



Schools-universities knowledge-exchange schemes

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Abstract

This article is based on an international study of knowledge-exchange schemes between schools and universities. It describes a number of such schemes in European countries, and offers practical suggestions about factors to be borne in mind when setting up a scheme. It combines the results of an online survey of 13 schemes in six EU countries and an analysis of 4 particular schemes in greater depth. The latter include a generic online space, a city-based forum, a university-school partnership and a rural collaboration on a specific issue. Based on these 4 cases, observations are made about factors that appear to help or hinder the interplay of knowledge exchange and practice improvement. A sequence of stages is suggested to describe the process.

Keywords: partnership; collaboration; school-university; education; Europe; knowledge exchange

Key messages

- Experience from some of the schemes suggests that collaborations benefit when the actual situation, as it is on the ground, is recognized clearly by all parties, from the beginning.
- Theoretical models have been identified that help identify ways to design or improve a scheme but our experience is that no single model suits all situations.
- Managing collaboration requires insight into each other's ways of working; our belief is that building trust in the early stages pays huge dividends in the long run.

Background

Historically, practices in schools and other educational institutions have developed largely through the sharing of experience between professionals within and between institutions. In recent decades, however, increasing interest has begun to be shown in using research evidence to inform decision-making and investment at school level (Nutley *et al.*, 2007). A number of structures linking practitioners and evidence are appearing that suggest a growing appetite for research evidence as a basis for

practice. Examples are being showcased internationally through the work of the European network EIPPEE (Evidence Informed Policy and Practice in Education in Europe). They include the *Kennisrotonde* (Knowledge Roundabout; www.nro.nl/kennisrotonde/) in the Netherlands, answering teachers' questions with research evidence; the Education Endowment Foundation's Teaching and Learning Toolkit (<https://educationendowmentfoundation.org.uk/resources/teaching-learning-toolkit/>), assessing evidence on practice in the United Kingdom; the *Fachportal Pädagogik* (Education Portal; www.fachportal-paedagogik.de) in Germany, offering access to research publications and the The Norwegian Knowledge Centre for Education (www.forskningsradet.no/prognnett-kunnskapscenter/KSUEN/1247146862459?lang=en), developing systematic reviews on key policy issues affecting schools.

These instances, and the activities of the people behind them, are indications of a developing relationship between the worlds of research and practice. This bodes well for the future of an evidence-informed approach to education. However, producing research and running a school are distinct areas of expertise. The professional communities concerned have developed quite separately historically, and in many countries they operate under quite different conditions. As a result, it is not in general easy for people involved with schooling to find and make use of research evidence unaided. Likewise, for researchers, carrying out research that schools urgently require is no simple task. For these reasons (and others) universities and schools sometimes develop partnerships with the intention of overcoming some of these difficulties.

In 2011, the authors – a small team within the EIPPEE network involved in such partnerships – came together to study the issue. With backgrounds in research, practice and policy in four European countries, the group decided to focus on long-term schemes in which schools and universities work together to exchange and use different kinds of knowledge. Partnerships focusing on teacher training or short-term ad hoc arrangements are not within scope.

The study

This study was conducted in stages, and comprises three elements. First, an online survey in which 13 examples of schemes were identified in six European countries and their key features compared (Morris *et al.*, 2013). Second, a workshop in Frankfurt in 2013, at which the results of the survey were discussed with members of the EIPPEE network (Sigurðardóttir *et al.*, 2013). Third, an analysis of four particular schemes in greater depth and the use of theory-based models to help interpret them, which was discussed with a number of scheme leaders at a workshop in Oslo in 2014 (Skoglund *et al.*, 2014). The current paper is based on a synthesis of these three elements. Further information on the work undertaken for each of the individual stages can be found in the articles cited.

Most of the people involved in the schemes studied believe that use of research evidence is critical to long-term sustainable improvements in educational practice and policy, and that it ought to become a central feature of normal professional practice. At the same time, few of our informants believe that research evidence should direct practice; rather, it should inform it, while recognizing the crucial element of agency in a teacher's day-to-day practice. This study does not attempt to test these beliefs rigorously, nor does it measure the impact of knowledge-exchange partnership on student outcomes. Instead, it uses four case studies and workshop discussions with scheme leaders to illustrate success factors that may be of value to people setting up or developing a scheme.

This paper offers ideas and insights from previous school–university collaborations concerned with the use of research evidence. It is intended for designers and developers of such schemes, who may be based in schools, universities, local authorities or third-sector organizations. There is no blueprint for success or off-the-shelf design. To support local thinking, we first offer a series of observations from the cases studied, then reflect on the practical use of some theoretical models and, finally, discuss some of the common challenges.

The cases

The survey and workshops reveal that such collaborative schemes between schools and universities exist in many countries of the European Union, and that they are varied in form. The 13 examples surveyed are from Iceland, the UK, the Netherlands, Sweden, Belgium and Germany, and they are characterized briefly in Table 1.

Table 1: The 13 schemes participating in the 2013 survey

Country	Institution	Name of scheme	Focus of scheme
Iceland	The Education Centre, University of Reykjavik	MenntaMiðja	A framework for forums for research and development projects across different sectors and educational issues
UK	Institute for Effective Education, University of York	The Yorkshire Informed Practice Initiative (YIPI)	A school engagement process for selecting and implementing evidence-based programmes
UK	Coventry City Council and CfBT Education	The CfBT/Coventry Anti-Bullying Project	Tackling bullying in Coventry schools
Netherlands	RISBO Research, Training and Consultancy Agency, Erasmus University, Rotterdam	Rotterdam Knowledge Network on Talent	Building a community of local educational expertise that supports policy development and educational practice in Rotterdam
Sweden	National Agency for Special Needs Education and Schools (SPSM) in Sweden, and Borås University College,	Essunga Municipal School: Inclusion and Goal Attainment	Use of research evidence to create a culture of inclusion in the poorest goal attaining municipality
Sweden	12 municipalities and their schools, supported by National Agency for Special Needs Education and Schools (SPSM) in Sweden, other national Education Agencies and the University College of Malmö	Creating Inclusive Learning Environments	Creating more inclusive learning environments, using research as an impetus for change and for creating new knowledge through the project
Belgium	Vrije University, Brussels	CLiL Multilingual Education	Multilingual education

Country	Institution	Name of scheme	Focus of scheme
UK	Aston University, Birmingham	How Language Works	Promoting learners' facility with subject-specific language to raise attainment in secondary schools
Germany	Ulm University	Scientific knowledge about effective learning	Identifying factors associated with effective learning through empirical research
UK	Teacher Development Trust, London	National Teacher Enquiry Network	A membership network providing support and resources to teachers
Germany	ZNL Transfer Centre of Neuroscience and Learning, Ulm University and the Sächsisches Bildungsinstitut, Radebeul University	Focus Kind	Development of teaching approaches based on lessons learned and their implementation in practice
Germany	Ulm University	EMIL-Learning Emotion Regulation	Cognitive neuroscientific research on learning
UK	Centre for the Use of Research Evidence in Education (CUREE), Coventry	Route Maps	Interactive route maps providing evidence about effective teaching strategies

The four case studies, selected from those surveyed, illustrate the variety of the schemes. Some schemes focus on the use of online spaces for knowledge sharing. The MenntaMiðja scheme (<http://menntamidja.is/education-plaza/>) in Reykjavik, for example, is an open, virtual, collaborative venue in Iceland that provides channels of communication, known as 'plazas', for sharing information and consulting on research and school development projects. These focus on topics such as language, science, special education and vocational education. Set up in 2012, it is led by the School of Education in collaboration with the educational authorities at national and local levels, universities and teachers' unions (Jakobsdóttir *et al.*, 2013). All plazas are open, and teachers share their ideas and interact with colleagues and a broad community of teachers and researchers in their field. Facebook groups are used for daily communication outside meetings, courses, workshops and individual websites.

Others, such as the Knowledge Network on Talent (KWP; www.kenniswerkplaats-rotterdamstalent.nl/home/) scheme in Rotterdam, provide an ongoing forum based on the needs of a municipality. Since 2010, Erasmus University and other knowledge institutes in the city have been working together with schools and the municipality to transfer existing knowledge, and to find and create new knowledge relevant for teachers. The aim is to provide a single common area in which knowledge is both developed and used. This is done through networking, practical activities with teachers and research aligned with the needs of Rotterdam. The result is a cooperative atmosphere, which leads to relatively rapid knowledge creation and transfer due to the range of experts in the network. Duplication of studies is avoided and important new research questions are formulated jointly.

A third type of scheme is one set up specifically to address a particular problem. An example is the Essunga local partnership based in a rural community in Sweden. It addresses the low average performance of students, believed to be associated with the segregation of provision for those with special needs. In 2007, the local education board decided that changes should be based on current research evidence. This was summarized and discussed with teachers, and connected to their own knowledge and experience. Principals and practitioners joined in a search for understanding the challenges through a joint reflective process informed by existing research knowledge. As a result, it was decided to close down segregated special education and move the learners into mainstream classrooms, together with the professionals who had worked with them. The process was monitored by a researcher from a national agency. Teachers were supported through the process of change by researchers, principals and special-needs pedagogues. The motor for development of practice and research was the willingness, awareness and ability to question of all involved (Persson, 2013; Skoglund and Stäcker, 2016).

A fourth type of scheme, exemplified by the Yorkshire Informed Practice Initiative (YIPI; <https://the-iee.org.uk/what-we-do/research/the-yorkshire-informed-practice-initiative-yipi/>) involved the development of an ongoing relationship between a university and a school, which was designed to build trust and find ways of tackling a wide variety of issues. Led by the Institute for Effective Education (IEE) at the University of York, the scheme focused on evidence-based programmes and strategies. It explored how best to select, introduce, implement and sustain such programmes in schools. There were two elements to the scheme: compiling a directory of research-proven programmes and practices, and developing a process through which schools could use, identify and implement such interventions in line with their own data and targets (Sharples and Sheard, 2015). Three primary schools in a local authority in the North of England participated in a multistage engagement process that involved: analysing data-driven decision-making, identifying suitable programmes and processes, promoting collaboration and teacher learning, and looking for evidence of raised attainment.

Observations

The team made a number of observations from the results of the survey and subsequent workshop discussions held in 2013 in Frankfurt. The four case studies were then examined in greater depth and discussed in a workshop in Oslo in 2014. The ideas set out below were developed from the survey, workshop discussions and case studies.

Circumstances

Just as there is great variety in the types of schemes, so there is variety in the circumstances of each one. The case studies (Skoglund *et al.*, 2014) indicate that the circumstances in which each scheme is created strongly influence its format and structure. The individuals involved, the sources of funding available and the degree of interest shown by the various parties all help to shape what emerges. The nature of a school–university collaboration seems to depend on conditions locally. A common success factor seems to be whether, in the early stages, the practice problem has been clearly delineated and accepted by the collaborating parties, and whether the requirement for knowledge, as opposed to tips or guidelines, has been fully acknowledged.

Relationships

The importance of the cultural and professional differences between the various communities involved in collaboration was highlighted in both the personal accounts given in workshop discussions and the analysis of case study schemes. In particular, differences were apparent in the planning approaches, timescales, modes of communication and incentives associated with universities, schools and municipal offices. These are serious, deep-rooted differences that will not simply be obliterated through goodwill. Academics are under constant pressure to publish papers in journals and to compete within their discipline, school leaders have to solve urgent problems for teachers and parents, while officials in policy-based organizations need to satisfy politicians who are themselves answerable to electorates. Differences needed to be accommodated in the design of a collaborative scheme in such a way that each party saw some pay-off for their community, while the project as a whole produced value for learners. The interests of both teachers and researchers needed to be served.

Trust between the actors emerges as a key factor in successful partnerships. This is not simple to achieve: it requires explicit attention and takes time to develop. A safe environment needs to be created that enables the actors to modify some of their accustomed patterns of behaviour. The competencies of each group can complement one another: some will be more skilled in project management, others in statistical analysis; some will favour scepticism in the interpretation of data, others optimism about the possibilities of improvement. All are needed at some point in the process.

There are many stages in the full process of evidence-informed change. One community will lead on the specification of the problem, another on the design of a study; one is skilled in research methods, another in managing behavioural change; both are essential to the interpretation of results and drawing out of implications for practice. Managing such collaboration is no easy task: it requires an insight into each other's ways of working and a readiness to accept leadership from outside one's own community at some point in the process. It is for this reason that the leaders of the schemes in this study emphasize the value of building trust in the early stages – it pays huge dividends in the long run.

Knowledge and uncertainty

Practitioners on the ground and officials in the municipality naturally hope that research will lead to clear-cut answers to the specific problems they are currently dealing with. Rarely does it prove as simple as this. The problems themselves may not be well-defined, and the research process often results in knowledge that is partial and hedged around with caveats. Sometimes studies are too small-scale to be relied upon, or use methods that cannot deliver robust conclusions. It may be that the results gained in the context of one study cannot be securely transferred to a different one. As researchers of all kinds are only too aware, a degree of uncertainty is inherent in knowledge, even when gained through research. Practitioners, on the other hand, may have had less exposure to this reality.

An important message from our case studies is that uncertainty needs to be distributed between all the actors. It is not just the researchers who should entertain it, but also the teachers, leaders and officials. The tradition that teachers and officials deal with fixed, codified procedures, whereas academics entertain doubts, nuances and ambiguity is not helpful.

The usefulness of evidence for practical purposes is not only constrained by the uncertainties inherent in it; it is also limited by its applicability. Users of evidence need

to weigh up the costs and benefits of evidence-based proposals and to be persuaded of the need to change. For this to happen, understanding of relevant knowledge needs to be broad. The experience and know-how of practitioners needs to interact with evidence from research, so that workable plans for improvement action can be drawn up. This is not easy; it inevitably involves professionals from different spheres working together, even though the rewards and incentives that motivate their work may differ greatly. For this reason, for effective school–university partnerships, attention needs to be paid to the development of strong professional relationships within the collaborating community.

A staged process

Based on the experience described above, a number of success factors have been identified, which we have grouped in a sequence of stages in the development of a scheme. The stages are described in broad terms below, but are manifested in different ways in different schemes:

1. *Starting with 'how it is'.* Collaborations need to begin with recognition of the actual situation as it is on the ground. The implication is that each party has to dispense with their default starting point: it should not be just what is wished for, or what previous experiences tell you, or what pre-existing concepts or ideologies suggest. Each party needs to start with an open-minded exploration of 'how it is'.
2. *Exploring 'why it is so'.* In this stage, each party listens carefully to what others are saying. This may involve some people who are less confident stepping forward to express their insights. Others who are more accustomed to analytical thinking and expression hold back to encourage other, more hidden perspectives through. The aim is to seek out deeper reasons for an imperfect situation; this may well involve people having to face up to facts or interpretations that implicate themselves, requiring them to change and perhaps to feel uncomfortable.
3. *Developing an idea of change.* Even when a clear understanding of a problem and its causes has been established and accepted among the various parties, the change process may still not be explicit. A collaborative and sensitive approach is needed to thinking through a change process. This might involve practical considerations, such as finding the resources to retrain people or reorganize activity, as well as conceptual ideas about how change happens.
4. *Working out what knowledge is needed.* Some people may feel they know what needs to be done and that it is just a matter of getting on with it; others may feel the opposite – that there is no basis on which to choose the path to take. Critical discussion is needed between the parties to identify precisely what needs to be found out, perhaps about the issues in hand or about the effectiveness of alternative strategies. Either way, the group will need to explore whether the knowledge needed is already available through previous studies or whether a new study needs to be carried out within the project. Clearly, both the university and the school perspectives are critical in this phase.
5. *Making the necessary changes.* Within the constraints of the school system, changes need to be planned on the basis of the knowledge gained in previous stages. The balance of leadership may shift towards the practitioners and leaders at this stage.
6. *Assessing the outcomes.* Crucially important for the future success of any intervention is a carefully planned assessment of its outcomes. Again, both parties have crucial inputs to make at this stage. Assessment needs to be independent

of the wishes and hopes of the practitioners but also well-tailored to the actual situation, so that its findings are of real value in shaping future interventions.

Models and perspectives

The rapidly developing field of evidence-use has produced a number of useful models and theoretical perspectives that are helpful in understanding the knowledge-exchange process. We have found three theoretical approaches useful in understanding the variety of school–university schemes (Broekkamp and van Hout-Wolters, 2007):

- *Evidence-based practice*, in which mediators translate findings from high-calibre research about what is effective, and practitioners then make informed decisions about provision, choosing interventions and methods that have been proven to be effective.
- *Research development diffusion*, in which practice-oriented researchers draw on theories and the products of decontextualized research, such as conceptual frameworks and descriptive reports. Mediators translate these into reports, policies, teaching materials and professional development programmes for practitioners.
- *Knowledge communities*, in which traditional roles are maintained as a diverse group of actors are mutually engaged in a partnership of knowledge exchange in which they work collaboratively to address an educational issue. Collaboration and partnership are emphasized.

Analysis of the four cases suggests that no single model among these three suits all situations. Instead, we have found that actual schemes include aspects from each of these approaches. Reflecting on the attributes of the three models, and how they might be combined in any given context, can help in the design or development of a scheme. For example, the MenntaMiðja Education Plaza functions with some success as a knowledge community, but the hesitation of some academics to participate suggests that it might benefit from developing the role of researchers as mediators, a key feature of the research development diffusion model. Consideration of key features of all three models could also help in the design of new schemes. The three perspectives can usefully inform thinking about what is expected to be achieved and how collaborative relationships might most appropriately be developed.

Challenges

Our study suggests that however strong one's belief in the value of evidence, and however enthusiastic one's supporters are, there remain many challenges inherent in collaborating across the domains of science and practice. These challenges are faced equally in the initial design of a scheme and in the process of implementation. Leaders of existing school–university knowledge-exchange schemes in different European countries have identified some of these in the course of this project. One of them pointed out that the process itself can prove so exciting and motivating to participants that the original goal of an initiative gets lost. Another reported how shifts in national and local policy can occur so frequently that it becomes hard to make justifiable funding proposals for approaches that operate over the long term. As a result, activity may be biased towards shorter term issues.

A further challenge arises once funding for schemes of this kind has been secured. Funding bodies may be looking for some kind of universal guidance to

emerge as a product of an evidence-based enquiry. With the variations in context – schools of different kinds, operating in different social and economic circumstances – it can prove very hard, or even misleading, to produce guidance that is applicable to all. An overriding message from this study is that, in general, no one size fits all when using research evidence to improve practice.

Cognitive challenges for the participants also matter. It can be especially hard for an experienced teacher to become a learner again, long after their initial training, as their classroom role puts them in the role of expert on a daily basis. However, this is just what is required if teachers (or anyone else) are to take on board the messages of research. These messages may contradict teachers' past experience or conflict with their habitual ways of teaching and, understandably, may provoke resistance. Effective methods of teaching apply to them as much as to their students. They also need to be supported as they try to confront their prior understanding of a teaching practice, before being expected to give it up in favour of one they have not tried before. They would be looking for strong evidence, relevant to the context of their practice, before being persuaded to change the habits of a lifetime.

Researchers, or mediators of research evidence, may equally face professional challenges as they learn how best to communicate with practitioners. No longer are they in the position of control they might be accustomed to during the analytical process. Instead, they may require the skills of a teacher or counsellor as they try to help the practitioner absorb the messages of research.

Conclusion

There is a burgeoning body of empirical and theoretical literature about the relationship between knowledge production and use (see the EIPPEE website (www.eippee.eu/cms/Default.aspx?tabid=3299) for an extensive list of sources in the field of education). Concepts are being developed, models created and programmes evaluated. The purpose of this study has been first, to confirm the existence of school–university knowledge-exchange partnerships in Europe, then to develop insights from the manner in which they are actually working in practice. This has enabled various types to be characterized, and success factors to be identified and set out in a sequence of stages. Suggestions have also been made about how theory-based models might helpfully be used to analyse and design schemes to suit particular circumstances. For the team, the top three learning points from this study have been:

- collaborations need to begin with recognition of the actual situation as it is on the ground, not as participants might wish it to be
- theoretical models can help identify ways to design or improve a scheme but no single model suits all situations
- effective collaboration requires insight by each party into each other's ways of working; building trust in the early stages pays huge dividends in the long run.

It is early days in understanding the challenges inherent in running such schemes. Exchanging knowledge about the schemes themselves is valuable; the authors are keen to hear from others around the world who are willing to do so.

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Our colleague, Mary Sheard, contributed extensively to the paper, before she sadly passed away in July 2014.

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