

THE ONGOING DEVELOPMENT OF THE NEW PRIMARY MATHEMATICS CURRICULUM – FROM RESEARCH TO REALITY

John Behan

Tracy Curran

Jacqueline Fallon and Claire Reidy National Council for Curriculum and Assessment

In Autumn 2014, the National Council for Curriculum and Assessment (NCCA) published two mathematics research reports (Dunphy et al., 2014; Dooley et al., 2014) at a conference in Dublin Castle entitled Maths is surprisingly important and cognitively fundamental. In addition to these reports, the NCCA also published a commissioned audit of mathematics curriculum policy across 12 jurisdictions (Burke, 2014). Building on this work, Autumn 2016 saw the publication of a background paper and brief to support the development of the new Primary Mathematics Curriculum (PMC). This background paper drew on an extensive suite of evidence, including relevant national and international data and research. In particular, it utilised the NCCA's curriculum reviews (2005, 2008) and evaluations by the Department of Education and Skills (2005, 2010), the two research reports and the international audit of mathematics curricula as outlined above. Findings from focus groups carried out to elicit teachers' and principals' views, beliefs and values regarding mathematics learning and pedagogy, and their ideas regarding the development of a new mathematics curriculum, were also included. The background paper concluded with eight guiding principles for the development of the curriculum. Following its publication, in September 2016, an Early Childhood and Primary Mathematics Development Group (EPMDG) was established, with representatives of stakeholder groups including the DES Inspectorate, management organisations, teacher representatives, SEN and members recruited through a public application process. Since then, the NCCA executive has worked with the EPMDG, the Board for Early Childhood and Primary, and Council, to fulfil the brief and adhere to the guiding principles set out in the background paper. The initial work of the group endeavoured to formulate a vision for the PMC that would maintain the integrity of mathematics as a discipline in itself, whilst also connecting with the Primary Language Curriculum for junior infants to second class published in 2015. Initial development milestones included the drafting of the curriculum rationale and aims, as well as developing a shared understanding of the different components of the curriculum; their role and purpose. Decisions followed on the organisation of content according to strands and on a model to develop learning outcomes and progression continua. A key focus of the progression continua was to present the key

processes alongside the content. Following significant drafting and reviewing work, the draft PMC specification for Junior Infants to second class was published in Autumn 2017. Following approval at the Board for Early Childhood and Primary, and Council, a consultation plan was developed for the specification.

CONSULTATIONA

A critical component of NCCA's curriculum development processes is consultation with stakeholders. Consultation on the draft Primary Mathematics Curriculum for Junior Infants to Second Class took place between October 2017 and March 2018. The purpose of the John Behan, Tracy Curran, Jacqueline Fallon and Claire Reidy

L. Harbison and A. Twohill (Eds.) Proceedings of the Seventh Conference on Research in Mathematics Education in Ireland (MEI 7)15consultation was to provide an opportunity for teachers, schools, parents, children and other interested parties to express their views and inform developments of the curriculum going forward. The consultation was structured around three main strands; an online questionnaire, nationwide seminars and a school network. The questionnaire was open online to teachers, parents and the general public. Three consultative seminars were held in Limerick, Sligo and Dublin, and were attended by teachers, principals, academics and other interested parties. In addition, focused seminars were conducted with the Professional Development Service for Teachers (PDST) and the National Parents Council Primary (NPCP). Finally, the school network consisted of nine schools, identified through a public call for expressions of interest in contributing to the development of the PMC. The network represented both a geographical and contextual spread of school type, including; urban DEIS, rural DEIS, Scoil sa Ghaeltacht, Gaelscoil, special school, school with special classes, small rural and large urban. The network met collectively on three occasions, while NCCA Education Officers visited each school in between each of the gatherings. Data was gathered at the three meetings through field notes and other documentation. Focus groups were conducted during field visits by NCCA staff, in addition to documentation produced by participating teachers. The school network strand also provided an opportunity to explore children's perspectives, based on their mathematical learning experiences from junior infants to 2nd class. A significant analysis was conducted of all data gathered from each strand of the consultation process. Arising from the consultation findings, key recommendations were derived for the (continued) development of the junior infants to 6th class PMC. These were presented (NCCA, 2018) under seven broad headings: messaging, learning outcomes, progression continua, mathematical proficiency, supporting pedagogy, support material and consultation. The consultation findings contributed to the continued development of the draft specification with a focus on junior infants to sixth class.

CONTINUED DEVELOPMENT

Initially when convened, the focus of the EPMDG was on the development of a PMC to cover junior infants to second class. However, in June 2018, the Department of Education and Skills announced that the PMC will be introduced to schools as a single-stage implementation, from junior infants through to sixth class. The feedback received from stakeholders during the consultation contributed to the evidence base for this decision. In late 2018, NCCA commissioned a research addendum (Dooley, 2019) to examine considerations for a high-quality mathematics curriculum for middle/upper primary pupils. Development work on the PMC has continued. Drafting of learning outcomes and progression continua for third to sixth class is ongoing. Furthermore, following consultation, mathematical concepts have also been developed for each learning outcome. These are considered essential ideas that underpin each Learning Outcome and may provide useful entry and reference points in relation to planning, teaching and assessment, and may serve to remind teachers of key mathematical knowledge at each stage. Most recently a new chapter ‘The Primary Mathematics Curriculum in Practice’ was drafted, containing important descriptions of over-John Behan, Tracy Curran, Jacqueline Fallon and Claire Reidy

L. Harbison and A. Twohill (Eds.) Proceedings of the Seventh Conference on Research in Mathematics Education in Ireland (MEI 7) 16 archiving pedagogical practices as highlighted in the research reports. Critical Friends Groups, comprised of academics and teachers in the area of primary mathematics, have been convened to examine initial drafts of this work, with their feedback returned to the EPMDG for consideration. Similar Critical Friends Groups have been used to examine the draft PMC in terms of inclusion, focusing on areas of special education needs and exceptionally able children. In late 2018, the Minister for Education and Skills announced a revised schedule for the introduction of the new PMC. It is envisaged that the PMC will now be published in Autumn 2021 as a single specification from junior infants through to 6th class.

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