Tyneside: A Learning City?

Briefing Paper Knowledge Exchange Seminar Series

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1. THE CHALLENGE

Only 18% of students eligible for FSM in the NE progress to HE, whereas the national average is 26% and rates for inner London are 48% and outer London 41%. Gorard argued in 2010 that globally there was a lack of evidence of schools having done much to dent educational inequality and although there have been some marginal gains in England, that remains substantially true in 2019. Only 2% of FSM students in the NE progress to the most selective HE institutions. Progress on tackling educational inequality is negligible but at the same time there are estimated to be ¼ million skilled job vacancies.

2. SCHOOL INSPECTION AND ACCOUNTABILITY

In an effort to promote competition to 'drive up' standards, compulsory education is dominated by 'high stakes' testing and inspection, which have some benefits in higher exam results (which don't necessarily equate to higher standards). However the downside is teaching to the test, a narrowing of the curriculum, teacher stress (Ball, 2003) and challenges in progression into FE or HE. It is ironic, but perhaps not surprising, that although academies and free schools do not have to follow the National Curriculum, there is clear evidence that most senior leaders do not use their professional freedoms to develop distinctive curriculum (Greaney & Waterhouse, 2016). Most feel compromised, very few risk significant departure from very traditional curriculum models.

3. LEARNING CITIES

Cities across the world are thinking about learning as part of a broad response to the universal challenges of inequality, sustainability, health and changing demographics. In 2017 UNESCO, which coordinates the international network of 'Learning Cities', defined a learning city as one which:

- effectively mobilizes its resources in every sector to promote inclusive learning from basic to higher education;
- revitalizes learning in families and communities;
- facilitates learning for and in the workplace;
- extends the use of modern learning technologies;
- enhances quality and excellence in learning; and
- fosters a culture of learning throughout life.

In doing the above, the city enhances individual empowerment/social inclusion, economic development and cultural prosperity, and sustainable development. (UNESCO website, 2017). In the UK, Bristol is the only 'Learning City'. Researchers in the Bristol networking cite Nespor (1997) who argues that 'looking at schools as somehow separate from cities, politics, neighborhoods, businesses, and popular culture obscures how these are all inextricably connected to one another, how they jointly produce educational effects' (p. xi). A more place based approach to school education encourages a focus on global issues in local context, fostering the development of powerful citizen shaping capabilities and attitudes. At a basic

level young people will know their neighbourhood, locality and region better with a stronger place-based identity and awareness of issues. In addition the X factor of the C21st is that change can be fueled by digital technology, so community does not equate to the few miles around the school.

Infrastructure is a fundamental concept in Learning Cities. Infrastructure allows for flows of information, networks and opportunities to be offered. Infrastructures are markers of ambition, sketching what organisations, businesses and key individuals think is possible and desirable. Two of the most important trends in education on Tyneside and beyond are:

(i) how third sector organisations, universities, employers and cultural organisations are enriching educational opportunities and;

(ii) the greater use of Project Based Learning (PBL) supported by the North East Local Enterprise Partnership (NELEP), the Edge Foundation and Newcastle University.

4. Project Based Learning (PBL)

NELEP is pro-active in supporting wider thinking about curriculum, and is already strongly committed to promoting localized PBL through their 'Careers in the Curriculum' initiative, which connects employers and teachers, who via placements in industry co-design school projects. NELEP also employ Industry Alignment Managers who work more closely alongside the teachers and employers. This approach is part of NELEP's strategic economic plan addressing the issue of skills shortage in the region's economy.

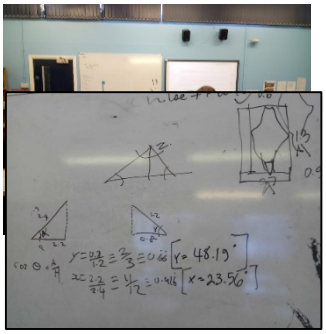
PBL belongs in a family of overlapping approaches including 'inquiry-based learning', 'project-based learning', 'problem-based learning' and 'learning through design'. In a review of research on inquiry based learning Barron and Darling-Hammond (2010) concluded that students learn more deeply when they can apply classroom knowledge to real-world problems and that inquiry-based approaches are important ways to nurture communication, collaboration, creativity and deep thinking. Second, inquiry-based learning depends on the application of well-designed assessments, both to define the learning tasks and to evaluate what has been learned. Third, however, the success of inquiry approaches tends to be highly dependent on the knowledge and skills of those implementing them. If these approaches are poorly understood and unstructured, their benefits are substantially reduced.

With the support of NELEP and ourselves (Newcastle University Research Centre for Learning and Teaching) there are therefore a number of schools experimenting with PBL in NE England. They have recently had the significant advantage of a 3 day intensive training in Newcastle by the Buck Institute (https://www.pblworks.org/) the main training provider for high quality PBL projects. We have funding from the EDGE Foundation to develop, trial, document and archive 30 PBL Projects, utilizing resources from the university, local employers and other community assets. These exemplars will then be freely available for others to adapt to their local context. We are also providing 5 free CPD training sessions and networking opportunities.

5. AN EXAMPLE PROJECTS: MATHS AND ARCHITECTURE

The project started with the architect coming into school to introduce himself and outline the brief. This was followed by a visit to his office at the Ouseburn by the school students and two Newcastle university maths undergraduates, who both talked about life at university and supported the work. The school students went on a walking tour of the area collecting data and taking photographs. This included observing the various gradients of the land and its usage. Back at the office, the architect asked them to

report what they had seen. He commented on these accounts using appropriate technical language, drawing attention to the maths and providing his own stories about the locality and its businesses. He then set them a problem working out gradients of roads in order to design a wheelchair user route.



Back in school the students worked for a further 6 weeks on a brief to design a goat shed for the Ouseburn farm. They were supported by their teacher (including some direct maths teaching), the architect during weekly visits and one further visit from the undergraduate students. The class teacher noted that these regular visits had a very positive effect on the students' engagement and motivation.

At the end of the project the students presented their work to the class teacher, the Industry Alignment officer, the architect and the researcher from CfLaT. The teacher had commented prior to the presentations that the students were anxious and had not really had enough time to prepare. Each of the students described how they created their designs and explained the mathematics they had used. They had also created demonstration models. During the presentations the architect asked questions about the mathematics used. The students also asked the architect how he would have completed the brief. He showed them his note book and how this translated into his final design, through various iterations. He also described occasions where clients had not been happy with his firm's initial designs and therefore the need to rework ideas. The evaluation asked the students how they used mathematics in the project - responses included:

> *Working out the gradient. Using the ramps.*
>
> *I liked working on the gradient of a ramp and how to get around it.*

Importantly they gained an understanding of the relevance of maths in day-to-day life. In response to the statement 'I have changed my ideas about…' the students wrote:

> *How I view construction and I feel I have gained slightly more respect after realising just how difficult it was just to create a simple design.*
>
> *How maths is relevant outside of school.*
>
> *That you do use maths for some jobs.*

The class teacher stated that the students had gained in confidence and some were now even considering studying mathematics beyond GCSE. She also described how some took their files home at weekends in order to work on their designs. The project has resulted in the class teacher changing her practice. She commented during the interview that she would never teach gradients in the same way again, instead using real-life examples that the students are able to relate to.

6. RECENT EVIDENCE ON USE OF PBL

In 2015 the Educational Endowment Fund (EEF) funded a trial organised by the Innovation Unit to investigate the effects of Project Based Learning (https://educationendowmentfoundation.org.uk/projects-and-evaluation/projects/project-based-learning/). The measures chosen were pupils' literacy performance (as measured by Progress in English 12 tests), engagement and attendance and NO impact was found. However as the evaluation pointed out:

> Given the inherent design limitations, high attrition rate, and cross-over in terms of group allocation (with some control schools also involved in PBL) we should further limit the confidence we have in the above findings…..

One conclusion is that schools struggle to innovate in a system geared to passing high stakes exams as they don't fully commit. Quality of implementation is a very serious issue. Nonetheless the process evaluation, which was based on classroom observations and feedback from headteachers, teachers, and pupils in the schools did provide evidence of positive benefits from doing PBL, in particular in terms of developing oracy, communication, team working, and research skills.

The EEF also commented: 'For schools thinking of adopting PBL, the implications on timetabling and staffing should be considered alongside the findings in this report. It is also important to consider the opportunity-costs of implementing a new, large scale whole-school approach to teaching, in particular the time it takes to train teachers to deliver a new pedagogical approach.' It is extremely difficult for schools to change their curriculum without substantial system infrastructure and support.

7. WIDER EVIDENCE OF IMPACT

Jo Boaler (1997) provided a finer grain of detail in her study of two similar schools Amber Hill and Phoenix Park (pseudonyms), with contrasting mathematics departments, over three years with 90 hours of lesson observations in both schools. In Phoenix Park the approach was characterised as traditional with teacher demonstration of standard methods and considerable reliance on textbooks, followed by students practising set exercises. Amber Hill often used a problem solving approach with students working on open-ended projects. (So problem-solving and projects show their overlap in this study). At Amber Hill students had considerable control over the choice, direction and pacing of their work. This was continued into their GCSE courses until 4 months before their final exams when they switched to more direct methods.

In Phoenix Park school 'the majority of students reported that they found work boring and tedious'. For them mathematics was a rule bound subject and that 'mathematical success rested on being able to remember and use rules (p.63)'. This is in marked contrast to the students at Amber Hill for whom mathematics was a 'dynamic, flexible subject that involved exploration and thought.' The traditional approach developed a more 'inert' form of knowledge, which equipped students only to *do mathematics,* whereas the problem solving/project based approach helped more students to *become mathematicians*, as they had a more flexible and useful form of mathematical knowledge. Perhaps more significantly, the Amber Hill students got better GCSE results and many more went on to take mathematics for further study, which indicates the potential for high quality PBL to support positive identities and strong learning self-concept.

In the US there is evidence that where adults and young people meet in community based organisations (O'Donoghue & Strobel 2007, p. 469) positive relationships develop which are "supportive, egalitarian, and embedded in public action." From Germany (Grotlüschen 2010) there is evidence about the 'genesis of interests', which emerges from single or multiple contacts with a topic of interest. Often these catalysts are effectively forgotten or buried only later to re-emerge. So interests and awareness are not somehow innate or spontaneous but are developed through social conditions such as meeting interested and interesting adults during projects. El-Mafaalani 2012 has referred to such roles as 'Social godfathers/sponsors' (and godmothers).

We need an understanding of the role of the city/region as a total immersive learning environment in which deliberate action is taken to enable young people to go places, meet people, sustain relationships and do and make things – but without ignoring the benefits of a deep subject knowledge. Such action can act as one protective factor against mental health issues.

8. LOCAL ACTORS/NETWORK

In seeing the Tyneside region as a Learning City with a potential local learning ecology, there is much encouragement in recognizing the potential contributors, for example:

(i) The NELEP
(ii) City of Dreams (the Sage, the Baltic, Dance City, Live Theatre, Northern Stage, Seven Stories, Theatre Royal & City Hall, Tyneside Cinema, the Life Centre, Tyne and Wear Archives and Museums representing 20 venues)
(iii) The local universities and colleges
(iv) Business and employers organisations
(v) Newcastle United Foundation
(vi) Schools North East
(vii) Success4All,
(viii) The Princes's Trust,
(ix) Local authorities, local schools and colleges particularly Sunderland College, South Durham UTC, Studio West and the schools experimenting with NELEP/EDGE support
(x) The West End Children's Zone

9. FORD NEXT GENERATION LEARNING – A VALUABLE BUILDING BLOCK

The Ford NGL model (https://www.fordngl.com/) has transformed schools across the United States, increasing academic achievement, lowering dropout rates and impacting on local economies by generating a strong talent pipeline for employers in the area through the creation of specialist 'academies'. The Ford NGL 'road map' starts with local employers, students, parents, teachers and community groups coming together to create a 'leaver profile', outlining what skills, knowledge and attributes young people need to successfully move on to further education, training or employment in their preferred sector when they leave school. North East England is the first Ford NGL partnership in the UK with two schools and one college as the first educational partners.

10. CONNECTIVE TISSUE AND BROKERAGE

As implied in the outline of the importance of infrastructure in the Learning City section, it is clear (Leat & Thomas, 2018) that brokerage is a vital service needed to make PBL using community resources work and build the tenets of a Learning City approach. Brokers recruit and uncover resources, connect networks, help build relationships, overcome barriers and inertia and support planning.

11. WHAT NEXT?

Building a stronger learning partnership across a large number of organisations takes commitment, imagination and some resource but has the potential to give many more disadvantaged young people a different and positive take on education, reducing social ills and improving labour market skills. We will continue to support schools to offer high quality PBL. However with sufficient additional interest in Learning City principles we suggest a conference involving key stakeholders and potential partners. The suggested aim of such an event would be:

1. To explore the interests and ambitions of these stakeholders and how these relate to wider co-operation;
2. To decide on a process for producing a Learning Manifesto for young people in the region;
3. To identify the resource to undertake a basic mapping process of formal and especially informal educational opportunities in the city region and their linkages.

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