

Impact case study (REF3b)

Institution: Queen's University Belfast
Unit of Assessment: 4
Title of case study: Making a difference to children's learning in school: learning to think and learning through play
<p>1. Summary of the impact (indicative maximum 100 words)</p> <p>Research conducted at Queen's has shaped significant changes to the revised Northern Ireland Curriculum which became statutory in 2007. There are two main research areas that led to these changes: teaching children to think across the curriculum, which has affected, and will continue to affect, the experiences of all children between 4-14 years in Northern Ireland schools (estimated 230,000 children annually); and a play-based early years curriculum, which affects all children between 4-6 years (estimated 48,000 children annually). The research on teaching thinking continues to influence curriculum developments elsewhere in the UK, specifically Wales and Scotland, as well as internationally, including the Republic of Ireland and Thailand. The research has even wider reach through current advisory work with the International Baccalaureate Organisation. The play-based learning research has specifically influenced policy and the professional development of teachers in the Republic of Ireland.</p>
<p>2. Underpinning research (indicative maximum 500 words)</p> <p>Two different strands of work underpin the impact, both being led by Professor Carol McGuinness at Queen's during the full REF assessment period. Other Queen's researchers involved in the work include Professor Noel Sheehy (now deceased), Dr Angela Eakin (Research Fellow, 2001-2007), Dr Carol Curry (Research Assistant, 2001-2003), Dr Karen Trew (Reader, until 2009, retired and continues to be research active) and Dr Liz Sproule (Research Fellow, 2000-2013) as well as Dr Glenda Walsh (Senior Lecturer, 2001-2013), employed by Stranmillis University College. Between 2003 and 2006, Professor McGuinness was seconded (50% of her time) to the Northern Ireland Curriculum Council for Examinations and Assessment (CCEA) to help develop a new thinking curriculum based on her research.</p> <p>Teaching thinking: In the UK, explicit interest in teaching thinking in the school curriculum did not fully emerge until the 1990s. Position papers by McGuinness's team [1, 2] contributed substantially to creating coherence among prevailing theoretical viewpoints, which until that point had appeared contradictory. The team did this by identifying core principles for teaching thinking, which emphasised methods that help children to 'think about their thinking' (metacognition). The research team subsequently developed a specific methodology for teaching thinking across the curriculum called Activating Children's Thinking Skills (ACTS). This methodology was evaluated in a large scale, quasi-experimental, three-year longitudinal study funded by the ESRC Teaching and Learning Programme, from 2001-2004 which involved a classroom intervention in 50 primary schools across Northern Ireland. They showed that participating in ACTS brought positive changes to children's learning, particularly by using metacognitive strategies and putting more effort into their work. The infusion approach adopted in the ACTS project – thinking lessons where a curriculum topic and a specific pattern of thinking are taught together – was considered an approach that could be scaled up across the whole primary curriculum [3]. The ACTS approach has been independently evaluated by other researchers with similar positive outcomes (Burke & Williams, 2008; Dewey & Bento, 2009).</p> <p>Play-based curriculum in the early years: Children in Northern Ireland start school at an earlier age (4 years, 2 months) than any other children in Europe. In 2000 the CCEA commissioned research from Queen's University School of Psychology and Stranmillis Education College, to evaluate a pilot play-based early year's curriculum, called the Enriched Curriculum, in 120 primary schools. The project was set up to address concerns that the first years of primary school should be a distinctive phase that eases children's transition from pre-school to formal schooling. Part of the research that took place from 2000 to 2009 involved the team from Queen's and</p>

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Stranmillis creating and validating a structured classroom observation instrument which revealed the immediate benefits for children who experienced a play-based curriculum compared to a traditional curriculum. The research programme also explored a novel way of thinking about play called 'playful structure' which shows teachers how to adopt a playful approach across all areas of the curriculum rather than confining play to specific times of the school day [4]. As part of the project, the team conducted a large scale quasi-experimental and longitudinal assessment of the Enriched Curriculum in 24 primary schools over seven years, with approximately 1000 children, 150 teachers and 1500 parents involved. They found that the play-based curriculum in the first two years of primary schools had no negative impact on children's literacy and numeracy outcomes at the end of their primary schooling [5, 6] and had a positive influence on their dispositions and motivations for learning. Teachers, school principals and parents all broadly welcomed the play-based curriculum with a very small number of parents reporting negative experiences (Final Reports to Funders, 2009).

3. References to the research (indicative maximum of six references)

1. McGuinness, C. (1999). *From thinking skills to thinking classrooms. A review and evaluation of approaches for developing pupils' thinking*. London: HMSO.
<http://hdl.handle.net/10068/401776> (Commissioned Report from the Department for Education and Employment, London)
2. McGuinness, C. (2005). Teaching thinking: Theory and practice. *British Journal of Educational Psychology*, Monograph Series II, 3, 107-127
3. McGuinness, C., Sheehy, N., Eakin, A., & Curry, C. (2006). Building thinking skills in thinking classrooms: ACTS (Activating Children's Thinking Skills) in Northern Ireland. *TLRP Research Briefing* No. 18, September. (Funded under ESRC Teaching and Learning Programme, Phase 2.)
4. Walsh, G., McGuinness, C., Sproule, L., & Trew, K. (2010) Implementing a play-based and developmentally appropriate curriculum in NI Primary Schools: What lessons have we learned, *Early Years: An International Journal of Research and Development*, 30, 53-66.
5. Walshe, G., Sproule, L., McGuinness, C. & Trew, K. (2011) Playful structure: a novel image of early years pedagogy for primary school classrooms, *Early Years: an International Journal of Research and Development*, 31,107-119
6. McGuinness, C., Sproule, L., Trew, K., & Walsh, G. (2013) Impact of a play-based curriculum in the first two years of primary school: Literacy and numeracy outcomes over seven years. *British Educational Research Journal*.
<http://onlinelibrary.wiley.com/doi/10.1002/berj.3117/full>

4. Details of the impact (indicative maximum 750 words)

Educational research from the School of Psychology at Queen's is impacting the lives of children, parents and teachers in Northern Ireland, in other parts of the UK and internationally.

Teaching Thinking

The revised curriculum introduced in 2007 by the Northern Ireland Curriculum Council (CCEA) was informed and directly shaped by research carried out in the School of Psychology at Queen's. The current legislation is expected to remain in place for 10 to 15 years. The lives of all children between 4-14 years (estimated 230,000 children annually) and all children between 4-6 years (estimated 48,000 children annually) in Northern Ireland schools will continue to be impacted each year by this revised curriculum.

The ACTS framework that McGuinness developed fed directly into CCEA's Thinking Skills and Personal Capabilities Framework, which is now mandatory for all 4-14 year olds in Northern Ireland's curriculum. During a secondment (50%) to CCEA, McGuinness developed professional development materials for teachers and pupil resources including a DVD on the Thinking Framework and guidance booklets for teachers and schools for Key Stages 1, 2 and 3. McGuinness's work also contributed to the design of the *Wise Up and Think* storybooks for 4-5 and 6-7 year olds. All of these resources are freely available on the Northern Ireland Curriculum website. Since these resources became available, the 2012 Chief Inspector's Report in Northern

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Ireland has been positive about the development in children's thinking, particularly in primary schools. Commenting on the contribution made by Professor McGuinness, the Curriculum Manager who led the revisions to the NI Curriculum, said "As a major part of that work Professor McGuinness led the development of the first *statutory* framework for Thinking Skills and Personal Capabilities (TS&PC) in the UK (and perhaps in the world – pre-dating the publication of the OECD's Definition and Selection of Competencies (DeSeCo) Project)".

The Welsh Skills Framework for Thinking was introduced in all schools from 2007 and remains part of the Welsh National Curriculum. During 2004-2008 Professor McGuinness acted as an Advisor to the Department of Education in Wales and the Curriculum Council in Wales to help develop thinking skills for their revised curriculum for 3-19 year olds. She was also a member of the steering committee that helped support the roll out of the pilot project in nine local authorities. The Development of Thinking and Assessment project was extended to all local authorities in 2009 and continues to influence the Welsh Assembly Government's workshops on preparation for PISA (OECD).

In Scotland, McGuinness contributed to a series of videos in the Journey to Excellence series, made to support Scotland's 'Curriculum for Excellence'. The videos now form part of the Journey to Excellence, Learning Together Resource: Active Learning, made in June 2010.

Professor McGuinness was also invited by the British Council in Thailand to be an advisor to Thailand's Ministry of Education, which between 2006 and 2009 developed a thinking curriculum in primary and secondary schools. She advised and mentored a school-based project to infuse thinking skills into Thai lessons. An evaluation of the project was presented to the Ministry in 2008 (McGuinness, 2008). In 2009, teachers and Ministry of Education officials from Thailand visited Northern Ireland to see ACTS in practice in schools.

Thanks to McGuinness's work, Queen's was asked to host the 15th International Conference on Thinking (2011). The conference's aim was to reach beyond researchers and academia and to spread ideas and practices about teaching thinking into all educational sectors, businesses and cultural and leisure practices. The conference was attended by almost 600 delegates from 23 different countries around the world. Over 50% of the delegates were teachers and curriculum designers. As part of the conference's outreach activities, a Master Class on business innovation and design was included in the conference programme and sponsored by InvestNI. Selected papers from this conference form a special issue of the international journal published by Elsevier, *Thinking Skills and Creativity*, guest edited by McGuinness and O'Hare (2012). Growing from the conference, a Teaching Thinking Network in Ireland (Northern Ireland and Republic of Ireland) was launched in 2013. Furthermore, Professor McGuinness, in collaboration with international colleagues, won a competitive bid (2013) to advise the International Baccalaureate Organisation (IB) on the positioning of thinking in their three international programmes. IB programmes are delivered in 145 countries, with access to over 1 million students.

Play-based Curriculum

The evaluation of the Enriched Curriculum pilot project was commissioned directly by CCEA in 2000. The research communication model was designed from the beginning to be formative as well as summative, that is, it would both monitor teaching and learning, provide continuous feedback, and also assess learning throughout the process. From 2001-2010, dissemination seminars were held with principals from the participating schools, along with local authority curriculum advisers, so that they could fine-tune training and practice for subsequent cohorts. This project strongly influenced the Foundation Stage curriculum, which became statutory for 4-5 year olds in 2007 and 5-6 year olds in 2008.

The research carried out informed the creation of professional development resources based on playful structure for on-going use in the classroom. These pedagogical materials are freely available on the Northern Ireland Curriculum website and have informed the development of a CPD course for Foundation Stage teachers which was delivered by Stranmillis University College for the first time in 2012-2013, with plans for further expansion underway.

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Play-based learning is also having impact in the Republic of Ireland, where the Department of Education commissioned additional work using Queen's methods to develop policy on teaching in early years settings. The final report on this work was presented to the Department and to an invited audience of representatives from policy makers, researchers and practitioners in the field of early childhood care and education in Ireland in November 2010. Their Early Years Policy Unit confirmed that the work "made a positive contribution to our knowledge and understanding of practice in early childhood care and education settings in Ireland". The full report is published online on the Republic of Ireland's Department of Children and Youth Affairs website.

5. Sources to corroborate the impact (indicative maximum of 10 references)**Teaching Thinking Impact in Northern Ireland**

Change to the legislation, The Education (Other Skills) Order (Northern Ireland) 2007.

<http://www.legislation.gov.uk/nisr/2007/44/contents/made>

Northern Ireland Chief Inspectors' Report (2012), paragraphs 36 and 109.

Thinking Skills and Personal Capabilities Framework and associated materials for teachers and pupils available from

http://www.nicurriculum.org.uk/key_stages_1_and_2/skills_and_capabilities/

Gallagher et al. (2012) Positioning thinking in national curriculum and assessment systems: Perspectives from Israel, New Zealand and Northern Ireland. *Thinking Skills and Creativity*, 7(2), 134-143. <http://www.sciencedirect.com/science/article/pii/S1871187112000284>

Testimony from the Curriculum Manager 4-14, Northern Ireland Curriculum Council, Teaching Thinking Network in Ireland

<http://www.qub.ac.uk/sites/TeachingThinkingNetworkinIreland/>

Teaching Thinking Impact in Wales

Changes to curriculum requirements

http://wales.gov.uk/dcells/publications/curriculum_and_assessment/revisedcurriculumforwales/skillsdevelopment/SKILLS_FRAMEWORK_2007_Engli1.pdf?lang=en

Testimony from Curriculum Manager, Welsh Assembly Government,

<http://wales.gov.uk/topics/educationandskills/schoolshome/curriculuminwales/wgpisa/pisa-inset/?lang=en>

Teaching Thinking Impact in Scotland

Journal to Excellence Series of videos

<http://www.journeytoexcellence.org.uk/resourcesandcpd/biographies/biogcarolmcguinness.asp>

Teaching Thinking Impact in Thailand

Testimony from Education Manager, British Council in Thailand.

Personnel from the Ministry of Education and teachers from Thailand visited schools in Northern Ireland who are using ACTS, in April 2009 (following the submission of the report McGuinness, C. (2008). Developing and evaluating a model for infusing thinking skills in Thai classrooms).

Play-based Curriculum Impact in Northern Ireland

Change to the legislation re Foundation Stage, The Education (Northern Ireland) Order 2006

http://www.legislation.gov.uk/nisi/2006/1915/pdfs/uksi_20061915_en.pdf

Guidance on the Playful Learning

www.nicurriculum.org.uk/docs/foundation_stage/eye_curric_project/evaluation/Playful_Structure_Handbook.pdf

Testimony from Curriculum Manager for the Foundation Stage, Northern Ireland Curriculum Council

Flyer on CPD for Foundation Teachers from Stranmillis University College

Play-based Curriculum Impact in the Republic of Ireland

Department of Education and Skills, Republic of Ireland, Early Years Policy Unit,

<http://www.education.ie/en/Advanced-Search/?q=early%20childhood%20pedagogy&t=all&f=all>

Testimony from the Early Years Policy Unit on the policy contribution of the report