Primary Curriculum Review and Redevelopment

Written submission template for organisations, groups and individuals responding to the *Draft Primary Curriculum Framework*

This template is intended to support you (and your colleagues/organisation) in developing a written submission in response to the *Draft Primary Curriculum Framework*. Please e-mail your completed submission to PCRRsubmissions@ncca.ie

Individual submission details

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Organisation submission details

Name	
Position	
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Yes YES No

Please email your submission to PCRRsubmissions@ncca.ie

Please provide some brief background information on your organisation (if applicable).

The remainder of the template includes two sections. Section 1 invites your overall comments and observations on the *Draft Primary Curriculum Framework*. Section 2 is structured to align with the six key messages related to the framework. Each message is summarised as a support for you in working on the submission.

Section 1

Please outline your overall response to the *Draft Primary Curriculum Framework.*

I welcome the changes that the Draft Primary Curriculum Framework proposes. The draft primary curriculum is much needed to be updated to reflect and respond to the diversity of the classroom in terms of the various cultures, ethnicities, family structures and backgrounds, languages, religions, and sexual identities. It acknowledges the role schools play in responding to the changing needs and priorities of a society and preparing children to be equipped with the skills and knowledge needed to participate and contribute in future society.

The incorporation of modern foreign languages and technology skills have been much needed for many years. In addition, the redevelopment of the curriculum from 11 subject areas to 5 broad areas and retaining subjects in stage 3 as well as offering integration across the curriculum areas is more reflective of real-life where children will have the opportunities to apply knowledge and skills from multiple areas. It also addresses the over-crowdedness of the current curriculum.

With that said I would like to contribute further to the development of the Draft Primary Curriculum Framework by sharing the research that I am currently working on as a Masters of Education in Education Leadership student with DCU. I believe that if we are preparing children to have the skills and knowledge and seek to foster their unique talents, developing their potential to thrive in the future, then the area of spatial skills needs a greater focus across the curriculum. I believe we have the opportunity to address this now.

(I am unsure as to which section to place this in the document hence I am providing my input in this section here).

Why are spatial skills important?

Spatial ability is the capacity to understand, reason and remember the spatial relations among objects or space. Spatial skills are used every day from navigation, understanding or fixing equipment, understanding or estimating measurement and distance. Spatial abilities are also important in fields for example such as sports, mathematics, technical aptitude, science, engineering and economics forecasting etc. Not only does spatial abilities involve understanding the outside world but also involves processing outside information and reasoning with it through representation in the mind. There are four different types of spatial ability – Visuo-spatial perception, spatial visualization, mental folding, and mental rotation. Each of these have unique properties and importance to the many different types of activities we perform in certain jobs or in everyday life.

Spatial thinking skills are strongly correlated with achievement in Science, Technology, Engineering and Mathematics (STEM) and are also intrinsic in other curricular areas such as the arts, geography, and physical education. Emerging research suggests that interventions aimed at building students' spatial skills may yield significant impacts on learning in educational settings. Yet, despite this the intentional practice of teaching spatial thinking skills is largely absent in school curriculums. The lack of focus in curriculums in fostering spatial skills means we risk losing a significant cohort of potentially talented individuals and girls. The focus in standardized assessment in literacy and numeracy often leads to a loss of individuals who may turn out to be

the future innovators and creative individuals in the world in later years. Girls are significantly underrepresented in STEM careers. Research has shown that spatial skills are malleable and teaching plays a significant role in developing these.

The 2006 report *Learning to Think Spatially,* produced by the National Research Council in the United States of America, highlights the shortfalls in the current understanding of spatial thinking in the classroom. Described as a "major blind spot in the American educational system" and emphasizing that without explicit attention and teaching "spatial thinking will remain locked in a curious educational twilight zone: extensively relied on across the K-12 curriculum but not explicitly and systematically instructed in any part of the curriculum" (National Research Council, 2006, p. 6). Likewise in Canada the Ontario Ministry of Education also affirms the important role that spatial ability and skills plays across the curriculum and has combined spatial sense and geometry into its maths curriculum.

The National Research Council (2006) asserted that

spatial thinking should not be an add-on to an already crowded school curriculum, but rather a missing link across that curriculum. Integration and infusion of spatial thinking can help achieve existing curricular objectives … and enable students to achieve a deeper and more insightful understanding of subjects. (NRC, 2006, p. 7).

The OECD 2017 report states

> Recognition of spatial skills enriches the traditional educational focus on developing literacy skills and numerical skills, and the implicit concentration on verbal and mathematical intelligence, by acknowledging that the third broad domain in contemporary models of human intelligence is spatial intelligence (OECD, 2017, p. 6).

Inclusivity and whether children with different learning needs are being met in the primary school curriculum is questioned. We tend to view individuals as intelligent or 'gifted' based on achievement in standardized literacy and numeracy tests or those who achieve high points in the leaving certificate securing a place on high points courses at third level. As the National Science Board states in its report *Preparing the Next Generation of STEM Innovators*

*S*patially talented students may not fit the classic model of what parents, the public, and even educators think of as "gifted... We run the risk that individuals "with spatial abilities are routinely overlooked because these abilities are rarely measured and, if they are, the results often are not given the proper attention. This is an untapped pool of talent critical for our highly technological society" (National Science Board, 2010, p. 20).

This significance of this report cannot be underestimated as it effectively advocates a call to action to recognize not only the importance of spatial ability across STEM subjects but also other curricular areas and appeals to educational researchers and system leaders to develop improved understanding and supports required to foster spatial ability in children. The Draft Primary Curriculum states that "Schools and the curriculum together are often viewed as a critical site for responding to national priorities or needs and addressing societal problems" (Draft Primary Curriculum, 2020 P. 2). I believe through the process of drafting the new primary curriculum in Ireland we have an opportunity to address this now.

M. Ed Research

I will be conducting research on incorporating spatial skills across subjects in the Irish primary school curriculum. The research will focus on two main questions.

1. Explore how the children respond to spatially-enhanced lessons.
2. Trial the theory of the Knowledge Transfer Framework (KTF) to change and inform my own practice with a view to applying spatial skills in the Irish primary school curriculum.

My research aims to explore children's responses to spatially-enhanced lessons in the Irish primary school curriculum. As teacher-researcher I will be leveraging aspects of a framework developed in the USA to teach key spatial skills such as Visualization Instruction, Sketching, Gesture, Spatial Comparison and Spatial Language as part of the lessons. I will conduct 3 lessons integrated across the subject areas of Geography, Science, Maths and Art where children will apply and use these skills. The teaching will take place in the whole class setting but the research will entail observation of a focus group of six students from 2nd class aged 7-8 years and of mixed ability and gender so that the data can be analysed in depth. To ensure gender equality in representation three girls and three boys will be selected for the purposes of this study. A whole class setting will be used with the researcher's own class but the research will focus on a small group observing student engagement and motivation throughout. The small group will be selected using purposive sampling to represent a range of abilities in class.

The benefit of this study is that students will participate in research-informed lessons and will have the opportunity to engage in spatially- enhanced lessons. This may offer students new ways to learn curriculum objectives but also simultaneously develop and improve their spatial skills. By engaging in rich spatially-enhanced lessons students this may lead to improvement in a wide variety of curriculum areas where spatial skills are intrinsic such as Mathematics, Geography, Science, Visual Arts and Physical Education. It may also improve student engagement and motivation in learning for all learners by changing teaching practice to incorporate spatial thinking skills in lessons. By observing the student's response to the interventions this may help to enhance my own teaching practice as well as further contribute to the global research on the importance of developing spatial skills in the educational setting. I would hope that the findings of this research may contribute to the shaping of the Irish primary school curriculum by embedding spatial skills in teaching and learning.

I am hoping to conduct the research in February, 2022 and I would be happy to discuss the research with you. My contact details are Angela Langan, Email: angelamcsw@gmail.com.

Section 2

Agency and flexibility in schools

The Draft Primary Curriculum Framework proposes that the redeveloped curriculum will:

- Be for every child.
- Recognise teachers' and principals' agency and professionalism to enact the curriculum in their individual school context.
- Give more flexibility to schools in terms of planning and timetabling to identify and respond to priorities and opportunities.
- Connect with different school contexts in the education system.
- Give greater opportunities for flexibility and choice for children's learning.

The *Draft Primary Curriculum Framework* outlines important messages in relation to agency and flexibility in schools. Please give your overall feedback in relation to this key message.

Allowing agency and greater flexibility in the local context is welcome as there is no one size fit all approach for teaching and learning in schools. I believe this approach will give schools greater freedom to customised the curriculum to the local context. Following careful consideration of the new primary school curriculum, I think schools will need to time to rationalise the strategic direction of the school in terms of its whole school planning. This will require a significant amount of time and the process for change will need to be managed on a phased basis.
I do think that school leadership is key for this implementation.

Curriculum connections between preschool, primary and post-primary schools

The Draft Primary Curriculum Framework proposes that the redeveloped curriculum will:

- Provide a clear vision for children's learning across the eight years of primary school.
- Link with learning experiences provided through the themes of the *Aistear*: *the Early Childhood Curriculum Framework* and connect with the subjects, key skills and statements of learning in the *Framework for Junior Cycle*.
- Support educational transitions by connecting with what and how children learn at home, in preschool and post-primary school.

The *Draft Primary Curriculum Framework* outlines important messages in relation to curriculum connections between preschool, primary and post-primary schools. Please give your overall feedback in relation to this key message.

I think this is an excellent step linking the three levels of education. However, I would say that the pace of change in society in terms of research, technological advancements, innovation, sociological and geo-political situations etc. means that there needs to a method where new iterations of aspects of the curriculum can be incorporated regularly rather than wait another 20 years. The Education system must be more agile in responding the changing needs of society otherwise it will become quickly inadequate in meeting its needs. A committee of representatives from all three education levels, government, researchers in science, business representatives, representation from multiple ethnic groups etc.., minority representation should be brought together. A two-year cyclical review should be put in place for this group to review the status of the curriculum, share new insights as to future developments in science, technology, teaching and learning etc. Feedback by way of survey should sought from the teaching community. This will help ensure all three levels of education are aligned and can adapt curriculums together rather than risk being out of sync. For example, the Leaving certificate remains a rote learning experience whilst the junior cycle and primary school curriculum stresses problem solving and creative active learning approaches. There needs to be some flexibility where revisions can be accommodated on a regular basis.

Emerging priorities for children's learning

The Draft Primary Curriculum Framework proposes that the redeveloped curriculum will:

- Embed seven key competencies across children's learning outcomes from junior infants to sixth class.
- Focus on developing children's skills, knowledge, dispositions, values and attitudes. The Learning Outcomes and the Key Competencies are broad in nature to describe this wider understanding of learning.
- Have increased emphasis on some existing areas such as PE and SPHE (Wellbeing) and digital learning, and have new aspects such as Modern Foreign Languages, Technology, Education about Religions and Beliefs (ERB) and Ethics, and a broader Arts Education.

The *Draft Primary Curriculum Framework* outlines important messages in relation to emerging priorities for children's learning. Please give your overall feedback in relation to this key message.

I whole-heartedly agree with the increased emphasis on these areas. I particularly welcome the focus on PE and SPHE as in a rapidly changing society we do need to equip children with the skills

to navigate the challenges they will face as they grow older. With growing levels of obesity, PE is essential for both health and well-being for individuals and society as a whole.
As a graduate of French and German, the ability to communicate with other nationalities is important in a globalized society. Digital literacy is fundamental to how we live today. There is a noted absence in this in the primary school curriculum. Focus needs to be placed on teaching children how to use the technology. Currently it relies on the incidental knowledge of the child to use a keyboard or software. Digital literacy skills are also reliant on the teacher's knowledge of how to use and adapt the technology for education. The focus unfortunately still remains to provide the hardware but not on how to use it in the educational setting. Yes, there are plenty of courses available. But teacher participation is voluntary. Whilst the teacher training colleges are addressing this with their students there is a large cohort of existing teachers who have never received basis computer training and shy away from incorporating digital learning into the classroom. I would suggest a formal Digital Learning programme for both pupils and teachers on basic computer skills. This should start in 2nd class and should be a scaffolded approach. I believe a mandatory CPD course should be developed for teachers. Once these basic skills are in place then teachers and pupils will be more confident to employ digital technologies in their learning. As a side, as the ICT Co-ordinator in my own school it is not feasible for a full-time teacher to manage the infrastructure and devices for a school to support digital learning. A centralized support system to supply technical support and maintenance should be created. Digital learning/Technology education is reliant on this support. Without it the learning outcomes as set in the new draft curriculum may become aspirational rather than achievable and schools will fail to meet the requirements of the curriculum. This is a critical area that must be looked at.

Changing how the curriculum is structured and presented

The Draft Primary Curriculum Framework proposes that the redeveloped curriculum will:

- Be broad and balanced in purpose and content.
- Be structured in five broad curriculum areas;
    - Language
    - Mathematics, Science and Technology Education
    - Wellbeing
    - Social and Environmental Education
    - Arts Education.

(In addition to the five areas above, the Patron's Programme is developed by a school's patron with the aim of contributing to the child's holistic development particularly from the religious and/or ethical perspective and in the process, underpins and supports the characteristic spirit of the school. These areas connect to the themes of *Aistear* and to the subject-based work in Junior Cycle.)

- Provide for an integrated learning experience, with curriculum areas in Stages 1 and 2 (junior Infants – second Class) and more subject-based learning in Stages 3 and 4 (third class – sixth class).

- Use broad learning outcomes to describe the expected learning and development for children.
- Incorporate the new *Primary Language Curriculum* / *Curaclam Teanga na Bunscoile.*

The *Draft Primary Curriculum Framework* outlines important messages in relation to changing how the curriculum is structured and presented. Please give your overall feedback in relation to this key message.

At a high level I think this is the right approach. How this is translated into practice needs to be looked more carefully in order to be able to fully evaluate it.

Supporting a variety of pedagogical approaches and strategies with assessment central to teaching and learning

The Draft Primary Curriculum Framework proposes that the redeveloped curriculum will:

- Promote high quality teaching, learning and assessment.
- Conceptualise assessment as an essential and critical part of teaching and learning.
- Highlight the importance of teachers' professional judgement in supporting progression in children's learning.
- Encourage teachers to make meaningful connections with children's interests and experiences.
- Recognise the significance of quality relationships and their impact on children's learning.
- Recognise the role and influence of parents and families in children's education.

The *Draft Primary Curriculum Framework* outlines important messages in relation to supporting a variety of pedagogical approaches and strategies with assessment central to teaching and learning. Please give your overall feedback in relation to this key message.

I would like to see a standardized formal assessment of spatial skills alongside literacy and numeracy standardized reports introduced. This is to ensure inclusivity and that the different learning needs of all children are met. The assessment should be spread across **all** subject areas in the curriculum.

Building on the successes and strengths of the 1999 curriculum while recognising and responding to the challenges and changing needs and priorities.

The 1999 curriculum contributed to many successes including:

- Enhanced enjoyment of learning for children.
- Increased use of active methodologies for teaching and learning.
- Improved attainment levels in reading, mathematics and science as evidenced in national and international assessments.

The Draft Primary Curriculum Framework proposes that the redeveloped curriculum will:

- Address curriculum overload at primary level.
- Take stock of strategies, initiatives and programmes and clarify priorities for children's learning.
- Link with *Aistear* and *the Framework for Junior Cycle.*

The *Draft Primary Curriculum Framework* outlines important messages in relation to building on the successes and strengths of the 1999 curriculum while recognising and responding to challenges and changing needs and priorities. Please give your overall feedback in relation to this key message.

The growing international evidence of the link between the cognitive ability of spatial skills as a predictor STEAM (Science, Technology, Engineering, Arts, Mathematics) success needs to be considered in the content of the new primary school curriculum. In its report on education, the OECD has stated very clearly that

> Recognition of spatial skills enriches the traditional educational focus on developing literacy skills and numerical skills, and the implicit concentration on verbal and mathematical intelligence, by acknowledging that the third broad domain in contemporary models of human intelligence is spatial intelligence (OECD, 2017, p. 6).

Countries and governments across the world have taken this onboard with the USA and Canada leading the way. By helping students develop their spatial ability we are fostering a large source of potentially untapped talent, far beyond mathematical and verbal ability. This untapped source may be the future innovators and creative thinkers of the future. Lubinski et al. noted that that some of these students are impressive spatial thinkers and may make exceptional architects, engineers, surgeons and artists despite not excelling in mathematical and verbal ability.

If we are to be a forefront of education, I feel very strongly that the time is now for the Department of Education to study the research and translate this into practice in the new primary school curriculum.

Covid-19

Since the publication of the *Draft Primary Curriculum Framework*, Covid-19 has presented a big challenge for schools. Please give your views on the implications of schools' experience of the pandemic for the finalisation of the *Primary Curriculum Framework*.

The biggest challenge for schools has been to support the continuity of learning during the pandemic over the past few years. I believe the past two years has highlighted the inequalities of the education system in terms of meeting the educational needs of those from disadvantaged backgrounds and children with special needs. It has also highlighted the need for teacher education in the area of digital technology, a plan for remote learning, availability of devices and the technical support required to manage those devices and continue learning remotely as well as in class. It is very important that in drafting the new primary school curriculum that these are addressed. The supports (digital/technology training for teachers, a formal digital/technology scaffolded training programme, a Department of Education designated ICT technical support team that manage technical issues on behalf of schools) needs to be put in place. Without these basic building blocks, the new primary school curriculum will start off on a negative footing. To implement the curriculum and gain buy-in from teachers (who are essentially the change agents in this process), schools need to be supported.

Lastly, I believe there is a need for greater flexibility on behalf of the teaching community, the children and parents in how we respond to threats such as the pandemic. We need to work collectively to come up with a joint solution as to how to ensure continuity of learning.

Data Protection

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Thank you for your submission.