Working at the intersection of research and practice: The love to read project

Sarah McGeown [a,*], Emily Oxley [a], Love to Read Practice Partners [a], Jessie Ricketts [b], Laura Shapiro [c]

[a] *Moray House School of Education and Sport, University of Edinburgh, Edinburgh, UK*
[b] *Department of Psychology, Royal Holloway, University of London, London, UK*
[c] *School of Life and Health Sciences, University of Aston, Birmingham, UK*

ABSTRACT

There is growing interest in the use of research-practice partnerships in education, in an attempt to narrow the widely recognized gap between educational research and practice. However, there is a tendency for partnership research to be weighted towards first-person accounts and the majority of literature comes from the US. This article describes the process of researcher-teacher collaboration to co-design an educational program, and teachers' evaluation of this process, set within the context of a longer-term research-practice partnership in the UK. This paper discusses the benefits, challenges and methodological considerations associated with research-practice partnerships. Implications for future research-practice partnerships are highlighted, as are lessons learnt for those interested in working collaboratively and productively at the intersection of research and practice.

1. Introduction

Research-practice partnerships (RPPs) are characterized by collaborative approaches to working which seek to improve children and young people's educational experiences and outcomes, by drawing upon the collective knowledge, expertise and experience available from both research and practice. The number of RPPs has increased considerably over recent years (Sjölund, et al., 2022a) and can take different forms (Arce-Trigatti et al., 2018; Penuel & Hill, 2019) characterized by different durations, sectors, compositions, contributions, intensities, agendas and processes. Furthermore, there is considerable scope for researchers and teachers to take on different roles in the process (Sjölund et al., 2022b), and examples of both short-term researcher-teacher collaborations (Scanlon et al., 1994; Steel et al 2021) or more sustained research-practice partnerships (Arce-Trigatti et al., 2018; Coburn & Penuel, 2016) are evident.

While there is growing research literature of RPPs (see Sjölund, et al., 2022a), the majority of this research is from the US (Sjölund, et al., 2022a) and there is far less literature from other international contexts and on understanding practice partners' perceptions and experiences of this process (Penuel & Hill, 2019).

In this article, the terms RPPs and collaborative research refer to researchers, teachers and other professionals working together to understand and improve children and young people's educational experiences and outcomes. This approach recognizes two equally

---

* Corresponding author.
  E-mail address: s.mcgeown@ed.ac.uk (S. McGeown).

important sources of knowledge (that of the researcher and the practitioner; Snow, 2015). In this way, teachers are essential in terms of contributing to the development of knowledge, rather than simply being consumers or users of generated knowledge (Bevins & Price, 2014). Firstly, we outline the known benefits, challenges and methodological considerations associated with RPPs, before sharing details of our own RPP in the UK, with an evaluation of a researcher-teacher co-design process embedded within the partnership. This article aims to contribute to our evolving understanding the practices, incentives and challenges associated with research-practice partnerships in different international contexts.

1.1. Benefits

Research-practice partnerships have considerable potential to close the widely recognized gap between research and practice (Bevins & Price, 2014; Joyce & Cartwright, 2020; Steel et al., 2021) and represent a shift from research informing practice (linear relationship) to connecting research and practice (reciprocal relationship) (Arce-Trigatti et al., 2018) ensuring that educational improvement is informed by the cumulative breadth and depth of knowledge, experience and expertise available. Indeed, the greater the integration of research and practice, the stronger the role research will play in educational improvement (Coburn & Penuel, 2016).

A further benefit is that research is much more likely to align with the needs, interests and priorities of teachers and other stakeholders, ensuring research is more educationally relevant and meaningful to those working in practice, thus increasing like-lihood of use. Indeed, there is often a disconnect between the aims and focus of University-led educational research and priorities of those in practice (Ross & Bruce, 2012; Snow, 2015), described by Snow (2015) as "the science we do and the science we need to improve educational outcomes" (p464). Collaborative research ensures those highly connected to practice (e.g., teachers, school leaders) contribute to the research agenda, making it more likely that practice priorities are fore fronted before research commences (Cooper et al., 2020; Scanlon et al., 1994). Furthermore, participation in research has been shown to improve teachers' attitudes to research and teacher efficacy (Ross & Bruce, 2012) and is argued to democratize the research system, allowing teachers' opportunities to participate in the development of new knowledge (Sjölund et al., 2022a).

Teacher acceptability is also a key consideration for any new program (Snow, 2015) and collaborative research (e.g., the co-design of a new educational program) allows researchers to check whether teachers' beliefs and knowledge about effective teaching align with the proposed content of the program (Scanlon et al., 1994). Indeed, as Scanlon, Schumaker and Deshler (1994) note, teachers' initial adoption of educational programs that are inconsistent with their routines and beliefs, or cannot be integrated within typical practice, tend to be short lived. Alternatively, programs are typically modified to fit existing teacher routines and/or to be consistent with personal beliefs about teaching (Scanlon et al., 1994). Full recognition of this, and consideration throughout program design is therefore essential and can be accommodated in collaborative research.

Research-practice partnerships therefore increase the likelihood that implementation issues are considered and prioritized (Cooper et al., 2020; Scanlon et al., 1994; Vardy et al., 2022). As discussed by Cai and Hwang (2021), the development and evaluation of educational programs is typically a separate process preceding questions and evaluation of implementation. Yet implementation should be integral to educational research from the outset and RPPs provide one way to achieve this.

Finally, collaborative research has potential to support researchers' and others' (e.g., teachers, school leaders, etc) professional development (Ross & Bruce, 2012; Steel et al., 2021). As we create partnerships working at the intersection of research and practice, we can learn, work, and create knowledge together, as well as better understand each other's commitments and constraints (Snow, 2015). Indeed, a defining feature of RPPs is that they are mutually beneficial (Cooper et al., 2020).

1.2. Challenges and methodological considerations

Baum (2000) warns of being overzealous about RPPs without fully recognizing the time, resources and openness to different perspectives required, in addition to not fully recognizing the potential for disjointed communication or poor-quality outcomes. Furthermore, he notes that there can be tension between partnerships requiring a clear shared common goal and planned way for working, but at the same time creating a partnership which is responsive to each other's interests and priorities and can be flexible as the partnership evolves.

Indeed, non-collaborative research is generally quicker and easier to conduct as it does not require the co-ordination or input of others, nor does it require researchers' to shift their research questions in response to these (Arce-Trigatti et al., 2018). Considerable time and energy is required to nurture and sustain high quality partnerships that are required to undertake this type of work well, and create relationships characterized by trust and openness (Ainscow et al., 2006; Cooper et al., 2020; Skipper & Pepler, 2021; Snow, 2015). Furthermore, ensuring shared goals by identifying research questions of mutual interest and importance is essential (Cooper et al., 2020). Interestingly, Desimone and colleagues (2016) propose a vision of RPPs which move beyond simply collaborative work but instead are characterized by a unified view of research, policy and practice – such a vision clearly requires openness, flexibility and time to nurture.

Within partnerships, imbalances in power (Skipper & Pepler, 2021) and hierarchies (London et al., 2018) can be concerns. However, it is also important to recognize that hierarchies also exist within sectors (e.g., Universities) that can be more salient to individuals than hierarchies across sectors. On a related point, it is important to recognize that collaborative research requires a readiness to change, to listen, respond and learn from those we have not worked with before. Indeed, Coburn and Penuel (2016) refer collaborative research as depending upon atypical norms of interaction and new roles and responsibilities unfamiliar to researchers and teachers alike; different expectations regarding norms, roles and responsibilities can lead to uncertainty or even conflict. This aligns with recent work from Skipper and Pepler (2021) who point out that collaborative research requires researchers to shift from an

independent self (i.e., self-governing, separate from the social context) to an interdependent self (i.e., reliant on others and deeply connected with the social context), working in new ways for positive and productive partnerships to occur.

A further challenge is that those working in research and practice work in very different contexts, with different roles, pressures and priorities (Steel et al., 2021); understanding others' ways of working is important for productive partnerships in collaborative research (Beveridge et al., 2018). Related to this, the interests of researchers and teachers often vary. For example, researchers' thinking about learning tends to be more abstract than that of teachers, and while teachers prioritize implementation, for researchers, this can be an afterthought (Donovan et al., 2003). In addition, those working in research and practice may have different understandings of what research is, and approach research with very different goals (London et al., 2018). Communication difficulties can also result when researchers and teachers use terminology associated with their own work contexts, use language which is unintelligible or even offensive to the other, and cannot find a shared understanding/language within which to work (Beveridge et al., 2018; London et al., 2018; Steel et al., 2021). Therefore, understanding each other's contexts, perspectives, meaning and priorities is essential.

Sufficient time to engage in RPPs can be an issue for teachers in particular (Steel et al., 2021) but also for others (e.g., researchers, school leaders, etc), yet it is essential for successful collaboration (Bevins & Price, 2014) . On a related point, those in research and practice often work according to very different time structures and the duration of time from grant application to research to publication may be slower than teachers expect (Arce-Trigatti et al., 2018); ensuring expectations are realistic from the outset is essential.

Finally, open research practices in education and the social sciences have increased in the UK in recent years. Practices associated with open research, such as pre-registering the study design, methodology, data collection tools and planned analyses ensures research is carried out in open and transparent way, and allows greater opportunity for replication. However, this allows very little flexibility within the research process to respond to contributions from those in practice (e.g., their perceptions of evaluation priorities) unless the RPP is well established from the beginning. It can also be harder to attract funding for projects that are not well specified from the outset (Snow, 2015) as funders often require pre-specification of research plans and outputs. That said, providing explicit goals and parameters, in addition to credible ways of working can be used to reassure funders, who are also increasingly recognizing the value of RPPs.

1.3. Current project

In the UK, where this research is situated, there is an emphasis on multi-agency work within education. In Scotland, the country from where this research was led, the Research Strategy for Scottish Education (Scottish Government, 2017) explicitly highlights the need for greater communication and collaboration between all actors in the education system to achieve Scotland's educational priorities. Yet, there are very few examples of RPPs in the UK to inform our understanding of how to do this. For example, a recent systematic review by Sjölund and colleagues (2022a) reported that approximately 90% of RPP literature is based in the US.

This project is a UK research-practice partnership between researchers (n = 4; 2 Scotland, 2 England), stakeholders from national educational and literacy organizations with a particular interest in this topic (n =3, 2 Scotland, 1 England) and two experienced teachers (n=2, 1 Scotland, 1 England) who were all involved in the development of the initial grant application to ensure it aligned with practice-based priorities (enhancing children's reading motivation and engagement). Once funded, a further six teachers (2 Scotland, 4 England) were recruited from geographically and demographically diverse areas of the UK to co-design the program: Love to Read. See Fig. 1. This article focuses primarily on our evaluation of the co-design process, from these participating teachers' perspectives. The evaluation of this co-design process was preregistered and can be accessed here: https://osf.io/xsjhc.

All members of the RPP contributed to, and agreed on, the content of the pre-registration, which included aims, research questions, study design, recruitment strategy, data collection methods and tools, and analysis plan, and all are listed as authors in the pre-registration. This was discussed during team meetings but also through offline email correspondence and a shared folder with files to edit.

Our aims were:

1) To co-design (researcher-teacher collaboration) an intervention which is underpinned by relevant theory, research, and children's insights.
2) To evaluate the co-design process, from participating teachers' and researchers' perspectives.

The evaluation detailed in this paper is based upon the following sources of data: 1) pre-meeting paperwork submitted by researchers and teachers involved in co-design; 2) video and audio recordings of online co-design meetings between researchers and
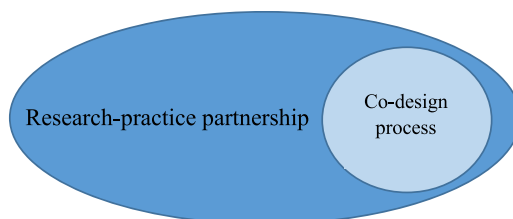

Fig. 1. Project structure.

Table 1
Teacher information.

Sex	Age	Years of teaching experience	Number of schools taught in	Member of/profession experience of ethnic minority	Member of/professional experience of high deprivation	Member of/professional experience of disability
5 F	2 × 21-30yrs	2	1	1 x member of	2 x member of	1 x member of
1 M	3 × 31-40yrs	6	2	3 x professional experience	3 x professional experience	2 x professional experience
	1 × 41-50yrs	7	3 × 4			
		8	5+			
		17				
		20				

Note: To protect personally provided information, individual teacher information is summarised in columns and organised across all responses.

Table 2
School information.

Location	Setting	Approximate number of bilingual pupils	Approximate number of ethnic minority	Approximately number of SEN pupils	Current school size
2 x Scotland	3 x urban	3 x Less than 10%	3 x less than 10%	2 x less than 10%	3×200-300 students
4 x England	3 x semi-rural	1×10-30%	1×10-30%	1×10-30%	$3 \times 300+$ students
		1×30-50%			
		$1 \times 50\%+$	$2 \times 50\%+$	3×30-50%	

Note: To protect personally provided information, individual school information is summarised in columns is organised across all responses. SEN = Special Educational Needs.

teachers; and 3) final evaluation forms completed by teachers following the co-design process. To center teachers' perspectives and experiences, data source 3 is given most weight in this article.

2. Materials and method

To recruit the six co-design teachers, invitations were sent out by the project team and also members of the project's expert advisory group (an additional group of researchers and practitioners with expertise in this area). To ensure the volume of submissions could be reviewed in time and with sufficient care, invitations were sent out using existing networks rather than open recruitment (e.g., online). Applicants were asked to provide detail in relation to reasons for applying, roles, responsibilities and experience suited to the project, and experience of reading for pleasure initiatives. In addition, teacher and current school demographic information was requested. Submissions were capped at 50. In total, 51 submissions were received, and were reviewed independently by two team members (a researcher and practice partner), who shortlisted to 15 before a third team member was involved in the final decision via an online meeting. The selection process was carried out to ensure diverse knowledge, experience and expertise across the team, and diversity in school contexts worked. The six teachers recruited were paid for their time: 36 hours (12 hours of meetings and 24 hours of pre- and post-meeting preparation. Demographic information of the teachers involved in the co-design of the program, and their current schools can be found in Tables 1 and 2.

2.1. Program development

The RPP project funded was to create and evaluate a program to enhance children's reading motivation and engagement. This section briefly outlines the process of program development, to clarify how the co-design process contributed to it. See Fig. 2. The development of the program had four phases:

Phase 1.   Literature review. A comprehensive review of relevant literature was conducted to identify research-informed principles to underpin the program.

Phase 2.   Interviews with children. Individual and group interviews with children (n = 59, from 4 UK schools) were carried out to learn about their reading experiences, ideas of practices to enhance reading motivation and engagement, and their perspectives on the research-informed principles identified in Phase 1. Thematic analysis was used to identify key themes. The pre-registration for this phase can be found here: https://osf.io/5ztjk

Content from Phase 1 and Phase 2 was then synthesised into a document (hereafter called overview, which was 35 pages) and reviewed by a member of the team (practice partner) with considerable experience of teaching and supporting teachers' professional development. This was to ensure the content would be engaging, accessible and meaningful to the teachers involved in the co-design process. In addition to Phase 1 and 2 content, the project aims, program parameters and planned co-design process were included in this overview.

Phase 3.   Co-design. Following selection and recruitment, teachers were sent the document to support depth of research knowledge prior to co-design, before participating in synchronous (online meetings) and asynchronous (submission and review of content) communication to develop the program. The pre-registration can be found here: https://osf.io/xsjhc

In this article, we focus on Phase 3, describing the entire co-design process and providing teachers and researchers' reflections and experiences of working in this way. It serves to contribute to our developing knowledge of short-term teacher-researcher collaboration to improve children's educational experiences and outcomes. However, reflections on our experiences of the longer term RPP, which supported phase 4, are also included.

2.2. Structure of co-design process

The co-design process reflected a combination of synchronous (online meetings) and asynchronous contributions from all members of the co-design team and a framework had been put in place from the outset, similar to Steel et al., (2021). Via email, agreed meeting dates were put in the diary for the entire process to align with availability. The duration between meetings varied due to: 1) needs of the project; and 2) school holiday dates. Prior to Meeting 1, teachers were asked (and given time) to read the research overview resulting from Phase 1 and 2. Meeting content included:
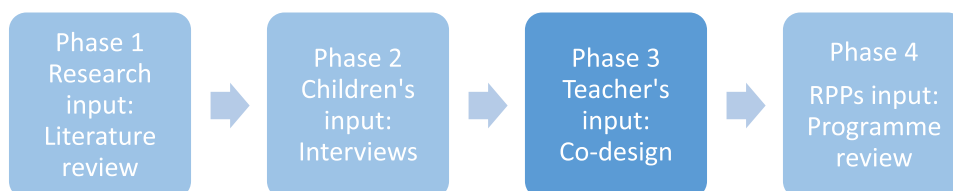

Fig. 2. Process of program development.

Meeting 1. Introductions, presentation of project aims, summary of overview, program parameters, co-design structure, ways of working and outline of future pre-meeting preparation. In addition, teachers were asked to share their own experiences of promoting reading for pleasure.

Before each subsequent meeting, teachers were asked, and given time to, independently submit their own ideas in relation to the focus of each meeting. For Meetings 2-4, this involved suggesting classroom activities aligned with the six research-informed principles underpinning the program, in addition to key points they thought teachers would need to know from the overview they received.

Prior to Meeting 1	• Researchers create overview (integration of Phase 1 & 2 insights, and co-design process) • Overview checked by practice partner • Teachers read overview
Meeting 1	• Introductions: All share relevant knowledge/experience/motivations for participating • Researchers provide outline of project aims, parameters, roles and planned ways of working.
Prior to Meetings 2-4	• Teachers independently submit ideas of classroom activities to embed research principles into practice and highlight key research insights from overview to include in the programme • Researchers integrate information from all teachers in preparation for decision making during meetings
Meetings 2-4	• Programme development: Decision of optimal information to include in programme and optimal activities to embed research principles into practice, considering feasibilty and resource implications.
Prior to Meeting 5	• Researchers develop programme based on Meetings 2-4 and request teacher feedback • Teachers provide feedback on different sections (semi-randomly allocated) of the programme
Meeting 5	• All discuss programme, focusing on implementation considerations and additonal resources to suport teachers • All discuss crediting contributions
Prior to Meeting 6	• Researchers create additional resources and seek teacher feedback • Teachers provide feedback on additional resources
Meeting 6	• Conclusions, all reflect on process and progress achieved. • Final opportunity for questions and discussion
Following Meeting 6	• Teachers complete evaluation survey (within 2 weeks) • Researchers request specified programme input from practice partners in RPP • Researchers finalise programme

Fig. 3. Co-design process.

Both researchers involved in co-design (the first and second authors) collated all individual content from the teachers submitted prior to Meetings 2-4, synthesized this, and structured the meetings around key common points made by teachers, using the meetings as an opportunity to make decisions on information submitted rather than create or discuss new content.

Meetings 2 - 4. These meetings focused on program development – deciding on optimal classroom activities to embed the six research-informed principles into practice, while simultaneously considering acceptability, feasibility and any resource implications. For each meeting, the entire group met online and two break-out rooms were created, with a researcher facilitating the discussion in each group (each group and each week focusing on a different principle). After Meeting 2, this approach to working was checked with teachers and all agreed that working in smaller groups made it easier for everyone to contribute their thoughts and ideas, and was more informal. Furthermore, the researchers felt that more content was covered from working in smaller groups. Each week, teachers were given the option to choose which principle to work on (no-one expressed preference). Groups were also rotated each week, to allow different combinations of researchers and teachers to work together. All meetings were audio and video recorded, with teachers' permission.

After Meeting 4, the program was developed more fully by the researchers involved in co-design (using Phase 1 literature review, Phase 2 interviews with children and Phase 3 input from teachers) and sent back to all teachers who were asked to review specific sections of the program and send feedback via email or to a shared folder.

Meeting 5. This meeting focused on program review and revisions, keeping implementation issues in mind (Moir, 2018), in addition to how to credit teachers' intellectual contribution. The entire group met together initially before two break out rooms were created to allow greater participation from all. Teachers also unexpectedly suggested additional resources that would support with implementation.

The program was then revised a second time and new resources were created. Teachers were asked to review specific new content and resources and send feedback via email or to a shared folder.

Meeting 6. This meeting concluded the entire process, reflecting on the progress made and the contributions of all. Final questions from the researchers were asked and all teachers were asked to complete the evaluation to share their perceptions and experiences of the process.

Following this, the program was shared with all partners involved in the RPP, requesting specific input into sections via online meetings and invited direct comments/revisions to the program. An illustration of this process is provided in Fig. 3.

3. Results

All six teachers completed the post co-design evaluation survey anonymously online within two weeks of completing the process. A copy of this entitled 'Teacher Questionnaire' is attached to the pre-registration, although note minor revisions were made before the survey was circulated (specifically the term 'intervention' was changed to 'program' and the reference to Jamboard was removed as it was not used during the process). In the results section we share teachers' experiences and reflections of this process, in addition to those of the researchers involved. Before submitting for review, Tables 1, 2, and the entire content of this results section was sent to all teachers to ensure they felt this was an accurate reflection of their perceptions and experiences of the process. In total, four of the six teachers responded (two had started school holidays) and were happy with their information being included (all teachers had also confirmed this earlier) and confirmed that this results section was an accurate reflection of their experiences.

The evaluation requested information about overall communication, information received prior to co-design, elements of the co-design process (specifically online model, structure, team composition, content shared), general reflections (expectations met, professional development, workload, perceived benefits and challenges of co-design, overall experience) and thoughts on the program developed (quality, use, impact, implementation, whether program reflects their contribution), as well as an opportunity to provide any final thoughts. Open text boxes in addition to ratings (i.e., Poor/Sufficient/Good/Excellent or Yes/No/Somewhat) were provided. All rating responses to questions can be found in the supplementary material and indicate very positive responses across all aspects of the process. In this results section, we focus on the comments provide in the open text boxes.

3.1. Information prior to co-design

The co-design team were provided with a 35-page overview prior to commencing co-design outlining the rationale for the project, the structure of the co-design process, ways of working, teachers' role in the project, program parameters, definitions of key terms and relevant research (Phase 1 existing research and Phase 2 interviews conducted with children). The purpose of the overview was to support teachers' depth of research knowledge, and to ensure all had a clear and shared understanding of the co-design process and ultimate output (i.e., program) planned.

Teachers were very positive about this: *"Having the guidance beforehand was great and gave me a good idea of what the material would be structured around"; "The parameters were very clear"; "The pupil feedback added their voice in a purposeful, meaningful manner"*

From researchers' perspectives, this overview ensured everyone involved had a clear and shared understanding of the project aims, program parameters, responsibilities and planned ways of working. Furthermore, it ensured all teachers were approaching the co-design process from a research-informed position.

3.2. Co-design process

Details of the co-design process are detailed earlier but included both synchronous (6 × 2 hour meetings; although not all meetings lasted the full two hours) and asynchronous content (i.e., teachers' independent ideas of classroom practices related to principles, teacher feedback on program, etc).

Teachers were generally very positive about this approach to co-design (i.e., reading time and initial independent contribution prior to online co-design meeting), for example: *"The reading time ensured that we all had notes and ideas ready to bring to each meeting. This enabled us to have meaningful discussions with no time wasted. This meant all sessions were productive"; "The structure of each meeting was well paced and chaired to ensure they ran smoothly and kept to the point and outcome for each meeting"; "There was excellent opportunity to discuss ideas and have time to professionally discuss plans for the project".*

Some spoke specifically about working in smaller groups to achieve more during the time allocated: *"Working in smaller groups to split up areas worked really well. This ensured cohesion and the ability to complete the amount of work and planning needed across the whole program"; "The breakout rooms and giving different people different foci each week was well thought out. It was also good to have a mixture of this and larger group discussions"*

An informal dialogue between researchers and teachers was also noted by some: "*The facilitators were very open to suggestions and took ideas into account, while also offering their research knowledge"; "There were many opportunities to ask questions and the facilitators were very welcoming and made it clear throughout that they could answer questions".* Furthermore, they felt the teacher team worked well together: "*A balanced team from other settings and parts of the country"; "I found the expertise of each member of the team was excellent and broad. They had clearly been chosen from a range of schools and knowledge and this enabled us to learn a lot, have productive conversations and make valuable contributions to the project"; "I found it interesting listening to others points of view."* and all made a contribution to the process: *"It was clearly broken down and distributed fairly amongst the whole team. It felt manageable."*

Being very aware of teachers' time, workload was a priority for the research team and therefore the entire process had been created to maximize teachers' contribution in a short space of time. With regard to workload associated with co-design, comments were generally positive: *"I managed to fit everything in around my work schedule"; "It was broken into easy accessible chunks and the tasks given were interesting. They also informed my own practice which helped motivate me to complete the tasks in great detail."* Although one noted that having sufficient time is essential to contribute optimally *"a little challenging at busy times of the academic year whilst desiring to give contributions to the program that were high quality."*

These comments from teachers demonstrate the value of combining synchronous and asynchronous contributions, creating a clear meeting agenda and structure (e.g., smaller groups) that maximizes contributions from all, being aware of teachers' time and other commitments and creating positive, inclusive and non-hierarchical contexts for collaborative working and learning. Furthermore, selecting a group that reflects a diverse range of experiences and work in different contexts is also beneficial from teachers' perspectives.

3.3. General reflections

Teachers felt involvement in co-design contributed to their own professional learning: *"Yes very much so. Inspired me to engage with further research and continue to nurture my passion in this area."; "The reading materials informed my pedagogical knowledge. I have since used a lot of these researches to inform my practice in school teaching English and Reading. I have become a stronger English lead and teacher. Having this project on my CV has also helped enable me to be involved in other projects."*

In terms of their perceptions of the benefits of co-designing, teachers commented on empowerment: *"Empowers teachers to support other teachers and widest community"; "rather than given something…..from the powers on high."* In addition, they recognized that implementation (i.e., usability) issues had been prioritized and were now understood by the research team, recognizing the expertise and insight that they had brought to the project: **"***It creates a resource that is usable from a teachers perspective - rather than given something rigid and unrealistic"; "Hearing different perspectives and involving the teachers (I hope anyway) gave you a on the ground experience of what it will be like to implement in the classroom"; "It gives an insight into how easy it could be implemented into a real classroom."* Related to this, teachers recognized that there were mutual benefits to both teachers and researchers: *"It allows there to be professional input into the program, as well as giving us more professional development"; "It is a win-win model, benefitting research, researchers and teachers."*

In terms of challenges, teachers noted coordinating meeting times, possibilities of very different perspectives and differences in terminology: *"Just coordinating times with different school schedules"; "The range of different opinions of the co-designers could be completely contradictory"; "There have been some difficulties in terminology used in different schools, but this was easily overcome."*

3.4. Program developed

When asked about the quality of the program developed and whether they felt it reflected their input, teachers were positive: *"Absolutely, a great range of teachers suggested activities have been included for use in the program"; "It has taken on board everyone's ideas and feedback".* Furthermore, teachers felt it would have the desired impact, was something they would use, and something other teachers would or could use as well. For example: *"it has potential to change children's lives through reading and support teachers to follow a structure, gain knowledge about research, improve their pedagogy…"; "There is a wide range of resources to aid the implementation of the project. There are clear guidelines and the resources are clear and child-friendly. So much thought and effort has gone into additional resources which will help teachers and English leads make this a success"*

In addition, one noted the importance of school leaders as gatekeepers to implementation and therefore essential to consider, as

was ensuring the message that this was not a short-term fix, but an approach that needed to be embedded in classrooms: *"If school leaders enable there to be sufficient time in the school timetable to do so. The project also needs to be implemented throughout every day school life - this is not something that is 'completed' in the initial 6 weeks. Teachers need to believe this will create an ethos of 'XXX' through school each year for it to be truly successful with the children's attitudes to reading."*

Furthermore, teachers commented that their continued support would be necessary and helpful for the program to be embedded effectively, sustained and shared widely: *"using the co-design teachers to train/launch/support and guide teachers to use it…. really beneficial for launching the program and getting as many schools/ teachers as possible to use it"; "Perhaps set up a teachers XXX implementation group"; "Supporting and explaining the program to other schools and teachers would hugely support the effectiveness of using it in practice."*

These comments highlight how important it is to: a) ensure any program, intervention or resource developed as a result of co-design reflects contributions from both research and practice; b) include a wide range of stakeholders in the process (e.g., teachers, school leaders, etc) so that different perspectives and positions are understood; and c) maintain relationships developed through co-design or RPPs more generally. While these partnerships may have been developed to serve a particular purpose (e.g., develop a program), the resulting product or outcome reflects the intellectual contribution of all, and those from practice are often in a better position to lead on implementation and dissemination.

3.5. Lessons learned

We collated feedback across the survey to highlight issues identified by teachers. Firstly, two teachers noted that a Teams group to organize files and list tasks with deadlines would have been useful rather than email as the primary mode of communication. A couple of teachers also noted that sometimes meetings were too close together which was challenging as they were asked to complete tasks between each meeting. In addition, the timing of meetings (i.e., early evening) meant that a couple felt it was difficult to contribute optimally as they were tired. Related to this, for some, workload was an issue as this was a busy time in the school year. Technical issues were reported for one and another noted differences in terminology but that these were often resolved easily.

4. Discussion

In the context of researchers' reflections, we discuss teachers' experiences of participating in the co-design process and some of the lessons we have learnt, before discussing implications.

4.1. Researchers' reflections

The entire co-design process ran smoothly and was very positively received, which could reflect the considerable amount of organization time preceding it, researchers' experiences of working with teachers previously, the topic under study, the teachers recruited, and/or the researchers' and teachers' motivation to work in this collaborative way. Providing teachers with the overview, although extensive, meant that they were coming from a research-informed position, and had a shared understanding of the process, and their role in it, prior to beginning. That said, it also meant that teachers were initially treated as consumers of research, before contributing to research, and also had less of a say in how they could contribute to the process. Indeed, at no point were teachers given the opportunity to discuss their role in the project and how this could be shaped to optimize their experience/expertise. This was due to the limited time they had on the project. However, we recognize that some teachers may have wanted to contribute more (e.g., see Steel et al., 2021), or in different ways. In hindsight, a question to seek their perspectives on this in the evaluation survey would have been useful. Indeed, by researchers creating the evaluation survey, we asked questions which were important to us, but did not give teachers the opportunity to decide on what information was important to them (although teachers did have a final opportunity to provide any final reflections at the end). There is a tendency for partnership research to be weighted towards first-person accounts (Penuel & Hill, 2019) and therefore it was essential to us to incorporate teachers' own accounts and experiences of the process, though we recognize now that this was still framed by our own planned evaluation of the process.

While teachers' experiences of participation were very positive, all those involved had a shared interest and similar perspectives on the topic. In a different area of research characterized by more polarized positions, diverse perspectives, hierarchies, positions of power, and preconceptions not underpinned by research, such cohesion may have been very difficult to create (e.g., Denner et al., 2019). We therefore need to learn more about the qualities, structures and strategies to collaborate well in other areas of educational research. If achieved successfully, the inclusion of individuals with differing viewpoints has considerable potential to make an important impact in education, ensuring multiple perspectives are incorporated in the process. Indeed, one teacher also noted this as a potential challenge: *"The range of different opinions of the co-designers could be completely contradictory".* While another thought that the inclusion of someone with different insight may have been interesting: *"Maybe it would have been interesting to have a secondary school teacher to hear their perspective".*

On a similar point, for this co-design process, we recruited motivated teachers with an interest in the topic although we recognize that this may result in a program less accessible to those less engaged with this topic. While we included an early career teacher, as planned, including teachers with less interest in the area would be useful to create a program which reaches and resonates with these groups. Indeed, at several points during co-design we discussed how to ensure the program reached disengaged or uninterested teachers rather than solely 'preaching to the converted'.

Another point to reflect on is that the entire team had not met nor worked with each other before. Therefore, creating a shared understanding of the endeavor, process, as well as creating a comfortable, friending and trusting environment was essential, and had to

be achieved quickly due to the short duration of the project. The pre-meeting paperwork and professional yet friendly atmosphere were essential to this process. Platteel et al., (2010) discuss the importance of taking other's opinions seriously and learning to be critical without passing judgement as necessary to create positive communicative spaces. We agree with this and believe all those participating adhered to these values and ways of working.

In this project, the roles of the researchers and teachers were quite distinct, and outlined from the outset, with researchers sharing research knowledge, initiating the entire co-design process, organizing and synthesizing individual contributions, and facilitating and chairing all online sessions. Scanlon et al. (1994) discuss the value of collaborative dialogues characterized by decentralized leadership and encouraging and equally valuing all participants' contributions. While we believe the latter was achieved, we recognize that the project was ultimately led by the research team and it would be beneficial to understand more about different ways of working, including those where control is shared (Ross & Bruce, 2012) or the academic tries to minimize their influence in the process (Platteel et al., 2010). In addition, compared to other longer-term collaborative approaches, where roles are more fluid and evolve (Platteel et al., 2010), in this project the researchers retained control over the program, making final decisions about content to add, revise or remove (albeit based significantly on teachers' and practice partners input). Reflecting on this process, we feel the researcher-led approach was necessary given the short time frame for the project but recognize that there are different ways to lead and it doesn't need to reflect an authoritative position, but one which cultivates collaborative ways of working (Cooper et al., 2020).

The researchers had initially thought that four months would be sufficient to co-design the program but agree with comments from some teachers that meetings were too close together and required a considerable amount of work on the researchers' part to integrate teacher feedback to share during meetings or develop the program for teacher feedback. One teacher commented on this: *"the incredible amount of work that must have been going on behind the scenes to react to our feedback and keep updating and revising the details"*. We'd therefore encourage researchers to plan a longer period than they may anticipate requiring to put less stress/pressure on all involved. Furthermore, we recognize that this is a short-term researcher-teacher collaboration, therefore experiences and lessons learned will be different to longer term RPPs (Arce-Trigatti et al., 2018; Coburn & Penuel, 2016; Donovan et al., 2003) with other considerations (e.g., nurturing and sustaining relationships, input into research priorities, staff changes/turnover, etc).

In addition, in this project, and other collaborative endeavors (e.g., Steel et al., 2021), co-design took place online and beyond researchers or teachers' typical working contexts. This allowed individuals to work together from geographically dispersed areas, allowing a broad range of contexts and experiences to be shared. While more time and cost-effective, providing opportunities for researchers to visit schools/classes and see first-hand classroom pressures and implementation issues would also help to build better understanding of implementation considerations.

The final program exceeded the researchers' original expectations and after reviewing the pre-meeting contributions by individual teachers and the video recordings of the online meetings (data sources 1 and 2), it clearly reflects the contribution of all members of the team. Working in smaller groups online, in addition to requesting individual contributions prior to meetings, facilitated this. Whereas researchers' contribution is more evident in some aspects of the program (e.g., research insight sections), teachers' contributions are more evident in others (e.g., classroom practices to embed research insights). Additional unplanned resources were also created in response to teachers' suggestions. This involved more work than expected but reflected excellent ideas to improve ease of implementation and support for teachers using the program. However, it was not possible within the time frame available to create resources based on all suggestions, therefore decisions were made by the research team on those most likely to have the greatest benefit. We would therefore recommend building more time into projects to allow for outputs suggested by teachers/practice partners.

With regards to how the program created will be evaluated, teachers were told about the evaluation planned and reviewed the evaluation surveys for children and teachers. However, their input into the evaluation of the program was limited in line with plans stipulated in the original grant application. It is important to recognize that the evaluation interests and priorities of teachers and school leaders may be very different from those of researchers; failing to involve those from practice in evaluation (study design, variables of interest and actual measures) has the potential to hinder effective evaluation (Troyer, 2022) and poorly account for practice priorities. We'd therefore strongly encourage researchers to provide more scope for practice partners input into evaluation and not just the project. Fortunately, as our project was part of a larger research-practice partnership, we had practice partners involved in the original grant application which ensured the program evaluation did take account of these perspectives. However, after working so closely with the teachers on program development, more input from them would have been beneficial.

Related to this point on evaluation, it is not possible to test whether the program created as a result of co-design will be any more effective at achieving its desired goals than a program created solely by researchers and without teachers' input (Coburn & Penuel, 2016). However, we have good reason to believe the co-designed program developed will be more acceptable, feasible and effective at increasing student outcomes. For example, implementation issues have been better understood and more carefully accounted for, additional resources created will support teachers with delivery, and classroom practices suggested by teachers will be more acceptable to other teachers and are based upon both research, but also pedagogic expertise. That said, understanding the effective components of researcher-teacher collaborations, both in terms of ways of working, but also optimizing contributions to educational programs, is essential, for us to learn, innovate and create methodologically robust processes for collaboration and co-production.

To summarize, we believe this article makes a significant contribution to our understanding of RPPs and researcher-teacher co-design, by contributing to our knowledge of: a) the importance of evaluating RPPs and co-design processes from different perspectives, b) including and facilitating different perspectives into RPPs and co-design from the outset, c) the importance of sufficient planning and preparation time, in addition to skills and expertise, to create structures to optimally implement and facilitate RPPs/co-design, d) the many diverse frameworks in which positive RPPs/co-design can result, e) the importance of not underestimating the time investment required for RPPs/co-design, f) ensuring flexibility in funding to allow new resources generated via RPPs/co-design to be created, g) the importance of practice partners/teachers' input into the entire research process, including evaluation, and finally, h) the

importance of long-term evaluation of RPPs/co-design and whether these result in measurably better programs/resources than those developed independently by researchers and/or teachers.

4.2. Implications

If RPPs for educational improvement are to be more widely used, they require systemic change, new structures and the development of new skills for researchers and teachers to work effectively together (Donovan et al., 2003; Snow, 2015). This would allow more of us to work effectively at the intersection between research and practice, and encourage and support the next generation of researchers and teachers to do so (Ghiso et al., 2019). This also requires funding agencies to be more flexible within the process of research and evaluation, and recognize the time required to do this well. In addition, incentives to work in this way are important.

In terms of researcher incentives, in the UK, funders are increasingly recognizing the importance of research-practice-policy partnerships to ensure that funding applications align with education priorities and are thus more likely to inform educational policy and practice. Indeed, RPPs are dependent on funding as they are not self-sustaining organizations (Arce-Trigatti et al., 2018). However, funding is competitive and unpredictable which can threaten the sustainability of research-practice relationships. Funding to support the development of new partnerships and the infrastructure to support these partnerships is essential, rather than project focused funding only. In addition, shared funding models would allow those from research and practice to work in equal partnership, rather than current funding models where funding is awarded to researchers, and administered via Universities, creating the potential for an unbalanced power dynamic from the outset (Cooper et al., 2020).

In the UK, research that has impact outside of academia (e.g. for educational policy and practice) is strongly incentivized. For example, the government funding that is awarded to universities for research is partly determined by the Research Excellence Framework, which rewards strong impact-related work (REF, 2021). However, impact can be, and often is, achieved with the traditional research to practice model, rather than RPPs outlined here. It is also important to recognize that RPPs may be more suited to some educational and social science issues than others; although even basic research designed to develop understanding of how children learn, for example, could benefit from understanding more about practice and policy priorities to guide their work.

In discussing incentives for researchers, it is important to be cautious about these extrinsic incentives, as they do have the potential to lead to invited tokenistic contributions from those in practice and policy, which undermines the real value which can come from collaborative research. Researchers may need to be socialized into this approach (Snow, 2015) understanding how to do it well to maximize benefits. It is also important to recognize that there are 'penalties' associated with collaborative research (Desimone et al., 2016). For example, University-based researchers have limited time and the incentives to publish in high-impact journals creates time pressures. To date there may be too few examples of RPPs resulting in high-impact publications to encourage researchers to work in this way, or invest their limited time into building these relationships.

Teacher incentives are different. For example, in the UK, all teachers are required to engage in professional development/learning throughout their career, and all have a commitment to improving their students' educational experiences and outcomes. Teachers therefore need to believe that an effective way to achieve this is from choosing to work with research partners and drawing upon University-led research to inform their practice; existing insights suggest this may not always be the case (Lysenko et al., 2014; Nelson, 2019). In addition, while teachers may be interested in getting involved to contribute to educational knowledge and understanding of an area, direct benefits to their own practice, and the experiences and outcomes of their own students are also their priorities (Desimone et al., 2016). Funding can attract additional resources for schools and justify teachers giving more time to engage with research, work on research activities, and work in partnership with research specialists, all of which are desired, to varying extents, by teachers (Lowden et al., 2019). Finally, results from collaborative research partnerships can serve to support teachers by applying research directly to their practice (instrumental use), using research to extend their understanding (conceptual use) or using research methods to increase their capacity for improving education (process use) (Sjölund et al., 2022b), all of which may serve as incentives.

To this end, we'd recommend training, mentoring and support for those in research and practice who are interested in engaging in RPPs, to optimize practices. Research-practice partnerships require skills which researchers, teachers, and others have not been trained in and therefore it is important to invest in this area. The links between those in research and practice can be tenuous and fragile (Denner et al., 2019; Donovan et al., 2003); collaborative research has the potential to close the gap, but may also widen them if relationships formed are negative, unproductive, or amplify preconceptions or hierarchies. We also need to ensure that those leading or engaging in RPPs are fully aware of the ethical and methodological considerations associated with this approach. We need University ethics systems which are quick to respond to project revisions as input from others influences the planned research process, and collaboration agreements available which are accessible and understandable to all involved in the research process, to ensure those involved understand how their input will be used, and how they will be credited for their intellectual contribution.

5. Conclusion

We hope this article provides a useful reference point for those interested in research-practice partnerships, researcher-teacher co-design, and an understanding these relationships from both researchers' and teachers' perspectives. We believe that research-practice partnerships have considerable potential to improve educational experience and outcomes for children and young people, by drawing upon the cumulative depth and breadth of research and pedagogical knowledge, experience and expertise available. However, we need the infrastructure, training and funding available to initiate and sustain effective partnerships if we are to work successfully together towards educational improvement. Furthermore, positive, productive and successful outcomes should not be assumed; we need to share our learning of different collaborative approaches across different international contexts, to understand the qualities of effective

partnerships, and how different international policies and contexts influence practices and challenges.

Data availability statement

Qualitative data from the evaluation survey completed by teachers is not available as data sharing was not requested in our ethics application or information/consent forms.

Ethics statement

Ethical review and approval was provided by Moray House School of Education and Sport Ethics Committee, University of Edinburgh.

Rights Retention Statement

For the purpose of open access, the author has applied a Creative Commons Attribution (CC-BY) licence to any Author Accepted Manuscript version arising from this submission.

CRediT authorship contribution statement

Sarah McGeown: Conceptualization, Data curation, Formal analysis, Funding acquisition, Writing – original draft. **Emily Oxley:** Conceptualization, Data curation, Formal analysis, Writing – review & editing. **Love to Read Practice Partners:** Conceptualization, Funding acquisition. **Jessie Ricketts:** Conceptualization, Funding acquisition, Writing – review & editing. **Laura Shapiro:** Conceptualization, Funding acquisition, Writing – review & editing.

Declaration of Competing Interest

The authors report no conflict of interest. The research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest

Acknowledgments

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.ijer.2022.102134.

References

Ainscow, M., Muijs, D., & West, M. (2006). Collaboration as a strategy for improving schools in challenging circumstances. *Improving Schools, 9*(3), 192–202. https://doi.org/10.1177/1365480206069014

Arce-Trigatti, P., Chukhray, I., & López Turley, R. N. (2018). Research–practice partnerships in education. In B. Schneider (Ed.), *Handbook of the sociology of education in the 21st century*. Springer Berlin Heidelberg.

Baum, H. S. (2000). Fantasies and realities in university-community partnerships. *Journal of Planning Education and Research, 20*(2), 234–246. https://doi.org/10.1177/0739456X0002000208

Beveridge, L., Mockler, N., & Gore, J. (2018). An Australian view of the academic partner role in schools. *Educational Action Research, 26*(1), 25–41. https://doi.org/10.1080/09650792.2017.1290538

Bevins, S., & Price, G. (2014). Collaboration between academics and teachers: A complex relationship. *Educational Action Research, 22*(2), 270–284. https://doi.org/10.1080/09650792.2013.869181

Cai, J., & Hwang, S. (2021). What does it mean to make implementation integral to research? *ZDM–Mathematics Education, 53*(5), 1149–1162. https://doi.org/10.1007/s11858-021-01301-x

Coburn, C. E., & Penuel, W. R. (2016). Research–practice partnerships in education: Outcomes, dynamics, and open questions. *Educational Researcher, 45*(1), 48–54. https://doi.org/10.3102/0013189X16631750

Cooper, A., MacGregor, S., & Shewchuk, S. (2020). A research model to study research-practice partnerships in education. *Journal of Professional Capital and Community, 6*(1), 44–63. https://doi.org/10.1108/JPCC-11-2019-0031

Denner, J., Bean, S., Campe, S., Martinez, J., & Torres, D. (2019). Negotiating trust, power, and culture in a research–practice partnership. *AERA Open, 5*(2), Article 233285841985863. https://doi.org/10.1177/2332858419858635

Desimone, L. M., Wolford, T., & Hill, K. L. (2016). Research-practice: A practical conceptual framework. *AERA Open, 2*(4), Article 233285841667959. https://doi.org/10.1177/2332858416679599

Donovan, S., Wigdor, A. K., & Snow, C. E. (2003). *Strategic education research partnership*. National Research Council.

Ghiso, M. P., Campano, G., Schwab, E. R., Asaah, D., & Rusoja, A. (2019). Mentoring in research-practice partnerships: Toward democratizing expertise. *AERA Open, 5*(4), Article 233285841987944. https://doi.org/10.1177/2332858419879448

Joyce, K. E., & Cartwright, N. (2020). Bridging the gap between research and practice: Predicting what will work locally. *American Educational Research Journal, 57*(3), 1045–1082. https://doi.org/10.3102/0002831219866687

London, J. K., Schwarz, K., Cadenasso, M. L., Cutts, B. B., Mason, C., Lim, J., Valenzuela-Garcia, K., & Smith, H. (2018). Weaving community-university research and action partnerships for environmental justice. *Action Research, 16*(2), 173–189. https://doi.org/10.1177/1476750316678915

Lowden, K., Hall, S., Bravo, A., Orr, C., & Chapman, C. (2019). *Knowledge utilization mapping study: Scottish education system.* Scottish Government. https://www.gov.scot/publications/knowledge-utilisation-mapping-study-scottish-education-system/.

Lysenko, L. V., Abrami, P. C., Bernard, R. M., Dagenais, C., & Janosz, M. (2014). Educational research in educational practice: Predictors of use. *Canadian Society for the Study of Education, 37*(2), 1–26.

Moir, T. (2018). Why is implementation science important for intervention design and evaluation within educational settings? *Frontiers in Education, 3*, 61. https://doi.org/10.3389/feduc.2018.00061

Nelson, J. (2019). *Closing the attainment gap through evidence-informed teaching.* May 9 https://www.nfer.ac.uk/media/3436/raising_standards_and_attainment_through_evidence_informed_teaching_inside_government_forum.pdf.

Penuel, W. R., & Hill, H. C. (2019). Building a knowledge base on research-practice partnerships: Introduction to the special topic collection. *AERA Open, 5*(4), Article 233285841989195. https://doi.org/10.1177/2332858419891950

Platteel, T., Hulshof, H., Ponte, P., van Driel, J., & Verloop, N. (2010). Forming a collaborative action research partnership. *Educational Action Research, 18*(4), 429–451. https://doi.org/10.1080/09650792.2010.524766

Vardy, E. J., Al Otaiba, S., Breadmore, H. L., Kung, S-H., Pétursdóttir, A-L., … McMaster, K. L. (2022). Teacher–researcher partnership in the translation and implementing of PALS (Peer-Assisted Learning Strategies): An international perspective. *Journal of Research in Reading, 45*(3), 517–526. https://doi.org/10.1111/1467-9817.12404

Research Excellence Framework (2021). Downloaded from https://www.ref.ac.uk/on 2nd September 2022.

Ross, J. A., & Bruce, C. D. (2012). Evaluating the impact of collaborative action research on teachers: A quantitative approach. *Teacher Development, 16*(4), 537–561. https://doi.org/10.1080/13664530.2012.734746

Scanlon, D., Schumaker, J. B., & Deshler, D. D. (1994). Collaborative dialogues between teachers and researchers to create educational interventions: A case study. *Journal of Educational and Psychological Consultation, 5*(1), 69–76. https://doi.org/10.1207/s1532768xjepc0501_5

Scottish Government. (2017). *A research strategy for Scottish education.* The Scottish Government.

Sjölund, S., Lindvall, J., Larsson, M., & Ryve, A. (2022a). Using research to inform practice through research-practice partnerships: A systematic literature review. *Review of Education, 10*(1). https://doi.org/10.1002/rev3.3337

Sjölund, S., Lindvall, J., Larsson, M., & Ryve, A. (2022b). Mapping roles in research-practice partnerships—A systematic literature review. *Educational Review*, 1–29. https://doi.org/10.1080/00131911.2021.2023103

Skipper, Y., & Pepler, D. J. (2021). Knowledge mobilization: Stepping into interdependent and relational space using co-creation. *Action Research, 19*(3), 588–605. https://doi.org/10.1177/1476750320960810

Snow, C. E. (2015). 2014 Wallace foundation distinguished lecture: Rigor and realism: Doing educational science in the real world. *Educational Researcher, 44*(9), 460–466. https://doi.org/10.3102/0013189X15619166

Steel, J., Williams, J. M., & McGeown, S. (2021). Reading to dogs in schools: An exploratory study of teacher perspectives. *Educational Research, 63*(3), 279–301. https://doi.org/10.1080/00131881.2021.1956989

Troyer, M. (2022). The gold standard for whom?: Schools' experiences participating in a randomized controlled trial. *Journal of Research in Reading, 45(3), 406-424*. https://doi.org/10.1111/1467-9817.12395