some of the initial examples, and identify its strengths and weaknesses.

[NB in the final book we'll actually do that thing you do in an edited book where we summarise a bit more about each section.]

[For the book proposal, we plan to write a chapter each about EEBP in our teaching, which will be models for some of the things our prospective authors might do.]



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