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Special Issue: The Research Literacy of Teachers

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Editorial: The Research Literacy of Teachers

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How should teachers engage with research in their professional practice? Although this stubborn and controversial question can be approached from many angles, there is reason to resist tendencies in the field to splinter into separate and opposing camps. An ongoing conversation between different approaches is crucial for research to provide a balanced picture of the role of research in teaching practice and to attain a reflective interpretation of professional standards. Part of the aim of this special issue is to facilitate such a conversation. As we invited authors from different traditions to give their account of current issues and predicaments, we thought "research literacy" could operate as a bridge-building concept. It could provide a common lens through which to view the issues at the heart of the debate concerning research and teaching, which in turn could help bring about some concord. Although we are not sure our framing has softened the disagreement, it has enabled us to see important dimensions and challenges in the debate more clearly.

The core meaning of research literacy is having an adequate grasp of research and the ability to connect research-based knowledge to practical concerns. A research literate person understands certain scientific concepts and methods, and their relevance for justifying practical decisions. Beyond this generic description, however, research literacy is arguably a domain-specific concept. Being research literate regarding climate change is probably quite different from

being research literate regarding migration and social inclusion. And as the contributions to this special issue pick up in different ways, being research literate *qua* teacher is not merely about being literate regarding a specific domain of knowledge. It is also about being literate in a way that respects the demands of a complex professional role that is embedded in certain institutional and epistemic structures. Teachers' research literacy is thus a bridging concept in a second sense: it helps us to understand the bridge which crosses the gap between research and teaching practice.

The issue of teachers' research literacy is receiving increased attention, and this special issue contributes to the literature by putting conceptual and normative discussions in direct contact with fresh empirical material. It links perspectives from pedagogy, philosophy, psychology and sociology, and thereby shows how the topic can be approached conceptually, normatively, and descriptively. The papers in this issue exemplify how key concerns can blend in different ways regarding professional agency, epistemic warrant, and institutionalisation. In this introduction, we provide a brief overview of the papers and highlight some of our key takeaways with respect to the overarching theme of research literacy.

In his contribution "Research Literacy and Teaching: The Peculiar Case of Research about Teaching about Research", Martyn Hammersley explores how different ways of conceptualizing teaching and research give rise to variations in how research literacy is understood. The account one gives of research literacy depends on broad assumptions about what research is or should be, what teaching is or should be, and what education more broadly is or should be. Any discussion of research literacy brings such assumptions into play. Hammersley provides a mapping of various models for understanding the relationship between research and teaching. First, *the engineering model*, which roughly construes research as providing facts about the effectiveness of pedagogical techniques, and teaching as the adoption of such techniques. Second, *the strong enlightenment model*, which roughly construes research as providing theoretical frameworks for understanding and transforming educational situations and practices, and teaching as emancipation from error. Third, *the moderate enlightenment model*, which allows for various roles for research—e.g. providing theoretical perspectives or facts about the effectiveness of techniques—and for various ways of un-

derstanding what teaching and its improvement involves, depending on particular situations. Against this background, he then turns to the peculiar case of research about teaching research methods, in order to highlight the complexities and contentiousness of the ways of understanding research literacy which the models give rise to. This leads him to suggest that a critical stance should be taken towards the notion of research literacy and its potential contribution to teaching. He suggests that the moderate enlightenment model allows for this. On this view, teachers are understood as drawing "selectively on research findings, but also on prior experience and other sources, in order to clarify what is to be done, why, and how it can best be achieved" (Hammersley, 2023, p. 13).

In his paper "The Philosophical Dimensions of Teachers' Research Literacy" Ben Kotzee highlights further complexities concerning the notion of research literacy. He suggests that research literacy does not merely involve a grasp of empirical educational research, but must also involve a grasp of normative, conceptual and methodological issues which arise in such research. Such a grasp would involve what he calls *philosophical literacy*, and so research literacy should involve philosophical literacy. This sheds light on another sense in which one's conception of research literacy depends on broad assumptions: as he notes, "what 'research literacy' is taken to be depends on your whole philosophy of research" (Kotzee, 2023, p. 17). He also highlights the domain-specificity of research literacy by considering the possibility that while philosophical literacy is part of *researchers*' research literacy, it need not be part of *teachers*' research literacy: perhaps requiring that teachers acquire philosophical knowledge is demanding too much. Rather, teachers can simply defer to researchers with respect to the philosophical issues. However, there is wide disagreement between researchers on such issues: issues about what good research is, about the quality of the research that is actually produced, and about what the appropriate aims of research are. And without some philosophical literacy, it is not clear how teachers would be able to navigate such debates and place their deference well. This suggests that questions about research literacy must be considered in tandem with broader philosophical questions.

Terje Ogden's article "Research Literacy in Education and the Implementation of Evidence-Based Practices in Schools" contrasts the "research literacy approach" to the "school-wide implementation approach." The article explains how these

are distinct ways of realising evidence-based practice. In particular, the school-wide models require guidelines and *collective* competencies in the staff; it is not prone to promote the kind of individual critical examination of research that is associated with research literacy: "The process of identifying interventions and critically examining their research base may be too time-consuming or too complex to carry out for teachers at ordinary schools" (Ogden, 2023, p. 5). However, Ogden does not argue for a choice between either approach but argues instead that they serve complementary functions. A school with teachers who individually possess research literacy—and its associated epistemic virtues of open-mindedness and critical examination—may be better prepared as a collective for the kind of attention to local needs that is required for flexible yet sufficiently faithful implementation of evidence-based interventions.

Cecilie Haugen's contribution "Evidence-Based Practice and Power Struggles over Pedagogic Practices in 'High-' and 'Low-Stakes Accountability' Contexts" is also concerned with organizational factors, but with a more pronounced concern regarding the power relations involved. She critically examines how certain modes of operationalising evidence-based practice involve hierarchical and managerial modes of accountability. In particular, she argues that school-wide behavioural programs can end up enforcing rules of compliance that undermine professional autonomy and thereby restrict the potential for a reflective mode of research literacy. The article highlights that the conditions for research literacy are political, in the sense that they depend on the distribution of institutional authority with regard to epistemic claims: "I would argue that what is at stake in the struggle between research positions in the educational field is the potential for a democratic anchoring of education and the potential for professionals to take complexity into account in the forming of pedagogic practice" (Haugen, 2023, p. 17). In effect, the article is an argument for upholding a conception of research literacy that respects professionalism and its attendant ideas of autonomy and judgment.

The final article "Educational Research Literacy: Philosophical Foundations and Empirical Applications" is our own attempt to explain how research literacy is both empirically feasible and epistemically attractive. The article argues that we should not expect teachers' engagement with research to be just a light version

of the way researchers themselves engage with research. Instead, their engagement is bound up with the distinctive needs of the teacher role. This conceptual argument is empirically supported by Sølvi Mausethagen's analysis of teacher engagement with a concrete research-based competence development programme. In the end, a concept of research literacy that may appear overly demanding on paper is shown to be intelligently embedded in actual practice.

The articles in this special issue were first presented at the workshop *Research Literacy in Education* in Oslo 1–2 September 2022. We are grateful to all participants who contributed to the constructive discussions. The workshop and the special issue are part of the project *Renewed Perspectives on Research Use in Education* (RE-POSE), funded by The Research Council of Norway. We would also like to thank the editors of *Professions & Professionalism* and all the reviewers for a thorough and constructive process.

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Research Literacy and Teaching: The Peculiar Case of Research about Teaching about Research

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Abstract

In recent times, the relationship between research and teaching has often been framed in terms of experimental investigations demonstrating what are effective pedagogical techniques. However, this is only one of several influential models of that relationship. While research literacy plays a key role in all of them, these models vary according to the type of research knowledge and skill felt to be of value to teachers, and in how teaching and education are conceptualised. This can be illustrated by the diverse forms of educational action research, and by different interpretations of "reflective practice". To further explore the role of research literacy, I examine the case of research on teaching about research methods, addressing the following questions: What role does pedagogical research play in research methods teaching? What might this tell us about the relationship between research and teaching more generally? What does it say about the notion of research literacy?

Keywords

Research literacy, evidence-based practice, research and teaching, action research, reflective practice, research on teaching research methods

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Introduction

It has long been argued that professions are, by their nature, based on distinctive bodies of research knowledge. In the case of teaching there are two aspects to this: the subject knowledge and skills to which children or students are to be introduced; and pedagogical knowledge about how best to teach this knowledge or to bring about the desired forms of learning.[1] The contribution of academic research to the first of these aspects is usually relatively uncontroversial, but that is certainly not true of the second. Here, the nature of the contribution that research can make has been the focus for much disagreement and discussion. It is in this context that arguments about the need for research literacy on the part of teachers arise, whether for them to be able to make use of research findings or to use research methods to improve or transform their practice.

In this paper I will begin by examining the emergence of calls for professional practitioners to be "research literate", and then go on to examine the complexities of the relationship between research and teaching, stressing the implications of the fact that there can be different views about each side of this relationship. For this purpose, I will briefly explore notions of action research and reflective practice. In the second half of the paper I examine the peculiar case of the role of pedagogical research in teaching research methods. Here it can perhaps be assumed that the teachers will be research literate, usually being researchers themselves. Furthermore, their task is precisely to facilitate the development of research literacy on the part of their students.

Background to calls for research literacy on the part of professional practitioners

An influential view of the relationship between research and teaching in recent times has been the idea that practice should be "evidence-based", with research (of a specific kind) supplying evidence about the effectiveness of particular pedagogical techniques (Thomas & Pring, 2004).[2] In its strongest form this requires that professionals should only use those techniques that have been shown to be effective by research. And it has sometimes been argued that the evidence about effectiveness must come from experimental research—in particular, randomized controlled trials (RCTs)—findings from these being synthesized in systematic reviews. This is what I will call the classical model of evidence-based practice, which arose out of the evidence-based medicine movement that developed in the last couple of decades of the twentieth century. Over time this classical model was liberalized in some quarters: what

[1] For an interesting historical and theoretical discussion of these two aspects, see Shulman, 1986. A somewhat similar distinction can be found in medicine and law, this sometimes treated as showing their character as both sciences and arts: their scientific basis is medical or legal knowledge; whereas how best to deal with patients, or to win cases in court, is an art. For some advocates, evidence-based medicine was aimed at rendering this artistic element scientific.

[2] In fact, as Shulman's (1986) discussion shows, the idea that the task of educational research is to assess the effectiveness of different forms of teaching long predates the evidence-based practice movement.

could count as research evidence was broadened; and a more mediated, and therefore weakened, relationship came to be assumed between research and practice. This has sometimes been graced with the label "evidence-informed practice", and that label indicates how far the initial very strong claims about the role of research sometimes came to be watered down. After all, who would argue that teaching should not be *evidence-informed*? In practice, though, there is frequently flip-flopping between the classical and the more liberal conception of the role of evidence in relation to practice (Hammersley, 2013).

Interestingly, though, from the beginning of the evidence-based medicine movement, there was sophistication on the part of some advocates about the use of research evidence by practitioners. A stereotype of what I have called the classical model has research findings telling practitioners "what works" and what does not "work", *and therefore what they ought and ought not to do*. This interpretation was reinforced when the notion of evidence-based practice was incorporated into the sorts of quality assurance systems characteristic of the "new public management" adopted by many Western governments around the same time; these systems were seen by many practitioners as making discretionary action on their part vulnerable to bureaucratic or legal challenge, encouraging instead "formalistic deference to procedures" (Eriksen, 2022, p. 2). Yet some early advocates of evidence-based medicine had emphasised that clinicians must assess any research evidence in terms of both its validity and its relevance to the particular cases they were dealing with; treatment decisions being a matter of judgment on that basis (Sackett et al., 1996). Furthermore, some effort was made to provide clinicians with the necessary background knowledge about research for this to be possible (see for instance, Greenhalgh, 2014; Straus et al., 2019). In short, there was a concern with improving their research literacy, so that they could not just understand but also assess and use research evidence about the effectiveness of clinical techniques to improve their practice. Moreover, it was often recognized that this evidence had to be blended with other sorts of information and understanding that arose out of professional experience (see Eriksen, 2022).

Attention to the need for "research literacy" initially arose in a rather different way in the field of education: from teachers being encouraged to carry out research in their own classrooms or schools. It had long been the case that some schoolteachers had taken courses concerned with doing educational research, many of them going on to do PhDs. But they were a small minority and, very often, this was part of their transition from being schoolteachers to academics involved in teacher education. However, in the 1970s, in the UK and some other countries, there was an action research movement that was specifically designed to encourage teachers to carry out investigations in their own classrooms (Elliott, 1991; Pine, 2008). This required them to be introduced to research methodology. Later, this idea was revived in the wake of the evidence-based practice movement, with teachers being encouraged to do research and submit it to "what works" clearinghouses. Even more recently, "close-to-

practice" research has been promoted, this again designed to involve teachers in the production and use of research evidence (Wyse et al., 2021a).

Looking across these developments, we find considerable variation both in ideas about the nature of research and in conceptions of its relationship to practice, the latter often reflecting different views about education. There is also significant variation in assumptions about what, and how much, teachers need to know about research methodology—in short, what level and kind of research literacy is required on their part. For instance, must they evaluate research in terms of normal academic standards, or do those standards themselves need revising?[3]

The example of action research is useful for illustrating variation in assumptions about both research and education. Several versions of this have been proposed:

> 1. There is what might be called means-focused action research, concerned with finding solutions to immediate practical problems so as to improve the effectiveness of current forms of teaching (see for instance, Hustler et al., 1986). There are some parallels here with the evidence-based practice model, except that usually the research is not strictly experimental, and is often qualitative in character.
>
> 2. Action research concerned with investigating what is to be taught as well as how it is to be taught. An example would be Stenhouse's (1975) notion of the teacher as researcher. Included in the focus here are the assumptions on which curriculum and pedagogy are based, and there is also often an emphasis on understanding the perspectives of children and students.[4]
>
> 3. Action research concerned with the professional and personal development of individual teachers, for example through the creation of "living educational theories" (Whitehead, 1989).
>
> 4. "Critical" action research focused on discovering ways of bringing about sociopolitical change, this being seen as an essential prerequisite for improving education. This research is primarily concerned with the ways in which schooling functions within society, how this is realised through classroom processes, and how change can be produced (see Carr & Kemmis, 1986; Kemmis, 1988). There are also feminist and anti-racist versions of this approach.

[3] For some relevant discussion of evaluation criteria for educational research, see Furlong & Oancea, 2005; Oancea & Furlong, 2007; and Hammersley, 2008.

[4] For an assessment of Stenhouse's arguments, see Hammersley, 1993; and for a sceptical view of action research see Hammersley, 2004a.

To one degree or another, all of these versions of action research continue to have influence, particularly in the context of education courses in universities. Indeed, despite the initial location of some of these kinds of action research in networks of practising teachers committed to them, most action research has been carried out by students doing higher degrees in education. Outside of this, the proportion of schoolteachers actually engaging in independent research, or for that matter drawing on educational research in any sustained way, is probably relatively small.

Unlike the classical notion of evidence-based practice, much action research prioritised qualitative methods. And, very often, this reflected a different conception of the relationship between research and practice. As we have seen, while some action research was technical, in the sense of being aimed at finding solutions to classroom problems, much of it was more concerned with reflecting on assumptions and aims, or with pursuing emancipation from cognitive or institutional constraints. Furthermore, education was conceived not so much as a matter of acquiring knowledge and skills, even less as passing tests and examinations, but more as producing deep or broad understanding of the world, enabling the discovery of what is worthwhile in life, or facilitating "self-realisation" or "social transformation". However, there is room for ambiguity or even ambivalence here. For example, the recently promoted notion of "close-to-practice" educational research seems to lean towards the technical model, but its promoters deny this (see Hordern, 2021; Parsons, 2021; Wyse et al., 2021a, 2021b). There is clearly an issue about which conceptions of teaching and education are compatible with which conceptions of research; but there is considerable flexibility.

It is also worth noting the parallel development and influence of the notion of reflective practice (McLaughlin, 1999; Schön, 1983, 1987; Zeichner, 1994). This arose precisely out of the sense that there was a large gap between the knowledge produced in universities and taught as part of professional education, and what practitioners needed to know, and more especially how they needed to think, in order to do their work well. In one version of it, teaching was seen as a craft whose improvement depended primarily upon the adoption of a reflective attitude, both in the midst of practice and subsequently in thinking about what went well and what went wrong, and therefore what to do in the future. However, like action research, reflective practice came to be academicized to a considerable degree, being incorporated into education courses (and ones in other professional areas, such as nursing); and in these contexts, especially, it was often argued that reflection on action should draw on the results of educational research, this research usually taking an "interpretive" or "critical" form. Sometimes there was also a blending with action research.

Against this background, one way of conceptualising variation in how the research-teaching relationship can be viewed is to contrast "engineering", "enlightenment", and "craft" models.[5] In the engineering model research is treated as determining what are effective means for achieving pre-given goals. As we have seen, the notion of evidence-based practice, but also some varieties of action research and close-to-practice inquiry, approximate to this. The enlightenment model is more complex and variable in what it involves: we can distinguish between a stronger and a more moderate version. The first treats research as producing a theoretical perspective in terms of which practice can be reconceptualised and transformed. "Critical" action research would be an example, but perhaps also Whitehead's notion of "living educational theory". The second, "moderate", version of the enlightenment model treats research as providing resources that can be used by practitioners, who are assumed to operate more or less in the manner of reflective practice. However, as I indicated, there are versions of reflective practice that treat teaching as a craft, with little or no role being allowed for research: the notion of communities of practice centred on apprenticeship is more relevant here (see Lave & Wenger, 1991).[6] The table below summarises features of the three models that do treat research as having a role in relation to practice:

Table 1. Three Models of the Relationship between Research and Teaching

Engineering Model	*Strong Enlightenment Model*	*Moderate Enlightenment Model*
Focus on documenting facts about the effectiveness of pedagogy.	Focus on understanding situations within the context of a comprehensive theoretical framework.	Aimed at supplying practitioners with resources of potential use that are diverse in character, from specific facts to theoretical ideas.
Methods of research must be capable of providing such facts.	Concerned with evaluating existing situations and policies with a view to bringing about personal and/or political change.	The assumption is that these may help practitioners to make sense of situations and of their own practice in ways that enable them to improve it.
Teaching is conceived as the adoption or refinement of pedagogical techniques that will serve the intended learning goals.	Teaching/education may be viewed as a process of emancipation from error or constraint.	There are no assumptions involved here about what constitutes improvement: that is for practitioners and stakeholders to decide in particular situations.

All three of these models assume some notion of research literacy, but what this comprises varies quite sharply. It also makes a difference, of course, whether teachers are assumed only to be "consumers" of research findings or are to carry out investigations themselves. In addition, some commentators portray the importance of research literacy as offering teachers a

[5] For discussion and references dealing with the engineering and enlightenment models, see Hammersley, 2002, ch. 2. On teaching as a craft, in the context of teaching qualitative research methods, see Hammersley, 2004b.

[6] This is not, however, true of all versions of the craft model: see Eriksen, 2022.

means to evaluate critically the official "guidance" about best practice to which they are increasingly subjected, this at least purportedly based on research (see Boyd, 2022).

In the remainder of this article I will focus on the peculiar case of the role that research about teaching research methods can play in teaching research methods, a topic that has attracted increasing attention in recent years. The value of this case is that it will enable us to examine issues surrounding research literacy in more detail, as regards both its nature *and* its significance for the relationship between research and teaching.

A peculiar case

The role of pedagogical research in teaching research methods is a peculiar case because, at face value at least, the issue of research literacy does not arise: given that they are researchers themselves, those who teach research methods can surely be assumed to already have sufficient knowledge and skill to understand and assess research findings. Therefore, the way is open for them to make immediate use of the findings of research about pedagogy, in a way that is not true for many other teachers. At the same time, this case will reveal some of the complexities involved in what might constitute research literacy since this is, at least in part, what teachers of research methods are seeking to generate in their students. Here, then, knowledge about research constitutes what is to be taught.

I should, perhaps, admit at this point that I have spent much of my career teaching research methods, across different types of course, many involving students who were schoolteachers. And in what follows I will draw on my own experience. I hasten to add, however, that I am under few illusions about my own abilities as a teacher. Furthermore, I am on record as doubting whether it is possible to teach social research methodology well today (Hammersley, 2012).

Courses introducing students to social research methodology have grown hugely in number since the middle of the twentieth century. In my experience, they have changed in character as well, in several respects. For one thing, originally they were intended to enable students to do their masters' level or PhD projects within particular, quite narrowly-defined and coherent, disciplines. However, with the fragmentation of the psychological and social sciences, a growing emphasis on interdisciplinarity, an emerging commitment to produce "generic" social scientists who are capable of using the full range of methods, and an emphasis on the broad need for research literacy, the character and assumed needs of the student body have diversified considerably over time. This clearly has implications for what should be taught on research methods courses, in other words for the content of "research literacy".

What is research literacy?

From the beginning it was recognized that teaching social research methods involved some difficulties. Initially, a major concern centred on how to facilitate students' understanding of statistical analysis, whose use was generally deemed to be essential at that time (in the 1950s

and 60s). Another issue was how to encourage students (perhaps especially those who were or had been practising teachers) to adopt the objectivity required for a research perspective, avoiding their tendency immediately to evaluate what was being investigated in terms of existing attitudes. The first of these problems eased over time, not only because of growing skill in teaching statistics but also because statistical analysis came to play a less central role in social research methods courses, sometimes not being included at all. Equally important, the task was facilitated by the availability of computer packages for statistical analysis, so that students no longer needed to know the formulae for various statistical tests and how to calculate the results. These changes did not mean that the problem disappeared, but it became less salient.

At the same time, another problem grew in difficulty. In the 1960s and 70s, courses would usually include, at most, only a very brief introduction to the philosophical ideas taken to underpin social and educational research. However, with the rise of qualitative methods—which often challenged quantitative research on ontological, epistemological, and/or axiological grounds—this was no longer adequate. Students had to be introduced to the debates at the centre of the "paradigm wars" (Gage, 1989; Guba, 1990) that were taking place. Furthermore, the subsequent diversification of qualitative research itself, again on "philosophical" grounds, exacerbated this problem. Just as some students struggled with statistics, many also had great difficulty grasping philosophical ideas and their relevance to social and educational research.

The diversification of social and educational research also complicated an inherent problem about coverage: what range of approaches and topics should be included in courses, and in what detail? Not just the balance between quantitative and qualitative (and, later, "mixed") approaches, but also, for example, decisions had to be made regarding how much to concentrate on practical methods as against methodological ideas, and on "the basics" versus introducing students to broader or more advanced matters. For example, do students need to know what "multiple regression" or "structural equation modelling" or "factor analysis" involves? Or must they simply understand that we can try to identify what causes what by comparing variation in relevant factors across and within cases?[7] Do they have to understand the mathematical proof behind the chi-squared test, or "just" when and how to use it? And should they be introduced to the debates about misuse of significance testing (Morrison & Henkel, 1970; Oakes, 1986)? In terms of philosophy, do students need to know what it means to adopt a realist approach to qualitative research (Maxwell, 2011) or can we assume that they will be realists by default? If the latter, should this be challenged? And what about constructionism, postmodernism, and "new materialisms": do students need to know about these? Should

[7] What I have in mind here is some of the basic techniques for "exploring data" discussed, for example, by Marshm, 1988. Aside from the practical aspect of student need, there is also a question about whether some of the advanced statistical techniques employed are legitimate given the nature of social science data. Another issue is whether the focus on numeracy covers up a problem of academic literacy: see Hammersley, 2014.

some methodological ideas or approaches be excluded; if so, on what grounds?[8] Also at issue here, of course, is what students are capable of: what level of background knowledge and skills do they have, and what can they reasonably be expected to acquire during a course? Crucial here are their prior levels of numeracy and capacities for philosophical thinking. Might a little learning (superficial or even inaccurate) about some matters be worse than none at all? (Reading the research methodology literature, the inescapable answer, it seems to me, is Yes!)

It may seem that judgments about these matters would vary depending on whether the aim was to prepare students to carry out research themselves or simply to enable them to read and understand research reports. In my experience, though, this makes less difference than might be expected. For example, if one is committed to helping students to understand published quantitative research, some means must be found of informing them not just about the basics but also about a range of quite advanced statistical techniques that are frequently used in the literature. Similarly, for reasons already explained, understanding qualitative research today requires that one grasp a range of difficult philosophical ideas. Much more significant, I suggest, is the question of whether one is preparing students to be generic researchers or whether the task is to facilitate their work on a particular research project. But, in practice, this is a dimension rather than a dichotomy, not least as a result of growing emphasis on increasing the employability of PhD students.

It should be clear from this that the concept of research literacy is complex and its content and character are contentious. Of course the source notion of literacy is itself problematic. When I was learning Russian as a teenager, did the fact that I could read out loud a passage with relatively flawless pronunciation mean that I was literate in Russian; even though I did not always understand what I was reading? (Today I cannot even pronounce the words correctly; indicating that, even at this basic level, literacy is not a permanent acquisition.) Similar issues arise in the case of young children learning to read: judgments have to be made about degrees and kinds of literacy. It is not surprising, then, that the same is true of research literacy.

The contribution of research to research methods teaching

As I noted earlier, while lack of research literacy could be a barrier to the use of research for many teachers, this should not be the case with teachers of research methods: given that they are usually researchers themselves, it might reasonably be assumed that they will be

[8] In one course I worked on there was a major dispute about whether only those techniques should be included whose use can be justified given the generally low measurement level of most social science data, or whether we should include techniques that are routinely employed by social scientists even though this is hard to justify in terms of statistical theory. Similar problems arise, for me, with some of the "new paradigms" to be found in qualitative research: are all of these to be treated as legitimate, simply because some social and educational researchers are committed to them?

sufficiently research literate to make use of pedagogical research relevant to their teaching, and indeed to carry out such research. Yet, I suggest, pedagogical research findings have played little role in most teaching of research methods, and this probably continues to be the case.

It is also worth noting that, up to now, this field has been little influenced by what I referred to earlier as the classical model of evidence-based practice: I know of no randomized controlled trials. Furthermore, most of the literature consists of accounts by research methods teachers of problems they have faced and strategies they have employed to deal with them (Earley, 2014; Nind & Katramadou, 2022). Even the third-party research that has taken place (that is, research carried out on others' practice) has often been more concerned with documenting teachers' experiences and views, or with developing these through dialogue, than with investigating or assessing the effectiveness of their practices (see for instance, Lewthwaite & Nind, 2016; Nind et al., 2015; Nind & Lewthwaite, 2018).

In line with this, a central theme in much of this literature has been the need for a pedagogical culture: the belief that teachers of research methods should engage in more sustained discussion with one another about how best to do their work (see Garner et al., 2009; Kilburn et al., 2014; Nind et al., 2016; Wagner et al., 2011).[9] In addition, for the most part, the focus of this literature has been on the practical value of various strategies, albeit with a strongly student-centred emphasis: in other words, the concern has been with "pedagogical content knowledge" (Nind, 2020).[10] This is an important topic, but as I emphasised earlier there are deep divisions among social researchers about the goal of social and educational inquiry and about what forms it should (and should not) take, and these surely affect the aims of teaching research methods. The only pedagogical issue related to this that has been given much attention, as far as I can see, is whether teachers should induct students into their own adopted approach, or introduce them to the range of approaches in the field so as to enable them to decide for themselves which one to select.[11] The latter is probably the predominant orientation, but there is also a more pragmatic approach whose recommendation is that methods be selected according to their fitness for purpose. This is especially common on the part of advocates of "mixing methods": of combining quantitative and qualitative forms of data collection and analysis. But there is a danger here that students will remain unaware that some of the assumptions on which they are relying in their work are highly contentious among fellow researchers. A side point worth mentioning is that some of the literature on teaching research methods, as with educational research more generally, seems to be "mission-oriented": a conception of what is good practice is presupposed, and part of the aim is to

[9] It is striking that Wagner et al., 2011 refer to "the art of teaching research methods".

[10] This is illustrated by summary guidance provided on the basis of a major piece of pedagogical research: see Lewthwaite & Nind, 2015, 2017; Nind & Lewthwaite, 2015.

[11] For arguments from strikingly different quarters that approximate to the first position: see Lincoln, 1990, p. 87 and Shearmur, 2017, pp. 3–4.

persuade others to bring their practice into line with it. For example, considerable emphasis is placed on student engagement, with more didactic forms of teaching being discouraged.[12] There are at least two arguments in support of this. First, a claim that "active engagement" motivates students, with motivation obviously essential for learning. Second, that active engagement leads to deeper forms of understanding. While I have sympathy with this emphasis, and have often used activities and projects in courses, students obviously do need to acquire a considerable body of knowledge, and it may often be more effective, or efficient, to present this knowledge more didactically; nor does this necessarily imply a lack of "involvement". Equally important, activities do not always lead to the learning that was intended; indeed, I would say that frequently they do not do so, for many students (see Hammersley, 2019).

Why does third-party research evidence play so little role in the teaching of research methods? This may arise from inertia and laziness, of course, or from time pressures. But, over and above this, I think there are some genuine difficulties about the usability of research findings for teaching, in this field as in others. This is especially obvious if we think in terms of the engineering model. A key problem here is that teaching rarely involves deploying standardized techniques, on analogy with dispensing specially prepared medicines.[13] Instead, there is flexibility and variability in how teachers use any particular pedagogical strategy in presenting material to students, trying to shape their learning, or helping them to acquire skills and practical wisdom. This flexibility and variability is largely produced by the interactional character of the teacher-student relationship: teachers must adapt to the particular students in their classes, and to how teaching sessions progress.

This certainly obstructs any attempt to carry out randomised controlled trials, and exacerbates the problem of generalising from research findings: what "works" in one situation will not necessarily "work" in another (Cartwright, 2007). But, even if we adopt a broader view of the sort of research that could be of value in informing practice, this issue of applying the findings to new situations still arises. Furthermore, variation in views about the nature of social and educational research, and in the aims of teaching about research methods, means that any notion of what "works" or does not "work" is open to dispute. Finally, we should note a tension between the concern of research with what is *true*, and the preoccupation of practitioners with what will be *useful*. What is true is not always useful, and what is false or a matter of faith *may* be useful in their teaching—a point made, in general terms, a long time ago by William James (1897/2014).

For these reasons, in terms of the models of the relationship between research and practice I identified earlier, it would seem that, at best, research can only play the sort of role outlined by the moderate enlightenment model. Indeed, some will argue that teaching is closer to a

[12] A recent book—Dawson, 2016—exemplifies this emphasis on activities.

[13] See Nind & Lewthwaite's 2020 attempt to distinguish approaches, strategies and tactics.

craft, so that research can make even less of a contribution.[14] It might be added that, if we researchers do not view the engineering and strong enlightenment models as applying to our own teaching—indeed, if we assume that research can make only a relatively modest contribution to this, at most—perhaps we need to moderate our claims about the contribution that research can make to *others'* practice, and to policymaking too? I suggest that our failure to engage in much systematic third-party research on how we teach research methods may reflect a more realistic assessment of the practical value of social and educational research than the grand claims we sometimes make for it (see Hammersley, 2015).

Conclusion

In this paper I began by briefly outlining the history of ideas about the relationship between research and teaching: from more recent notions of evidence-based practice to conceptions of action research and reflective practice. I noted that even though the currently predominant model is a technical or engineering one, in terms both of the conceptualization of research and of teaching, there is considerable scope for variation in how the nature of the two activities, and their relationship, is understood. I conceptualised this through distinctions between engineering, enlightenment, and craft models.

Such variation in conceptions of the relationship between research and teaching clearly has implications for the notion of research literacy. I used the peculiar case of research about teaching research methods to illustrate some of the difficult issues involved. What is peculiar about this case is that, at face value at least, here research literacy on the part of teachers is not a barrier to the use of findings from pedagogical research. Indeed, the aim of teaching in this field is, to a large extent, precisely to produce research literacy on the part of students. Examining this case revealed a host of complexities and disagreements about what should be taught, and how, and therefore about the content of research literacy. Furthermore, I noted that most teachers of social research methods do not seem to believe that their own practice must be evidence-based, in the sense of being strongly informed by third-party empirical research. The literature on research methods pedagogy is predominantly concerned with sharing experience and ideas, rather than testing the effectiveness of techniques, or even exploring practice through interpretive or "critical" forms of inquiry. Furthermore, as far as one can tell, even this does not seem to be widely used by teachers of research methods. (I have to admit that I have not made much use of it myself.) I suggested that this may reflect genuine issues about the relationship between general guidance and how this relates to the particular situations that practitioners face, as well as the difference between what is true and what is useful.

All this leads to uncertainty about the character and relevance of research literacy for teaching. It perhaps suggests that we should view teaching as reflective practice, in which teachers

[14] Ironically, much the same can be said about research itself—this too is not usually "evidence-based": see Hammersley, 2013, ch. 3.

draw selectively on research findings, but also on prior experience and other sources, in order to clarify what is to be done, why, and how it can best be achieved.[15] This amounts to what I referred to as the moderate enlightenment model. It involves practitioners resolving for themselves the problematic relationships between what is true and what is useful, and what is general and what is particular. Interestingly, this is close to some early formulations of evidence-based medicine (see Eriksen, 2022; see also Sackett et al., 1996). It is not that research literacy has no relevance, simply that we must not overestimate the contribution it can make to teaching. This is certainly a risk built into the notion of "evidence-based practice", and also into what I called the strong enlightenment model. While research is an important resource for teachers to draw on, it is not the only one, nor can it usually offer immediate solutions to the problems they face, whether these are practical difficulties, political challenges, or existential dilemmas.

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[15] There is a danger that this amounts to teachers "cherry-picking" research findings: selecting those they already agree with and ignoring the rest (much like politicians seem to do). How do we distinguish this from their using practical knowledge to evaluate research findings? There is certainly a difference, even if it may be difficult to detect in particular cases. But it is important to recognise the diverse functions that research can serve in relation to practice: see Hammersley, 2002, Conclusion.

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The Philosophical Dimensions of Teachers' Research Literacy

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Abstract

In this paper, I investigate the place of philosophical literacy in teachers' research literacy. Drawing on Pring, Bridges and Winch, I ask what the relationship is between being "research literate" in the field of education and understanding key philosophical debates in the field. I hold that properly implementing research findings in educational practice depends on a philosophical understanding of (a) normative, (b) conceptual and (c) methodological matters and that, therefore, "research literacy" in education must also include "philosophical literacy". I question whether it is too much to expect that, in order to become research literate, teachers must also become philosophically literate. However, I demonstrate that questions of the utilisation of research cannot be separated from questions of the production of research. In the end, I hold that "research literacy" is simply a different way of looking at deep methodological questions that have always been part of the discipline of Education.

Keywords

Research literacy, evidence-based education, Christopher Winch, cognitive division of labour, philosophical literacy

1. Introduction

The field of educational research is not only concerned with the conditions for producing research, but in recent years, considerable attention has been paid to the use of research in education. Two broad questions in the area return time and again. The first question is what kind of research should be conducted best to help improve teaching practice. According to the "Evidence-Based Education" (EBE) movement teachers should base their teaching practices on the best available scientific evidence, with the "gold standard" of evidence being the randomised controlled trials (RCTs) of educational interventions. Another question is how teachers engage with research. The "teachers as researchers" movement has long held that teachers should engage with research, that teachers should conduct research on their own teaching practice and, even, that being a researcher of their own practice should be part of the professional orientation of the teacher.

These two questions come into contact in the debate about teachers' "research literacy". The debate about teachers' research literacy takes in a number of questions: whether teachers (as a matter of fact) base their professional practice on research or not, whether they base it on the right kind of research, and whether they understand and interpret that research correctly. In this debate, one can discern several camps. Some hold that mainstream educational research is of poor quality, that the field should be strengthened and that all educationalists (both teachers and researchers) should become more literate regarding the *best kind* of educational research: randomised controlled trials of the effectiveness of educational interventions. Other researchers hold that the EBE agenda is misguided and that the research method of educational trials is unworkable in practice. They hold that teachers should be literate about *some other kind of research* (for instance, action research regarding the teacher's own teaching practice, or critical research concerning the political forces operative in education). Yet others agree with the outlines of what the EBE movement proposes, but call for greater sophistication in how such research is carried out.

In this paper, I investigate the debate about teachers' research literacy from a philosophical perspective. Based on arguments by Pring, Bridges and, most notably, Winch, I build an argument that knowledge of philosophy is an essential part of conducting empirical educational research and that educational research literacy therefore includes a considerable component of philosophical literacy. Most obviously, this implies that teachers cannot be properly research literate without being philosophically literate and that efforts to inculcate research literacy amongst teachers must also include efforts to educate them regarding the philosophy of education and the philosophy of social science more broadly. However, at a deeper level, the realisation that research literacy also includes philosophical literacy brings into sharp focus that "research literacy" is not a straightforward concept, but that what "research literacy" is taken to be depends on your whole philosophy of research. I hold that "research literacy" is not a simple solution to the problems of implementation of research in the classroom. It is

simply a different name (or a different way of looking at) philosophical problems about educational research that have been part and parcel of the field of educational research since the birth of the discipline.

2. Quality in educational research: A potted history of "Evidence-based education" (EBE)

Ever since the Hillage report (Hillage et al., 1998), concerns have been raised about the quality of educational research in the United Kingdom. Authors like Tooley and Darby (1998) and Goldstein and Woodhouse (2000) have criticised the U.K. education research community for producing research that is, amongst other things, small-scale, mostly qualitative, and poorly designed. Other authors have held that the *kind* of research done in the field of education is systematically unhelpful to or irrelevant to classroom teachers. Hargreaves (1996), for instance, holds that educational research is generally not relevant to classroom practice and that educational research does not provide the right knowledge base to enable teaching to count as a truly research-based profession.[1] To transform educational research, a number of authors (e.g. Coe, 1999; Hargreaves, 1996; Slavin 2002, 2004; Gorard et al., 2017) have proposed that the field should be reformed on "evidence-based" lines. The Evidence-Based Education (EBE) movement holds that educational research should emulate the rigour and certainty of medical research by adopting, as its gold standard, the randomised double-blind controlled trial of the effectiveness of educational interventions. Moreover, educational research should strive to be more directly applicable to practice by focusing on research into the comparative effectiveness of classroom interventions.

EBE is a controversial idea. Advocates of EBE promote a very specific conception of good educational research and aim to decrease the influence in the field of what they regard as poor research. As Shahar holds:

> [EBE's] name is a slogan whose rhetorical effect is to discredit opposition. After all, who would argue that practice should not be based on evidence? (Shahar, 1997, p. 110, quoted in Hammersley, 2004, p. 134).

However, Pring holds that, what EBE fundamentally *is* can be defined in different ways.

> Sometimes it might manifest itself as a linear, top-down approach to educational improvement; sometimes as a technocratic model assuming that the only worthwhile research questions concern effectiveness of means; sometimes as entailing a limited and specific conception of professional practice, and sometimes as restricting democratic participation and deliberations about the aims of education (Pring, 2015, p. 4).

[1] For overviews of the criticisms that have been voiced against educational research, see Oancea, 2005 and Wyse, Selwyn, Smith and Suter, 2017.

It might even mean:

> all educational research should be experimental research in the service of improvement of student achievements as measured on standardized tests […] (Pring, 2015, p. 4).

What is certain is that the influence of Evidence-Based Education is consistent and growing in the field of educational studies. Over the course of the last three decades, many governments and research agencies around the world have promoted a strategy of (a) commissioning and funding "Evidence-Based" research preferentially over other kinds of research, (b) giving a special place to such research in educational policy-making and (c) collecting and disseminating the findings of such research preferentially and highlighting those findings as authoritative to the research use community. This strategy of promoting evidence-based research and boosting its reception in the research use community is driven by such organisations as the Institute for Education Sciences in the United States or the Education Endowment Foundation in the United Kingdom.

The EBE movement makes a number of important assumptions about the field of educational research. The first assumption is that Evidence-Based Education, modelled on trial-based interventional research in medicine, is superior to other kinds of educational research (Goldacre, 2013); let us call this the "superiority assumption". Closely related to the superiority assumption is the assumption that most existing educational research is of low quality and needs to be improved along evidence-based lines (Gorard et al., 2020); let us call this the "low quality assumption". However, a third assumption is less clearly articulated and that is that the solution to the low quality problem lies not only in shaping what research the educational research community produces, but lies in shaping what research the users of educational research (that is the policy makers, school leaders and teachers who might apply educational research in their day-to-day work) actually use. According to this third assumption, if we can ensure that research users only pick evidence-based research to read or apply in practice, low quality research will disappear over time as the producers of low quality educational research find that their research is not read or used in practice. Let us call this the "user-focussed education improvement strategy". The user-focused strategy plays out in attempts by advocates of EBE to influence the readers of educational research, to shape what they read and to influence what they think about the nature of educational research. One of the ways that this strategy plays out in practice is in efforts to promote "teacher research literacy", but also, more deeply, to control perceptions of what "teacher research literacy" *is*. I turn to this question next.

3. Teacher research literacy: A vague and contested concept

Like "Evidence-Based Education", "research literacy" is a vague concept that is given different meaning by different role-players; it is also a loaded concept, because it is presented as a

solution to a perceived problem and, how the problem is defined naturally shapes what the solution is taken to be.

A number of possible drivers behind calls for teachers to be more "research literate" can be discerned in the literature. Firstly, governments call for the implementation of certain teaching practices that it anticipates will solve some local educational problem or will help the country to become more competitive in international educational rankings. Secondly, the scientific community regularly calls for the profession better to utilise their research and to adopt teaching practices in line with their findings. Thirdly, regular calls for more teacher research literacy are made from within the teaching profession itself, for instance from the leadership of teachers' professional organisations or teaching unions; such calls may be made with an eye to boosting the status of the profession, secure greater recruitment to the profession, provide a basis for calling for better renumeration for teachers, etc. In all of these examples one can see that "research literacy" is presented as an answer to a particular problem; for instance governments might see research literacy as the answer to the problem of PISA rankings, the research community might see it as a way to gain larger readership and influence amongst the practitioner community ("research impact"), and the teacher professional community sees research literacy as a way to boost the standing (and perhaps the pay and conditions of) the teaching profession.

A good place to start in defining research literacy is the influential British Educational Research Association (BERA) Action and Research Center (RSA) (BERA-RSA, 2014) report *Research and the Teaching Profession* that defines research literacy as:

> the extent to which teachers and school and college leaders are familiar with a range of research methods, with the latest research findings and with the implications of this research for their day-to-day practice, and for education policy and practice more broadly (BERA-RSA, 2014, Appendix 2).

The BERA-RSA definition of research literacy has been influential in the field; however, since its publication, a number of questions have been raised regarding it.

A first question is whether research literacy is "passive" or "active". Eriksen (2022, p. 6) holds that literacy is a "two-sided competency"; it involves both familiarity with the field that one is "literate" about and also competent action in that field. For instance, literacy in its original meaning means being able to write, which involves not only familiarity with reading and writing, but also the ability to write oneself. From this, we can see that BERA's definition of research literacy deals mostly with one side of the competency: familiarity with research (rather than being able to do research oneself). This naturally raises the question:

> [what does it mean] for professionals to reason in ways that aim not only at comprehension but also at application of research in a way that respects role-specific responsibilities. How can research literacy serve a mediating function between the domain of "what works" and the domain of "what is appropriate"? (Eriksen, 2022, p. 7).

Next to the question of whether "research literacy" should be about "familiarity with" research or "the ability to research" another important question is what kind of research teachers should be literate about: Should it be theoretical research or practical research? Burn and Mutton (2015) point out that there are strongly contrasting perspectives on the role of "theoretical" and "practical" knowledge within the professional knowledge base of teachers. Amongst the former kind of knowledge, one can count knowledge of the foundation disciplines of education—philosophy, history, psychology and sociology of education. Amongst the latter, one can count practical knowledge of the success or failure of particular teaching approaches through "hands on" experience in the classroom. It is clearly difficult for teachers to be equally knowledgeable about *all* research (even all educational research), so the question naturally arises whether teachers should perhaps be literate about a particular subset of educational research or whether, perhaps, they should be literate only about the basics of conducting research, for instance, regarding research design, ethical consent, sampling, surveying, interviewing and basic analysis.

A third debate is over what sources of research teachers should be literate about in order to count as "research literate". For instance, Bell et al. (2010) identify a number of possible sources of relevant research that teachers could be familiar with: large-scale researcher-led studies; teacher-initiated small-scale studies, or Master's-based teacher enquiry (that is, studies conducted by new teachers as part of a Master's degree). To this, one could add other possible categories of research, such as research from sanctioned school improvement researchers who work for government or for school improvement organisations.

A last issue is that the concept of research literacy is tied up with the concept of the teacher as professional. Winch, Oancea and Orchard (2015), for instance, contrast "craft" and "professional" views of teachers' professional identity. If teaching is relatively simple, routine and predictable work, the teacher is akin to a craftsperson; however, if teaching is varied, specialised and individualised work, the teacher is more akin to a professional worker (like a doctor or a lawyer). The more professional we conceive the work of the teacher to be, the more research knowledge they require; re-phrased in the language of research literacy, depending on how professional the teacher's work is, the more extensive will be the concept of the research literacy that they require. In short, what "teacher research literacy" is, exactly, is not fixed: it depends on philosophical conceptions of (a) what teaching work is and (b) what kind of a worker the teacher is.

4. Philosophical assumptions in all educational research

In section 2, I outlined a set of debates about the "production" of educational research (about what kind of educational research is done) and, in section 3, I outlined a set of debates about the "consumption" of research (about what research teachers should read, and how they should understand and use this research). What is striking is the philosophical nature of the debate: questions about the production and consumption of research raise difficult philosophical questions about matters like what "research" is and what "a teacher" is.

Indeed, in the literature on the philosophy of education, a number of authors have pointed out the extent to which all educational research, not only more conceptual research, but also empirical research, is shaped by philosophical assumptions. A number of authors—notably Richard Pring (2015), David Bridges (2017) and Christopher Winch (2022) hold that philosophical thinking about education is a prerequisite to important steps in the research process like formulating good research questions and clarifying the fundamental concepts used in empirical educational research. They hold that better philosophising regarding education is essential to improving empirical educational research; in particular, they hold that taking philosophy seriously offers some solutions to the problems wrought by the EBE movement in educational research.

Pring: Philosophical understanding of educational encounters and practices

In a widely read book (2015), Pring provides an introduction to the philosophical issues that arise in the context of doing educational research. Amongst the varied arguments that Pring uses to back up this claim, one can discern the following main strands of argument.

The importance of norms in education

Pring frequently stresses that education and educational concepts are normative and not (purely) descriptive. When one describes a person as "educated" or "not educated" one does not only convey factual information about that person (for instance about the highest level of qualification that they hold), one also makes an evaluative judgement about that person; after all, calling someone "educated" is a form of praise and calling someone "uneducated" is a criticism. Indeed, the very idea of an education, according to Pring, is the idea of a "worthwhile" learning process that "changes a person for the better as a person" (Pring, 2015, p. 16). However, as Pring stresses, what *is* a worthwhile learning process and what it *is* to change for the better as a person is a contested matter. For instance, some people hold that being able to recite passages from religious books is a sign of being educated; others hold that recitation is not a form of education at all. Because different people have different conceptions of what it means to be educated, Pring holds that it is inevitable that people will always disagree about "[…] what precisely a good education should consist of" (Pring, 2015, p. 16).

The normativity of education implies a particular problem for the EBE movement in that many researchers in the EBE tradition take it for granted what the aims of education are. For instance, they may assume that the aims of education are those educational outcomes that form part of a particular government policy, or are simply the most obvious and basic educational aims, like, reading, writing and mathematics. However, Pring notes that what the aims of education are is a highly contested matter in the first place. This means that thinking about education is not just thinking about what is the best means to achieve some pre-determined or obvious educational aim or outcome but also includes thinking about what the aims of education should be in the first place.

Educational research as conceptual analysis

After outlining how education is a normative concern, Pring makes clear why it is so important to pay close attention to the central concepts in education and to elucidate them clearly. Take central educational concepts like "learning" (Pring, 2015, p. 21) and teaching (Pring, 2015, p. 23). Pring stresses that what even so basic a thing as "learning" or "teaching" amounts to is never one sort of process or activity: it is individual to a particular learner or to a particular teaching situation. This point follows from the point about normativity, above. Let us grant that "learning" and "teaching" are processes of changing and developing young people for the better and let us also assume that what is worthwhile for one young person to learn depends on their own situation (including things like what they have already learned and the course that their life is taking). It follows from both of these points that whether an activity really counts as "learning" will differ from student to student. To take a simple example, hearing classical music in a concert hall may not be a learning experience for one student (who is used to classical music and concert venues) but may be a true learning experience for another student (who has not had the opportunity to hear classical music or visit a concert hall). For Pring, this means that we cannot *generalise* about what learning is or about how best to achieve learning. Rather than study large-scale patterns of learning or causal processes that bring about learning, Pring holds that educational research should consist of conceptual or philosophical analysis of individual instances of teaching and learning and individual teaching practices. Based on these observations, Pring concludes that the scientific model is not appropriate for educational research; as he puts it "Man" is not "a subject of science" (Pring, 2015, p. 32).

Educational practice and the need for philosophy

Finally, Pring stresses the ethical dimension to educational research. It is not just that one needs to understand meanings in order to understand individual educational practices. He holds that, in actual teaching practice, teachers need to make decisions about how to teach so that their students can learn in worthwhile ways. As he puts it:

> In "practising education" one is engaged in a moral enterprise, and one cannot escape the subtleties of moral discussion and its roots in different moral traditions as one engages in research (Pring, 2015, p. 208).

By this, Pring means that the individual teacher will always make pedagogic decisions based on motivations that are (deep down) philosophical. He holds that if educational researchers are truly to understand how pedagogic decisions are made, they need to adopt a philosophical focus and understand the underpinning motivations of teachers making pedagogic choices.

Bridges: Humanistic educational research

In his book *Philosophy in Educational Research*, David Bridges outlines the importance of philosophy to all social science (not just to education). Like Pring, Bridges holds that social science should not only provide causal explanations of what causes events in the human world; social science needs to provide an understanding of the meaning of intentional human action. He draws on Peter Winch to hold that social science should understand not only patterns of human behaviour, but must seek to understand the *meaning* of behaviour (Bridges, 2017, p. 65).

Bridges outlines how all social science needs to be able to understand human agency and human self-consciousness: by this, he means that social science needs to present not only generalisations of what events in the world lead to what other events, but needs to understand human agency and human self-consciousness as *intentional*. Social science needs to present an account not just of what humans do, but *why* they do it (what they intend or for what purpose they act) and what action *means* to them. Key to understanding either of these things—the intentions with which people act and the meanings that they assign to actions is an understanding of the sociocultural and historical locatedness of human experience; that is to say, in order to understand intentions and meanings that individual people assign to actions, we need to understand how other people understand those actions and how those actions have been understood over time. In short, Bridges holds that social science should "enter into the minds, worlds, language and understandings" of the people studied (Bridges, 2017, p. 66).

Bridges holds that the "proper study of mankind" is this humane way of understanding meanings. Bridges draws on the work of scholars like Peter Winch, Max Weber, Giambattista Vico, William James and Isiah Berlin and advocates a form of social science that models itself more on the humanities than on scientific psychology (Bridges, 2017, pp. 60-68). In particular, he holds that educational enquiry should not be reduced to randomised controlled trials of the effectiveness of educational interventions. While such trials may establish whether interventions lead to certain desirable outcomes, Bridges holds that RCT methodology cannot yield understanding of what these educational interventions *mean* to the teachers who teach them or to the children who undergo them.

Winch: The nature of educational explanations

In a recent book, *Educational Explanations: Philosophy in Empirical Educational Research*, Winch (2022) pushes the field further and presents the most detailed argument yet for the

centrality of philosophy in educational research. Winch presents four main arguments that overlap with, but also pushes forward, the arguments of Pring and Bridges, reviewed above.

1. The normativity of educational research

Firstly, like Pring, Winch stresses that education is purposive or normative (Winch, 2022, p. 6). In order to make judgements about the success or otherwise of education, one must be able to say what the *purpose* of education (and of smaller sub-parts of the educational enterprise) is. Moreover, educational aims are always *contestable* (Winch, 2022, p. 6); we can always disagree about what our educational aims should be and, indeed, that different actors or role-players within education are likely to disagree substantially about the proper ends of education. For this reason, *research* (and certainly empirical research) cannot in itself settle the aims of education; it will need to be settled on the basis of philosophical debate.

2. Conceptual understanding

A second reason why Winch holds philosophy is important in empirical educational research is its unique ability to (i) investigate concepts—that is, to understand what actors mean by the ideas that they are investigating and to clarify them for a general audience in order that they may be operationalised in research. Like Pring, he holds that conceptual understanding of educational practices and institutions are a prerequisite for investigating them empirically (Winch, 2022, p. 82). Winch holds that all empirical educational research—and especially causal educational research in the RCT tradition—concerns the relationship between a dependent variable and a (set of) independent variables. In order to quantify the strength of these relationships precisely, the variables in question have to be measured precisely; this first requires careful definition of these variables and, as Winch points out: "[…] conceptualisation of contested concepts requires philosophical discussion […]" (Winch, 2022, p. 90).

3. "Why" explanations

Much like Bridges, Winch holds that any true explanation of educational phenomena would involve a philosophical component. However, while Bridges stresses the affinities between the field of Education and the humanities and the need for deep understanding of intentions and meanings to understand educational encounters, Winch stress the importance of what he calls "why" explanations for the implementation of educational research findings. Winch reminds us that, in the social sciences, we find two broad kinds of explanations of events: explanations regarding "what" happened and explanations regarding "why" something happened. He stresses that empirical educational research (and especially RCT's) mostly provides "what" explanations: explanations regarding the relationship between a dependent and an independent variable. However, EBE is an *interventional* research programme: it seeks not just to describe states of affairs, but to improve educational practices. It seeks to find interventions that have been proven to work in one context and can be transplanted to a different context in order to bring about improvement there. However, social interventions are multifaceted: unlike medical interventions that can work through something as simple as taking a

certain drug, social interventions take much time, involve many actors and have many different parts. In order to ensure that an intervention can be transplanted from one context to another, one needs to understand not only the degree to which the intervention works, but also which parts of it are most important or why it works. As he writes:

> RCTs can identify a cause or the point of origin for a change […] although they have the potential to eliminate alternative explanations, they cannot by themselves provide explanations (Winch, 2022, p. 154).

Following on, the reason why a certain intervention works may even differ from person to person or may differ over time. For this reason, one also will not be able to implement an educational intervention (even one that has been validated through a RCT) successfully without relevant understanding of not only that it works, but why it works. Whereas Bridges holds that one can only come to a full, humane understanding of education if one understands individual perspectives on the learning encounter, Winch holds that these individual learning perspectives are part and parcel of what must be studied if one is to intervene successfully to improve education.

4. Understanding truth and quality criteria for research

As we saw, Winch's arguments regarding (i) the normativity (or purposiveness) of education, (ii) educational concepts and (iii) "why" explanations overlap in many ways with the arguments of Pring and Bridges. However, Winch's argument goes further when he considers what an educational explanation fundamentally *is* or what it means to explain anything in doing educational research. The foundational idea for Winch is that the quality of educational explanations is relative to the reasons for which the explanations are being sought. Winch holds that educational explanations are not in themselves adequate or inadequate, good or bad, but that their quality is "relative to the purpose of those who seek an explanation and the context in which they seek it" (Winch, 2022, p. 65).

Take the following example of two people who might try to explain the same educational event in two different ways and for two different purposes.

Imagine that a group of first-year university students have failed their logic exam. The examiner reads through the exam scripts and notices that many of the students made a predictable and common mistake like affirming the consequent.[2] The examiner concludes that the students did not grasp the operation of hypothetical syllogisms properly and, therefore, that the fail grade awarded to these students was justified.

Imagine that the same class of students was being studied by a cognitive psychologist, interested in the development of undergraduates' thinking skills. In explaining why the students

[2] Affirming the consequent is reasoning, fallaciously, that if it rains the streets get wet and the streets are wet, therefore, it rains.

failed their logic exam, the psychologist will be interested in very different matters compared to the examiner: they will consider the students' prior preparation, their home background, their study skills, the class atmosphere, the students' cognitive abilities, etc. For the examiner's purposes, the explanation about affirming the consequent is a perfectly good explanation as to "why the students failed the exam": the students did not understand one of the main principles of syllogistic reasoning and therefore cannot pass first-year logic. However, for the psychologist's purpose it is not a good explanation as to "why the students failed the exam"; indeed, for the psychologist, the explanation "the students kept making the logical error of affirming the consequent" simply raises the deeper psychological question: "why did the students keep making the mistake of affirming the consequent?"

Winch would hold that the examiner's explanation and the psychologist's explanation have *different purposes*: the examiner's explanation is needed to justify and explain the failure of a large group of students, but the psychologist is interested in the reasons behind the failure. Winch holds that, in evaluating educational research, it is necessary to understand the criteria that one needs to apply in order to judge whether an educational explanation is "good" or not; crucially, these criteria will vary depending on the purposes of the research (a form of "perspectivalism") (2022: 26). Winch holds that philosophical reasoning—about the truth criteria that one should apply to research—is part of assessing whether research is good or bad and that this philosophical understanding of the differences between different kinds of research and differences in quality assessments is required to do good empirical educational research. What Winch really points to is that, in understanding educational research, one needs to understand quite deep points about the purpose and quality of educational research; different pieces of research have different purposes and should therefore be judged differently for quality. Moreover, one needs to understand that "quality" in educational research is not a matter that can be fixed once and for all (and summarised in a "hierarchy of evidence"), one needs to understand the questions that the researcher asks (and the reasons why they ask it) in order to judge the quality of research.

Philosophy as an essential part of empirical educational research

If Pring, Bridges and Winch are right that all empirical educational research needs to be underpinned by philosophical thinking, two things follow: Firstly, all educational researchers will have to be minimally competent philosophers. After all, it is only if educational researchers apply concepts sharply and correctly that their empirical claims make sense. Secondly, *users* of educational research—like teachers—will have to understand enough philosophy in order to be able to (1) understand the more philosophical claims that researchers make in doing their research and (2) be able to evaluate the quality of educational research based on its purpose (as we saw in the section above).

Winch, in particular, holds that discussion of these philosophical topics should be a crucial part of teachers' initial education (Winch, 2022, p. 274). He holds that it is not only desirable

but, unavoidable that teachers should be familiar with research; if they do not actively engage with research, teachers will still be confronted with research findings in school, but will only do so in a distorted or simplified way via the teacher professional organisations or via informal staffroom talk (Winch et al., 2015). Winch holds that it is far better for teachers to have an active awareness of research issues and to be able to judge research actively for themselves rather than being exposed, passively, to poor research or misunderstanding of good research. Winch thinks that the kind of philosophical literacy that he calls for to inform empirical educational research is really part and parcel of teachers' professional knowledge and should therefore be studied seriously and adequately mastered by all teachers.

5. Philosophy and evidence-based approaches to educational improvement

Above, we saw that Winch holds that empirical educational research requires much preparatory philosophical work. Interestingly, if this is true for education, the same holds for the other empirical social sciences and in particular for the policy-focused social sciences, like social or public policy. Just like education policy, all social and public policy making is not just about the investigation of the best means to achieve pre-specified social ends; the ends themselves are part of what needs to be determined. Moreover, concepts in social and public policy are disputed and what are true social explanations depends on the criteria that one applies. Just like in education, social interventions are also multifaceted and hard to implement across different settings. In general, whether *any* social intervention (not just an educational intervention) "works" is a matter of the criteria you apply to count something as "working" (and the "what works" agenda is criticised not only in education, but across the fields of public policy).

What Bridges, Pring and Winch are really pointing towards is the need for the following three kinds of theoretical thinking that must accompany all good empirical social science:

- Normative thinking regarding the best policy goals to pursue and the way for practitioners to achieve them
- Conceptual analysis of the central concepts in the relevant field
- Methodological thinking about matters like scientific method and the appropriateness of research strategies to particular research questions

To see why these matters are important, let us turn again to the EBE movement's conceptualisation of research literacy. According to advocates of EBE the ideal process of teacher use of research follows these steps:

> Step 1: The teacher has the aim to promote a certain outcome amongst her students
>
> Step 2: The teacher searches the literature for studies of the most effective way to promote this outcome

Step 3: She compares the effectiveness of all of the interventions

Step 4: She picks the intervention to implement that is most robustly evidenced as effective in promoting the outcome in the literature.

Against the backdrop of the discussion above, it should immediately be clear where the philosophical assumptions in each of these steps are hidden. Firstly, without understanding the normative assumptions underpinning step 1, it will be hard when reading research for teachers to evaluate whether the aims or outcomes of educational interventions are sensible ones. Secondly, it is often the case that the outcome defined in step 1 is a vague (or contested concept) like, for instance, "literacy" or "well-being" or "creativity"; without philosophical understanding of concepts, the teacher may fall into the trap of assuming that concepts are clear when they are not. The same goes for step 2: the literature that the teacher searches is likely to define both the outcome and the input variables differently and "most effective" is a normative notion in any event: prior normative assumptions about what a "good education" is will rule certain interventions "in" or "out" of consideration from the start. Thirdly, consider the philosophical assumptions hidden in step 3: the educational studies that the teacher reviews in step 3 will have been conducted for different purposes and to answer different questions. What methodological standards to apply in judging which of the studies in the field are "best" will be a complicated matter and how to compare the "effectiveness" of interventions will not be straightforward. Lastly, in step 4, "implementing" whatever intervention the teacher picked as "best" will raise questions of *how* to implement that intervention in her particular class or school, given that her class or school is a unique real-world setting that will not precisely match the controlled setting in which the original effectiveness study was conducted. It is clear that all steps of "evidence-based" approaches to educational planning and improvement are suffused with assumptions that can trip up the philosophically unaware teacher and that being "philosophically literate" enough about research is a prerequisite to engage in serious evidence-based thinking about education.

6. An objection: The demandingness of philosophical research literacy

Above, I outlined an argument that research literacy should include a good deal of philosophical literacy about educational research. Advocates of EBE are, however, likely to protest that building philosophical literacy into research literacy is very demanding: requiring that teachers must not only be "research literate" but must also be "philosophically literate" is to demand that they possess whole new sets of knowledge of norms, concepts and truth criteria over and above what we have previously regarded as the core of research literacy (considerations of research design, research quality, research synthesis, etc). In particular, advocates of EBE might say that philosophical literacy is not part of teachers' research literacy; but that it is part of the *researchers'* research literacy. They might say that it is not the teacher's duty

to evaluate matters like whether educational aims are well chosen or whether the methodology of a study is suited to answer its research questions, but that this is the responsibility of the *researcher*. If the researcher settles answers to these more philosophical questions and then explains them well in her research, is it not enough for the teacher simply to read these explanations and take them on trust? Against Pring, Bridges and Winch, the advocate of EBE might propose a more "minimal" conception of research literacy according to which research literacy does not involve understanding the philosophical dimension and presuppositions of research, but consists in taking for granted the researcher's word for it that they have adequately paid attention to norms, to concepts and methodological dimensions in setting up their research.

To this objection, the following counter-objection deserves to be offered. Even if all researchers were (a) very sophisticated, philosophically speaking, (b) considered normative, conceptual and methodological matters in their research and (c) wrote about these matters clearly in their published research, the teacher who is not philosophically literate would not *be able to understand* what the researchers wrote about these matters or would not even *know what is at stake* when the research takes a particular philosophical position on an issue. Moreover, consider that it is extremely unlikely that all researchers will have exactly the same philosophical orientation or will reach exactly the same philosophical conclusions regarding what educational aims we should promote (norms) how to understand concepts (concepts) or what truth-criteria a piece of research should satisfy given its aim (methodology). There is likely to be *dispute* between researchers about these matters and, without philosophical literacy, teachers as readers of research will not be able to know which researchers to believe or what research to subscribe to. Put differently, saying that teachers need not understand philosophical matters, but can simply take them on trust does not answer the question of *which researchers to trust*. To this last point, the advocate of EBE is likely to answer: "it is easy, trust the EBE researchers!" However, given that in fact the field of educational research consists of different camps, and that each of these camps is likely to say "trust us!", the EBE researchers have available no non-circular justification for why they (and not another camp of researchers) are in a unique position of trustworthiness compared to all other methodological camps in the field of education. True enough, the EBE researchers may say that teachers should understand, on a methodological or *philosophical* basis why EBE is superior to all other forms of educational research […] but then we are right back to where we started by including philosophical considerations within the field of research literacy.

Indeed, consider the matter in the light of Eriksen's question about whether research literacy is a "passive" or an "active" competency (section 3), that is the question whether research literacy requires that the literate person merely be able to *understand* research or whether it demands that the literate person be able to *participate* in research themselves. Anyone who takes the line that research literacy requires only that the reader of research "takes the researcher's word" for the philosophical aspects of the research thereby quite clearly takes a

"passive" line on the nature of research literacy. As Pring, Bridges and Winch make clear, however, philosophical issues are very much live in the discipline and are not settled; insisting that, to be research literate, one simply needs to "take EBE researchers" word for it that the EBE approach to educational research is "best" is in itself to take a philosophical position (that EBE is the best form of educational research) in a much larger debate about educational research and how it should be done.

In sum, considering the question of what research literacy is—considering the question of how research should be *consumed*—is not easily separable from the question of methodology in education—that is the question of what research should be *produced*. The kind of research that should be produced is obviously the methodologically strongest kind of research. In deciding what to read (and deciding what interventions to implement as a consequence), teachers should, obviously, read the research that is the strongest, methodologically speaking. However, this question "what is methodologically the strongest research" is (as we saw in the sections above) a deep question in the field of the philosophy of education specifically and the philosophy of social science more broadly and teachers will *only know what research to read* if they also know *what is methodologically the strongest research*.[3] This means that the question of what is required for teachers to be "research literate" cannot be thought of separately from (a) debates in the discipline about what good research is (b) the quality of research that is actually produced. The questions of what research should be *used* and what research should be *produced* go hand-in-hand.

As we have seen above, there are regular doubts expressed about the quality of educational research, about its relevance to practitioners and about its philosophical presuppositions. Calls for teachers to be more "research literate" are, in effect, calls to short-circuit all of these debates: could we not, in bottom-up fashion, rely on *consumers of research* to drive improvements in *research production* through being more discerning and demanding? As I tried to argue above, however, calls for "research literacy" amongst teachers as the consumers of research cannot be the solution: they are completely tied up with debates about the state of the discipline, and in large part arise exactly *because there is such fierce debate on the producer side* about what research is best and what research should be read. After all, consider that it is only because some educational researchers are so dissatisfied with what they see as the low quality of educational research that they wish to follow a user-focused educational improvement strategy at all.

Viewed like that, the question of teachers' research literacy is really simply a different way to think about questions that have always existed in the discipline about philosophical matters

[3] Unless, of course, some outside person or body tells them what is methodologically the strongest research… but, in this case, teachers will not truly understand what is the strongest research, they will simply have to take it on trust.

like what the best kind of research is, what educational research is ultimately for and what the teacher's role is in improving educational practice based on her reading of the research.

7. Conclusion

In this paper, I investigated the debate about teachers' research literacy from a philosophical perspective. Based on arguments by Pring, Bridges and, most notably, Winch, I argued that knowledge of philosophy is an essential part of conducting empirical educational research and that educational research literacy therefore includes a considerable component of philosophical literacy. This implies that efforts to enable teachers to become more research literate should also include efforts to ensure that they are philosophically literate. The realisation that research literacy also includes philosophical literacy brings into sharp focus that "research literacy" is not a straightforward concept, but that what "research literacy" is taken to be depends on your whole philosophy of research. In the end, "research literacy" is not a simple solution to the problems of implementation of research in the classroom. It is simply a different name (or a different way of looking at) philosophical problems about educational research that have been part and parcel of the field of educational research since the birth of the discipline.

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Research Literacy in Education and the Implementation of Evidence-Based Practices in Schools

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Abstract

Increased focus on and interest in Evidence-Based Practices (EBP) in schools justify a stronger focus on research literacy and implementation knowledge. This article presents two complementary perspectives on the transfer of educational research to practice. The "research literacy approach" focuses on the general competence and capacity of teachers to critically assess research before it is put into practice. The "school-wide implementation approach" has a broader perspective including organizational factors and the context of teaching. A review group which examined relevant research literature on implementation in schools identified six core components that advanced EBP. An example of a school-wide implementation in Norway is presented, which illustrates how a school-wide model was put into practice based on guidelines produced by experts in the field. In conclusion, both the "research literacy" and the "whole-school" approach can advantageously strengthen their emphasis on implementation knowledge in order to promote EBP in schools.

Keywords

Research literacy, implementation drivers, school-wide positive behavior support, the guideline approach, critical assessment of research

Introduction

Following the development of the evidence-based movement, there has been a growing interest in the transfer of educational research into practice (Fixsen et al., 2019). During the last decade, a lot of activities have been carried out in order to make educational research more relevant and accessible to teachers. Two important perspectives are highlighted in this article: The "research literacy" and the "school-wide implementation" perspective. The perspective on research literacy in education is particularly relevant if the aim is to increase teachers' or student teachers' general research competence. Added to the implementation perspective are organizational factors and the context of teaching which promote the successful transfer of effective research-based programs or strategies into practice. *Evidence-Based Practice* (EBP) in education is a broad term which refers to entire models, programs, strategies, or interventions which have proven to be effective through rigorous scientific studies. Outcomes are evaluated in experimental studies (e.g. RCTs), meta-analyses and systematic reviews (Voyager Sopris Learning, 2023). *Research-based practice* on the other hand is also based on the best available research, but only parts of a program or an intervention may have proven effective through research. Although the terms are different, their common aim is to increase the use of EBP in schools. The concepts are often used interchangeably in the literature and both are used in this paper, according to their definitions.

The article has a particular focus on the situation in Norway, the reasons for this being that the author is more familiar with the developments in this country, that the empirical data that was collected in Norway on the evaluation of the model has previously been published internationally, and that the outcomes and conclusions seem to match those from other Western countries, particularly those in which the School-Wide Positive Behavior Support (SWPBS) model has been implemented (Australia, Belgium, Canada, Finland, Great Britain, New Zealand, the Netherlands and more, Michael et al., 2023).

The broad and narrow perspective on the relationship between research and practice

The enlightenment model (Hammersley, 2007; Weiss, 1979) has a broad perspective on research. It encourages science-conscious decisions and may over time influence practice indirectly by inspiring discussions and debate (Nutley et al., 2010). It demonstrates how research inspires thinking about problems and solutions and how research gradually and cumulatively influences policy decisions and plans (Weiss, 1979). The evidence-based model, on the other hand, takes a narrower perspective on the relationship between research, practice and policy. This perspective is more prescriptive and recommends that interventions should be theory based and requires carefully described guidelines, handbooks or manuals. Fidelity should be monitored and effectiveness evaluated in randomized controlled trials (RCTs). The evidence-based model is committed to the evidence-hierarchy which rates research designs according to their internal validity strengths (Pilcher & Bedford, 2011). At the top, representing the strongest empirical support are meta-analyses, and systematic reviews, followed by

randomized controlled trials. Further down in the pyramid are cohort studies and case-control studies. The evidence-hierarchy has, however, proved difficult to apply in educational research. Research in education has mostly been of a conceptual and theoretical nature (Maughan et al., 2012) and the number of randomized controlled trials has been limited (Cook, 2003; Weare & Nind, 2011). Therefore, evaluation studies are often referred to as "evidence-inspired" or "evidence-informed" in order to signal a more liberal attitude to the kind of research to be included. But Robert Slavin (2002), a pioneer in educational research, concludes that a focus on rigorous experiments and sophisticated evaluations of realistic alternatives in practical settings on a scale that matters are essential to build confidence in educational research among policymakers and educators (Slavin, 2002). However, there are several reasons for the scarcity of intervention studies and effectiveness trials in education. From a critical perspective, the knowledge base of teaching and learning is both incomplete and ambiguous, and much of what goes on in school has not been evaluated. The funding for such studies has been insufficient, both from the Ministry of Education and the Norwegian Research Council (Kunnskapdepartementet, 2017). Another reason for the lack of research on intervention effectiveness may be the lack of interest among educational researchers to conduct research on "what works" while teachers on their side have had little faith in the quality and relevance of educational research. Moreover, standardized and prescriptive interventions which require compliance with detailed manuals or guidelines seem to have fueled the resistance among teachers (Mitchell & Sutherland, 2020). The critical attitudes of those who work in schools may also have tempered the educational researchers' interest in evaluation research. Goldacre (2013) points out that research-based practice may have been disregarded because it has come into conflict with the teachers' sense of autonomy and their professional judgments. This has not prevented applied research from gaining more attention in schools and effectiveness studies have increasingly been in demand. Moreover, public documents and reports about education increasingly refer to "what works" and the Ministry of Education has requested more research that has an international perspective and the use of randomized controlled designs (Kunnskapdepartementet, 2017).

The research literacy approach

Research literacy describes the capacity of teachers to develop practices that integrate research-based knowledge with practical and ethical concerns. As a mediator between research and practice it may contribute to the professional and personal development of teachers. In the same way as the enlightenment model, the research literacy model has a liberal and inclusive perspective on research designs and methods. Quantitative, qualitative, and mixed-methods designs are accepted, as are cross-sectional and longitudinal research. It also acknowledges professional expertise in interpreting educational research. The research literacy approach seems to be particularly well adapted to teacher training institutions like universities and colleges. But how to conduct research literacy training is eagerly debated, and differences of opinion are expressed about the content and process of such training. Among topics being discussed are practical methods versus methodological ideas, and basic versus

advanced and comprehensive strategies. In research on teaching, a hot topic has been the relative importance of general knowledge and knowledge adapted to specific interventions, populations and situations. Students have different backgrounds, abilities and needs, and the situation in which teaching takes place may strongly moderate the design and the outcomes of studies. Even if research literacy as a mediator has an inclusive attitude toward research, it does not seem to conceptualize or emphasize the quality of the transfer. The level of adherence and competence should probably be reported with greater accuracy in the process of transferring research knowledge to practice.

Teacher training institutions and EBP

In order to increase teachers' research literacy, the support and efforts of teacher training institutions are important. This has not always been the case, and for a long period of time, the enthusiasm for research-based strategies and methods was modest in Norwegian universities and colleges. Experience-based knowledge had far greater credibility and status than research-based knowledge. Future teachers' practice seemed to be more influenced by their practice experiences before, during and after the study than by knowledge-based didactic teaching. And if teachers in their practice run into problems, many would rather ask their colleagues for advice than consult the research literature. This tradition was challenged in the Norwegian strategy *Teacher Education 2025: National Strategy for Quality and Collaboration in Teacher Education*, which emphasizes research anchoring, practice relevance and interdisciplinary collaboration (Norwegian Ministry of Education and Research, 2018). It is also expected that those who teach professional courses should normally have a doctorate and research competence (Forskningsrådet, 2021). Teacher training programs may promote research literacy through the dissemination of empirically supported strategies, methods and programs and make a clear distinction between practices that are research-based and those that are not. In the report from the BarnUnge 21 project, the Norwegian Research Council asked for new guidelines for teacher training and claimed that updated and quality-assured research on teaching was needed in order to upgrade the staff's competence.

Critical assessment of research

The critical assessment model was originally developed in the field of medical research where evidence-based practice was defined as: "… the integration of best available evidence, clinical expertise, and patient values" (Sackett et al., 1996). Research literacy could be acquired through studying and learning how to critically assess the quality and relevance of research studies. The model has previously been applied in research on social work (Finne & Malmberg-Heimonen, 2023) but also in educational research (Chase, 2019). The critical assessment approach requires students and practitioners to track and access all relevant research studies in order to assess their sample representativeness, the statistical power of the study, the reliability of the measurement instruments, the internal and external validity and the practical relevance of outcomes. But critical assessment may also include the critical review of meta-analyses, syntheses, and summaries of research. As a next step, teachers are

encouraged to interpret, test and adapt research-based strategies to their own practice. The critical assessment approach makes high demands on teachers' abilities and efforts, and has been particularly difficult for practicing teachers. Many have problems accessing research and struggle to find relevant literature. Another problem is the lack of sufficient time to read, reflect and discuss research results with colleagues. And finally, few, if any research articles deal with issues that practitioners are concerned with, and they are often written in an incomprehensible language for practitioners.

When EBP was introduced in schools, research repeatedly reported that school-wide interventions were more effective and sustainable than interventions adopted by a few teachers or applied in only some classes (Durlak & DuPre, 2008; Moore et al., 2019; Weare & Nind, 2011). The unit of change thus became, to a greater extent, entire schools rather than selected teachers, pupils or school classes. Research also demonstrated that implementation quality was a strong moderator of outcomes (Durlak & DuPre, 2008). Such findings contributed to implementation quality becoming a central issue in the process of changing school practice.

The school-wide implementation model

The concept of implementation refers to factors that promote or hinder knowledge mobilization and practice change in school. Compared to research literacy, the implementation perspective is more concerned with school and school-contextual factors that promote or hinder the quality and sustainability of evidence-based interventions (Fixsen et al., 2019; Ogden & Fixsen, 2014). The implementation process in schools is usually guided by implementation frameworks. These are conceptual models which organize sets of coherent ideas and concepts and provide an overview of the implementation process that is easily communicated to practitioners (Durlak & DuPre, 2008; Fixsen et al., 2005, 2019). One example is the “Active Implementation Framework” which includes implementation drivers that promote the implementation of evidence-based practices (Ogden & Fixsen, 2014).

Most of the available school-wide intervention programs are evaluated in RCTs or in quasi-experimental studies by the program developers and/or by independent researchers. They are usually supported by handbooks or manuals, which give detailed descriptions of how to implement and monitor practice (fidelity) and outcomes. Schools and teachers are not exactly invited to critically examine the research base of the programs. Instead, they are offered guidelines describing how to build program specific capacity and competence at their school.

The guideline approach

The process of identifying interventions and critically examining their research base may be too time-consuming or too complex to carry out for teachers at ordinary schools. One way to simplify the implementation process is to delegate the task of critical research-assessment to

experts or resource people from the schools' support systems. Their task is to identify interventions that are relevant and adaptable to the school's needs and resources, and, based on this information, produce guidelines for the school. The experts are usually professionals who are familiar with a number of relevant interventions and know how to critically review the literature (e.g. Hattie, 2009). In this way, they may ease the burden on practitioners by identifying, summarizing, simplifying and assessing the EBP literature.

In the public sector, such experts are sometimes referred to as *knowledge brokers*. They act as middlemen or agents who inform, interpret, negotiate and intermediate between program owners and program users (Oxford English Dictionary OED, 2023). They may distribute evidence and build capacity by disseminating guidelines and providing training at schools. By contributing to the increase of general and program specific capacity of schools, they help close the gap between research and practice. Knowledge brokers take care of much of the practical work of knowledge transfer by serving the needs of both "creators" or "owners" and "users" of knowledge. By linking research and practice they help break with the tradition where researchers and practitioners have shown little interest in each other. Compared to other school professionals and researchers they are not bound to any specific program or intervention. They may serve a number of schools within a municipality or a region and may also help by adding tacit knowledge of individuals and organizations (Ward et al., 2009). In this way, they promote positive attitudes and encourage openness and readiness to try out new practices (Wandersman et al., 2008). Professional knowledge brokers are still uncommon in some countries such as Norway but are found in several other countries (Metz et al., 2021). In the next section, core implementation components are presented based on a review of international research on factors that promote the use of evidence-based practices in schools.

What enables or hinders the use of research-based knowledge in school?

A review group consisting of the author of this article, Robert Slavin and Jonathan Sharples, examined 34 high-quality international research articles on factors which hindered or promoted the use of research-based knowledge in primary and lower secondary school (Brørup-Dyssegaard et al., 2017). The report was published by the Danish Clearinghouse for Education to identify common implementation drivers across studies of successful introduction of new practices in schools. Without specifically mentioning research literacy, it was clearly implied by several of the promoting factors. Six key components were identified: a) school leadership and management, b) the staff's professional development, c) the teachers' attitudes and perceptions, d) the school's support system, e) implementation quality and f) sustainability. The importance of research literacy was implied by the staff's professional development, teachers' attitudes and perceptions and the sustainability of interventions (Brørup-Dyssegaard et al., 2017).

School leadership or management was identified as the single most important predictor of successful change of practice. The Danish report stresses the importance of having a school leader or a management team that is willing to prioritize the necessary resources for the implementation process. Through their contacts with academic institutions and other schools, principals signal their interest and commitment to research. Within their own school, they create a sense of community where staff is encouraged to share experiences and to request feedback from the students.

The staff's professional development is described as individual or collective professional capacity or competence to implement research-based practices. This implementation driver takes an organizational view on schools and highlights collective decisions and factors as decisive for sustainable changes.

The attitudes and perceptions of teachers and additional staff. Several of the studies examined in the overview showed that positive expectations, including teacher's confidence in the effectiveness of the intervention, were vital for successful implementation. Important facilitators were the understanding of how well the intervention matched the theoretical views, attitudes and values of the practitioners and the optimal time for the introduction of an intervention at a practice site. Equally important were a high problem awareness and readiness for change. Teachers' motivation for change seems to increase when they are aware of unsolved problems and acknowledge the need for improvements. Increased motivation is also associated with time and resources for planning and preparation, and whether teachers have a say in the school's choice of programs and practices.

Support systems. In order to successfully implement EBP, schools need a support system which may assist in identifying and assessing effective and relevant interventions. They may also give advice on how to adapt new practice to local conditions, and to evaluate the implementation and outcomes. The support system may include local resource persons and services, but also academic institutions like universities or colleges. To the extent that schools had been in contact with the universities for training, coordination and evaluation, they reported that the collaboration had been mutually beneficial (Brørup-Dyssegaard et al., 2017). It was also vital that persons from the support system were immediately available when schools needed encouragement or help to solve problems.

Implementation quality is an important mediator of intervention effectiveness and combines adherence or loyalty to the intervention with practitioner competence. Although local adaptation is considered necessary when interventions are implemented at new locations or with new populations, there are different opinions on how much the intervention can be modified before it loses its effect. Evidence-based interventions are rarely implemented as planned, and full compliance between program and practice is rarely expected (Lendrum & Humphrey, 2012). This is often referred to as competent implementation or "*flexibility within fidelity*"

(Kendall & Beidas, 2007). Successful implementation is best served when a central management and control unit is responsive to local needs. But additional obstacles may interfere like lack of time, staff participation in other projects and school meetings, or testing of students and student field trips.

Sustainability. The concept of sustainability signals that the intervention is maintained beyond the active implementation phase, and with the same level of enthusiasm and engagement as originally described. Sustainability is caused by the same factors that contributed to success in the first place. But the sustainability of new practices may be challenged by changes in school policy, or in central or local priorities over which the school has no control. And at the school level, turnover of principals or key personnel may interfere with the maintenance of new practices.

A practical example of how the guideline approach was applied in the implementation of a school-wide project is presented in the next section. This section addresses the process of conceptualization, adaptation, implementation and evaluation of the school-wide positive behavior support model as it was transferred from the US to Norway.

The implementation of the school-wide-positive-behavior support model in Norway

During a visit to the University of Oregon in 2002, a particular version of the School-Wide Positive Behavior Support (SWPBS) model was introduced to staff at the Norwegian Center of Child Behavioral Development. The model was developed by Sprague and Walker (2005) and even if it had been widely implemented in the USA, it had not previously been evaluated. The model's change theory predicted that all students would benefit from mutually positive relations and positive behavior collectively modeled by staff. The Norwegian adapted version was implemented at four primary schools from 2002 and evaluated with a feasibility study (Sørlie & Ogden, 2007). The schools' expenses were limited to the cost of materials, travel and substitutes. By 2020, approximately 240 primary schools had implemented the model (Borgen et al., 2020). The model is organized with interventions at three levels of increasing intensity, but most of the interventions are placed at the first, which is the universal level. That is: targeting all students at the school. The general idea behind the model is to use preventive interventions in order to keep as many students as possible at the universal level, and if needed with the support from upgraded interventions at the next two levels of the model. The aims of the model are to 1) prevent and reduce acting-out behavior, 2) improve social relations and social competence, 3) improve the school learning climate, 4) increase the use of evidence-based practices and 5) increase inclusion by adapting ordinary education to the needs of all students. The core intervention components were good relationships, school-wide positive expectations and rules, positive teacher directions and instructions, and the encouragement, recognition and positive involvement of students. The model had no academic goals or intervention components, and aimed primarily at improving the pupils' school

behavior. Neither was any attempt made to increase the staff's research literacy, but they could access relevant information in handbooks and supplementary literature (Arnesen et al., 2012, 2017; Arnesen et al., 2006).

Informed consent was required by 80 percent of the staff in order to start the implementation. The majority of staff also had to accept the school-wide strategies of long-term commitment, universal training activities, supervision, monitoring of fidelity, evaluation and follow-up activities. The staff was invited to discuss and decide on its collective strengths and limitations, and to develop its own version within the limits defined by the model's core components. Interestingly, the staff signaled less interest in the research underpinnings of the model than in the how the model worked in practice. The teachers and other staff were eager and impatient to start working with the model. Previous experiences with similar models or programs seemed to be more important than the level of research literacy for the progress of implementation. This indicated that positive outcomes of the N-PALS project could depend more on the quality of the implementation than on the staff's research literacy.

The evaluation and implementation of the N-PALS model

A longitudinal effectiveness study was conducted with a quasi-experimental design (Sørlie & Ogden, 2014). The full version of the N-PALS model was implemented in 28 schools and their student and teacher reported outcomes were compared with outcomes from 20 comparison schools matched on school-size and location. Significant outcomes after three years included: a) fewer teacher-reported behavior problems within and outside the classroom context, b) improved psycho-social classroom climate, c) fewer students expelled from class due to challenging behavior, d) increased teacher-reported collective efficacy and self-efficacy, and e) increased use of teacher-reported effective discipline practices (Sørlie & Ogden, 2015). Overall, several outcomes of the longitudinal evaluation of the N-PALS model were positive, and effect sizes were comparable to those in other school-based universal prevention studies. The significant Effect Sizes after three years of implementation, as reported by Sørlie and Ogden (2015), were in the range of 0.13 to 0.25. This matches the outcomes of Bradshaw et al. (2012), who reported ES-values of 0.08 and 0.17 based on teacher-assessed student behavior in the United States. The magnitude of the intervention effects on school problem behavior in the Sørlie and Ogden study (2015) also matched the mean Effect size of 0 .20 reported in meta-analyses of universal school wide programs (Durlak et al., 2011; Wilson & Lipsey, 2007).

The importance of implementation quality. The web-based "Effective Behavior Support Self-Assessment Survey" (EBS-SAS) was used to monitor the degree and quality of implementation of the N-PALS (Sugai & Horner, 2009). Measures of treatment integrity determined if active components of the model had been applied, and if the practitioner had been loyal to the intervention's uniqueness and core components. A survey showed that 80 per cent of the intervention schools had reached the level of acceptable implementation within three years,

but greater benefits were achieved for schools with high implementation quality (Sørlie & Ogden, 2015). The fact that the participation in an evaluation study could be positively impacted by the level of implementation became clear in a later register study of all 244 PALS schools. At schools that had not participated in any evaluation only 30 per cent of staff reported that they had reached the required minimum score on the EBS-SAS after 3 years (Borgen et al., 2020). In comparison, 75% of the schools participating in the Sørlie and Ogden (2015) study reached this score.

Summary and comments

In this article, two perspectives on the transfer of educational research to practice have been presented. To a certain extent they are overlapping and have in common the aim of increasing evidence-based practices in school. They differ, however, in the way they describe the relationship between research and practice. Increased focus on and interest in evidence-based practice in school justify the need for a stronger focus on teaching research literacy in education. If research literacy is emphasized in basic teacher training the candidates may influence the openness and readiness of schools and be better prepared for the tasks of developing evidence-based practice. The level of research literacy may also promote the sustainability of effective interventions. The general research competence and capacity of teachers, and the critical assessment of the research base of EBP are central to this approach. Teacher training in research literacy may prepare individual candidates for conducting and contributing to research on their own.

The implementation and guideline approach, on the other hand, seems to be the approach of choice when it comes to the implementation of school-wide evidence-based interventions. In this approach, program-specific competence and capacity are prioritized above research literacy. A stronger focus is directed towards systemic and organizational characteristics of schools, and also on the context of teaching. Common implementation drivers are identified as school leadership, the professional development of staff, school-based attitudes and perceptions, the support system of the school, implementation quality and sustainability. Rather than promoting the research literacy of individual staff, collective competence and the collective commitment to evidence-based practice are emphasized. In order to increase the use of evidence-based practice in schools, both schools and teacher training institutions should be more concerned with implementation quality when new practices are introduced.

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Evidence-Based Practice and Power Struggles Over Pedagogic Practices in "High-" and "Low-Stakes Accountability" Contexts

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Abstract

The Norwegian Knowledge Promotion Reform has followed international trends by combining centralised control over results with increasing autonomy in the curriculum and choice of methods. Local and professional autonomy is challenged through the combination of result-based and evidence-based accountability. However, whether the stakes related to results are "high" or "low" could impact the role of "evidence-based practices" in schools. This paper investigates how evidence-based practices have formed part of the power struggles in the forming of pedagogic practice in a high- versus low-stakes accountability context in Norway. In the two municipalities, evidence-based practices have been used to legitimise and exercise authority, increase external control and create hierarchies between different stakeholders. The influence of teachers and parents has been limited, as has been the possibility to adapt the teaching to students' diverse needs. However, local gatekeepers have been important for relieving external pressure, and for ensuring local and professional autonomy.

Keywords

Evidence-based practice, high- and low-stakes accountability, Bernstein, Norway, the Norwegian capital Oslo, rural municipality, autonomy

High- and low-stakes accountability, evidence-based practice and power struggles

The role of research in pedagogic practice has been given greater emphasis through the introduction of "evidence-based practice" or "what works" (henceforth: EBP). This specific knowledge form is often actualised in relation to policies combining increased autonomy in the choice of methods with centralised control in the form of result-based accountability. This combination of decentralised and centralised control makes the formation of a pedagogic discourse an important site of ideological struggle between the state-selected agents and ministries, on the one side, and educators in schools and colleges on the other (cf. Bernstein, 2000). However, the role of EBP in the forming of local pedagogic practices may be difficult to foresee as it can be influenced by local differences in the accountability system. This paper aims to investigate the role of EBP in two Norwegian municipalities that put different emphasis on results in their management of schools.

Internationally, a neoliberal discourse emphasising competition and marketisation to improve quality and efficiency in educational outcomes is dominating (Ball, 2003). In this, New Public Management (NPM) has been a key mechanism in political reforms in public sectors, introducing a new mode of power. Central characteristics of NPM are the combination of output control measured by quantitative performance indicators, incentives for performance, introduction of quasi-markets and competition between agencies (Clarke & Newman, 1997). The forms of control combine centralised control over results, with decentralised control through providing autonomy in professional work:

> The logic of managerialism is that managers are accountable for what they deliver, but not for how they deliver it. It is results, not methods, that count, and to achieve good results managers must have the maximum room for manoeuvre in the decision making process. (Clarke & Newman, 1997, p. 64)

However, the degree to which external result expectations impact the forming of pedagogic practices in schools could depend on whether the stakes related to the results are experienced as high or low. The accountability system can be described as "high-stakes" when the results, reported to the public, are used to make important decisions that affect pupils, teachers, schools and communities in, for example, grade promotion, salaries, ranking and categorisation (Au, 2007). It has also been demonstrated that the stakes related to the public ranking of results can be especially high when school choice is part of the system (see Bjordal & Haugen, 2021; Howe et al., 2001). "Low-stakes accountability" seems to exert less pressure on teachers and gives them more autonomy, leaving teachers in control. However, it is also

found that the difference between high- and low-stakes testing on teacher autonomy may not always differ that much as "NPM- influenced governmentality works not only through technologies of domination, but also engages the self by harnessing the teachers' sense of autonomy, transforming it into self-control" (Hangarther, 2019, p. 4; Thiel et al., 2017). This may be explained by how NPM creates a culture or system of "terror" of "performativity" through judgements, comparisons and displays (Ball, 2003).

It is argued that NPM plays a key role in replacing professional-ethical regimes in schools with entrepreneurial-competitive regimes, and by introducing a process of de-professionalisation where the approaches of accountants, lawyers and managers are made more powerful (Ball, 2017; see also Evetts, 2009). In relation to this, teachers are held accountable for using methods that have demonstrated efficiency; "evidence-based accountability". With this in mind, "a research-based teaching profession is one that accounts for itself in terms of the details of its practice to those outside by appeal to the following of explicitly formulated procedures backed by research evidence" (Hammersley, 2007, p. 33). This way of framing "professionalism" has paved the way for stakeholders outside school that can provide "evidence-based practice" to improve the work schools do.

EBP can be related to a revival in the fortunes of positivist ideas that were influential for much of the social and educational research in the twentieth century that was based on natural-science methodological models.

> [W]hat was taken from natural science was the idea that experimental method is the key to intellectual progress. […] What was seen as important about experiments was that they involve controlling and measuring the effects of causal factors on outcomes by means of explicit, and therefore replicable, procedures. Where experimentation was not possible, positivists argued that statistical methods of controlling variables should be employed. (Hammersley, 2007, p. xi)

The appropriateness of the natural-science model came under question from the 1960s, and as it has been revivified through NPM, the disputes related to which role educational research could or should play in relation to policymaking and/or practice have risen again (see for example Hammersley, 2002, 2007). Proponents of EBP argue that it is problematic that teachers only engage in research and theory to a little degree, and that there is no agreed knowledge base for teachers. EBP can thus represent a way to "professionalise" teachers' work by reducing the gap between research, theory and practice and providing a resource for guiding professional action. In this way, "research can play a more effective role in advancing the professional quality and standing of teachers" (Hargreaves, 2007). An important critique of EBP is that it challenges professional judgement, contributes to instrumentality and fails to take complexity and context into account in the forming of educational practice. Furthermore, it is argued that EBP represents a democratic problem as it "restricts the opportunities for participation in educational decision making" (Biesta, 2007, p. 1), and contributes to de-

politicising the structural, value, and moral issues in education (Ball, 2007). However, it is found that most researchers occupy more subtle positions between these poles (Hammersley, 2007, p. x), that the various positions in the debate are difficult to grasp and that the debate is impeded by a lack of clarity and misunderstandings (Kvernbekk, 2013). This also relates to the fact that there are different ideas on how the relation between evidence/data and practice should be understood and put into play, and consequently how the evidence/data should be used (Biesta, 2007; Kvernbekk, 2013).

Summing up, the introduction of NPM in combination with EBP makes the forming of pedagogic practice a central arena for a power struggle, and it is difficult to foresee how this struggle will play out in different contexts. This relates to how both centralised and decentralised forms of control are in play (centralised control over results combined with increased professional autonomy), and how the stakes related to results may differ (high or low), as well as how different EBPs may relate differently to policy and practice. Bearing this in mind, it is interesting to investigate what role EBP is described as playing in power struggles in different contexts. The problem statement for this paper is: *How is EBP described as forming part of power struggles in setting the premises for the forming of pedagogic practices in a high-stakes versus a low-stakes accountability context?*

The problem statement will be explored in the Norwegian context.

The Norwegian policy context

The Knowledge Promotion reform (Meld. St. 30., 2003–2004) followed international neoliberal trends. On the one hand decentralising control through giving the local authorities more autonomy to decide how to run schools, with local curriculum planning and quality assessments. On the other hand, centralising control through a *national quality assessment framework* including national testing in reading, mathematics and English, centrally set exams, user surveys, international assessments, state supervision and a national website where results were published (Bjordal & Haugen, 2021). National testing was described as a tool for development work that would inspire increased efforts.

Furthermore, teachers were given increased methodological freedom combined with a less detailed curriculum (Imsen & Ramberg, 2014) as a measure to improve how teaching could be adapted to the diversity in the pupil population and pupils' individual needs. At the same time, it was argued that the local leadership of schools should be stronger, and that school principals should be taking more responsibility for overseeing knowledge goals to increase "learning intensity". Lately, added-value measures based on national testing and examinations to document how much the school contributes to pupils' learning have been developed (see Steffensen et al., 2017), and it has been found that the administrative consequences and pressure on local and school stakeholders have been increasing over time (Camphuijsen et al., 2021). Nevertheless, it has been argued that the Norwegian accountability system is characterised by low-stakes accountability since it is based on a combination of professional trust

and cooperation (Hovdhaugen et al., 2017). However, depending on the local political governance, the stakes related to results may differ between municipalities (Bjordal & Haugen, 2021).

The Knowledge Promotion reform also addressed that the use of research that could provide practical solutions should be increased, and that research should be made available to schools and teachers (Meld. St. 30., 2003–2004). In the evaluation of the reform in 2015, the role of EBP has been accentuated and directly related to "teacher professionalism" in the form of "evidence-based accountability" (see above): "the teachers' professional freedom implies a *responsibility* to carry out well-founded and research-based choices of methods and approaches in the teaching" (NOU 2015: 8, my translation). It has been concluded that in both the evaluation and the revision of the Knowledge Promotion reform that this professional freedom is based on an implicit understanding that evidence and research are developed outside the professional community (Støren, 2022, p. 54). One external agent that has contributed evidence-based practices to Nordic schools is the state-sponsored centre, "Norwegian Center for Child Behavioural Development" (NUBU), which was established during the same period as the reform was introduced. NUBU has the role of "developing, implementing, quality assuring and evaluating evidence-based practices for children and young people, families, kindergartens, and schools" (NUBU, 2022). It is found that through such stakeholders as NUBU, the use of EBP is expanding in the Nordic countries (Forskningsrådet, 2016).

Summing up, we see that for the central authorities, the emphasis on both result-based and evidence-based accountability has become stronger since the introduction of the reform.

Macro- and micro-relations and power struggles

The *pedagogic device* (Bernstein, 2000) is a theory on how power works on both the macro- and micro-levels, and how the different arenas for cultural production, reproduction and transformation of culture are related. The pedagogic device regulates the communication it makes possible, and through this it acts selectively on the meaning potential. It has three interrelated rules that are not ideologically free, and thus become sites for appropriation, conflict and control: *the distributive rules, the recontextualising rules* and *the evaluative rules*.

The distributive rules translate sociologically into the field of production of discourse, specialised forms of knowledge, forms of consciousness and forms of practice in social groups. The function of these rules is to regulate the relationship between power, social groups, forms of consciousness and practice. As explained earlier, the centralised control over the distributive rules related to the Knowledge Promotion reform is based on a neoliberal discourse where national testing of basic skills and EBP are important ingredients. However, the decentralisation of control over how to run schools and undertake local curriculum planning gives the municipalities the opportunity to form/appropriate the distributive rules at the local level. Thus, there may be a struggle over the distributive rules between the central and local authorities, both in terms of how they emphasise results and EBP.

The *recontextualising* rules regulate the formation of the specific pedagogic discourse and are created by the recontextualising field. As with the distributive rules, the recontextualising rules are another important site where there will be a struggle between the authorities. Bernstein distinguishes between the *Official Recontextualising Field* (ORF) which is created and dominated by the state and its selected agents and ministries (for example NUBU) and the *Pedagogic Recontextualising Field* (PRF) (for example educators in schools and colleges).

> If the PRF can have an effect on pedagogic discourse independently of the ORF, then there is both some autonomy *and* struggle over pedagogic discourse and its practices. But if there is only the ORF, then there is no autonomy. Today, the state is attempting to weaken the PRF through its ORF, and thus attempting to reduce the relative autonomy over the construction of pedagogic discourse and over its social contexts. (Bernstein 2000, p. 33)

NUBU represents one agent through which the state can control the construction of the pedagogic discourse in the schools across the municipalities and may thus regulate what is decentralised in relation to the forming of pedagogic practice. However, as a discourse moves from its original site, it undergoes "ideological transformation according to the play of specialised interests among the various positions in the recontextualising field" (Bernstein 2000, p. 114). This means that although an EBP is implemented, the realisation of the pedagogic practice may still take different forms.

The *evaluative rules* constitute any pedagogic practice and are found at the level of the acquirer. The key to pedagogic practice is continuous evaluation that condenses the meaning of the entire device. These rules are related to the whole purpose of the device, and thus determine what it is about, something that will have implications on the deepest cultural level (Bernstein, 2000). In this context, they refer to what counts as legitimate criteria for the acquisition. Local authorities and agents may base their evaluative rules on different criteria for what counts as legitimate acquisition of the distributive rules.

Data material

In this paper, the data material on how EBP forms part of the power struggles in setting the premises for pedagogic practice was collected in two municipalities characterised by high- versus low-stakes accountability: the capital of Norway, Oslo, and a rural municipality.

The conservative-led city government in the capital (1997–2015) implemented high-stakes accountability (cf. Au, 2007) through the combination of more standardised testing, competition between the schools, the practising of school choice, per capita funding, publication of school results and performance-related pay (for details, see Bjordal & Haugen, 2021; Haugen, 2019a, 2021). The data material was collected in two different research projects investigating the enactment of marketisation policies in the capital. One of the projects, led by Ingvil Bjordal (for details, see Bjordal, 2016; Bjordal & Haugen, 2021), examined how the marketisation

policies were experienced by school principals and teachers. Through a strategic recruitment of informants (15 school principals and 7 teachers) the voices from schools with different geographical locations and student compositions were represented. The other research project, led by Cecilie Haugen, was exploratory and focused on which challenges teachers and parents experienced that had evolved through the marketisation policies. The teachers were recruited as informants through an open invitation letter that was distributed through social media. Twelve teachers working in different primary, lower and upper secondary schools based in different geographical areas and with different student compositions showed interest in participating in the study. One teacher had five years of experience and the others had between 14 and 25 years of experience. This extensive experience gave perspectives on what had *changed* in schools through the current policies. Additionally, four representatives from the organisation "Parental Uprising in the Oslo School" against the governance system were interviewed. The aim was to gain insight into the roots of their resistance and how this was related to the governance system. The Parental Uprising had representatives from about 40 schools in the capital.

The data material was collected from 2013 to 2016. All in all, the 15 school principals and 19 teachers came from 24 different schools, representing primary, lower and upper secondary schools, and representing all the geographical school groups in the capital. The interviews were semi-structured and had in common that they focused on how marketisation and result-based management influenced schools' and teachers' work (for more details on the material and data collection see Bjordal, 2016; Bjordal & Haugen, 2021; Haugen, 2019a, 2021). The interviews were recorded and transcribed fully verbatim. Furthermore, documentation, such as school strategy plans, schedules and e-mail communication between the school and parents served to triangulate the claims that had been brought forward in the interviews. It should be stated that although positive voices were represented in the material, most of the informants were critical when it came to how result-based management and EBP impacted the forming of pedagogic practice. Whereas the positive voices talked about EBP improving results and as much-appreciated assistance in finding pedagogic solutions, the critical voices experienced that EBP, in combination with result-based management, was threatening professional autonomy and the possibility to adapt to the students' diverse needs. What is interesting, however, is that regardless of the positive or critical position of the informants, a fairly similar picture emerges of how EBP formed part of the power struggles between the various stakeholders, which was the main interest in this study. The informants described the use of EBP in the schools in the capital as extensive and for many of them it represented an important issue of concern.

The other municipality was rural with about 40,000 inhabitants, and the result-based management was, compared to the capital, characterised as low-stakes accountability. The political steering committee was dominated by the political left. They had not introduced more testing, the results were not published and compared at the local level, and school choice was

not an option for parents. The use of EBP was described as very limited, as a stated priority was local development of practice through experience-based knowledge (Haugen, 2018, 2019c).

This municipality was an interesting case due to a hard and long-lasting conflict between a school and a group of parents over one of the EBP programmes provided by NUBU: *PALS*. PALS is originally an American programme named *SW_PBIS (School-wide Positive Behaviour Intervention and Support)* that has been translated and adapted to the Norwegian context. PALS is implemented in about 8% of Norwegian schools (NUBU, 2023), and in many of the schools in the capital. As there were clear power struggles relating to PALS, the aim was to gain insight into how the struggle played out and what fueled it. One premise for the selection of informants was to obtain voices from both "sides", from different positions in the hierarchy, and people who had good insight into the process of implementing and using PALS and into the reasons that fuelled the conflict. The data material, collected in 2014 and 2015, was taken from semi-structured interviews with the municipal education authority director (critical), the school principal (positive), one positive teacher, and one critical and one positive parent. A weakness in the material was that no critical teachers were represented. As the school principal was the one who sent the invitation to participate, the fact that he had a positive view of PALS could play an important role. Additionally, the PALS manual that has been authored by representatives from NUBU (see the description of PALS authored by representatives from NUBU in Arnesen et al., 2006) represented a data source for investigating how control over pedagogic practice is *intended to be formed* (see also Haugen, 2019b). This could provide a picture of how the information from the informants as to how power worked could be rooted in the programme itself or it could perhaps be explained by how it was recontextualised at the local level. The semi-structured interviews were recorded and transcribed fully verbatim.

Earlier publications relating to the data material from the capital examine how the accountability system was recontextualised in terms of school choice (Bjordal & Haugen, 2021; Haugen, 2019a), and look into relations and communication between the different stakeholders in the school organisation (Bjordal & Haugen, 2021), knowledge and pedagogic priorities (Bjordal & Haugen, 2021; Haugen 2021) and parents' experiences (Bjordal & Haugen, 2021). Earlier publications relating to the conflict over PALS in the rural municipality examined the autonomy from the state in the recontextualising field (Haugen, 2019c), how the conflict could be related to social class and ideology (Haugen, 2018) and how the visions for school and society in the PALS programme formed part of current governance trends (Haugen, 2019b).

In this context, as the intention was to analyse the role of EBP in a high- versus low-stakes accountability context, data that specifically referred to how EBP was described as forming part of the power struggles in setting the premises for pedagogic practice were selected. The analysis was structured according to how the struggles played out in different relations and was related to different fields as described in the pedagogic device:

1. The relation between state/municipal leadership and the schools, with special emphasis on the control over the distributive rules.

2. The relation between agents working in the school, with special emphasis on the control over the recontextualising rules.

3. The relation between school and parents, with special emphasis on the control over the evaluative rules.

Analysis of power relations in the forming of pedagogic practices

Power struggles over the distributive rules

The capital of Norway

In the capital, the centrally controlled distributive rules (national testing and EBP) were highly prioritised by the local authorities. The relation between standardised testing and EBP was tightly linked, as EBP was seen as an important measure for increasing schools' and teachers' results on national testing. Weak results legitimised that the control over schools' work exercised by the Education Authority was increasing. The Education Authority then established expectations or instructed the schools to implement EBP.

> I think that I'm trusted by the Education Authority because we have succeeded with the strategy we have chosen […] But if we should then have weaker results again, then I would experience a reduction in autonomy. (School principal in the capital)

The informants explained that EBP was used extensively in schools with weak results, but also in schools with good results. This was also related to how the Education Authority acted to control the schools' pedagogic practice through the promotion of EBP, supplying courses and programmes to the schools:

> I have faith in that what we develop from the bottom up works better than what comes from the top down. But there was some pretty hard pressure [...], because those who started to use [EBP] gained better results. And if you didn't get the good results and hadn't implemented it [EBP], then you could be falling behind. It was up to the school principal [...] but there was still some pressure. (School principal in the capital)

The threat of losing autonomy disciplined the school principals to prioritise what was measured on the standardised testing, thus delimiting the autonomy in local curriculum planning and methodological freedom. In this way, EBP was tightly connected to the priority of the centrally controlled distributive rules, as the results from national testing dominated what counted as legitimate evaluation rules.

Rural municipality

The priority of the centrally controlled distributive rules (national testing and EBP) was weaker in the rural municipality. However, the municipal education authority's director explained that there was an ongoing struggle between the central and local authorities over which knowledge should be used to construct the "truth" about the quality of the schools, as well as their knowledge and pedagogic priorities:

> I say [to the municipal board]: there are numbers and then there are narratives. And if we just count, because this is about the professional story, then you still have to tell the whole story, […]. I think that the task of a leader is to make sure that we address both the academic and the social aspects. I won't allow myself to be pressured. If the local authority wants a school leader who only wants to teach to the test, then they are welcome to do that, but then I won't be the one leading this. And I know that the school principals think that it's good that we work together to maintain that perspective. And the teachers think that it's good, because they still experience the pressure as high enough. [...] But we have result goals and ambitions, both in terms of the exams and national testing in this municipality. And the municipal board would like to have goals and results at the school level, but the political parties don't have a majority for that. So, I won't do it. (Municipal education authority's director)

PALS was implemented in only one school in the municipality after what the municipal education authority's director experienced as hard pressure from the central authorities to participate in the programme supplied by NUBU. In this encounter with the central authorities, the municipal education authority's director explained that she has maintained the boundaries between the central authorities and the schools to ensure local autonomy in setting the premises for the forming of pedagogic practice:

> [PALS] was not financed by us. We received an invitation from the state directed at all schools, and I perceived that as pressure to participate. They wanted many schools to enrol [in this programme]. For some reason there was little interest here [in this municipality]. It first of all represents a dilemma at the political level, the politicians love very quick-fix solutions, I think. [...] And I was contacted [by the central authorities] who wanted to know why only one of the schools was interested. And then I answered that I don't believe in these programmes. I think we have developed a lot of good things ourselves. […] And generally, in terms of programmes. In this municipality we haven't participated […] regardless of which programme we have been offered. I don't believe in quick-fix recipes because following a recipe, yeah, then you're lost as a professional. (Municipal education authority's director)

Thus, in this municipality PALS was the source of the struggle between the central and local authorities in setting the premises for the forming of pedagogic practice. The results from national testing had a weaker position as evaluation rules in this municipality, something

which may help to explain how the centrally controlled forming of pedagogic practice through EBP was also less welcomed. In this struggle over the distributive rules, the municipal education authority's director had an important role as gatekeeper, maintaining a strong boundary between the state and schools by both rejecting invitations to use EBP promoted by NUBU, as well as seeking to relieve the result pressure on schools and ensure that priority was given to what was not tested.

Power struggles over the recontextualising rules

The capital of Norway

EBP was described as forming an important part of how power was exercised at many of the schools in the capital. Informants stated that the relation between the school principals and the teachers had become more hierarchical, with the school principal interfering in and controlling pedagogic practices. The implementation of EBP was often described as a top-down process where high result expectations from the Education Authority resulted in school principals increasing their control over teachers' work. In some schools' strategy plans, teachers' methodological freedom was described as a risk when it came to reaching the result goals and where the expectation that teachers conduct similar pedagogic practices was treated as imperative for reaching these goals. Thus, high trust was given to EBP and low trust was given to teachers' competence to form pedagogic practices.

> The pupils encounter the same [pedagogic practice] everywhere. We try to make common systems, so we slowly but surely walk in step and act as a community [...] There's much tighter follow-up in the classroom […] I will follow up all Norwegian and maths classes to make sure that the [work on a specific EBP] has been done. (School principal in the capital)

> We were called in to learn classroom management […] It was based on the new, so-called evidence-based research. […] We watched a movie about how the teachers should write the goals on the blackboard and walk around and talk with the pupils. […] And it's clear that we're expected to follow this procedure. (Teacher in the capital)

The interference and controlling through EBP had resulted in great tensions between the school leaders and teachers, but also between teachers. Teachers with extensive experience described EBP as related to a radically different form of professionalism than what they were used to, whereas the younger teachers were described as more positive to the use of EBP. Both school principals and teachers related EBP to a professional identity conflict that had evolved through the NPM:

> There has been a big and long-lasting conflict here where the teachers have fought for their own methodological freedom, but where the Oslo school, centrally and through us school leaders, has said that: "No, you have too weak results, you have to use that and that learning programme" […] The teachers just express exhaustion in a way. This

> has created a huge amount of mistrust between school leaders and teachers. (School principal in the capital)
>
> Evidence-based, that's the opposite of how we worked in the 90s and 2000s. Then we were supposed to create projects […], develop something new, in line with Vygotsky. Something the world hadn't seen before and inspire others. Now: goal—what works, check, check. School industry […] It becomes a mediocre school without a soul. There are colleagues who state that: "Oh, so good! Then I don't have to do it myself". That that's now the teacher's job. To leave the job to others. […] This is how you do it technically […] instead of being together with the pupils trying to ignite a spark, being with them socially, opening doors for them. (Teacher in the capital)

The combination of high result expectations and EBP subordinated the teachers in a school hierarchy, where some of them experienced that having long experience and being critical was not welcomed. The pedagogic practices were described as increasingly teacher-centred and standardised, where diverse pupil needs lost priority when it came to how teaching was adapted to them.

Rural municipality

The school principal at the school that chose to implement PALS explained that the programme was implemented because they were experiencing and struggling with major behavioural problems that they wanted to solve. The argument for introducing the programme was thus not directly related to results. However, as explained above, according to the municipal education authority's director, teachers experienced that the pressure related to results was high, even if the stakes related to results were lower than in the capital. The introduction of the PALS programme was described as voluntary and welcomed by most of the teachers at the school. In this way, the teachers were voluntarily relinquishing their autonomy and increasing the central authorities' control in the forming of the pedagogic practice. This was in line with the stated intentions of the programme. PALS is described as a solution to what is referred to as "the implementation problem": "[T]here's little control over how teaching is carried out in Norwegian schools," a fact that "gives much room for private practice both at the individual school and by the individual teacher" (Arnesen et al., 2006, p. 15).

One technique that was used to make teachers comply with and ensure the manifestation of PALS in the school was to create a hierarchy within the teacher collective, a "PALS team". As stated in the PALS manual (Arnesen et al., 2006, p. 84), the "PALS team" has the responsibility for leading and coordinating the implementation work and should have a leader who has "high credibility among the staff, and [...] whose views often have high impact". The role of the PALS team is described as supervising, convincing, reducing resistance, controlling and ensuring loyalty to the PALS programme among the staff. In this way, the implementation is described as a closed process where the goal is to make everyone comply with forming a similar pedagogic practice based on the premises anchored in the PALS programme.

An important part of this control also involves delegitimising and rejecting other knowledge, ensuring a uniformation of the knowledge base used to form pedagogic practices among the teachers. Different perspectives/forms of knowledge are looked upon as a threat to the efficiency of the PALS programme, and there are strict criteria for making adjustments to the PALS model in the schools: "additional components should […] be based on a theoretical foundation that is consistent with the PALS model, and they should have had their efficiency demonstrated through controlled evaluations" (Arnesen et al., 2006, p. 188). The goal is to standardise behaviour at such a concrete level that the teachers train to have similar practices through roleplay.

The uniformation of knowledge and behaviour in the PALS programme is legitimised through the claim that teachers' differences can create potential problems for the efficiency of the programme. If teachers demonstrate resistance, this is explained as being rooted in "traditions and habits" (not that PALS itself might be controversial). Teachers are disciplined through collective processes that "challenge the individual teacher's view on her own teacher role," compelling the teachers to form a teacher role that is "executed to the benefit of the whole school's learning environment" (Arnesen et al., 2006, p. 122). The teacher explained how the PALS programme was forming the teacher collective at their school into becoming one voice:

> There was 100% support for the PALS programme among the teachers […] It was good for us teachers to be given concrete and clear instructions. We had clear ways of behaving and responding in all arenas. [...] PALS made the work very easy and concrete. This is a "we" school where we stand together as colleagues. (Teacher rural municipality)

Hence, the creation of hierarchical relations and strong control over the knowledge teachers use to form pedagogic practices is how the PALS programme is intended to work. Demonstrated efficiency (the evidence-base in PALS) forms the evaluation rules for legitimate acquisition.

Power struggles between school and parents over the evaluative rules

The capital of Norway

In the capital, parents' experiences of EBP were important for organising the parent uprising. They explained that the high result pressure on schools and the extensive use of EBP was problematic for many pupils. Parents and many of the teachers stated that the inherent values and effects of the diverse EBP programmes could be problematic, regardless of their "efficiency". They described that some of the EBP programmes were leading to segregating practices, placing too high pressure on children, putting too much focus on external motivation, using too hard assessment, stigmatising pupils and using public shaming, where individual pupils became responsible for collective punishment and the forming of strong hierarchical

relations between teacher/pupil/parents. Regardless of what they described as problematic values and effects, the so-called evidence base often triumphed over the local experiences, even when the EBP didn't "work":

> There was a pupil who they [the school] wanted to give an ADHD diagnosis to after three weeks because he couldn't sit still. But what can you expect? An immature 6-year-old is expected to sit still for 90 minutes and take responsibility for his own learning? It's crazy! But they [the school] hold on to this practice. Because it's "research based". What this teacher actually says to me is: "There are many children in this class that [the EBP] doesn't work for". And then I say: "But then you have good reasons to change the practice!" But he responds: "No, because it's been decided by the school principal." (Parent in the capital)

The combination of high result pressure and EBP had, according to the parents, threatened the adaptation to the pupils' diverse needs. Some parents were even recommended to move their child to a private school if they were dissatisfied with EBP.

> He [the teacher] recommends that we move [our child] to a different school […] Out of the test system, then you have to go to a private school. 60–70 schools are following it [EBP that causes problems for the child]. Freedom [in terms of school choice] should not mean having to take your child out of the community […] Our child can't continue [at this school]. (Parent in the capital)

EBP was experienced as contributing to forming the relation between school and home in a hierarchical manner, where parents experienced having a weaker voice in the collaboration between school and family. When parents expressed concerns about how the EBP programme created problems for their child, they experienced that the dialogue was shut down and their concerns delegitimised by referring to the practice being based on "evidence". The evaluation rules for pupils' acquisition formed at a decontextualised and general level (the evidence base of the programme), triumphed over individual pupils' needs, even when their problems were related to EBP itself.

Rural municipality

As mentioned above, the PALS programme was the root of a conflict between the school and a group of parents in the rural municipality. These parents also experienced that the programme contributed to a clearer hierarchisation between school and home, leaving the parents with a weaker voice. Whereas the teacher stated that the PALS programme was especially positive for pupils who demonstrated a high degree of negative behaviour, the critical parents were concerned about how the PALS programme had very different and often problematic effects on the pupils, where some became almost too obedient, some experienced anxiety and others became oppositional. At the same time, the parents expressed great con-

cern regarding the values inherent in the PALS programme and how they contributed to stigmatising children, and were too teacher-centred, instrumental, and impersonal in communication:

> The PALS programme doesn't focus on pupils as human beings, the focus is on making them demonstrate good behaviour. Categorising pupils according to their behaviour and using rewards and punishment to make them behave a specific way is basically treating children in the same way you train dogs. The development of the pupil as an all-round person is ignored […] Through PALS the pupils' voices are silenced, the overall goal of the system is to have all pupils behave in the same way. It ignores the fact that disruptive behaviour can be a way of communicating that something is very wrong. You cannot create a good learning environment through standardised programmes. Instead of teaching the pupils democratic values and having them participate as real people in school life, you silence their voices. PALS builds a strong hierarchy, where the teacher is assigned the role of being the police or guardian. The rewards and punishments are the way of communicating. (Mother PALS school)

When the parents tried to discuss these issues with the teachers to influence the forming of the pedagogic practice, they experienced that the dialogue was closed through the teachers' collective loyalty to the PALS programme:

> The teachers surrendered their professional judgements to the programme. Instead of giving professional reasons for their practice they responded: "Because we're a PALS school. The PALS team at the school has said so and we are loyal to the system." This made it difficult to have a dialogue and adjust the practice to the pupils' various needs. We lost our voice as parents. We were told to move to a different school if we were not happy with the way things worked. We felt unwanted and stigmatised as difficult parents. (Mother PALS school)

The rejection of and disinterest in answering the parents' concerns also resonated with what is stated in the PALS manual. Even though the explicit intention is to have adapted teaching in the programme, the adjustments are "more of the same", but with more intensity. The PALS manual states that different approaches to the upbringing of children in school and at home can be a problem. PALS builds on an extended collaboration between home and school and emphasises that the child should meet the same way of thinking and practising in both school and home so that it does not find itself in what is referred to as a "conflict of loyalty" (Arnesen et al., 2006). Parents of children demonstrating a high degree of problem behaviour are offered "parental training" as help and support in their upbringing. The parental training programme builds on many of the same principles as PALS and is also offered by NUBU. In other words, when parents described the relation between school and home as clearly hierarchical where their voices were silenced, this may be explained by the fact that ensuring the families' loyalty to the programme also forms part of the programme.

However, whereas the critical parents found the dialogue with the school difficult, they received good support when they contacted the municipal education authority's director:

> At this school there was a group of teachers who were very eager to participate [in the PALS programme]. […] The school principal can say whatever he wants, but finally I had to confront him and the group leader, saying that: "You have implemented a programme that is supposed to work so well in leading pupils, but all it does is create resistance among the parents!" So, I forced, or maybe forced is too strong a word, but I strongly recommended them to opt out of the programme. (Municipal education authority's director)

The strong support from the municipal education authority's director can relate to how she, in step with the parents, was critical of the ideological anchoring of the programme and how it conflicted with what she regarded to be legitimate evaluation rules of the school: "PALS works against the core values of Norwegian education" (Municipal education authority's director). The tensions between the different stakeholders could, in addition to what they described as problematic effects of the programme, be explained as being rooted in an ideological conflict on what they counted as legitimate evaluation rules.

Summary and discussion of the findings

The informants described power struggles related to distributive rules, recontextualising rules and evaluation rules, both between the central and local authorities, and between the various stakeholders in the schools. In such a way, EBP formed part of an ideological conflict relating to both the content and form of the education, but also relating to the power different stakeholders should have in the system. The expansion of EBP was very limited in the rural municipality compared to the capital, demonstrating that political leadership was important for how both result-based and evidence-based accountability played out in the two municipalities. Thus, the local authorities could act as important gatekeepers ensuring local autonomy over the forming of pedagogic practice when the central authorities sought to control the recontextualising field. However, although the local autonomy was high in the rural municipality, it was also fragile, as the pressure on results was still experienced as high.

The analysis also demonstrated that regardless of high- or low-stakes accountability, EBP was used to exercise authority and increase control in the forming of pedagogic practices. EBP was described as contributing to internal control in the schools through creating clearer hierarchies between school principals and teachers, within the teacher community and between school and parents. Even though EBP was welcomed by teachers collectively or individually, the EBPs could be seen as contributing to replacing occupational control of the practitioner/client's work interactions and thereby "limiting the exercise of discretion and preventing the service ethic that has been so important in professional work" (Evetts, 2009, p. 23). The described identity conflict between younger and more experienced teachers in the capital and the descriptions of how EBP contributed to closed dialogues between school and parents

pointed out that hierarchical structures of authority and decision-making were promoted by EBP. What was an issue of concern in this regard was that even when the EBP was experienced as working counterproductively to the best of the students' interests or against parents' values, it was still described as triumphing over local considerations. Thus, the intention in the Knowledge Promotion reform to strengthen teachers' autonomy with the goal of improving the adapted teaching for students' diverse needs was clearly challenged by EBP in both the high- and low-stakes accountability context.

In referring to the debate on which role EBP plays or should play in the education field (cf. introduction), I would argue that an interesting question to investigate further is whether the findings on how EBP contributed to forming clearer hierarchical relations between different stakeholders and inflexible pedagogic practices, regardless of high- or low-stakes accountability, is relevant in the bigger picture. If so, from a policy perspective, the question is whether this represents a welcome development in the professional work in schools.

In relation to the political intention of making teachers' work "research-based", which *form* of research is emphasised will potentially have a major impact on what both "autonomy" (cf. Haugen & Hestbek, 2017) and "research literacy" might mean. The example from a teacher describing a teacher identity conflict in relation to the use of knowledge in the form of theoretical perspectives versus EBP, as described above, demonstrates that what counts as legitimate knowledge has deep implications for teachers' professional role and identity (cf. "intellectuals" or "technicians", Ball, 2007). I would argue that what is at stake in the struggle between research positions in the educational field is the potential for a democratic anchoring of education and the potential for professionals to take complexity into account in the forming of pedagogic practice. However, which knowledge form is considered more relevant cannot be separated from how the schools' and teachers' work is governed and controlled.

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Educational Research Literacy: Philosophical Foundations and Empirical Applications

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Abstract

The paper offers a novel philosophical perspective on how research literacy should be conceptualised in the educational domain. Standard accounts of teacher research literacy consider it merely a subset of the skills of an educational researcher. Therefore, the accounts largely ignore the need to anchor or embed the mode of engagement with research in the particular demands of the professional role. By contrast, we argue that a virtue-based account of the epistemic agency involved in receiving testimony can help deliver a normatively attractive and empirically plausible account that is tailored to the role. We support the account with an original in-depth analysis of actual teacher engagement with research.

Keywords

Research literacy, educational research, teacher professionalism, evidence-based practice in education, research use in education

1. Introduction

Teachers today are expected to use educational research in their professional practice. Such expectations—which remain contested due to worries about de-professionalisation and loss of autonomy, among other considerations—come from various actors, not least policymakers and researchers. They often centre around the argument that decisions made at the planning stage of teaching or in the classroom should be based not merely on personal intuition, experience, or tradition, but also—or instead—on the findings of research into educational practice.

Clearly, though, the mere use of research itself is not sufficient for good practice: the research in question must be of sufficient quality, it must be up to date, and it must be relevant to the situation in which the teachers find themselves. Moreover, the research must be judiciously applied, in line with ethical demands and role obligations. It needs to be integrated with other knowledge resources, including relational and experience-based knowledge.

If research is to be integrated into teachers' practice and lead to its improvement, teachers must be able to identify knowledge needs, access scientific findings, understand those findings, tell whether a given finding is relevant to their practice, and in what way, to reliably assess relevant findings for quality, and to see how such findings relate to a broad range of ethical and practical considerations. Let's term this cluster of abilities *research literacy*. A teacher who possesses the cluster is *research literate*. The notion of research literacy has gained traction in recent literature, and it is increasingly seen as a core element of teachers' professional practice.[1] It promises, among other things, to help elucidate, and in turn, help strengthen, the tenuous relationship between educational theory and educational practice. To develop research-literate teachers is seen as a central aim of much contemporary teacher education. To provide an account of research literacy is therefore important for several reasons.

This paper offers a novel philosophical perspective on how research literacy should be conceptualised in the educational domain. The standard approach to teacher research literacy considers it a subset of the skills of an educational researcher, and takes it to involve a grasp of scientific content which mirrors that of researchers. However, as we will explain, this approach places overly demanding conditions on research literacy, and it largely ignores the need to anchor the mode of engagement with research in the particular demands of the professional role of teachers. We offer an account of research literacy that avoids these shortcomings. We look at empirical investigations into how teachers in fact engage with research in order to flesh out what research literacy amounts to. Drawing on Miranda Fricker's influential virtue-theoretic account of the agency involved in acquiring knowledge from the word

[1] See e.g. (Boyd, 2022; Evans et al., 2017; Groß Ophoff et al., 2017) and the contributions in (Boyd et al., 2022)).

of others (2007) and bringing her account into touch with recent work on professional research literacy (Eriksen, 2022), we then argue that research literacy must be understood as a role-specific virtue: it is a stable disposition to think and act well with respect to educational research, in accordance with the particular ethical and epistemic demands of the teacher role.[2] We spell out in detail what this amounts to, and support the account with an original in-depth analysis of actual teacher engagement with research.

We begin in section 2 by sketching two broad approaches to educational research literacy. Section 3 provides an overview of empirical work on how teachers in fact use research, and offers a critique of the standard approach to research literacy. Section 4 outlines an account of teachers' research literacy. Section 5 illustrates the account by applying it to a set of cases. Section 6 briefly concludes.

2. Two broad conceptions of teachers' research literacy

What must teachers understand about educational research in order to be research literate? One possible and quite common answer is that teachers' understanding should approximate educational researchers' understanding as far as possible. Like researchers, teachers must understand a range of scientific concepts and theories, be familiar with a range of research methods, and know a range of scientific findings. According to this view, teachers' understanding of research is a subset of what researchers themselves understand of their field of expertise. At a certain threshold of understanding, where the level of understanding is close to that of an educational researcher, the teacher is considered research literate. It is then assumed that, given this level of understanding, teachers will be able to understand and critically assess the results of educational research and put it to use in their teaching practice. We can call this broad family of views the *scientific content* approach to research literacy: research literacy is a matter of grasping scientific content.[3] This sort of approach is widespread.[4] The approach goes hand in hand with a natural proposal as to how to promote research literacy in teachers: present a range of educational theories, concepts, methods, and facts, so as to "fill the knowledge vacuum" (cf. Miller 2001, p. 116) of the teacher.

In contrast, what we call the *practical* approach rejects the idea that what teachers need to know about research to be research literate is a subset of what expert researchers know. This approach highlights the fact that teachers' engagement with research is intimately bound up with teaching practice, and that teaching practice is governed by norms and standards that are distinct from those that govern research. This requires teachers to employ knowledge and

[2] Although we believe our account can be applied to the case of higher education teachers, we will focus on primary and secondary education teachers in this paper.

[3] The term is borrowed from a broader debate about public understanding of science (Keren, 2018).

[4] As Korthagen & Kessels note (1999) using different terms, it has been the traditional approach in teacher education for most of the 20th century. The approach is also suggested by recent definitions of research literacy, e.g. (BERA, 2014).

forms of reasoning that diverge from those that researchers use in their respective engagement with educational research. Naturally, the practical approach does not claim that *no* understanding of scientific content is required for research literacy; there must be some overlap between teachers' and researchers' understanding. But the former is not a *subset* of the latter. The approach thus makes a different proposal as to how to promote research literacy: it should not only involve presenting scientific content but must also involve promoting the particular forms of research-related reasoning that are demanded by teaching practice. It is not merely about filling a scientific knowledge vacuum. Becoming more research literate is not a matter of becoming more like an expert educational researcher, on this view.

In this paper, we defend a version of the practical approach. The need for such an approach becomes apparent once one looks at how teachers in fact engage with research: they do not approach the issues that arise in their work like a researcher, but in a way that is bound up with the normative structure of their role and their specific practical context. After looking at a broader debate concerning science literacy, we turn to a discussion of the ways in which teachers engage with research.

3. Teachers' engagement with research

3.1. Marginal insiders and competent outsiders

The clash between scientific content approaches and practical approaches to educational research literacy mirrors a broader debate concerning the science literacy of laypersons. In his influential 2011 paper, Noah Feinstein argues that traditional approaches to science literacy—which hold that science literacy is a matter of possessing knowledge of scientific facts and theories and grasping scientific concepts—give rise to science education which produces what he calls *marginal insiders*: "These are students who have sat through a long parade of concepts and theories […]. Their understanding of science is fairly primitive […] this glimpse is all they get" (Feinstein, 2011, p. 784).

But as Feinstein notes, there is scant evidence that becoming a marginal insider will lead to the actual use of science or competence with respect to science-related decisions in everyday life—rather, such usefulness is simply assumed without empirical support (Feinstein, 2011, p. 169). Instead, he suggests, we should replace traditional approaches to science literacy with observations concerning how people actually use science in everyday life and build (up) an account of science literacy from there. The aim of science education based on this approach is to produce *competent outsiders*: "people who have learned to recognise the moments when science has some bearing on their needs and interests and to interact with sources of scientific expertise in ways that help them achieve their own goals" (Feinstein, 2011, p. 180). As he notes, empirical research on how laypersons engage with science reveals that:

> people selectively integrate scientific ideas with other sources of meaning, connecting those ideas with their lived experience to draw conclusions and make decisions that

> are personally and socially meaningful […]. People do not engage with science by removing themselves from their own social contexts and asking, "what would a scientist do?" They do not, for the most part, seek to become scientific insiders. They remain anchored outside of science, reaching in for bits and pieces that enrich their understanding of their own lives. (Feinstein, 2011, p. 180)

Unlike the traditional approach, he argues, this approach can yield people who will in fact use science in making decisions in their everyday lives. These are genuinely science-literate people.

These points from the broader debate concerning science literacy can help us conceptualise the clash between scientific content and practical approaches to educational research literacy. Practical approaches claim that a similar situation to that concerning science literacy holds for educational research literacy: the traditional scientific content approach gives rise to teacher education which produces marginal insiders with respect to educational research. Such teacher students have "sat through a long parade" of educational theories and concepts, without much grasp of how these relate to their everyday life as teachers. Scientific content approaches simply assume that being a marginal insider will lead to being a competent critical assessor and user of research. But, the practical approach claims, this assumption is not correct. Rather, they claim, we should conceive of research-literate teachers as competent outsiders with respect to science:[5] teachers remain anchored outside of science, in their particular practical domain—governed as it is by a set of particular practical, epistemic, and moral norms—and "reach in for bits and pieces" that will enrich their teaching practice. Teachers do not ask themselves, "What would an educational researcher do?" in making decisions but rely on a range of capacities particular to the teacher role, which are wholly unlike those used by researchers in their domain. Educational research literacy, then, is not a matter of imitating researchers' understanding of educational research but is rather a matter of being competent at engaging with research in a manner appropriate for the teacher's practical frame of deliberation.

In the next section, we suggest that these claims concerning teachers' use of research are borne out by empirical research into these matters and that this goes some way towards vindicating a practical approach, which we will go on to develop in section 4 and 5.

3.2. Paving the way for a practical approach

How do teachers in fact engage with educational research? There is a growing body of work investigating this question (for an overview, see Joram et al., 2020, pp. 1–2; Levin, 2013), and

[5] Teachers' relation to educational research is closer than that of laypersons' relation to science. 'Competent outsider' as applied to teachers must be read with this in mind.

while there is much work still to be done in this area, there is widespread agreement on several points:

(a) Teachers often do not use research at all, or to a limited extent, even while possessing some theoretical grasp of educational science (e.g. Cain, 2016; Borg, 2009).
(b) Both teachers and teacher students frequently struggle to see the relationship between research-based educational theories and professional practice (e.g. Canrinus et al., 2017), where this may lead teachers to ignore research. Teachers find communicated research overly theoretical, and as Bartels 2003, suggests, "teachers may ignore research findings because they are typically presented in the form of a 'researcher discourse' which fails to resonate with the 'teacher discourse' of practitioners" (Joram et al., 2020, p. 2).
(c) Where teachers do use research, they typically use it only under specific conditions, when it is perceived as highly pertinent to their immediate practical context, and when particular issues arise in that context (Drill et al., 2013), and/or in relation to the implementation of specific research-based interventions.
(d) Teachers assess claims made by educational research very differently than researchers do, with an eye toward integration into the practical domain (e.g. Joram et al., 2020). In a study of public school teachers' use of research, for example, Drill et al. find that "teachers use a different set of criteria to evaluate high-quality research than researchers. They want research that is worth their time, attention and leads to possible change in practice. Researchers, on the other hand, are trained to judge quality based on key criteria such as internal validity, rigour of analysis, strong methodological design, triangulation of data and appropriate measurement" (Drill et al., 2013, p. 11). Teachers' critical assessment of research thus is not simply a matter of possessing a grasp of scientific content and employing it in a disinterested manner.
(e) Teachers typically integrate research-based knowledge with other kinds of knowledge, including relational, experiential, and moral knowledge (e.g. Mausethagen et al., 2018).
(f) Teachers' use of research is a social phenomenon, in that it takes place in an institutional context with numerous actors, and in collaboration with colleagues (Drill et al., 2013; Levin, 2013). As Levin notes in a wide-ranging review of teachers' use of research, for example: "the use of research is fundamentally a social and organisational process. Whether people are interested in, pay attention to and make use of research evidence depends much more on their organisational setting and social relations than it does on their individual background" (Levin, 2013, p. 10).

These points constitute problems for scientific content approaches while bolstering practical approaches. First, point (a) goes some way towards showing that the assumption that educational research literacy understood as a grasp of scientific content will be useful to teachers

and lead to an impact on educational practice is false. Even with such a theoretical grasp, teachers often do not use research and it thus does not impact practice. Teachers are thus largely made marginal insiders: they have some understanding of educational research and theory, but cannot see how it relates to their practice (point (b)). Indeed, taking the scientific content approach and bombarding teacher students with lots of scientific concepts and theories may in fact deter them from engaging with research, seeing it as too theoretical and complex, with limited relevance to their professional practice. The proof of an account of educational research literacy is in the pudding, and the scientific content approach does not fare very well.

Second, points (c) and (d) suggest that teachers' engagement with research is very different from researchers' and must rely on a variety of competencies that relate to teaching practice: it is a matter of seeing the relevance of research to an immediate practical context. The skills relied on are those of a competent outsider, not a marginal insider. Scientific content approaches do not have the resources to account for such skills.

Third, and relatedly, as point (e) suggests, the use of research is governed in part by teachers' knowledge of the moral and epistemic demands of their role. It is not a question of merely critically assessing research for reliability, but also for the extent to which it fits with the teachers' moral outlook. Scientific content approaches ignore this factor and relegate it to a procedure separate from research literacy, to do with application of research.

Fourth, point (f) suggests that engaging with research is not just a matter of an individual having a grasp of scientific content, which enables them to understand and assess it, and put the research into use on their own terms. It depends on the teacher being part of a joint project and a suitable organisational structure.

We can summarise the problems with the scientific content approach as follows. First, it is *detached* from practice: it is developed independently of how teachers in fact make use of research, and so does not give sufficient attention to the ways in which research literacy is inherently bound to teachers' contextually situated practice—within a network of colleagues and institutional actors, governed particular norms—where the aim is to integrate research into the practical domain. Second, it is too *demanding*: it requires teachers' understanding of research to mirror that of researchers themselves, and so does not respect the division of labour between teachers and researchers, and the extent to which the use of research is a joint project. Third, it is *decoupled* from normative theory: it cannot account for the ways in which research literacy requires sensitivity to the epistemic and moral demands of the teacher role. In short, the scientific content approach cannot account for the extent to which teachers are competent outsiders with respect to research.

We thus have reason to take a practical approach to research literacy. The aim of the rest of this paper is to develop an account that takes the three central points above seriously. This

requires seeing research literacy as having an epistemic dimension—concerning the critical assessment of the reliability of testimony concerning educational research—but also a moral and practical dimension—concerning the assessment of the extent to which such testimony is pertinent and can be integrated into the teachers' practical domain, in line with moral and epistemic norms. We believe an account of the acquisition of testimonial knowledge provided by Miranda Fricker in her book *Epistemic Injustice* (2007) offers just the kind of theoretical tools to develop an account of the forms of reasoning involved in being a competent outsider. We begin by introducing the notion of testimonial sensitivity, and go on to explain how Fricker's account can help explain teachers' epistemic and moral agency with respect to research.

4. Educational research literacy as a form of testimonial sensitivity

4.1 Testimonial sensitivity

The empirical work above suggests that teachers engage with research in a way that is intimately bound up with the particular social context in which they are embedded, with its particular normative structure, and the particular practical problems and aims that arise during the course of their work. Teachers are anchored to teaching practice, and engagement with science occurs within it. They do not aspire to reason in the same way an educational researcher would. The scientific content approach to research literacy, which portrays research literacy as involving a subset of researchers' knowledge, cannot easily account for this feature of teachers' engagement with research. Again, taking this seriously requires the practical approach to research literacy. But if the assessment of research does not primarily involve applying knowledge of scientific content—such as research methods and concepts—in first-order assessments of research evidence, what does it involve? Crucially, it involves being sensitive to signs of trustworthiness and untrustworthiness in communicated information concerning research. This may involve sensitivity to signs of the trustworthiness of particular speakers, but can involve much more, such as a sensitivity to signs of the trustworthiness of institutions or the trustworthiness of aspects of the practice of educational research as a whole. Let's call such sensitivity *testimonial sensitivity*.

In general, testimonial sensitivity is about having the right kinds of epistemic attitudes toward knowledge claims. Applied to research literacy, this crucially involves maintaining a receptive but critical stance towards communicated information concerning educational matters from a variety of sources. Teachers receive information from parents, school leaders, and other colleagues, broadly scientific sources, like scientific journals and communications from knowledge brokers, and so forth. On the one hand, the research literate teacher is *receptive* towards these sources: she is willing and motivated to take the information provided into account in her professional judgments. On the other hand, the research literate teacher is *critical* towards these sources: she is able to reliably assess the trustworthiness—the sincerity

and competence—of the source and the information provided, and place her trust competently. As Evans et al. note, research literacy "involves critical scrutiny of evidence", not "an unthinking acceptance of received opinion" (Evans et al., 2017, p. 18). Receptivity without critical scrutiny would yield unreliable beliefs about teaching, about the school situation, and so forth; critical scrutiny without receptivity would block the teacher from crucial knowledge about the same issues. Both would yield unreliable professional judgment in the long run. But what does critical receptivity amount to? What requirements are there for teachers to acquire knowledge from the word of others?

In order to answer such questions, it is fruitful to turn to the general literature on the epistemology of testimony.[6] There are numerous accounts of critical receptivity available. However, for the present purposes, we think Miranda Fricker's (2007) account is particularly useful. She offers a virtue-based account of the epistemology of testimony, on which testimonial knowledge is acquired through the operation of an ability to *see* a piece of communicated information as trustworthy. This seeing is theory-laden, in the sense of being informed by background knowledge of "a body of generalisations about human cognitive abilities and motivational states relating to the two aspects of trustworthiness, competence and sincerity" (Fricker, 2007, p. 66). This background knowledge does not play the role of premises in any sort of inference: a judgment concerning the speakers' trustworthiness is yielded non-inferentially upon taking in the particular features of a testimonial situation.

A great advantage of Fricker's account is that it allows for a unified account of epistemic and moral agency. The virtue-based account highlights how testimonial sensitivity is akin to the perceptual abilities of someone who has the virtue of kindness, for instance:

> The kind person does not go through any calculation or appeal to principle, thinking "This situation is one whereby I ought to show kindness [...]". Rather, the kind person is one who is reliably sensitive to situational features that she will see as reasons for acting a certain way—a way that a third person would describe as kind. The perception of these situational features as reasons thereby delivers a judgement about what ought to be done in this situation. (Faulkner, 2014, pp. 190–191)

Likewise, the critically receptive person is reliably sensitive to features of testimonial situations, and this will result in judgments concerning the speaker's trustworthiness, which provides a sound basis—a good reason—for testimonial knowledge. The hearer, having made the judgment, will be motivated to form a belief on the basis of the speaker's testimony. If there are signs of untrustworthiness, the hearer will detect them, and judge the speaker to be untrustworthy, and so not form a belief.

[6] For an overview, see Leonard 2021.

Our proposal, then, is that research literacy is to be understood in a virtue-theoretical framework of testimonial sensitivity. The research-literate teacher is reliably sensitive to a range of features in pertinent testimonial situations: clues, signs, and hints of trustworthiness and untrustworthiness of parents, colleagues, educational scientists, institutions and science communicators. And through this sensitivity, they make reliable judgments concerning the trustworthiness of these sources.

The sensitivity in question takes a particular shape with respect to the role of the teacher, so as to meet the epistemic and moral demands of that role. Various practices obviously differ with respect to signs of trustworthiness, and the particular demands in place for the grounds of testimonial knowledge: consider conversing in a pub versus giving testimony in a courtroom.

Given the teacher's role as a mandated educator of children, particular demands will be in place, and particular signs of trustworthiness will be pertinent. A teacher's testimonial sensitivity is formed through familiarisation with the demands on the teacher role in particular contexts. Some of this will simply be inherited from others through socialisation, and through becoming familiar with a body of professional knowledge, but there is clearly also room for the teacher to criticise practices of educational testimonial exchange on the basis of their own experience—this much is demanded by responsibility. The responsible teacher is able to maintain a critical distance to the testimonial sensitivity that she has inherited through socialisation.

While we think Fricker's notion of testimonial sensitivity is a useful way of conceptualising the intellectual agency involved in teachers' research literacy, there is reason to emphasise that this sensitivity takes a distinct form in the professional context. As we argue in the next section, the professional role requires that this sensitivity is informed by a set of further sensitivities that connect the transmission of knowledge with a respect for teaching as a distinct normative domain.

4.2. Testimonial sensitivity as informed by further sensitivities

In previous work, one of us has provided a general account of professional research literacy, where this is understood in terms of three professional sensitivities: *genre sensitivity, practice sensitivity*, and *situational sensitivity* (Eriksen, 2022). Here, we explore these in turn and focus on how they interweave with key aspects of testimonial sensitivity. This brings out research literacy as an intellectual virtue that integrates different epistemic sources into a coherent frame of practical deliberation for teachers.

Genre sensitivity: Applying research as a sub-theme of a broader narrative

The notion of genre sensitivity highlights the fact that teachers do not face the deliveries of research as an actor faces a finished script, but more like authors who are handed a "sub-theme to a broader narrative" (Eriksen, 2022, p. 8). The genre of responsible professional

reasoning involves a wider range of legitimate concerns than the genre of research. While the latter typically involves fidelity to a recognised method that can be systematically accounted for, the genre of professional reasoning integrates moral, collegial, political, pragmatic, and other types of concerns in a way that expresses fidelity to more abstract principles of responsible professional action. The genres do not simply differ in their normative range, however, but also in their thresholds for sufficient evidence. Due to their inevitable duty to act, teachers must accept the merits of a course of action before clear-cut evidence is at hand, contrary to researchers who can reject hypotheses until their methodological threshold for acceptance has been satisfied (cf. Hammersley, 2005, p. 324).

This situation indicates that the epistemic virtue of testimonial sensitivity requires reinterpretation in the case of professional research literacy. As Fricker develops it, there is a double focus on the speaker: "Some of the things our virtuous hearer needs to be sensitive to simply concern the speaker's competence to know what he is talking about; but others concern his sincerity" (Fricker, 2007, p. 76). On the one hand, the focus on competence and sincerity has immediate relevance for teachers because they must also make such assessments concerning the deliveries of research. Are the practical claims of research made by people who are genuinely competent in this field? Relevant indicators here may be features such as cooperation between researchers and practitioners or previous track records. And are there reasons to suspect conflicts of interest or hidden agendas? An evidence-based programme that is tied to an expensive subscription to mentors and courses may call for extra suspicion concerning whether the evidence warrants such investment.

However, genre sensitivity suggests that the focus on competence and sincerity is complemented by a third mode of evaluation, namely complementarity: Does the research mesh with the wider range of commitments that attach to the teacher role? While Fricker's account highlights testimonial sensitivity as a way of evaluating the *speaker*, genre sensitivity reminds us that evaluation of testimony must be informed by the *hearer's* responsibilities. That is, the demands of "virtuous hearing" differ depending on whether one is a layperson, researcher, or professional. A layperson who has no directly relevant responsibilities may simply hear research findings as isolated facts that have no further implications for daily routines. A researcher may hear evidence as clues regarding what to do next in terms of conducting investigations or delivering expert advice. But this hearing is still restricted to the parameters of research. A teacher, by contrast, needs to hear research evidence as a potential component in a web of further concerns that impinge on professional work. For example, does complying with research require more resources? Do the teachers need to establish new channels of communication with parents? Are research recommendations compatible with ideals of classroom democracy?

In line with this, the "critical openness" that Fricker advocates (2007, p. 84) cannot simply be critical regarding competence and sincerity, but also regarding complementarity with the genre of the role. The claim is not that teachers should test the practical recommendations

of research against clear and precise criteria, but rather that spontaneous or intuitive experiences of lack of complementarity are taken seriously.

Practice sensitivity: Co-constructing the narrative in a professional community

As a component of research literacy, practice sensitivity is about understanding and applying research in a way that takes the form of a joint project. The implications of research are discussed and contested in a way that aspires to a shared professional understanding and evaluative outlook. For teachers, this can entail letting the meaning of evidence-based principles "evolve through mutual exchange of experiences with classroom strategies" (Eriksen, 2022, p. 11). The point is not that the professional community can jointly decide whether to respect the findings of research or not, but rather that the project of getting research to fit the genre of professional reasoning requires a process of mutual attunement in a collegial spirit.

This feature of research literacy is a necessary addendum to testimonial sensitivity understood as a singular enterprise. Fricker says "The virtuous hearer does not arrive at her credibility judgement by applying pre-set principles of any kind, for there are none precise or comprehensive enough to do the job. She 'just sees' her interlocutor in a certain light, and responds to his word accordingly" (2007, pp. 75–76). On the one hand, this way of framing things makes sense as a form of genre sensitivity. Seeing the research "in a certain light" may involve seeing research against the background of the complex demands of the role. On the other hand, this threatens to either overburden teachers (due to the complex array of concerns) or license a kind of subjective intuitionism devoid of explicit reason-giving. However, the real alternative is not between "precise and comprehensive principles" and "just seeing" the right thing to believe. Instead, it is reasonable to expect teachers to abide by procedural principles for engaging with research as a form of social practice. Between rigid rules and ineffable intuition, there is a process of mutual attunement.

The process of mutual attunement still calls for flexible virtues rather than "precise and comprehensive principles". To engage constructively with research is not simply a matter of e.g. a group of teachers dividing a set of clearly defined epistemic tasks between them, performing these tasks in relative isolation, and then afterwards putting it all together through some quasi-mechanical process. Rather, it is a matter of creating a shared conceptual space, where the terms, findings, and recommendations are given practical meaning. And it is a matter of constructing a joint evaluative outlook through which participants in the joint project can discover ethical issues and applicable standards. Here, there may not be any process-independent concept of rightness to track. Rather, the right approach to research will sometimes constitutively require that teachers can jointly "own" the application and thereby take appropriate responsibility for it. A process of mutual respect within the profession enables teachers to meet other stakeholders with respect by reflectively endorsing and understanding the grounds of their own practice.

Situational sensitivity: Bridging the gap between generalised findings and idiosyncratic situations

As we have seen, the "critical" component of the critical openness involved in testimonial sensitivity is not simply about the competence and sincerity of research-based claims, but also about their practical appropriateness. That is, research-based assertions are received in a mode of being responsible for action in a domain governed by distinct professional commitments. A key feature of this practical awareness is the "situational sensitivity" of teachers, which enables them to go "beyond generic framings of problems and recognise discrete contextual features that shape validity of research-based input" (Eriksen, 2022, p. 10). For example, a behavioural programme aimed at reducing overall discipline infractions may require special attention to those who are already treating rules seriously and who may get anxious with more surveillance. Here, the generic framing of "reducing discipline infractions" needs to be contextually specified to mean "reduce discipline infractions in a way that is considerate of pupils who are already complying".

The dynamic aspect of testimonial sensitivity helps explain how this kind of situational sensitivity can enable appropriate critical openness to research. For instance, a teacher who works in a school where the epistemic environment is positive toward a research-based intervention for improving reading comprehension, may—while initially sharing this positive attitude—come to feel that something is not quite right when the programme is implemented. The presumption of reliability is exchanged for a more critical gear. The claim is not that such experiences should always lead to the epistemic prioritisation of situated experience over research-based generalisations, but rather that they are taken seriously as legitimate triggers of critical reflection rather than merely some disturbing element to be overcome.

5. Testimonial sensitivity and the three professional sensitivities in action

So far, the argument has been that the agency involved in research literacy can be conceptualised in terms of the critical openness that characterises testimonial sensitivity. While we have claimed that this requires the operation of a set of further sensitivities, it is still unclear what this means more concretely. What does the practical approach look like in action? A sceptic might claim that the practical approach is unpracticable because it presupposes overly demanding intellectual operations. That is, while the scientific content approach demands too much with regard to thinking like a researcher, the practical approach demands too much in terms of translating research to the professional domain.

Some research into ways in which teachers engage with evidence-based programmes may support this criticism. It often concludes that teachers take a rather mechanical approach. For example, some find that evidence-based behavioural programmes are accepted and complied with by teachers because they allow an escape from the pressures of conflicting considera-

tions, thereby representing a form of "de-professionalization" through a surrendering of judgment (Haugen, 2018, p. 1172). In the same vein, other studies suggest that engagement with research is detached from reflection on the broader goals of education: "It seems that teachers' engagement in and with research is experiencing a strong gravitational pull towards school effectiveness approaches, with a consequent loss of critical autonomy" (Leat et al., 2015, p. 274).

The goal of this section is not to question such findings, but rather to argue that more reflective modes of engagement can also be found by using the analytical lenses provided by the practical approach to research literacy. In the following, we present episodes that were analysed in Mausethagen and Hermansen's (2023) study of teachers' and leaders' work with a research-based competence development programme, in light of the three sensitivities presented in section 4. The empirical study, which was conducted in the school year of 2021-2022, included extensive observations of competence-development sessions at a semi-urban primary school, and interviews with the involved teachers and leaders. In these sessions, school leaders facilitated the implementation of a research-based programme. The theme of this programme was dedicated to strengthening teachers' recognition of pupils' perspectives, experiences and abilities. It introduced concepts and tools that teachers could make use of in order to create more trusting teacher-pupil relationships.[7]

The three episodes discussed below serve as examples of genre sensitivity, practice sensitivity and situational sensitivity respectively. Interweaved through all the examples is the idea of critical openness that characterises testimonial sensitivity. According to our interpretation, the actors involved appear responsive to the potential knowledge gained through research, while also managing this responsiveness through an awareness of what constitutes trustworthiness in their particular domain.

5.1. The forms of knowledge and values in play—adherence and resistance (genre sensitivity)

As part of working with the research-based programme in the competence development sessions, teachers were asked by the facilitating school leader to discuss how results from national tests form a knowledge base that teachers can use in building relationships with pupils and as information to help them in their development. When the school leader asks for feedback after the teachers have discussed in groups, one of the teachers takes the floor and says that there is also some research that shows that many pupils are stressed by national tests. The teacher links this to how increased performance pressure in general can negatively affect the pupils and also negatively affect the relationship with the teachers and the school.

Our analysis of this example brackets the substantive merits of this claim. Instead, we want to highlight how its form can illustrate genre sensitivity. In particular, the teacher who brings

[7] For more details about the structure of the programme, see Mausethagen & Hermansen, 2023.

relevant research into the discussion aims to link the knowledge resources of the programme to a broader set of values that are important to the profession. This is one of several observations in the case study where teachers seek to extend and connect different knowledge sources. Research on how individual pupils can use test scores was connected to the importance of seeing "the class as a whole". The latter perspective was triggered by a sense of teacher commitments that involve fairness and solidarity, not just aggregated results.

These expressions of genre sensitivity also indicate the presence of the critical openness that characterises testimonial sensitivity. The teachers trust research-based claims as a source of profession-relevant knowledge, but their value-based commitments to relationships and class community also trigger critical awareness. They respond as "hearers" in a way that is shaped by their responsibilities as teachers. Interestingly, such expressions of genre sensitivity were not particularly welcomed by the school leader who facilitated the discussion. The teacher who highlighted research on how the tests are accompanied by stress and partly detrimental to teacher-pupil relations was rather met with the claim that this is irrelevant to the current discussion. This suggests that the school leader is complying with a narrower genre than the one that the teachers appeal to.

5.2. School staff as gatekeepers—selecting and adapting (practice sensitivity)

A key part of engagement with research is to decide the appropriate thematic focus. In the case study, the municipality in which the present school resides had decided that all schools should work with the theme of "professional community" and follow the National Directorate of Education's so-called "competence package" on this topic. However, the school management and the teachers felt that this package was a bad fit. Hence, ironically, the predefined package of "professional community" failed to respect the needs of the school's own professional community. As an alternative, the staff wished to engage with research on terms that tracked the school's own specific challenges. School leaders placed particular emphasis on the increased challenges they experience related to pupils who are struggling both socially and academically. They describe that neither they nor the teachers have had the necessary competence to meet the challenges that connect with mental health and issues concerning mastering self-regulation. A key theme was the need to expand the "concept of normality" in Norwegian schools.

Here, the school staff manifested practice sensitivity in their ambition to engage with research on terms emanating from their ongoing conversation as a local professional community. This was not simply about content, but also about process. Being handed pre-decided themes in a top-down manner was perceived as epistemically irresponsible: "It's kind of silly because it makes you get a little bit lax just because we get everything served, right: 'Here's the theory you're going to use, here's the task you're given'." Moreover, this example illustrates the importance of prioritising, as a part of testimonial sensitivity. Instead of treating all sources of

research-based knowledge as equally important, the leaders and the teachers used their practice sensitivity to filter out research-based packages that lacked sufficient relevance. The intellectual resources involved in critical openness are best spent in ways that foster broad engagement and responsible take-up, which requires research themes that track problems that are mutually acknowledged and deemed worthy of sustained deliberation.

5.3. Changing challenges—changing knowledge needs (situational sensitivity)

At its conclusion, the programme was evaluated through discussions. Here, the teachers reflected on how the project related to their experiences of increased challenges concerning pupils' behaviour and mental health in the aftermath of the coronavirus pandemic and homeschooling: "It's a completely different school than it was three years ago. It's been three heavy winters." The teachers felt that the changing set of pupil challenges called for new knowledge and an update of their practical perspectives. While the programme had been useful, there was a widespread perception that some components were narrowly focused on their responsibilities as teachers and failed to integrate the broader educational environment, such as other support capacities and the involvement of parents. In particular, they were provoked by perspectives from one of the psychologists responsible for the research programme, who was perceived as placing unreasonable demands on individual teacher capacities.

This example illustrates how situational sensitivity involves registering how research relates to dynamic circumstances, in this case, changes due to the coronavirus pandemic. However, it also brings out the importance of the kind of experiential triggers of critical openness highlighted earlier. Teachers experienced a clash between the input from the psychologist and their lived experience of lacking support systems and their responsibilities concerning the collective of pupils in the class, and not only individual pupils. Their objection was not that the psychologist's advice was scientifically inadequate, but rather that it failed to grasp their actual predicaments. Moreover, their response involved a normative and creative component. They imagined alternative states of affairs, where other sources of support were available. Here, their experiences of a clash played a constructive role in triggering resistance based on normative reasons rather than mere cognitive discomfort.

The case of a clash between the psychologist's input and teachers' experiences of problems is an example of a broader phenomenon that generalises to all three cases: The teachers reacted to the research-based programme in a way that reflected a need to *embed* its recommendations in a broader epistemic and moral environment. *Genre sensitivity* called for connecting knowledge about individual test scores to research on how trusting relationships are upheld and how the class can thrive as a whole. *Practice sensitivity* alerted teachers to the need to connect research to their shared and ongoing conversation in the local professional community. In the same vein, *situational sensitivity* triggered a sense of mismatch between systemic problems and narrowly oriented proposals. These responses are all guided by a felt need to "anchor" research in the professional role (to use Feinstein's term). Hence, they serve

the work of research literacy, which is to make the domain of research speak to the professional domain in a way that secures trustworthiness.

In sum, these examples provide a response to those who think the practical approach is too demanding. While it is possible to interpret the approach in a highly ambitious way, requiring complicated and explicit reasoning, we think this section illustrates a more modest version. Teachers appear to display the relevant sensitivities as a natural part of their work, being already immersed in a professional ethic and norms of collegial deliberation. Hence, the practical approach provides analytical tools for a normative reconstruction of teacher engagement with research, rather than merely a set of ideal prescriptions detached from actual modes of reasoning.

6. Conclusion

We have argued that scientific content approaches to research literacy cannot account for the extent to which teachers' acquisition and employment of research-based knowledge is tied to practical, epistemic and moral norms that govern teaching practice. As an alternative, we have provided a practical approach, which accounts for research literacy in terms of a role-specific testimonial sensitivity informed by genre, practice and situational sensitivities. This makes for a normatively attractive and empirically plausible way of conceptualising responsible professional agency in the transmission and enactment of research-based knowledge. The approach also respects the division of cognitive labour: it does not construe teachers' understanding of educational research as a subset of educational researchers' understanding. It tallies with the idea that the use of research is an inherently social phenomenon, bound to a particular context with specific normative structures that must be discerned.

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