The Laboratory School – Legacy and Prospect[1]

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It was in 1896, that John Dewey established an experimental school at the University of Chicago in order to implement and challenge his emerging concept of experiential education. Since then, the concept of the laboratory school that is operated in association with a university, college, or other teacher education institution has achieved a global presence. The key functions of a Laboratory School are the training of future teachers, teacher professional development, educational research and above all the generation of educational knowledge and the specification of practice. In this article we first outline the concept of the Laboratory School and then describe how we have adapted these for the University of Bolton Laboratory School Network. A subsequent article will describe current practice in the in the University of Bolton Laboratory Schools.

The Laboratory School Concept

The University of Chicago Laboratory School is regarded historically as one of the most distinguished pioneer schools of the progressive education movement. Founded in November 1894 by John Dewey and University President William R. Harper, the "Dewey School" opened its doors as University Primary School on January 13, 1896 in the Hyde Park Area of Chicago, with twelve children present and one teacher in charge (Knoll 2014).

From the outset, Dewey envisioned his school as a scientific "laboratory" staffed with college trained teachers and devoted to research, experiment, and educational innovation. He expected his school – as part of the University's Department of Education – to perform two functions: first, to test and evaluate his theories about schooling and teaching and, second, to appraise the findings of these studies and work out subject matters and teaching methods for a curriculum that did not focus on books and recitations but on children and activities. Dewey's ultimate aim was laying the foundation for a reform which would revolutionize the educational system and, over time, transform the society into a great democratic community (Durst 2010).

Although the original school soon encountered problems for personal and administrative rather than educational reasons, the concept has endured and expanded into a global movement. Indeed, Pasi Sahlberg who led the Finnish education reform programme, pointed to Dewey's influence as one of the major reasons for Finland's success. He maintains that it is understandable that the pragmatic, child-centred educational thinking of John Dewey has been widely accepted among Finnish educators. Dewey's philosophy of education forms a foundation for academic, research-based teacher education in Finland. All primary school teachers read and explore Dewey's and ideas as part of their courses

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leading to the Master's degree. Many Finnish schools have adopted Dewey's view of education for democracy by enhancing students' access to decision-making regarding their own lives and studying in school. Some visitors to Finland, among them the late Seymour Sarason, have observed that the entire Finnish school system looks like John Dewey's laboratory school in the U.S. (Sahlberg 2014).

Bruce Joyce (2017), who himself led the Laboratory School at Teachers College, University of Columbia, argues that besides the focus on high quality education, the preparation of student teachers, continuing professional development for school staff and continuous inquiry into improving practice, the key function of the Laboratory School is as a knowledge producing organisation. In line with the spirit of collaborative inquiry, Joyce refers to these actions as medium-term relationships characterised by reciprocity and parity, and by commitments to shared beliefs about teaching and learning and issues of equity.

Joyce (see Hopkins 2013:286-9) has proposed the following four guiding questions as the basis for programme design for the Laboratory School:

> 1. Clinical skills. What kinds of knowledge and skill should a new teacher possess?
>
> 2. Program components. What are the essential components of teacher education programs?
>
> 3. Teacher learning. How do teachers learn new teaching and learning strategies?
>
> 4. Alliances. How will schools work together effectively in a strategic and systemic alliance?

As we began to shape the Laboratory School concept at the University of Bolton, we considered carefully Joyce's four questions and our response to them is described below.

The University of Bolton Laboratory School Network

The University of Bolton has developed an ambitious agenda for supporting and contributing to school age education over the past few years. The approach has been informed by four super-ordinate aims:

1. Ensure continued improvement in the University's UTC, now the University Collegiate School (UCS) and link to local Primary schools to provide all through education on the 'knowledge campus'.
2. Develop a sustainable model of multi academy working through the QUEST Federation, that embraces collaborative working in the Bolton and Wigan area.
3. Establish the International Centre for Educational Enhancement (ICEE) for delivering and researching educational leadership and school improvement programmes.
4. Then, within the ICEE create the Laboratory School along the lines presaged by John Dewey and Bruce Joyce.

Currently the University of Bolton Laboratory School differs in two significant ways from Dewey and Joyce's original formulation. First, it is not involved in initial Teacher Education but sees this as a prospective medium-term goal. The second is that we have deliberately established a network of some twenty schools around the University rather than just one school. This is to increase local capacity and have impact from the outset. A key element in the capacity building function of laboratory schools is their ability to build alliances and networks on a regional, national and international basis.

All of our Laboratory Schools are part of other networks - be they local authority or multi academy trusts. As such they are providing peer support and the dissemination of good practice to their partners. This also aids the development of a vision of education that is shared and owned well beyond individual school gates. And finally, we are also establishing and affiliating with international networks – Australia, China, Sweden and the USA. Constantly looking outside our context and scoping the future must surely be a part of our collaborative reflective journey.

In the early stage of their development, our Laboratory Schools have identified their expert practice and focus for development through a process of appreciative inquiry, instructional rounds, peer review conversations and visits, and implementing our 'Unleashing Greatness' school improvement framework (Hopkins 2020). It is worth briefly highlighting briefly the three structural components that define and scaffold the particular approach that we are taking to implementing the Laboratory School concept.

1. We use Instructional Rounds, both symbolically and operationally, as part of inducting our schools into the Laboratory School network. The Instructional Round is a means of generating a series of theories of action for teaching and learning through non-judgemental observation. The Instructional Rounds process supports school leadership teams in developing a shared understanding and common language around effective teaching practices. In doing this we have refined the approach associated with the work of Richard Elmore and his colleagues (City et al., 2009). Critical to the success of our approach is the development of 'Theories of Action' that discipline and deepen the culture of teaching and learning of all teachers in the school and network. Taken together, it is these that provide the basis of the protocols that ensure precision, consistency and engagement in the classrooms of our schools.
2. We use peer reviews between schools as a means of exemplifying, refining and consolidating best practice. In other settings peer reviews function as a form of self-regulation by professionals and are used to maintain quality standards, improve performance, and provide credibility. Our use of peer reviews is both as part of the induction process and as an ongoing practice that meets Bruce Joyce's *desiderata* for Laboratory Schools to be a "knowledge producing" organisations. Schools use a similar methodology in the reviews as we do on the Instructional Rounds. Observations are descriptive rather than judgemental and this data is analysed inductively to generate theories of action and protocols that are then shared across the network.
3. One of the benefits of being a University Laboratory School is that as teachers go through the process, they can accredit their professional work through a range of

post graduate awards, be it a Diploma, Master's degree or the Doctorate in Educational Change and Leadership available through our International Centre. As in Finland, we believe that teaching should be a Master's level profession. Where as a matter of course we critically review our work, using action research procedures, to the benefit of our students and the system (Hopkins 2014).

At our current stage of development, we have identified four areas, where the University of Bolton Laboratory School network will demonstrate the principles and best of practice of the concept:

1. The exemplification of research-based ***classroom practice***.
2. As a setting for the ***professional development teachers***.
3. As an example of the practices associated with ***Instructional Leadership***.
4. Providing a site for the ***research*** into educational practice.

Powerful Classroom Practice

The five components of high-quality classroom practice as exemplified in the University of Bolton Laboratory School Network are profoundly interrelated. Powerful classroom practice results from the quality of the relationship between the teacher, the student, the content, and the feedback from assessment – such practice cannot emerge from any one component alone, no matter how strong its individual qualities. This is the Instructional Core.

1. **Curriculum Frameworks**
    a. Reflects the best of contemporary practice in the delivery of STEM.
    b. Frames the curriculum as a proposition, a problem to be solved, and a question to answer; it develops student metacognition by constantly providing opportunities for reflection and discussion about the 'how' as well as the 'what'.

2. **Pedagogic Knowledge**
    a. Is based on the Theories of Action developed as a result of the Instructional Rounds process and described in Curiosity and Powerful Learning (Hopkins and Craig 2015a).
    b. Utilises a range of research-based Models of Practice as appropriate.

3. **Assessment for Learning**
    a. Collects clear evidence that informs teachers about how to lift student attainment and offers clear feedback to, and seeks clear feedback from, students.
    b. Ensures that students know what grades/levels they are working and provides transparent criteria that enables peer coaching for staff.

4. **Student Agency**
    a. This implies a sense of responsibility as students participate in society and aim to influence people, events and circumstances for the better. Agency is about acting rather than being acted upon; shaping rather than being shaped;

and making responsible decisions and choices rather than accepting those determined by others

b. It requires however regular coaching in order that students find their personalised way and develop a range of independent skills that enables them to achieve more than they thought possible.

5. **Task Setting**. The crucial point is that these four components of powerful classroom practice combine to create the tasks that the students engage in. This is because it is the tasks that students do that predict their performance. Our approach to task setting:
    a. Emphasises enquiry and problem solving and are sequenced progressively.
    b. Ensures that they are well differentiated and are located within each student's 'zone of proximal development'.

Professional Development

The potential contained in the theories of action referred to above is to create a new culture of teaching within the school that promotes both enquiry and achievement. This requires adopting staff development strategies that can build a common language of instructional practice within and across schools. A key element in all of this is the provision of in classroom support or triads and 'peer coaching'. It is the facilitation of peer coaching that enables teachers to extend their repertoire of teaching skills and to transfer them from different classroom settings to others (Joyce and Calhoun 2010).

When incorporated into a school improvement design, peer coaching can virtually assure 'transfer of training' for everyone. Peer coaching in triads creates the infra-structure for professional learning in the school, this however necessitates scheduled time being made available for staff to observe each other. Without regular timetabled opportunities for professional collaboration, such as peer coaching or triads that are developmental rather than judgemental, it is unlikely that the teaching and learning culture of the school will change.

Instructional Leadership

Leadership is second only to classroom practice in terms of influence on student progress and performance (Leithwood, Harris and Hopkins 2019). A good way of focusing on the necessary contribution of leadership to student learning is to draw on our four key behaviours:

- Setting Direction
- Managing Teaching and Learning
- Developing People; and,
- Developing the Organisation.

This analysis reinforces the argument that enhancing the quality of learning and teaching is **the** key priority for school leadership. The critical leadership challenge here is to ensure that quality teaching and learning is underpinned by more specific and precise teaching frameworks (Hopkins and Craig 2015b).

Although the impact of leadership on student achievement and school effectiveness has been acknowledged for some time, it is only relatively recently that we have begun to understand more fully the fine-grained nature of that relationship to personalised learning. So, in the University of Bolton Laboratory School Network, leadership:

- Develops *a narrative for improvement*
- Is *highly focussed on improving the quality of teaching and personalised learning*
- Explicitly *organises the school for improvement*
- Creates:
    - *Clarity (of the systems established)*
    - *Consistency (of the systems spread across school), and*
    - *Continuity (of the systems over time)*
- Ensures and creates *internal accountability and reciprocity*
- Works to *change context as a key component of their improvement strategy*.

There are two important features to this profile. The first is the emphasis on narrative and its impact on both strategy and school culture. The second is the emphasis on 'systems' and the transferability and sustainability of best practice, within and between networks of practice.

Research into Educational Practice

The University of Bolton Laboratory School Network offers a setting or laboratory for research into educational practice both for Masters & Doctoral degrees as well as funded research projects. The focus will inevitably be on the ingredients of powerful classroom practice – curriculum, pedagogy, assessment for learning, student voice and task setting, the nature of teacher learning and peer coaching, and the practices and strategies associated with Instructional Leadership.

Our approach to research is heavily influenced by the work of Lawrence Stenhouse (Rudduck and Hopkins 1985). He argued that research knowledge only becomes useful when it is subjected to the discipline of practice through the exercise of professional judgement. In his view, the capacity of research to improve teaching depends on - and in turn feeds and strengthens – the teacher's professional judgment. As a consequence research can only markedly improve the art of teaching if it:

1. Offers hypotheses (or theories of action) whose applications can be verified because they can be tested in the classroom by the teacher.

OR

2. Offers descriptions of cases or retrospective generalizations about cases sufficiently rich in detail to provide a comparative context in which to judge better one's own case.

Such a view of educational research declares that the theory or insights created in collaboration by researchers and teachers is always provisional, always to be taught in a spirit of enquiry, and always to be tested and modified by professional practice. For, to quote Stenhouse again, such proposals are not to be regarded "as an unqualified

recommendation, but rather as a provisional specification claiming no more than to be worth putting to the test of practice. Such proposals claim to be intelligent rather than correct."

Coda

This article reflects the development of the Laboratory School network by the International Centre for Educational Enhancement, at the University of Bolton. We write from the perspective of being 'school improvement activists' and locate ourselves in the middle of that triangle bounded by the vertices of practice, research and policy. Over the years, we have variously been teachers, principals, professors, researchers, policymakers, civil servants and consultants. This article reflects those experiences as well as outlining the Laboratory School as a strategy for school and system improvement

We also feel that this description of the Laboratory School concept has relevance for the policy context in many educational systems including our own. One of the ways that systems are increasingly building capacity for more lateral and inside–out ways of working is through developing a systemic approach to 'teaching or research' schools. In commenting, ten years ago, on his vision for the Self-improving School System, David Hargreaves (2011, p. 5) said that:

> *The new teaching schools, based on the concept of the teaching hospital, are to be a critical element in a more self-improving school system.*

Hargreaves original vision has now been overtaken by the new arrangements to identify 75 teaching hubs. They will have a wider brief to deliver not only school based Initial Teacher Training and national professional programmes of leadership but also the new 'early careers framework'.

For us, the elephant in the room of school and system improvement, and it has been resident for some time, is the lack of a professional practice that provides a language and a set of behaviours or processes to connect teaching to learning and enhancing the outcomes for students. We hope that the new "teaching hubs" will serve to remedy this lacuna. In the meantime, we offer the Laboratory School concept as a way of not only overcoming these challenges but also providing a concrete and practical strategy for transforming the culture of teaching and learning in schools.

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