



# Study into the development of digital education in Primary Schools in Northern Ireland

*Baseline Study*



Executive Summary

**32%** of 16-65 year olds have **low or no digital skills.**

**38%** of **small businesses** in Northern Ireland **lack basic digital skills.**



## Background

Over the last few decades, rapid technological change has taken place having significant effect on society, economy, skills and employment. Development of digital skills has become a priority and it has been argued that pupils' ICT skills should receive the same attention and investment as literacy and numeracy.

However, Northern Ireland (NI) is the only region within the UK without a Digital Strategy. The last long-term development plan and ICT framework for ICT policy was set out by the government over two decades ago, namely: the 'Strategy for Education Technology in Northern Ireland'. This lack of direction is reflected in the rate and quality of skills development on the ground. Although there is no reliable local research data on NI's digital development, research by Citizens Online (UK) in 2017 suggests that Northern Ireland has the worst rates in the UK regarding digital skills, with 32% of those aged 16-65 (representing over 378,000 people) having low or no digital skills. This research also suggests 38% of small businesses here lack basic digital skills.

Future generations will have to take their place in the global economy making it imperative that we manage and prepare for the significant skills and competency shift required in this digital age. Developing digital capacity across our society is a priority if we want to take advantage of opportunities offered by changing technologies.

To address the above concerns, the Department for Communities confirmed support for Digiskills NI in November 2016, a collaborative, long-term structured programme, designed to build capacity within formal education for digital skills and computing. Initiated in 2015 by industry leaders, Digiskills NI has brought industry, government, statutory agencies and higher education institutions together with local schools to inform strategic policy making. It represents industry professionals, educators and key stakeholders across government who have pledged to understand and work together to overcome the challenges of developing Northern Ireland's digital skills capacity.

Due to the political uncertainty in NI, funding intended for this programme has not yet been secured; however Northern Ireland Screen continues to contribute significant resources for the ongoing development of digital education and has secured funding from the Department of Communities to fund two research studies with the aim to inform any future developments in policy and practice.

This report focuses on one of these two studies, namely: the Digital Education in Primary Schools Baseline Study.

# Northern Ireland Screen

Northern Ireland Screen is delighted to have been able to support this research study. We particularly welcome the collaboration across the Initial Teacher Education in Northern Ireland in developing and delivering the project. The Department of Communities and Northern Ireland Screen have supported this research to further develop our understanding of the vitally important digital skills agenda in Northern Ireland. The research has enabled the gathering of essential evidence that will help to be developed in teacher education and as part of Northern Ireland Screen's Education Strategy.



Beginning in 2004, with the launch of 'A Wider Literacy', Northern Ireland Screen has a proud history of supporting the use of creative digital technologies in support of the curriculum. Building on our existing work through the three Creative Learning Centres, INTO Film and Cinemagic, this research provides vital information regarding teacher skills and the Using ICT area of the Northern Ireland curriculum. Northern Ireland Screen would like to thank the Universities Council for the Education of Teachers Northern Ireland panel for their support throughout the process and offer special thanks to Dr Despina Galanouli and Professor Linda Clarke for their dedication and enthusiasm throughout the project. The evidence provided in this study highlights the challenges in digital education and provides direction as we and other agencies together with government departments make plans for future strategy delivery.

**Bernard McCloskey, Head of Education Northern Ireland Screen**

# UCET Northern Ireland

This project was developed collaboratively by Northern Ireland Screen working with UCETNI with the steering group of the project nominated by the members of the UCETNI Committee (St Mary's University College, Stranmillis University College, Queen's University Belfast, Open University and Ulster University) and James Noble-Rogers, Ex Council for the Education of Teachers (UCET). The members of the Steering Group were nominated by these institutions and the group also included Ms Ireland Screen. The Research Fellow was Dr Despina Galanouli. Ethical approval for the study was provided by the School of Education Ethics Filter Con

**Professor Linda Clarke, Chair of UCETNI Committee**

## Research Fellow:

Dr Despina Galanouli

## Project Steering Group:

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**The Project Steering Group expresses a most sincere thanks to the schools and teachers who so willingly participated in this project.**



# Project Snapshot



Engaging and empowering **'teachers as researchers'** this study gathered data from 31 schools across Northern Ireland. Primary data was collected from

**31** ICT  
Coordinator  
Interviews

**62**  
Teacher  
Interviews

**29**  
Principal  
Surveys

**246**  
85-item Teacher  
Surveys

**62**  
6-item ICT  
Coordinator Surveys

Research focussed on:



Leadership  
in  
Schools



Teacher  
Professional  
Development



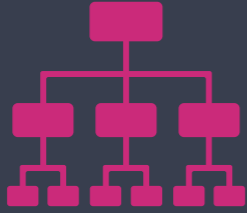
Pedagogy  
and  
Assessment



Equality of  
Access & Learner  
Experience



Parental  
Engagement



# About this study

This report outlines the findings of the Digital Education in Primary Schools Baseline Study which aimed to gather **baseline data** on the following areas of digital education in **primary schools**:

- (a) Leadership in school,
- (b) Teacher Professional Development,
- (c) Pedagogy and assessment,
- (d) Equality of access and the learner experience and finally
- (e) Parental engagement.

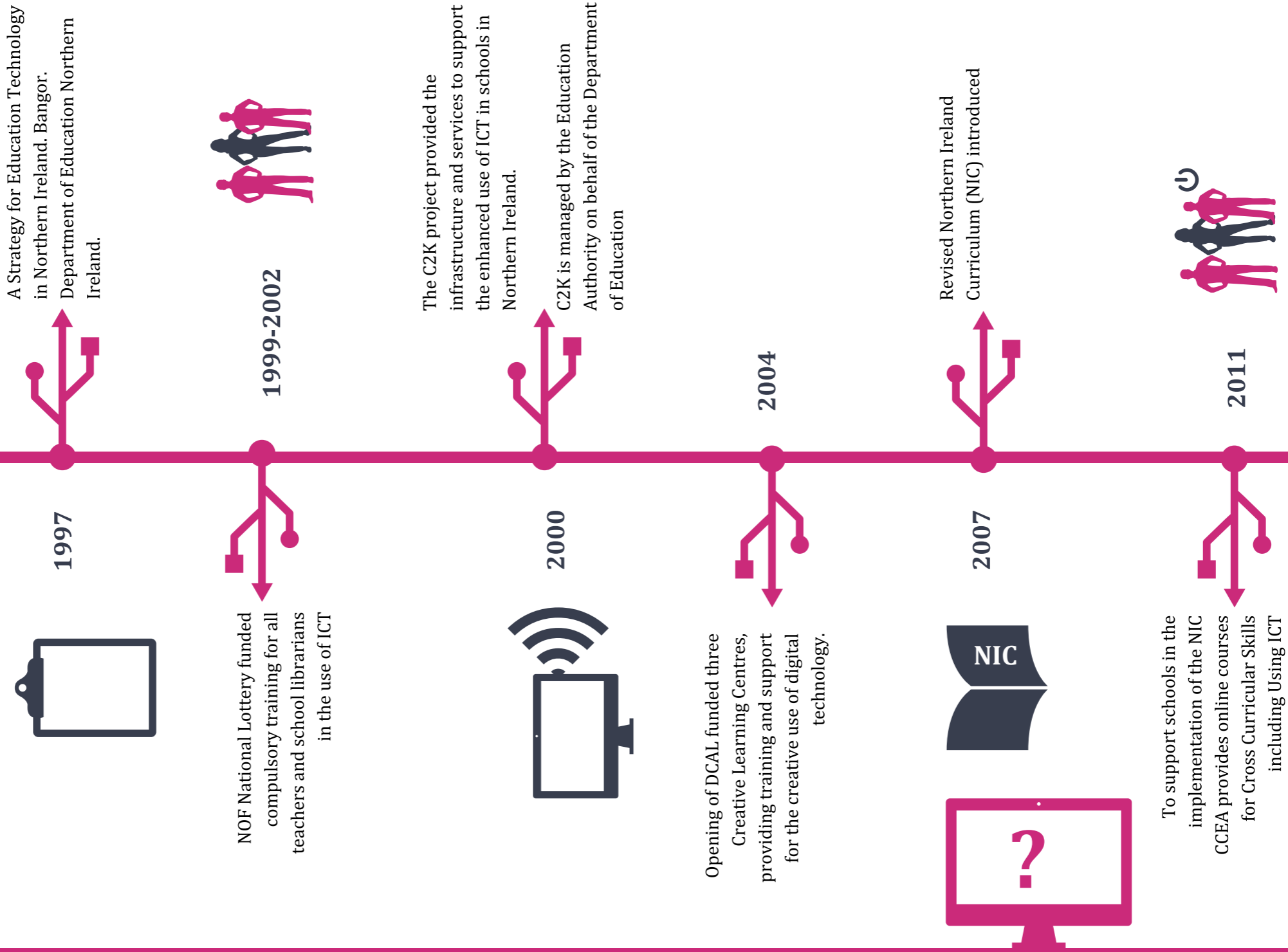
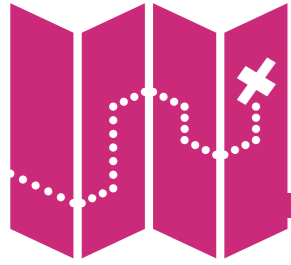
A '**teacher as researcher**' model was employed for this study's methodology in line with '*Learning Leaders: Strategy for Teacher Professional Learning in Northern Ireland*' (DE, 2016) and the findings of the **BERA-RSA** inquiry into the role of research in teacher education (BERA, 2014). Most of the **data collection**, therefore, was **carried out by teachers** (ICT coordinators) with support from the project's Research Fellow.

Funding for staff cover was provided and the **school principals and ICT coordinators** attended a 'Teachers as Researchers' workshop which aimed to provide basic research training and practical experience to the ICT coordinators.

**Thirty-one schools** participated in the study - selected from a **randomised sample** provided by DE - and a bursary for their participation was offered at the end of the data collection stage. **Five sources** of data (from principals, primary school teachers and primary school ICT coordinators) were identified to ensure **triangulation**.

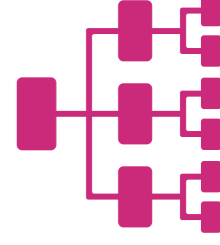


# Milestones and Interventions



# Summary of Findings

Item	Positive attitude items with higher agreement for the 2018 survey								
	Strongly Agree/Agree		Unsure		Disagree/Strongly Disagree				
	2001/2002	2003/2004	2018	2001/2002	2003/2004	2018	2001/2002	2003/2004	2018
All teachers should be able to use ICT in their teaching.	88	83	90	8	12	7	4	6	3
I have bought, or would like to buy, a home computer.	87	85	89	3	7	4	10	8	7
I would like to know more about computers/using ICT.	91	81	84	5	7	13	4	7	3
I use ICT in many ways in my daily life.	64	72	81	9	7	12	27	21	7
Figuring out problems with ICT appeals to me.	32	32	38	28	22	23	40	47	39
Item	Positive attitude items with lower agreement for the 2018 survey								
	Strongly Agree/Agree		Unsure		Disagree/Strongly Disagree				
	2001/2002	2003/2004	2018	2001/2002	2003/2004	2018	2001/2002	2003/2004	2018
Learning about using computers, digital devices and ICT is worthwhile.	97	99	88	2	1	3	1	-	9
I would generally feel OK trying something new on a computer/digital device.	81	81	76	9	9	15	10	10	9
I am generally quite good with ICT.	70	73	63	15	14	21	15	13	16
I feel fairly confident when working with computers and digital devices in general.	71	76	57	13	12	21	15	13	22
At this point in my career I believe I can do advanced ICT and computer work.	46	49	31	26	22	32	27	29	37
Item	Negative attitude items with higher agreement for the 2018 survey								
	Strongly Agree/Agree		Unsure		Disagree/Strongly Disagree				
	2001/2002	2003/2004	2018	2001/2002	2003/2004	2018	2001/2002	2003/2004	2018
I feel intimidated if a conversation turns to computers and ICT.	13	12	21	11	12	23	75	76	56
Advanced ICT skills would not improve my teaching.	15	15	19	13	14	20	72	71	61
I am not the type to do well with digital devices, computers and ICT.	5	6	13	11	10	19	83	84	68
I feel threatened by the thought of having to use a computer/digital device.	10	9	10	5	6	9	86	85	81
I do not understand how people can enjoy working with computers and ICT.	5	8	9	9	9	14	83	84	77
Item	Negative attitude items with lower agreement for the 2018 survey								
	Strongly Agree/Agree		Unsure		Disagree/Strongly Disagree				
	2001/2002	2003/2004	2018	2001/2002	2003/2004	2018	2001/2002	2003/2004	2018
I am often unsure what to do when using a computer/digital device.	23	20	16	13	12	22	64	68	62
It is not important to me to use ICT material/digital devices in my teaching.	12	12	10	12	14	9	76	74	81
I avoid using computers/ICT whenever I can.	8	12	6	7	5	14	85	83	80
I find computers and ICT boring.	9	10	5	8	11	17	82	79	78
I do not like using ICT in my teaching.	7	10	2	12	9	11	81	82	87



# Recommendations for stakeholders based on the study's findings



## Pedagogy and Assessment

Linking ICT skills to **pedagogy needs considerable attention** and a **fresh approach** to understanding how teaching using ICT can benefit from new pedagogical approaches. Therefore:

- DE and education agencies, including **ETI, EA, GTCNI and CCEA** should **review their roles, guidance and actions** in providing teachers with information, advice, direction and training in the teaching and assessing of digital skills.
- **CCEA** should consider tailoring a **programme of curriculum support training** in relation to the **five 'E's for non-specialist teachers** in the primary sector.
- **Professional development** and training should be provided and focus should be on **software** available in school but also specifically in relation to the **creative technologies** element of the curriculum. Creative Learning Centres may be best placed to provide this.
- The Department of Education should consider how the **ten days** that are currently set aside for professional development should be directed towards **high priority training activities** in promotion of digital skills education.
- Schools should be **encouraged and facilitated to participate in the wider dissemination** of good practice. Communities of practice are an important means of sharing approaches to digital skills education challenges. **Greater support** is required to encourage effective communities of practice for ICT **between schools and at different levels of competence**.
- **Continuity** with regards to digital skills development **between primary and post-primary education** should be explored; skills gained by pupils while at primary school should be further developed at post-primary level.





# Teachers' continuing professional development

Given that **teachers feel that they are being left behind**, with limited time and opportunities to upskill themselves and keep up-to-date with the advances in digital education, the following recommendations are made:

- The ETI and DE must ensure sufficient **clarification** is provided **regarding expectations in ICT in education** in order to reduce confusion among teachers.
- New, **differentiated and tailored training programmes** should be provided **to suit a variety of backgrounds and levels** and to ensure **equality of opportunity across Northern Ireland**. The EA/HEIs should play a more focused role in supporting these types of teacher CPD in ICT.
- The dissolution of the Curriculum Advisory and Support Service (CASS) has left a void in the area of teachers' CPD support. It seems clear that some form of **alternative service must be provided under EA's current functions** as the current arrangements seem to be ineffective in providing support to teachers.
- **Training providers should meet a standard set by the DE/EA** and that accreditation should be available to teachers to ensure that their time in training receives **professional recognition**.
- **ITE providers should review their provision regarding both ICT skills** and ICT-based **pedagogy** and engage in consultation with all main stakeholders to plan the way forward and ensure newly qualified teachers enter the profession with the required level of ICT skills.
- This research shows that **teachers are willing and keen to take up ICT training in their own time**. Therefore, there should be appropriate **support mechanisms** in place for these teachers to pursue training in their own time and out-of-school.

## School leadership

The Department of Education acknowledges that 'Leadership is second only to teaching as the factor most likely to influence outcomes for pupils'. This study's findings highlight the **positive impact leadership** can have in developing digital education but also the gaps evident in the support for leadership:

- School principals have indicated that **all aspects of digital education in primary education**, including guidelines for leadership, training, equipment, connectivity and technical support **should be reviewed** in order to identify an effective strategy for the development of digital education in schools.
- Senior school management and staff should be **supported to become self-improving** by developing **evidence-based and reflective practice** in the area of digital education.





# Equality of access and the learner experience

The findings from this study suggest that **there are significant and widening gaps regarding equality of access** to digital education across Northern Ireland. This is **despite investment in C2K** which aimed to ensure equality of access to IT in education. With the much-cited digital skills gaps evident in Northern Ireland this inequality **needs urgently addressed** as follows:

- A **comprehensive strategy/plan to tackle inequality** in access to a digital education should be **drawn up urgently** including a plan for **teacher education**.
- EA to **examine and report why award-winning schools are able to build capacity and improve**.
- C2K should **review and ensure that all schools have access to sufficient equipment** for all the pupils to be able to **develop digital skills**.
- Training providers (e.g. EA and CCEA) should ensure that **training designed to promote teacher ICT competence, and mentoring and peer support for ICT confidence**, is available and readily accessible in order to ensure that **teachers become successful leaders** in this part of the curriculum.

## Parental Engagement

Parental engagement is essential to support pupils' learning in all areas of education therefore we need to understand how parents' engagement in this area of the curriculum can be improved. We also need much **greater communication between teachers and parents** to support young people. To this end we recommend that:

- Further **ICT training is necessary for teachers to feel better equipped** to engage with parents who are experts in the area of ICT and to help these parents who need support.
- Parents' **Curriculum Support evenings should also include information on the digital elements of the curriculum** in school and advice on how to provide support.
- A research study designed to understand parents' roles and how they can support digital skills development for pupils would contribute to better parent/teacher partnerships when supporting pupil ICT skills development.



# Conclusion

The small sample of 31 Northern Ireland primary schools which participated in this survey includes schools that have excelled in the area of digital technology while others from the same sample do not have access to enough computers or other digital devices to carry out an ICT lesson. This sample also includes teachers who are expert ICT users and others who still feel intimidated if a conversation turns to computers or ICT. In conclusion, based on the findings of this study, the following would contribute to addressing this inequality in the experiences of primary school pupils in digital education:

- **DE urgently need a comprehensive strategy/plan to build capacity for digital education. In particular, addressing inequality in access to a digital education at government-level, including a plan for teacher professional development in ICT and also for ITE provision.**
- **ITE providers should review their provision regarding both ICT skills and ICT-based pedagogy and engage in consultation with all main stakeholders to plan the way forward and to ensure newly qualified teachers enter the profession with the required level of ICT skills.**
- **The ETI, EA, GTCNI and CCEA should review their roles, guidance and actions in ensuring teachers have ready access to quality advice, direction and training in the teaching and assessing of digital skills.**
- **DE should consider how the ten days that are currently set aside for professional development should be directed towards high priority training activities in promotion of digital skills education. Teachers willing to take up ICT training in their own time should be professionally acknowledged and these teachers should be supported by their school to pursue such quality assured training in their own time and out-of-school.**

**Further research recommended to support parental engagement and transition from primary to post-primary education:**

- **A research study designed to understand parents' role and how they can support digital skills development for pupils would contribute to better parent/teacher partnerships when supporting pupil ICT skills development.**
- **A research study to explore continuity with regards to digital skills development between primary and post-primary education; skills gained by pupils while at primary school should be further developed at post-primary level.**

The full Report can be viewed on the Northern Ireland Screen and Ulster University websites.

## References

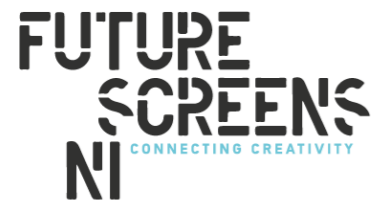
British Educational Research Association (BERA) (2014). Research and the teaching profession. Building the capacity for a self-improving education system. Final Report of the BERA-RSA Inquiry into Research and Teacher Education.

Department of Education (DE) (2016) Learning Leaders. A Strategy for Teacher Professional Learning.



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The Digital Education in Primary Schools Baseline Study was developed and overseen by representatives from all the Initial Teacher Education providers in Northern Ireland, under the auspices of UCETNI (The Universities Council for the Education of Teachers) with a Research Fellow based at Ulster University.



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