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School-university partnerships: a model for knowledge co-creation for inclusive education

Research brief

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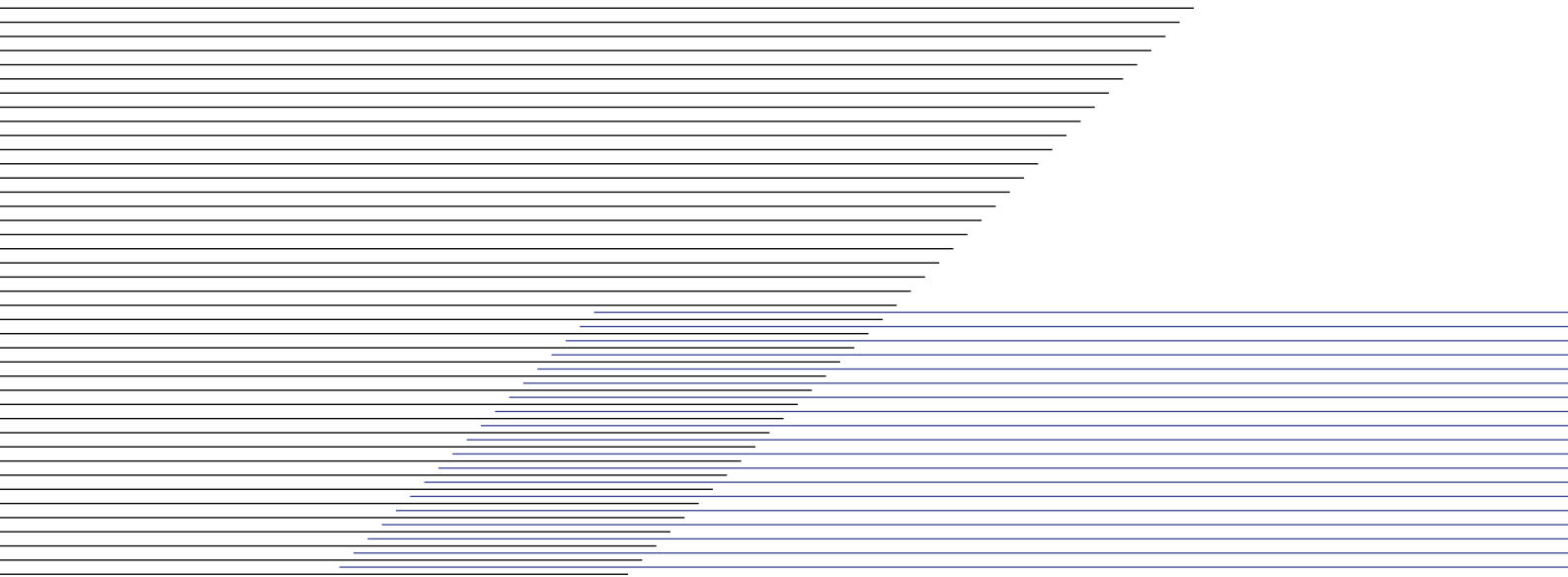

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1 Introduction

There have been longstanding concerns about the need to strengthen the relationship between research and practice in the field of education. In 1974, David R. Krathwohl, as part of his presidential address at the Annual Convention of the American Psychological Society, spoke of the 'crisis' in the field of educational research, including the distance between research and research users.[1] At this time, he called for a better understanding of the role of research, a reduction in the overreliance on experimentation as a research method and a return to the classroom as a setting for investigation. Over four decades later, these debates continue within education policy, practice and research which, in part, reflects our collective and developing knowledge and understanding of the complexities of this work and 'messiness' of real world research in education.[2, 3] The proliferation of language and terminology (e.g. knowledge exchange, knowledge co-creation, knowledge dissemination) used to discuss the work in this field illustrates this context well. For educators, researchers and policy makers, with a focus on inclusive education, this is very familiar territory.

Mindful of this context, what follows is an account of the development of one model of school-university partnership working, that has yet to be externally evaluated, that began at UCL Centre for Inclusive Education in 2013, and the subsequent contribution this has made to investigating and developing knowledge, in particular developing an increased understanding of aspects of inclusive pedagogy for both practice and research. This account presents an overview of the structure of these partnerships, describes the four main principles upon which the school-university partnerships are based with illustrative vignettes and offers a commentary by the authors, more broadly, of the benefits and challenges to be overcome to support stronger and more sustained school-university partnerships.

1 Krathwohl, D. R. (1974). An analysis of the perceived ineffectiveness of educational research and some recommendations 1. *Educational Psychologist*, 11(2), 73-86.

2 Moss, G. (2016). Knowledge, education and research: Making common cause across communities of practice. *British Educational Research Journal*, 42(6), 927-944.

3 Thomas, G. (2021). Experiment's persistent failure in education inquiry, and why it keeps failing. *British Educational Research Journal*, 47(3), 501-519.

2. Background

2.1 Why are educators, researchers, and policy makers concerned with strengthening school-university knowledge co-creation partnerships?

We highlight four main reasons for why educators, researchers and policy makers are concerned with strengthening school-university partnerships. Firstly, teaching and learning in the 21st Century, is a complex process. Educators have a significant responsibility for preparing children and young people academically, socially and emotionally for a rapidly changing globalised society with respect to employment, housing, relationships, parenthood and civic responsibility. Therefore, their education can only benefit from the greater harnessing of knowledge whether that be tacit, explicit or the lived experience. Complex and protracted education and social problems, such as the poorer education and adult outcomes of so many children and young people who experience disadvantage in some or multiple forms, requires analysis that draws on as many sources of expertise as possible. The greater the collaboration between all those involved, including with children, young people and their families, the greater the chance of progress towards reducing and removing barriers in education and in society more widely.

Secondly, in 2017-18, the Higher Education Funding Council for England (HEFCE) distributed £1.6 billion of public funding to universities for research.[4] Co-creation of knowledge through stronger partnerships by and with universities offers the potential of ensuring that more of the allocated public funds for research activities are directed towards societal priorities. This includes making a meaningful contribution to the communities the research proposes to serve. This also speaks to what has been described as the third or 'civic' mission of universities (apart from teaching and research) where a university is concerned with not just what it is 'good at' but what it is 'good for'.[5] In this context, collaboration and partnerships with the wider community are founded on a recognition of these partners as producers of knowledge in their own right and not just recipients of university 'wisdom'.[6]

Finally, although currently working in higher education (HE), all the authors had previously worked as educators in various roles in schools which influenced our rationale for engaging and strengthening partnerships. As educators and researchers, we were acutely aware of the innovation taking place daily in schools that had not yet found its way into the 'canon' and sought to investigate how this might, in part, be addressed. We were also aware of some of the practice in schools that lacked any meaningful theoretical and/or empirical grounding and of 'the distance'[7] between

4 HEFCE. (2017). Annual funding allocations. Retrieved from http://www.hefce.ac.uk/rsrch/funding/

5 Halsall, J. P., & Powell, J. (2016). Crafting knowledge exchange in the social science agenda. *Cogent Social Sciences*, 2(1), 1244145.

6 Shucksmith, M. (2016). InterAction How can academics and the third sector work together to influence policy and practice. *Dunfermline: CarnegieUK Trust*.

7 The authors are aware of the debates around this terminology and of the potentially false dichotomy of this debate, but we use Knowledge Exchange as a shorthand reference for the purposes of this briefing paper.

practice and research. This distance exists even at a time when research has never been more available, in various formats to educators (Levin, 2011; Moss, 2016; Sharples, 2015). Currently there are multiple approaches to enable the use of research evidence in education as demonstrated by a recent European survey that found 269 examples across 30 countries (Tripney, Kenny, & Gough, 2014). The examples were generated from a review of European efforts aimed at '*increasing the uptake and use of research evidence through activity in any of the four main processes depicted in the model (research production; research use; research mediation; systems level)'* (p5). This report seeks to illustrate the role of university-school partnerships across all four of these processes, acknowledging that the processes somewhat merge in practice.

2.2 Principles underpinning the school-university partnerships

The principles that underpin the partnerships have developed over time and essentially draw from two sources. The first was our understanding of the concept of knowledge exchange (KE) which was reinforced by the findings from two major reports: *Interaction*[8] from the Carnegie UK Trust and '*Using evidence: What works?* [9] from the Alliance for Useful Evidence. Despite a relatively short tradition in education compared to other disciplines, terms such as KE have already been interpreted in many ways. The range and interchanging use of terms associated with KE and what can be 'done' to knowledge such as mobilisation, transformation, dissemination, transfer, integration and co-production of knowledge has created a field that to the experienced, as well as the uninitiated, appears confused at times. However, both these reports helped to clarify the fundamental principles of:

- The need for consensus between decision makers/practitioners and researchers – what sort of evidence is needed for the frontline;
- Interaction between tacit and explicit knowledge as vital for the creation of new knowledge and
- The intense and, ideally, long-term relationships between users and researchers that are more likely to lead to research being used.

The second influence drew from the body of research on Design Based Implementation Research (DBIR) that has emerged over the past two decades in response to the challenges of strengthening partnerships between practitioners and researchers.[10,11] DBIR follows in the pragmatic tradition of education philosophy where practitioner–researcher partnerships embody a commitment to solving practical problems through collaborative efforts. In this regard, one of the fundamental characteristics of a quality DBIR study is a commitment to theory construction and explanation while

8 Shucksmith, M. (2016). InterAction How can academics and the third sector work together to influence policy and practice. *Dunfermline: CarnegieUK Trust*.

9 Breckon, J., & Dodson, J. (2016). Using evidence. *London: Alliance for Useful Evidence*. https://www.nesta.org.uk/report/using-evidence-what-works/

10 Anderson, T., & Shattuck, J. (2012). Design-based research: A decade of progress in education research?. *Educational researcher, 41*(1), 16-25.

11 Fishman, B., Penuel, W., Allen, A. R., Cheng, B., & Sabelli, N. O. R. A. (2013). Design-based implementation research: An emerging model for transforming the relationship of research and practice. *Teachers College Record, 115*(14), 136-156.

addressing real-world problems.[12] The four core principles of DBIR are: (1) a focus on persistent problems of practice from multiple stakeholders' perspectives; (2) a commitment to iterative, collaborative design; (3) a concern with developing theory and knowledge (in respect of both classroom learning and understanding the processes of implementation through systematic inquiry); and (4) a concern with developing capacity for sustaining change in systems. DBIR is not an entirely new form of research paradigm and most of the key elements of the approach can be found in previous and existing lines of research. In many ways it emerges from the insights of past research and from both successful and unsuccessful attempts to bring educational innovations to scale.

Consequently, the partnerships described in this briefing were based on the following five principles:

1. Consensus - the need for consensus between the multiple stakeholders including teachers, school leaders, children, families and researchers to address persistent problems of practice;
2. Iterative design - a commitment to iterative, collaborative design;
3. Theory and implementation knowledge - a concern with developing theoretical and implementation knowledge through systematic inquiry;
4. Capacity building - a concern with developing capacity for sustaining change in systems and
5. Longevity - that more intense and long-term relationships between users and researchers are more likely to lead to research being used.

2.3 Content, structure and delivery of the four inclusive education school-university programmes

Table 1 (overleaf) outlines the content of each of the four programmes focused on improving inclusive practice: improving the practice of teaching assistants; the education of children and young people in care; wellbeing and mental health of students/school practitioners and language and communication outcomes for students in the primary years.

12 Reeves, T. C., Herrington, J., & Oliver, R. (2005). Design research: A socially responsible approach to instructional technology research in higher education. *Journal of computing in higher education, 16*(2), 96-115.

Table 1: Four school-university inclusion programmes

Programme	Aims
Maximising the Impact of Teaching Assistants (MITA)	MITA is a whole-school training and consultancy programme for school leaders, teachers, and teaching assistants (TAs). MITA supports schools to review and rethink how TAs are deployed in a classroom setting, prepared for lessons, and interact with pupils. In terms of pupil outcomes, its central aim is to improve pupils' independence and engagement.
Promoting the Achievement of Looked After Children (PALAC)	PALAC seeks to support practice in schools that contributes improved outcomes for students in care. It originated as a result of the dearth of evidence available to support schools in developing practice for a group of children and young people who continue to underachieve both academically and subsequently in adult life.
Supporting Wellbeing, Emotional Resilience and Learning (SWERL)	SWERL aims to analyse a whole school environment in respect of supporting whole-school wellbeing. Schools review provision across seven domains: Supported and Informed Staff; Graduated Response to Need: Role of the Teacher; Enabling Environment; Whole School Coherence and Design; Building Relationships; Robust Communication Systems and Planning Transitions.
Supporting Spoken Language in the Classroom (SSLiC)	SSLiC aims to foster a good language learning environment, and so provide support for literacy, support for learning and ultimately promote positive academic outcomes. Further, creating effective language learning school environments can prepare children for the more challenging demands placed on oral language as they proceed through school, and can reduce the number of children experiencing Speech, Language and Communication Needs.

Table 2 outlines the development, structure and activities of the approach based on the principles described in Section 2. In the development phase of each programme, the current evidence base was summarised and translated for the purposes of a specific programme handbook. In addition, this evidence base including theory, empirical data and policy was used to formulate a school audit in each of the four programmes. These run ideally over the course of a school year with teams of up to three educators, including at least one member of the senior leadership team, from a setting (eight to twenty settings), alongside two/three researchers. Schools and university staff are paired up. Depending on the programme, the whole group meets on at least two occasions during the year, plus at least two meetings between each

school and allocated university staff member. The coverage of each programme consists of: an introduction to the evidence; the programme's underpinning principles; a practice-based audit and fundamentals of leading change; preparation and drafting of an action plan based on audit findings for each setting; a review of progress against the action plan and the final day sees all participants sharing current learning, outputs and outcomes of their projects. Across the year, practitioners and researchers are in contact remotely.

Table 2: School-university programme structure

Programme development and activities	Programme principles
Evidence base and theory translated and summarised	
Practice audit written based on evidence and theory summary	A focus on persistent problems of practice from multiple stakeholders' perspectives
Day 1: introduction to evidence, audit and leading change	Iterative collaborative design
Day 2: action planning	Developing theory and knowledge related to both classroom learning and implementation through systematic inquiry
Day 3: reviewing and responding to action plan learning	Developing capacity for sustaining change in systems
Day 4: presentation of findings and next steps	
New programme cohorts	
Practice and research communities	
New research applications	

Six months after day four, participants are involved in writing up case studies on each project which are published as open access case studies. These case studies are subsequently added to, or offered alongside the programme handbook for the next cohort of participants and made available to the wider research and practice community through a variety of mediums; including websites, relevant national organisations, conferences and finally through informing new research projects.

3 Exemplifying the school-university partnership principles

This section presents a series of vignettes from the programmes to illustrate how the five principles underpinning the school-university partnership are fostered and applied throughout the eighteen-month collaboration.

Principle 1

Consensus - the need for consensus between the multiple stakeholders including teachers, school leaders, children, families and researchers to address persistent problems of practice

In DBIR, multiple stakeholders, through discussion and consensus, identify practical problems as the focus of research and development. This will be influenced by what participants collectively agree as 'useful knowledge', which is often interpreted differently between educators, children, families, policy makers and researchers. The following summary based on a published case study from the SLLiC programme illustrates how the partnership focused on ***persistent problems of practice from multiple stakeholders' perspectives***.

The project was based in a primary school and children's centre in London. The research team comprised of a reception teacher, a school leader of SEND, a speech therapist from the children's centre and a university researcher who was also an educational psychologist. Cognisant of the evidence for the importance of the role that the home environment can play in supporting children's language, the team sought to investigate how parents might be better supported by schools to foster their child's language development, Bakopoulou, et al (2017) Supporting Spoken Language in the Classroom (SSLiC) case-studies booklet.[13]

SSLiC

Sixty parents completed a questionnaire that focussed on parental confidence in using different language learning approaches, their views on accessing support in school and language initiatives that they would find helpful. The findings from the questionnaire were then used to inform the content of an 'Open Classrooms' initiative where parents were invited to watch lessons in which teachers modelled language learning interactions and had the opportunity to discuss the language needs with staff. Finally, combined with the findings from the questionnaires and the opportunities to access 'Open Classrooms', several further sources of support were also provided.

13 https://www.ucl.ac.uk/ioe/departments-and-centres/centres/centre-inclusive-education/supporting-spoken-language-classroom-sslic

These included: a presentation evening on typical language development, approaches to supporting language at home and 'signposting' to further support should parents be concerned about their child's language development and a resource pack which included specific information highlighted as areas of need from the questionnaires and activities to complete at home.

The key outcomes of the project for the school was a greater understanding of the barriers faced by parents in their setting and how they might be reduced. The contribution to research was the development of an evidence informed questionnaire and suggested practice examples that might be replicated and tested in a pilot outcomes study in order to address a persistent and fundamental problem of practice; namely that of the increasing number of children starting school who have fallen behind in their language development.

Principle 2

Iterative design - a commitment to iterative, collaborative design

From the outset, the collaborative nature of the partnership is emphasised. The domains-based audit provides a structured opportunity for practitioners to interact meaningfully with published research, using the handbook, audit and facilitator support to co-construct their own reflective project and collaboratively identify their setting's priorities. The audit is designed to be taken back to schools for further scrutiny by stakeholders.

SWERL

Some schools structured this process by putting each domain onto a sheet of A3 paper and inviting staff to comment on post-it notes onto each sheet. Another school used a RAG rating system, with coloured cards; teachers were invited to select a colour that corresponded to their rating of school performance in each domain and write a clarifying comment on it. Once the audit has been completed collaboratively, the facilitator visits the school to discuss the audit and the 'next steps' in the form of an action plan. A structured action plan which is linked to Kotter's Theory of Change (1995).[14]

The iterative nature of the process is exemplified by schools who initially have planned a proposed activity, only to find, as a project begins 'the unknowns' are encountered which ultimately require amending the action plan more than once in the first few weeks of a project. Moreover, even after a formal project has ended, to facilitate ongoing collaboration and further development, many schools have appointed a SWERL governor or SWERL team who continue to use the findings from the initial project and a revision of the audit to plan new projects.

14 Kotter, J.P. (1995) 'Leading change: Why transformation efforts fail', Harvard Business Review, 73 (2): 59–67.

Principle 3

Theory and implementation knowledge - a concern with developing theoretical and implementation knowledge through systematic inquiry

Most 'problems of practice' in education are complex in nature and thus will require multiple theories to help explain what might be happening and how an issue might be addressed. Theory in DBIR might include theories of learning within and across subjects, informal learning, practitioner learning, organisational change and leadership.[15] In the PALAC programme, for example, participants are encouraged to examine theoretical assumptions that underpin relevant pedagogical approaches used more generally and how they might be adapted and/or combined with the very limited, empirically based, research informed, approaches to support the education of children in care in schools. The following illustrative PALAC case study, based on the work of a primary school in the east of England, demonstrates how theories and practices related to reading engagement, enjoyment and achievement were combined and adapted for primary aged children in care.

PALAC

As a result of their experiences, many children enter care with lower levels of literacy compared to their peers. This is a gap, that as a group widens from primary to secondary education. One group in a PALAC cohort comprising the SENCo/Designated Teacher and three teaching assistants from a primary school, with two researchers, investigated what aspects of the wider evidence related to reading engagement and attainment might be relevant, adapted and then implemented for a group of six children in care. The final project combined a paired reading approach with an adaptation of a book gifting programme for children in care where primary aged children receive a box of books each year at home from a national charity. The final approach drew on theoretical approaches that support children in care to thrive, such as fostering secure relationships and secondary attachment figures, elements of the book programme that research had shown to have impact and a common approach to reading (paired reading) that drew on this theory and research.

Principle 4

Capacity building - a concern with developing capacity for sustaining change in systems

DBIR is not only concerned with building the capacity of individual practitioners and schools but also with developing the capacity of a system to implement and maintain innovations at scale. MITA was developed to address strategic and practical challenges arising from the landmark Deployment and Impact of Support Staff (DISS) project (Blatchford et al., 2012).[16] The DISS project called into question the widespread model of educational support for pupils with special educational needs (SEN), which is heavily reliant on often under-qualified classroom support staff. The key finding was

15 Fishman, B., Penuel, W., Allen, A. R., Cheng, B., & Sabelli, N. O. R. A. (2013). Design-based implementation research: An emerging model for transforming the relationship of research and practice. *Teachers College Record, 115*(14), 136-156.

16 Blatchford, P., Russell, A. and Webster, R. (2012) Reassessing the impact of teaching assistants: How research challenges practice and policy. Oxon, Routledge.

that TA support had a negative impact on pupils' academic progress, especially those with special educational needs. It was the decisions made about TAs by school leaders and teachers – not decisions made by TAs themselves – that best explained this relationship. MITA focuses on addressing three key areas of strategic and operational concern: TA deployment, practice (their interactions with pupils) and preparedness.

MITA

To date, approximately 1,000 schools have participated in MITA. Many have also engaged with further training for TAs and teachers, called *Maximising the Practice of Teaching Assistants* (MPTA), which is also based on book: *The Teaching Assistant's Guide to Effective Interaction.*[17]

Consultancy and training related to MITA has expanded in several innovative ways, with the purpose of increasing capacity within the system and widen access to schools. This has been achieved through handbooks for leaders[18] and by creating a range of resources (most of which are available free online) including the *Making Best Use of Teaching Assistants Guidance Report*[19], co-written with Education Endowment Foundation, and developing training around the application of these materials. Here, we give two examples. Firstly, the MITA team developed a self-evaluation review guide and evidence-based assessment framework, called *The Teaching Assistant Deployment Review Guide*[20], in order to facilitate processes of school-to-school support and improvement. A short training course for school leaders was developed alongside the Guide on how to use it and on the process of conducting a review in a school. The second example of capacity building is the MPTA staff training programme, which opens out a critical element of the MITA process on improving TA-to-pupil interaction. Whereas MITA is directed at school leaders, MPTA is aimed at TAs. In a sense, MPTA is the 'bottom-up', to MITA's 'top-down'. MPTA equips TAs with the skills to scaffold learning and help pupils become confident, independent learners.

Unable to meet training demand, the small and part-time team that deliver MITA and MPTA developed and launched a licensing programme, whereby experienced trainers could be trained and validated to deliver MPTA training. Licensing MPTA has greatly increased the number of people in the school system who can deliver this training, and has also spread this capacity geographically. Among them, licensees cover most regions of England and Wales, and several territories overseas. Another advantage of licensing is in ensuring a measure of quality assurance. A concern of scale-up activities is loss of integrity or fidelity to the delivery of training. It is a condition of holding a MPTA licence that all trainers use the same package of materials, and do not adapt or amend the content. Licensees attend a mandatory two-day training course that provides instruction and guidance on how to deliver the training and use the materials.

17 Bosanquet, P., Radford, J. & Webster, R. (2021) T*he Teaching Assistant's Guide to Effective Interaction: How to maximise your practice. Second edition*. Oxon: Routledge

18 Webster, R., Bosanquet, P., Franklin, S. & Parker, M. (2021) *Maximising the Impact of Teaching Assistants in Primary Schools: A practice guide for school leaders.* Oxon: Routledge; Webster, R., Russell, A. & Blatchford, P. (2016) *Maximising the Impact of Teaching Assistants: Guidance for school leaders and teachers.* Second edition. Oxon: Routledge

19 *Making Best Use of Teaching Assistants. Guidance report.* Second edition. London: Education Endowment

20 http://maximisingtas.co.uk/resources/the-ta-deployment-review-guide.php

Principle 5

Longevity - that more intense and long-term relationships between users and researchers are more likely to lead to research being used

Longevity in partnerships is fundamental to success for three reasons. Firstly, the analysis of complex social problems and subsequent implementation and evaluation of approaches to address specific problems in education takes time.[21] In addition, supporting changes to teacher practices is a process that requires sustained effort. Integral to this analysis and action, and a second reason for the need for longevity, is the sustained dialogue required and therefore the time for participants to develop strong relationships for effective dialogue.[22] Often participants come from different professional backgrounds, with 'rewards and incentives' that may diverge despite union on an overall aim. Trust and an appreciation of the different professional contexts and perspectives of all involved takes time to develop. Thus, when the inevitable challenges experienced as part of any investigation process emerge, they are more likely to be efficiently managed.[23] Thirdly, the potential rewards of longevity are rich, as over time it is the accumulated knowledge of a field rather than outputs of one study that can have greater currency and impact for practitioners and researchers.[24]

PALAC

The PALAC programme began in 2013 and new knowledge, co-produced at each stage, has been applied in practice, research and in developing partnerships for new projects. The first pilot, for example, led to the publication of one of the few books for practitioners in schools on the education of children in care. This publication was then used to promote and further the reach of the initial programme from 2014 to 2019 across fifteen local authorities in England and Wales. The knowledge created has been disseminated through eight open access practitioner publications based on over seventy case studies accumulated across the programme, year on year, since its inception. After three years, six of the nine partner LAs continued to participate on the programme after their first year of participation. This has allowed some of the longer-term partnerships to focus on co-creating new programmes for their context such as the implementation of a literacy-based programme for students in care in the east of England. The key point here, is that university-school partnerships are more likely to succeed if they can be embedded more strategically in the local context. Finally, longevity in partnerships has resulted in two successful joint research applications with Virtual School teams for funding to develop knowledge and practice in post-16 education and in transitions.

21 Levin, B. (2011). Mobilising research knowledge in education. *London Review of Education, 9*(1), 15-26.

22 Sigurðardóttir, A. K., Morris, A., Skoglund, P., & Tudjman, T. (2017). Knowledge partnerships between schools and universities: modelling the process of connection and relations. *Evidence & Policy: A Journal of Research, Debate and Practice.*

23 Wentworth, L., Mazzeo, C., & Connolly, F. (2017). Research practice partnerships: A strategy for promoting evidence-based decision-making in education. *Educational Research, 59*(2), 241-255.

24 Shucksmith, M. (2016). InterAction How can academics and the third sector work together to influence policy and practice. *Dunfermline: CarnegieUK Trust.*

4 Benefits and challenges of the school-university partnerships to date

There have been important benefits to this approach to school-university partnerships to date.

- Since 2014 more than 1000 schools/colleges and over 20 local authorities have had an opportunity to **focus on using evidence informed approaches to developing pedagogy and, where relevant, whole school inclusive practice of priority and of relevance to their context**. At the same time, findings from these partnerships have been systematically published and disseminated, to be used with subsequent participants on a programme, shared at conferences and used to inform new successful grant proposals.
- The approach facilitates, values and records **the contribution of educator professional judgement** in advancing theory and practice. Judgements which have been described as at risk of erosion in the current 'evidence based education' climate that often prioritises practices based on 'gold standard' randomised control trials. [25]
- Through the implementation of research findings from one off studies, the model has facilitated an additional route to enabling 'impact' for HEI research findings.
- The model has allowed for '…**the messiness of real-world practice**…. to be recognised, understood and integrated' into a demanding research design.[26] We would not describe it as fixed method but it has provided sufficient structure to allow an investigation of an issue in its naturalistic setting, that advances theory more generally and specifically influences practice in a setting. This is significant for schools, as educators are often reticent to take part in research due, for example, to the increased demands on time and if immediate benefits for their practice and pupils are not obvious.
- There have also been challenges when undertaking work in this space of co-creation. Firstly, **professionals in universities and schools work in quite different contexts** with institutional demands that need to be navigated if partnerships are going to succeed in the long term. One of the most pressing demands are the different ways in which the performance of schools and universities are measured

25 Biesta, G. J. (2010). Why 'what works' still won't work: From evidence-based education to value-based education. *Studies in philosophy and education, 29*(5), 491-503.

26 Barab, S. A. (2014). Design-based research: a methodological toolkit for engineering change. In K. Sawyer (ed.) Handbook of the Learning Sciences, Vol 2, (pp. 233-270), Cambridge, MA: Cambridge University Press. p153

and held to account. The requirements of, for example, Ofsted in schools and the Research Excellence Framework (REF) in universities does not always prioritise the co-creation approach. Secondly, the way in which schools and universities are funded and the reduced public funds for both institutions means that **financing long-term partnerships will be continue to be difficult**. Schools do not possess the budgets for full economic cost university projects. Moreover, staff capacity in universities for partnership activities has yet to be embedded, with many researchers in the field employed on short term contracts (Shucksmith, 2016).

Finally, a common criticism of the DBIR approach is that it fails to provide sufficient empirical evidence that allows for confidence in claims made of the research findings and subsequently in generalising findings. Specific observations include: a lack of measurable effect sizes; researchers 'too close to the action' and that at best, it is an approach that provides formative insights into practice that requires further experimental research designs to support findings. We would argue that this approach is not about demonstrating 'what works' through, for example, measurable effect sizes. Its application and meaning arises from what Barab (pg 58) has described as numerous 'principled accounts [that] provide logical chains of reasoning and prove useful to others'. Thus, since its launch in 2014, the PALAC programme has yearly published case studies (almost one hundred case studies to date) that are developing theory and practice based on previous 'principled accounts'. They form a collection of authentic and thoughtful narratives that unpack some of the underlying mechanisms that 'transform a local story into an argument that has generalisable value to others'.[27] Nevertheless, there is still investigation and learning, as with all research designs, to strengthen validity and reliability in practice. The authors note one recent study of Guldberg and colleagues (2021) and their development of a value creation framework to capture knowledge co-creation and pathways to research impact.[28]

27 https://www.ucl.ac.uk/ioe/departments-and-centres/centres/centre-inclusive-education/promoting-achievement-looked-after-children-palac

28 Guldberg, K., Achtypi, A., D'Alonzo, L., Laskaridou, K., Milton, D., Molteni, P., & Wood, R. (2021). Using the value creation framework to capture knowledge co-creation and pathways to impact in a transnational community of practice in autism education. *International Journal of Research & Method in Education, 44*(1), 96-111

5 Next steps

As evidenced through, for example: the publication of case studies; successful follow-on grant applications and results of internal programme evaluations, we have been able to establish that the approach of our programmes to date, show promise for current practice in schools and in facilitating further research. The next step is to confirm the logic models underpinning the approach to allow for an external evaluation of the programme approach.

The intention is that this will enable a more rigorous understanding of the effects and impact of university-school research partnerships.