Digital Learning Framework Trial Evaluation: Baseline Report

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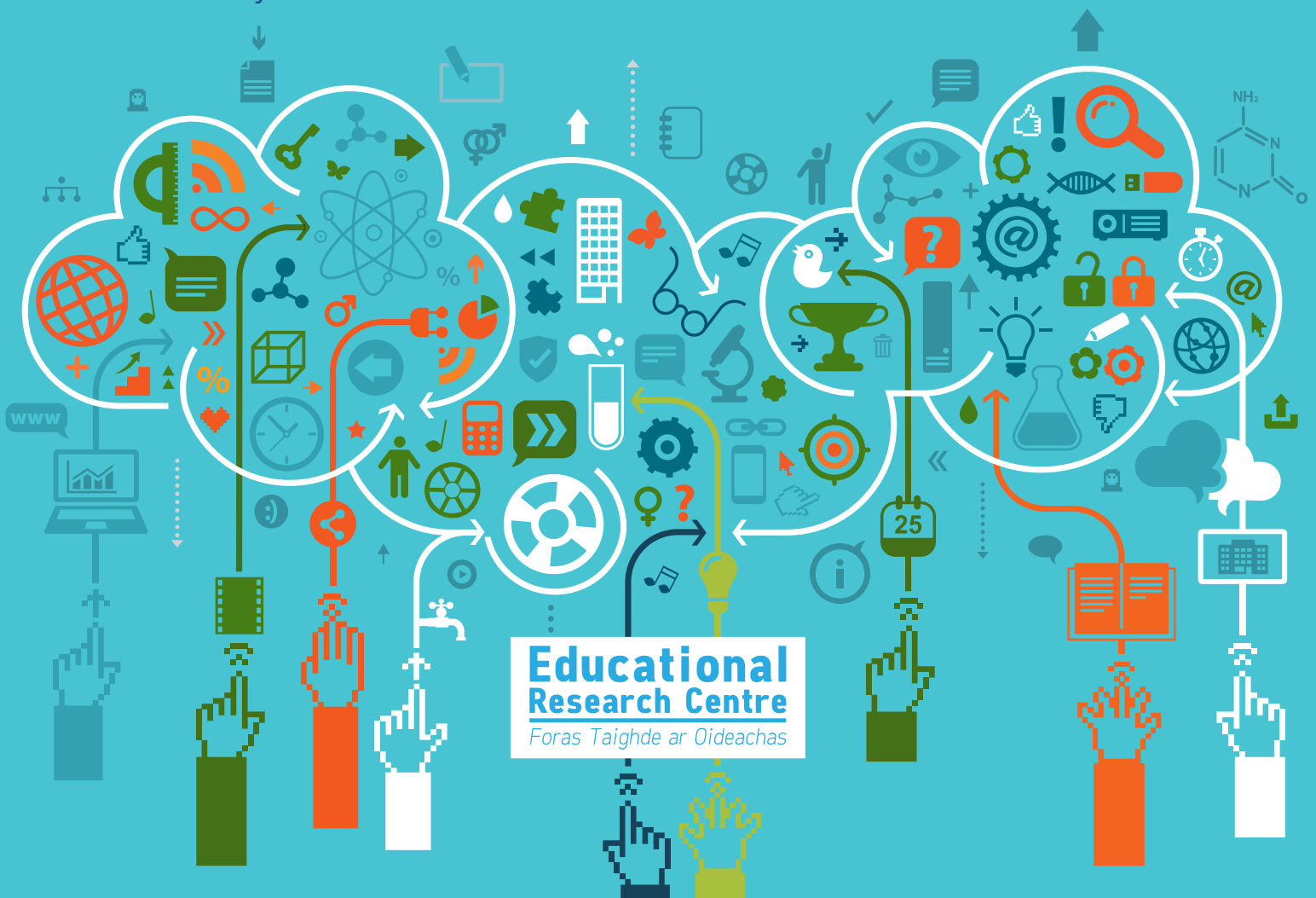

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Table of Contents

Acknowledgements 4
List of Acronyms and Abbreviations 5
Executive Summary 6
Background context 6
Aims of the Digital Learning Framework trial evaluation 7
Design of the Digital Learning Framework trial evaluation 7
Guide to interpreting the results 9
Summary of findings 10
Digital contexts of participating schools 10
Principals' views on the Digital Learning Framework document 10
Schools' plans for the Digital Learning Framework trial 11
Numbers of teachers responding to the questionnaire 12
Digital contexts of teachers 12
Digital teaching and learning practices 13
Teachers' views of the Digital Learning Framework document 13
Teachers' views on the Digital Learning Framework trial 14
Resources for the first PDST advisor visits 14
General description of the first PDST advisor visits 14
Principals' and PDST advisors' views on the first visits 15
Successes and challenges identified during the first PDST advisor visits 15
General observations on the focus group interviews 16
Key findings emerging from the focus group interviews 17
Conclusions and implications for Phase 2 17
Next steps 19
Chapter 1 Introduction: Background, Aims and Design of the Digital Learning Framework Trial Evaluation 20
1.1. Background 20
1.1.1. Digital Learning Framework and Digital Strategy for Schools 20
1.1.2. Structure and purpose of the Digital Learning Framework 23
1.1.3. Digital Learning Framework Trial 24
1.1.4. International context 24
1.2. Aims of the Digital Learning Framework Trial evaluation 26
1.3. Design of the evaluation 27
1.3.1. Role of the PDST advisors 27
1.3.2. Schools participating in the DLF Trial 28
1.3.3. Timeline for the DLF Trial evaluation 33
1.3.4. Design and content of the DLF Trial evaluation questionnaires 33
1.4. Guidelines for interpreting the results 35
1.5. Content of this report 36

Chapter 2 Findings from the Phase 1 principal questionnaire 37
2.1. Description of respondents 37
2.1.1. Years' experience 37
2.1.2. Concurrent teaching duties (primary) 38
2.2. Digital contexts of schools 38
2.2.1. Principals' ratings of digital technology infrastructure and usage 38
2.2.2. Principals' views on obstacles hindering effective use of digital technology 41
2.2.3. Schools' use of the Grant Scheme for ICT infrastructure 43
2.3. Principals' views on the DLF document 43
2.4. Schools' plans for the DLF trial 45
2.4.1. Distribution of domains and standards across participating schools 45
2.4.2. Levels of effective/highly effective practice in schools at baseline 48
2.4.3. Staff involvement, planning, supports and expectations 49
2.4.4. Principals' views on benefits and challenges of the DLF Trial 50
2.5. Key points from Chapter 2 53
Chapter 3 Findings from the Phase 1 teacher questionnaire 53
3.1. Description of respondents 56
3.1.1 Primary teachers 56
3.1.2. Post-primary teachers 57
3.2. Digital contexts of teachers 58
3.2.1. Teachers' ratings of digital technology infrastructure and usage 58
3.3. Digital teaching and learning practices 62
3.3.1. Teachers' usage of digital technologies in teaching and learning activities 62
3.3.2. Comparisons of teachers' reports with the 2013 ICT Census of Schools 63
3.3.3. Teachers' usage of digital technologies during class time 63
3.4. Teachers' views on the DLF document 66
3.5. Teachers' expectations for the DLF Trial 68
3.5.1. Expected areas of focus during the trial 68
3.5.2. Expected changes as a result of the trial 68
3.5.3. Teachers' views on benefits and challenges of the DLF Trial 69
3.6. Key points from Chapter 3 71
Chapter 4 Findings from the PDST advisors' first school visits 74
4.1. Resources for the first visits 74
4.2. General description of the first visits 74
4.2.1. Visit dates 74
4.2.2. Visit length, format and staff present 75
4.2.3. Preparatory activities 76
4.2.4. First visit goals 77
4.2.5. Levels of satisfaction with the first visit 78
4.3. Main challenges/difficulties identified by schools and advisors 79
4.4. Main successes/solutions identified by schools and advisors 82
4.5. Key points from Chapter 4 86

Chapter 5 Key messages from the Phase 1 focus groups 88
5.1. Profile of focus group schools 88
5.2. Conduct of the focus group interviews 91
5.3. Findings organised by theme 92
5.3.1. Digital Learning Framework document 93
5.3.2. Leadership, culture and attitudes 95
5.3.3. Time and timeline 97
5.3.4. Supports 98
5.4. Concluding comments 102
Chapter 6 Conclusions 104
6.1. Key findings and implications for Phase 2 104
6.2. Next steps 106
References 107
Appendices 109

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Finally, our thanks to Minister for Education and Skills, Richard Bruton, for his support for the study.

List of Acronyms and Abbreviations

ASD	Autistic Spectrum Disorder(s)
CPD	Continuing Professional Development
DEIS	Delivering Equality of opportunity in Schools
DES	Department of Education and Skills
DLF	Digital Learning Framework
DLT	Digital Learning Team (in the school)
DT	Digital Technology/Technologies
ERC	Educational Research Centre
ETB	Education and Training Board
FG	Focus Group
ICT	Information and Communication Technologies
IR	Industrial Relations
IT	Information Technologies
LAOS	Looking at Our Schools Framework (for School Self-Evaluation)
L&M	Leadership & Management (dimension of the DLF)
NCCA	National Council for Curriculum and Assessment
NCTE	National Council for Technology in Education
PDST	Professional Development Service for Teachers
OECD	Organisation for Economic Co-operation and Development
PIRLS	Progress in International Reading Literacy Study
PISA	Programme for International Student Assessment
SEN	Special Educational Needs
SESE	Social, Environmental and Scientific Education
SSE	School Self-Evaluation
T&L	Teaching & Learning (dimension of the DLF)
TIMSS	Trends in International Mathematics and Science Study
TY	Transition Year

Executive Summary

This report describes the baseline results of the Digital Learning Framework Trial evaluation and as such provides a starting context for interpreting results at the end of the trial. The final report will be submitted to the Department of Education and Skills in July 2018.

Background context

In September, 2017, the *Digital Learning Framework* (DLF) for primary and post-primary schools was published (DES, 2017a, b). This was followed by *Digital Planning Guidelines* and a *Planning Template* in December 2017[1]. The DLF is a tool to help schools manage the transformation of teaching and learning as a result of embedding digital technologies into practice, and has been developed to enable schools to implement elements of Ireland's national *Digital Strategy for Schools 2015-2020* (DES, 2015a).

The *Digital Strategy for Schools* is organised under four themes (teaching, learning and assessment; teacher professional learning; leadership, research and policy; and ICT infrastructure). The DLF is a key component of the first of these themes.

Other resources and supports have been developed to support the realisation of the Digital Strategy, including exemplar videos of good practice and practical guidelines for schools on issues such as technical support. These are on the Professional Development Service for Teachers (PDST) Technology in Education website[2].

The DLF consists of standards and statements of practice and effective practice; these are organised under the two *dimensions* of Teaching and Learning and Leadership and Management. Within these dimensions, there are eight *domains*.

- Teaching and Learning Dimension
    - Domain 1 Learner Outcomes
    - Domain 2 Learner Experiences
    - Domain 3 Teachers' Individual Practice
    - Domain 4 Teachers' Collective/Collaborative Practice
- Leadership and Management Dimension
    - Domain 1 Leading learning and teaching
    - Domain 2 Managing the organisation
    - Domain 3 Leading school development
    - Domain 4 Developing leadership capacity.

It is intended that schools focus on one domain at a time in ongoing school development and improvement activities. The structure of the DLF is aligned to the

[1] http://www.pdsttechnologyineducation.ie/en/Planning/Digital-Learning-Framework-and-Planning-Resources-Primary/ and http://www.pdsttechnologyineducation.ie/en/Planning/Digital-Learning-Framework-and-Planning-Resources-Post-Primary/; video exemplars are also available.
[2] http://pdsttechnologyineducation.ie/en/

Looking At Our School (LAOS) framework (DES, 2016), which is used in school self-evaluation and external inspection activities.

Aims of the Digital Learning Framework trial evaluation

The Educational Research Centre (ERC) was asked by the Department of Education and Skills (DES) to conduct an independent evaluation of the Digital Learning Framework trial. The aims of the evaluation are:

1 To gather information on schools' views on the Digital Learning Framework (DLF) document in order to highlight strengths and describe potential improvements
2 To gather information from principals and teachers on the DLF trial in order to identify key strengths and challenges in its implementation
3 To explore whether key strengths and challenges vary with schools' contexts
4 To examine whether participation in the DLF trial has had any impact on teaching practices and/or reduction in perceived obstacles relating to teaching and learning in a digital context from the perspectives of principals and teachers
5 To describe key activities, successes and challenges of schools in their work with the PDST during the trial, from the perspectives of both PDST advisors and school staff
6 To describe the learning from the DLF trial from the schools' and PDST perspectives in order to compile information that could contribute to ongoing development and implementation of the DLF.

The evaluation involves gathering information from participants at the baseline stage (Phase 1; November-December 2017) and towards the end of the trial (Phase 2; April-May 2018). The final report will address all 6 aims (in particular, aim 4).

Design of the Digital Learning Framework trial evaluation

In September 2017, the DES invited schools to apply to participate in the DLF trial. In their applications, schools indicated a first, second or third preference for the DLF domain that they wished to focus on during the DLF trial. Thirty primary and special schools[3] were selected from 176 schools that applied, and 20 post-primary schools were selected from 139 applications. In selecting schools, a balance was sought between school characteristics such as location, enrolment size, gender composition, socio-economic context, and DLF domain area.

Comparisons of the DLF trial sample with the population of primary and post-primary schools indicate that the trial schools are broadly representative in terms of location, gender composition, and socio-economic context, but have slightly larger enrolment sizes than on average nationally.

Schools that volunteered to take part in the DLF trial may have a higher propensity to embed digital technologies in their practices than schools that did not volunteer. The sample of schools may therefore be reflective of a more positive culture towards using digital technologies than might be the case with a full national sample.

[3] One primary school withdrew from the study in December 2017 due to time constraints.

In late October, management and staff from the selected DLF trial schools attended a one-day seminar and information day on the DLF trial in Croke Park, Dublin.

Table E1 shows the distribution of participating schools across DLF domains. In some cases there are low numbers of schools focusing on a particular domain: for example, just two primary schools are focusing on Domain 4 of the Teaching and Learning dimension. For this reason, results are not compared across domains.

Table E1. Distribution of DLF domains across the 49 DLF trial schools, primary, post-primary and overall

Domain	**Primary (N = 29)**		**Post Primary (N = 20)**		**All (N = 49)**	
	N	*% focusing on this domain*	*N*	*% focusing on this domain*	*N*	*% focusing on this domain*
Teaching and Learning						
Domain 1 Learner Outcomes	4	13.8	4	20.0	8	16.3
Domain 2 Learner Experiences	8	27.6	1	5.0	9	18.4
Domain 3 Teachers' Individual Practice	3	10.3	1	5.0	4	8.2
Domain 4 Teachers' Collective/Collaborative Practice	2	6.9	7	35.0	9	18.4
Leadership and Management						
Domain 1 Leading learning and teaching	4	13.8	2	10.0	6	12.2
Domain 2 Managing the organisation	1	3.4	3	15.0	4	8.2
Domain 3 Leading school development	5	17.2	1	5.0	6	12.2
Domain 4 Developing leadership capacity	2	6.9	1	5.0	3	6.1

Seven PDST advisors were assigned to an average of seven schools each. Their role was to guide and support the work of schools in reflecting on current activities associated with their DLF domain, to identify standards within that domain that schools wish to work on, to establish a vision for each school with respect to digital technologies in their specific domain and standard(s), to support schools as they implement changes, and to provide tailored professional development to staff involved.

Each school established a Digital Learning Team to oversee the DLF trial. During the course of the trial, it was envisaged that each school's DL Team (along with other staff, as appropriate) would receive five visits from its PDST advisor.

Staff from six schools (three primary and three post-primary) were invited to take part in focus group interviews. These schools cover a range of locations, enrolment sizes, socio-economic contexts and gender compositions, as well as a range of the DLF domains and stages of embedding digital technologies into school practices. In Phase 2, staff, as well as some of the pupils/students in these schools, will be invited to participate in follow-up focus groups.

Online questionnaires for Phase 1 for school principals, teachers and PDST advisors were developed by the Educational Research Centre (ERC) and reviewed and approved by some of the members of the Implementation Advisory Group for the Digital Strategy for Schools. PDF versions of the Phase 1 questionnaires are available at www.erc.ie/dlf.

Guide to interpreting the results

Table E2 describes some important features of the DLF trial and provides guidelines for the interpretation of the results.

Table E2. Features of the DLF trial and guidelines or caveats for interpreting the results of the DLF trial evaluation

Feature	Caveat/Guideline
The **timeline** for the study is **short**, with about 6 months between baseline and final evaluation.	The results should be interpreted as an **initial indication only** of how schools are using the DLF to embed digital technologies into teaching and learning or leadership and management.
The **sample is small and non-random** (i.e. schools volunteered to take part), with 29 primary schools (including 2 special schools) and 20 post-primary schools. The sample may therefore be biased in favour of schools with a more positive disposition towards the use of digital technologies than might be the case with a nationally representative sample.	Although broadly representative of the population of schools in the country, the **results should not be generalised to all schools**. Instead, they should be regarded as **broadly indicative** of the implementation of the DLF trial and should be understood in the **particular contexts** of the participating schools and the fact that they chose to take part.
Each school focuses on one of the 8 DLF domains, i.e. each school provides a partial picture of the entire DLF. The numbers of schools focusing on each domain varies from 3 (Developing Leadership Capacity) to 9 (Learner Experiences and Teachers' Collaborative/Collective Practice).	**Results by individual DLF domain are not reported separately**. Instead, comparisons are at the more general level of Teaching and Learning or Leadership and Management dimensions. The **findings should not be used to draw conclusions about the implementation of individual DLF domains**.
The **teachers** responding to the teacher questionnaire and taking part in focus groups are not necessarily representative of all teachers in participating schools as they **may be more digitally literate and digitally engaged**.	Results from the teacher survey should be interpreted with respect to the likelihood that **had all teachers** in participating schools **completed a survey**, the results **might reflect lower overall levels of digital literacy and digital engagement**.
Focus groups provide rich, in-depth information; however, focus groups were conducted in **six** of the 49 schools only (3 primary and 3 post-primary).	The purpose of the focus groups is to provide a **detailed contextual narrative** to the journeys of particular schools as they progress through the trial and are **not intended to be typical or representative** of the full sample of schools.
Students' views are not included in the **baseline** phase of the trial.	The implementation of the DLF is at the very initial stages and the **views of students will be included in Phase 2** of the evaluation. As the DLF is rolled out nationally, the relevance of students' opinions will increase.
The **DLF *Planning Guidelines* were not available at the beginning of the trial**, but were used from the second PDST advisor visit onwards[4].	**Views on the DLF document should be interpreted as initial impressions** only: a fuller picture will be available at the end of the trial.

[4] Due to industrial relations issues, some primary school management staff may have been less familiar with the Looking at Our Schools framework, whose structure aligns with the DLF document. These issues are now resolved.

Summary of findings

Digital contexts of participating schools

- A majority of the DLF trial schools appear to have basic digital technology infrastructure (computing and other devices) in place. However, broadband connectivity was rated as 'fair' or 'poor' by principals in 36% of primary schools and 21% of post-primary schools. Software availability, teacher awareness of software, and teacher and student/pupil use of suitable software were all rated 'fair' or 'poor' in a significant number of schools (ranging from 38-54% at primary level and from 26-37% at post-primary level).
- Based on responses from principals to eight items asking about digital technology infrastructure (computing devices, broadband, technical support etc.), primary schools have a mean digital technology (DT) infrastructure score that is two-thirds of a standard deviation (and statistically significantly) lower than the mean score at post-primary. Based on this measure, 28% of primary schools and 42% of post-primary schools in the study may be classified as having high levels of digital technology infrastructure, while 38% of primary schools and 31% of post-primary schools may be classified as having low levels of infrastructure.
- At both primary and post-primary levels the main obstacles to the integration of digital technology into teaching and learning relate to teacher supports. These were: low levels of teacher confidence, low levels of teacher knowledge, insufficient awareness of digital content among teachers, insufficient time for teachers to engage in planning and preparation, and pressure to cover prescribed curricular material. A comparison of responses of principals in the DLF trial to responses of principals to the same question in the 2013 ICT Census (Cosgrove et al., 2014a, b) indicates a shift away from infrastructural issues towards challenges relating to teacher skills, knowledge, awareness and supports. However, in both the 2013 ICT Census and the present study, challenges relating to time for planning and pressure to cover prescribed curricular material were among the most common obstacles identified by principals.
- The pattern of spending of the Grant Scheme for ICT Infrastructure indicates that schools are investing on infrastructure and maintenance (hardware, technical support) to a much greater extent than on software and professional learning for teachers.

Principals' views on the Digital Learning Framework document

- Views about the DLF document were generally positive, with a tendency for more positive ratings among post-primary than primary school principals. For example, 52% of primary school principals and 63% of post-primary school principals indicated that the language and terminology in the document were very suited to the context of their school. It may be the case that, as a result of (now-resolved) industrial relations issues at primary level, fewer primary than post-primary schools engaged with the *Looking At Our School* (LAOS) framework. Given that the DLF has the same structure as LAOS, this could

account for at least some of the differences in rating by primary and post-primary principals.

- In commenting on the DLF document, between one in ten and one in four principals felt that the DLF lacked practical guidance on how it might be applied, that it was overwhelming, and/or that the language was too technical. Note that these responses were provided in the absence of the DLF's accompanying *Planning Guidelines,* which were used from the second PDST advisor visits onwards.
- PDST advisors rated schools' levels of effective practice at the beginning of the trial. The purpose of this rating was to provide a baseline against which to monitor progress over the course of the trial, and in no way reflects the quality of schools. Ratings of effective practice were slightly higher in post-primary than in primary schools. A large majority of schools were rated at the bottom three points on the eight-point scale (i.e. partially at a level of effective practice or lower). These baseline levels of effective practice are consistent with the findings of the 2013 ICT Census (Cosgrove et al., 2014 a, b) and Ireland's relatively unfavourable standing on international indices of digital technology usage at primary and post-primary levels (Mullis et al., 2016, 2017; OECD, 2015).
- The correlations between the PDST advisors' ratings of effective practice levels and the DT infrastructure scale score (based on principals' ratings) are moderate to strong, positive and significant (.50-.60): lower levels of effective practice are moderately to strongly related to lower levels of DT infrastructure, and *vice versa.* However, it should not be inferred from this that low DT infrastructure causes low levels of effective practice, but rather, that it is one of a number of possible relevant factors in understanding levels of effective practice.

Schools' plans for the Digital Learning Framework trial

- Principals were asked about the expected focus of the school's work in terms of curricular or content areas during the DLF trial. At both primary and post-primary levels, the schools' DLF programmes tend to focus on collaborative and team work and/or critical thinking and analysis.
- At primary level, over 70% of principals indicated that they expected large or moderate changes to class activities, pupils' interest and engagement, teachers' assessment practices, and school policies or guidelines. At post-primary level, over 85% of principals indicated that they expected large or moderate changes to all of these activities as well as students' homework or study activities. Other changes mentioned by principals are related to teaching staff, such as upskilling, and increased levels of enthusiasm among teachers about digital technologies.
- Typically, principals expected participation in the DLF trial to be moderately challenging and highly beneficial. Levels of challenge and benefit were perceived to be about the same regardless of the school's DT infrastructure or the school's level of effective practice at the baseline stage of the DLF trial.
- In commenting on challenges and benefits of taking part in the trial, a fifth of principals mentioned difficulties in relation to the overall timeline of the DLF

trial, time required for them to implement changes needed as part of the DLF programme, difficulties with DT infrastructure, and/or the need for substitute cover for members of the school's Digital Learning Team to attend meetings and implement the DLF trial programme. About one in six commented on challenges relating to teachers' DT competence and buy-in to the DLF programme. However, three in ten principals commented in a general way on the benefits they expected as a result of embedding digital technologies into school and teaching practices, and 17% commented in general on expected benefits to teachers.

Numbers of teachers responding to the questionnaire

- A total of 390 teachers (i.e. teachers in the participating schools who were involved in the DLF trial) were asked to take part. Response rates were high: 77.6% at primary level, and 81.4% at post-primary level. For analyses, survey weights are applied so that each school is equally represented in the results. It should be noted that teachers taking part were more likely to be on the Digital Learning Teams in their schools, and therefore may have higher levels of digital technology engagement than the population of teachers in general.

Digital contexts of teachers

- At primary level, a third or more of teachers' ratings of 12 digital technology infrastructure and usage items were Fair or Poor (number of devices, technical support, broadband connectivity, their own level of usage of digital technologies, etc.). At post-primary level, ratings were slightly more positive. Correlations between teachers' and principals' ratings on these items indicate an overall degree of consistency. However, teachers reported substantially lower ratings than their principals on some of the items. These differences suggest dissatisfaction with the level and quality of digital technology resources and usage among teachers that is not shared to the same extent by their principals.
- Based on responses to eight of these items assessing digital technology infrastructure from the point of view of teachers, there is no statistically significant difference between the DT infrastructures reported by teachers at primary and post-primary levels, even though 46% of primary teachers compared to 32.6% of post-primary teachers were in schools considered by them to have low DT infrastructure (while 29% of primary teachers and 33% of post-primary teachers were in school they considered as having high DT infrastructure). This is in contrast with principals' reports, where scores were significantly lower in primary than post-primary.
- Nonetheless, correlations between school- and teacher-reported school DT infrastructure are positive and strong (.60-.70) indicating a fairly high degree of *overall* consistency on this measure across teachers and principals at both primary and post-primary levels.

Digital teaching and learning practices

- At primary level, teachers' and pupils' use of digital technologies is largely confined to routine and teacher-led activities (i.e. reinforcing and practicing routine skills and procedures; teacher-directed use of the Internet). At post-primary level, digital technology usage tends to be slightly more frequent, and most commonly for reinforcing and practicing routine skills and procedures; finding information on the Internet (teacher-led or student-led); analysing data or information; and creating presentations using a range of media.
- Comparisons of teacher usage of digital technologies for teaching and learning activities with the same questions included in the 2013 ICT Census (Cosgrove et al., 2014a, b) indicates that at primary level, teachers in schools in the DLF trial are using digital technologies in the various areas to a similar degree as teachers who took part in the 2013 Census were. At post-primary level, teachers in the DLF trial schools are using digital technologies slightly more than in 2013.
- Based on their responses to eight items asking about the frequency of using digital technologies in class since January 2017, teachers in primary schools had significantly lower levels of DT engagement than post-primary teachers: low DT engagement was reported by 45% of primary teachers and 32.6% of post-primary teachers, while high DT engagement was reported by 29% of primary teachers and 33% of post-primary teachers. Teacher DT engagement is moderately positively correlated with teacher-reported DT infrastructure (.35-.45). These correlation suggest that DT infrastructure is one of a range of possible factors related to teachers' DT engagement and it should not be inferred that low levels of DT infrastructure cause low levels of DT engagement.

Teachers' views of the Digital Learning Framework document

- Teachers' ratings of the DLF document are generally quite positive, though more so at post-primary than at primary level. This is consistent with principals' views of the DLF document, where views at post-primary level were also slightly more positive at post-primary level. Teachers' views on the DLF document should be interpreted with respect to the fact that the DLF *Planning Guidelines* were not available to schools at the time they provided these ratings. Also, primary school teachers would have been less likely to be familiar with the *Looking At Our School* (LAOS) framework than post-primary teachers at the time (the DLF framework has the same structure as the LAOS framework).
- Close to one in six of all teachers (15%) made a specific negative comment about the DLF in terms of it lacking practical guidance for its application or implementation. A further 7% commented negatively more generally on the DLF, e.g. that they thought it was overwhelming or lacked clarity. On the other hand, 3% of teachers made a positive general comment about the DLF, and positive comments were more common at post-primary (6.6%) than at primary (1%) level.

Teachers' views on the Digital Learning Framework trial

- When asked which curricular or content areas were likely to be a focus of the DLF trial programmer in the schools, teachers reported that the focus of the DLF programme in their school is mainly on collaborative and team work, literacy skills, numeracy skills, and/or critical thinking and analysis. Teachers' responses are broadly consistent with principals' responses although at primary level, principals rated collaborative team work and critical thinking and analysis as having a higher level of focus than teachers.
- At both primary and post-primary levels, a majority of teachers expected large or moderate changes to their teaching and learning activities during class time, their pupils'/students' homework or study activities, their pupils'/students' interest and engagement, their assessment practices, and collaborative practices in their school.
- Asked about expected level of challenge and perceived professional benefit associated with taking part in the DLF trial, the most common response was that teachers expected the programme to be moderately challenging and highly beneficial.
- Teachers in schools rated by PDST advisors as being at lower levels of digital technology-related effective practice perceived significantly higher levels of challenge and, at primary level only, lower levels of perceived benefit. This indicates that teacher 'buy-in' to the DLF may be more challenging in schools where existing DT practices are lower, particularly at primary level.
- Between 9% and 13% of teachers commented on challenges relating to the feasibility of establishing a baseline level of effective practice in their school context and/or challenges relating to teacher skill, knowledge or buy-in. About 5% commented on practical challenges (such as time required, timeline, or DT infrastructure). On the other hand, about one in eight teachers commented broadly on the benefits they expected with respect to their own practices.

Resources for the first PDST advisor visits

- The PDST advisor team developed a set of resources for schools to be used during their first visits, and gave schools access to these resources using a shared online (cloud-based) folder. These were: a checklist of activities to be completed during the first visit, a presentation on developing a school digital learning vision, a set of questions to enable this vision to be developed, and a worksheet to assist with 'unpacking' the domain and standard(s) in the context of an individual school. The DLF *Planning Guidelines* were not used during this first visit (but rather were used from the second visit onwards).

General description of the first PDST advisor visits

- All but three of the 49 participating schools had their first PDST advisor visit for the DLF trial during November 2017. In about three-quarters of the schools, the visit lasted between two and four hours. Visits mostly took the format of a small-group meeting (with members of the schools' Digital Learning Team).

- PDST advisors undertook a range of preparatory activities. In all cases email and phone contact was made with the school. PDST advisors also reviewed school documentation relevant to the DLF trial (43% of visits), reviewed schools' draft targets (33%), provided shared access to an online folder containing DLF resources (20.4%), and/or reviewed schools' public-facing documentation (10%).
- To prepare for the PDST advisors' first visits, 82% of principals reported that they reviewed the DLF document, 51% reviewed relevant school documentation, 43% held a staff planning meeting, and 20.4% reviewed the school's draft targets.
- All advisors reported that four further visits were planned for their schools and in all but one school, all or some of the subsequent visit dates had been set.
- Almost all, or all, of PDST advisors' school visit reports listed three activities as goals of the first school visit: establish school's vision for digital learning (100%), explore or elaborate on the school's DLF domain (100%), and establish methods for gathering evidence (94%). In addition, 39% mentioned a review of current practice and 27% mentioned establishing goals or actions to monitor progress.
- School principals had somewhat different views of the goals of the first visit: based on their responses to an open-ended question, 54% mentioned establishing the school's vision for digital learning, 67% cited exploring or elaborating on the schools DLF domain, and 30.4% mentioned methods for gathering evidence. One in five (22%) mentioned a review of current practice and 65% mentioned establishing goals or actions to monitor progress.
- Differences in advisors' and schools' views of the goals of the first visit could be due to an absence, in some cases, of a shared, explicit understanding of the visit's goals.

Principals' and PDST advisors' views on the first visits

- Across the 49 schools, 78% of advisors and 89% of school principals reported being very satisfied with the first visit in terms of achieving the visit's goals.
- Levels of satisfaction as reported by PDST advisors and principals did not vary depending on whether the school was engaging with a Teaching and Learning or a Leadership and Management domain, nor did it vary depending on the level of digital technology infrastructure reported by principals. However, PDST advisors working with post-primary schools reported slightly lower levels of overall satisfaction with the first visit: the reasons for this are unclear.

Successes and challenges identified during the first PDST advisor visits

- From point of view of PDST advisors, challenges most commonly stemmed from difficulties with school or staff culture as it relates to digital technologies (61%), difficulties with levels of staff competence in using digital technologies in teaching and learning (59%) and practical challenges (e.g. the overall tight timeline, need for substitute cover to attend meetings and

implement elements of the programme). Two-fifths (39%) of advisors cited difficulties with digital technology infrastructure or resources as a challenge.

- From school principals' point of view, the most frequently cited challenges were practical in nature (e.g. overall timeline, substitute cover; 37%) and difficulties with levels of staff competence in using digital technologies in teaching and learning (32.6%). A further 22% cited challenges relating to digital technology resources and infrastructure.
- Difficulties with infrastructure or resources were more widely cited by both PDST advisors and principals at primary level than at post-primary level, while practical challenges (timeline, substitute cover) were more frequently mentioned by both school principals and PDST advisors at post-primary than at primary level.
- A range of solutions to challenges was suggested by school principals and PDST advisors. PDST advisors expressed a very positive view about the solutions and/or changes identified through collaborative discussion. Both advisors and school principals mentioned the following as viable solutions: open and collaborative discussion giving rise to cultural or attitudinal changes and increased buy-in, CPD to address identified skill needs, practical solutions (such as seeking substitute cover or re-distributing the workload across staff), and solutions via data-gathering.
- When asked about the successes of the first visit, half of school principals made very positive comments about the work of the PDST advisor; similarly, half of PDST advisors made very positive comments about the culture of the school. A majority of principals (76%) and advisors (67%) commented that discussion which resulted in clarity in the purpose of the school's DLF programme was a success. PDST advisors felt that the advance planning on the part of the school contributed to the success of the first visit in 43% of cases, and advisors also regarded their own planning (65%) and use of PDST-prepared tools and resources (51%) to be a success.

General observations on the focus group interviews

- The engagement, enthusiasm and professionalism of the focus group participants is to be commended. In the absence of the DLF *Planning Guidelines*, participants' views should be interpreted as an initial impression only: a more fully informed picture of the DLF document, planning guidelines and template will be available towards the end of the trial, when we re-visit the staff in these schools.
- Some of the issues and topics raised by focus group participants are reflective of challenges in the broader context of digital technologies in education. However, all comments have been included to provide a complete context for interpreting DLF-specific findings, and also to provide a foundation on which the Phase 2 results can be interpreted.
- The inclusion of one school among the six focus group schools that is further along in its journey of embedding digital technologies into teaching and learning provides a useful counterpoint to the five schools that are at an earlier stage, and illustrates what can be achieved after the more challenging initial work is in place.

- The particular stage of the school with respect to digital technologies may indicate the need for different leadership strategies to address teachers' concerns and skill needs, and these strategies may need to address both the psychological and practical components of concerns in order to be effective.

Key findings emerging from the focus group interviews

- In five of the six focus groups, it was noted that the investment of time and effort is not constant: high levels of time and energy are needed during the 'setting up' stage of the DLF programme, and participants saw this as a challenge, while recognising the likely benefits in the longer term. They also recognised the need for DLF programme goals to be realistic and sustainable, but some felt that the overall timeline for the DLF trial was unrealistic in terms of achieving deeper and more fully-embedded changes in school culture and practices.
- The schools were unanimously positive about their experiences in working with the PDST advisors and in some cases, the first PDST advisor visit appears to have been the first opportunity for school staff to have a collaborative discussion about the school's vision for digital technologies. The external support and guidance brought to the table was highly valued by focus group participants, who felt that this input was essential to implement the DLF programme in their school.
- Focus group participants spoke about the need for other supports in implementing the DLF programme in their school. In all but one school, technical support and maintenance was the responsibility of a single member of teaching staff (doing this work out of hours) and external technical support was required in all cases. To free up time for more strategic and developmental work on digital technologies for teaching and learning, schools felt that more, and possibly centralised, technical support, along with dedicated IT co-ordinator posts in schools, were needed.
- Participants also spoke about the time required to research and test out new apps for teaching and learning (the introduction of new apps and software is part of some schools' DLF programmes). Staff in these schools expressed the desire to see a pre-researched, pre-tested list of apps with a clear description about their purpose and curricular area. Two of the six focus groups also thought that guidance to achieve the most beneficial spend of the ICT Infrastructure Grant would be helpful in terms of their school's digital technology priorities and needs.
- Upskilling of teachers was seen as a significant challenge in five of the schools, and participants were generally in favour of a clustered approach towards delivering professional learning, while recognising that this would have planning, time and resource implications.

Conclusions and implications for Phase 2

The professionalism, enthusiasm and engagement of schools and teachers, and the high quality of the work of the PDST advisors, are evident in the findings presented in this report.

Some of the challenges that have been raised by participants reflect complex issues in the broader context of embedding digital technologies into the work of schools. While the DLF trial is not designed to address these, these challenges have been included in this report to provide a full context in which to interpret the results arising at the end of the DLF trial.

At this baseline stage, the key findings and the follow-up work that is proposed to further explore these during Phase 2 may be summarised as follows:

1. Arguably the most promising finding at the baseline stage is the **high potential for change offered by the collaborative environment** that is created via the PDST advisor visits, and the collaboration among school staff required to implement their DLF trial programmes. This could be seen as a key driver for initiating and maintaining cultural change and shared learning in schools, and will be one area of focus of the final report.
2. The **important leadership role** that principals and other school staff play in guiding and shaping the changes occurring during the DLF trial outcomes was highlighted in the focus group interviews and will be a second area of focus of the final report.
3. Focus group schools were generally **in favour of clustering schools** in order to provide a co-ordinated set of supports for the DLF, which in turn creates environments to share learning across schools. Participants' views on clustering schools will be further explored in Phase 2.
4. Information on **levels of effective/highly effective practice** was gathered at the **baseline** stage in order to be able to assess changes in practice towards the end of the trial. During Phase 2, both PDST advisors and school principals will be asked to rate levels of practice to explore the extent to which these **may have changed** over the course of the trial.
5. Principals' and teachers **views on the DLF are incomplete** at this stage of the evaluation, and should be interpreted as initial impressions only. The Phase 2 results will provide a more complete picture on participants' views of the DLF, *Planning Guidelines* and other DLF resources.
6. As already noted, the **views of pupils and students** have not been included in the baseline stage of the DLF trial evaluation. During Phase 2, pupils and students from the 6 focus group schools will be invited to take part in focus groups, and these results will form an important part of the final report.
7. Findings reveal some **differences across respondent groups**, all of which will be further explored during Phase 2.
    a. Post-primary schools were slightly more favourable towards the DLF than primary schools. This may in part be due to the lower levels of familiarity of primary schools with the *Looking At Our Schools Framework,* whose structure aligns with that of the DLF.
    b. There were some differences in the views of principals and teachers. Principals were more favourable about the DLF than teachers, and also tended to have more favourable views than teachers about the digital technology infrastructure in their schools.

c. PDST advisors and school principals had differing views on the goals of the first PDST advisor visit. These differences may indicate an incomplete shared understanding of the purposes of the first visit in the overall objectives of the DLF trial. PDST advisors to post-primary schools also tended to give slightly lower satisfaction ratings than for the first visit, though overall satisfaction ratings were high: 55% of advisors compared to 78% of principals were 'very satisfied' with the first visit at post-primary level, while only 10% of advisors and 5% of principals were 'not satisfied'.

Next steps

- During April and May, focus group interviews will be held with PDST advisors, school staff in the 6 focus group schools who already participated in an interview at the baseline stage, and with pupils and students in these schools.
- Also during April and May, school principals, teachers and PDST advisors will be invited to complete online questionnaires. The questionnaires are designed to allow comparisons with baseline information, as well as capturing information on some of the key themes emerging from the baseline stage (as noted above).
- The final report on the DLF trial is due to be submitted to the DES in July 2018.

Chapter 1
Introduction: Background, Aims and Design of the Digital Learning Framework Trial Evaluation

This baseline report provides a *starting context* for the Digital Learning Framework Trial. Descriptions of the *impact* of the trial on digital technology practices in schools, as well as the views of participants on the process, form the basis of the final report on the evaluation of the trial (due July 2018).

1.1. Background

1.1.1. Digital Learning Framework and Digital Strategy for Schools

The Digital Learning Framework (DLF) is a tool that has been developed to assist schools to effectively embed digital technologies into teaching, learning and assessment activities. This section provides an overview of Ireland's national *Digital Strategy for Schools 2015-2020* and describes how the DLF is linked to that strategy as well as other national initiatives.

In September, 2017, the *Digital Learning Framework* (DLF) for primary and post-primary schools was published by the Department of Education and Skills (DES, 2017a, b). This was followed by *Digital Planning Guidelines* and a *Planning Template*, published in December 2017[5]. The DLF is a tool to help schools manage the transformation of teaching and learning as a result of embedding digital technologies into practice, and has been developed to enable schools to engage with and implement elements of Ireland's national *Digital Strategy for Schools 2015-2020* (DES, 2015a).

Grounded in constructivist principles, the Digital Strategy and the DLF promote embedding digital technologies into a wide range of teaching and learning activities. The *Digital Strategy* (2015a, p. 5) states that

> *The Department's vision for ICT integration in Irish schools is to realise the potential of digital technologies to enhance teaching, learning and assessment so that Ireland's young people become engaged thinkers, active learners, knowledge constructors and global citizens to participate fully in society and the economy.*

The *Digital Strategy* is guided by findings from the *2013 ICT Census of Schools* (Cosgrove et al., 2014a, b) and builds on previous strategies, including *Investing Effectively in Information and Communications Technology in Schools, 2008-2013* (DES, 2008) and *Building Towards a Learning Society: A National Digital Strategy for Schools* (DES, 2013).

[5] http://www.pdsttechnologyineducation.ie/en/Planning/Digital-Learning-Framework-and-Planning-Resources-Primary/ and http://www.pdsttechnologyineducation.ie/en/Planning/Digital-Learning-Framework-and-Planning-Resources-Post-Primary/; video exemplars are also available.

The embedding of digital technologies into teaching and learning is associated with a range of challenges. In the summary report on the 2013 ICT Census of Schools, Cosgrove et al. (2014a, p.8) note:

> *The linking of investments in ICT to improvements in student outcomes is a challenge faced by all countries investing in the use of ICT in education. The present review pointed to the complexity of developing a Digital Strategy for Schools. Such a strategy must consider infrastructural issues but also how digital technologies are to be used in curriculum and assessment. Teachers' pedagogical orientations are pivotal in how the digital technologies are used. Although digital technologies can make things possible, it is people that make change possible.*

The report on the *2013 ICT Census of Schools* discusses a range of policy priorities, organised under four main themes:

- Theme 1: Teaching, learning and assessment using ICT
- Theme 2: Teacher professional learning
- Theme 3: Leadership, research and policy
- Theme 4: ICT infrastructure.

These four themes also underpin the *Digital Strategy,* which specifies a set of actions under each theme.

Of particular relevance to the DLF and the work of schools is Theme 1, under which the DES (2015a, p. 6), states:

> *The Strategy will adapt the UNESCO ICT Competency Framework for Teachers so that schools will have greater clarity around the concept of ICT integration. … [this] will allow the Department's support services and others to provide more appropriate support materials and services to principals and teachers on embedding ICT into their practice.* ***This will be a central focus of the Strategy and it will be reviewed at various intervals and levels*** *between 2015 and 2020.*
> (Emphasis added.)

The UNESCO framework referred to above forms the basis of the DLF, and the involvement of the Professional Development Service for Teachers (PDST-Technology in Education) in the present trial of the DLF is one example of the provision of support to enable the embedding of digital technologies into teaching and learning.

Under Theme 2, the DES (p. 7) states that "The Strategy will provide schools with guidance and examples of good practice on the effective, critical, and ethical use of ICT for teaching, learning and assessment. These examples will reflect real classroom practice in action". One way in which this element of the strategy is being realised

through the availability of exemplar videos on the PDST Technology In Education website[6].

Under Theme 3, the DES notes the need for distributed leadership across school managers and other stakeholders, and also emphasises how the Strategy links with other practices: "…the Strategy will facilitate schools to create linkages with existing school policies, for example School Self Evaluation, so that ICT is embedded deeply within the school" (p. 7). To achieve this linkage, the structure of the DLF is aligned to the *Looking At Our School* framework (DES, 2016a, b), which is designed to underpin both school self-evaluation and school inspections. (The structure of the DLF is described in the next section.)

It is relevant to note here that, as a result of industrial relations (IR) issues, primary schools had been directed (since about April 2016) not to engage in the 6-step SSE (School Self-Evaluation) process. The IR issues have now been resolved. There was no IR issue at any stage that prevented schools from becoming familiar with LAOS (Department of Education and Skills, Personal Communication, March 22, 2018). Nonetheless, primary school staff may, at the time of writing, have been less familiar with this framework than post-primary staff, and hence would have encountered the LAOS-type structure for the first time when reviewing the DLF.

In discussing Theme 4, the DES notes the recent rollout of the 100MB/second broadband services to all post-primary schools. It also acknowledges the increasing importance of cloud computing and commits to evaluating a number of technical support options to identify the best solutions for schools. Guidance for schools on these and other issues is already available on the PDST Technology in Education website[7].

In addition, to help support the implementation of the *Digital Strategy*, Minister for Education and Skills, Richard Bruton, announced a 30 million euro investment in ICT infrastructure grants for primary and post-primary schools in January 2017[8].

The DLF is firmly embedded in the Department's *Action Plan for Education* for 2018 (DES, 2018). The plan for 2018 has five high-level goals, and digital technology is listed as a theme (embracing digital technologies) within Goal 1 (improve the learning experience and success of learners). Under Goal 1, it is stated that the Department will "support schools to plan for rapid progression in the adoption of the Digital Learning Framework" (p. 14), and that it will "disseminate an updated Digital Learning Framework for Schools (previously known as UNESCO ICT Competency

[6] http://pdsttechnologyineducation.ie/en/Good-Practice/Videos/; http://www.pdsttechnologyineducation.ie/en/Planning/Digital-Learning-Framework-and-Planning-Resources-Primary/; http://www.pdsttechnologyineducation.ie/en/Planning/Digital-Learning-Framework-and-Planning-Resources-Post-Primary/

[7] http://pdsttechnologyineducation.ie/en/Technology/

[8] See press release dated January 3, 2017, at www.education.ie; rates payable are €2,000 per school plus €22.20 per mainstream pupil in primary schools, with additional per capita payments for pupils in DEIS schools, Special Classes and Special Schools. At post-primary, the rates payable are €2,000 per school plus €31.90 per student, with an additional per capita payment for students in DEIS schools.

Framework) to all schools, following an evaluation, which will guide schools in embedding digital technologies in teaching and learning and leadership and management, from September 2018" (p. 23).

The DLF links with and complements other recent and current DES activities, including planned changes to curricula and Certificate examinations. For example, a new mathematics curriculum at primary level is planned to incorporate aspects of coding. At post-primary level, Junior Cycle already has coding as a short course (NCCA, 2016), and the DES plans to introduce Computer Science as a senior cycle subject from September 2018.

The use of digital technologies as an integral part of teaching, learning and assessment is not a new policy area. It has been endorsed in a range of educational policies and initiatives over the past decade. For example, the *National Strategy to Improve Literacy and Numeracy among Children and Young People* (2011-2020), (DES, 2011a), the *Key Skills Framework* (NCCA, 2009), and the *Framework for the Junior Cycle* (DES, 2015b) all assert that digital technologies should be used as a part of pupil/student learning.

1.1.2. Structure and purpose of the Digital Learning Framework

The DLF is organised along two dimensions and eight domains:

- Teaching and Learning Dimension
  - Domain 1 Learner Outcomes
  - Domain 2 Learner Experiences
  - Domain 3 Teachers' Individual Practice
  - Domain 4 Teachers' Collective/Collaborative Practice
- Leadership and Management Dimension
  - Domain 1 Leading learning and teaching
  - Domain 2 Managing the organisation
  - Domain 3 Leading school development
  - Domain 4 Developing leadership capacity.

Within each of the 8 domains of the DLF, there is a set of standards, accompanied by statements of effective and highly effective practice. Table 1.1 is an example from Domain 1, Learner Outcomes, of the DLF for primary schools.

Table 1.1. Teaching and Learning Domain 1: Learner Outcomes - example of standard and statements of effective and highly effective practice

Primary – teaching and learning

DOMAIN 1: LEARNER OUTCOMES

STANDARDS	STATEMENTS OF EFFECTIVE PRACTICE	STATEMENTS OF HIGHLY EFFECTIVE PRACTICE
Pupils enjoy their learning, are motivated to learn and expect to achieve as learners	Pupils use appropriate digital technologies to foster active engagement in attaining appropriate learning outcomes.	Pupils use appropriate digital technologies to foster their active, creative and critical engagement in attaining challenging learning outcomes.
	Pupils use digital technologies to collect evidence and record progress.	Pupils use digital technologies to collect evidence, record progress, evaluate and reflect, and to create new solutions and/or products.

Source: DES, 2017a, p. 5.

The Statements of Practice are underpinned by the UNESCO *ICT Competency Framework for Teachers* (UNESCO & Microsoft, 2011) and informed by the EU Joint Research Centre's *DigCompEdu*[9] and *DigCompOrg*[10] frameworks.

The DLF is designed to encourage both collaboration and self-reflection as well as guide practice on the basis of one domain at a time. In describing the how schools might implement the DLF, the DES (2017a, pp. 2-3) comments:

> *It is not expected that all aspects of the new Framework will be included in any one self-reflective or evaluative activity. Rather, the Digital Learning Framework should be viewed as* ***an enabler of self-reflection and improvement*** *and not as an inflexible check-list. It is crucial from the outset that* ***the leadership team in each school has a shared understanding of why and how the school seeks to embed digital technologies*** *in teaching and learning and is committed to doing so.* (Emphasis added.)

1.1.3. Digital Learning Framework Trial

The DES asked the Educational Research Centre (ERC) to conduct an independent evaluation of the DLF trial. The ERC evaluation complements existing and planned activities of schools and PDST advisors during the trial and provides a general overview of the implementation of the trial. The results of the ERC evaluation will be used to guide national rollout of the DLF in September 2018.

At the same time as the publication of the DLF in September 2017, schools were invited to express interest in taking part in the trial of the DLF. In mid-October, 30 primary and special schools were selected from 176 schools that applied, and 20 post-primary schools were selected from 139 applications. As part of their application, schools indicated a first, second and third preference for the DLF domain that they wished to focus on during the trial. The sample of schools is described in more detail in Section 1.3.2.

On October 26, 2017, management and staff from these schools were invited to attend a seminar on the DLF trial in Croke Park, Dublin. The seminar provided an overview of the DLF, the purpose of the DLF trial, the design of the evaluation of the trial, and the role of PDST advisors in supporting and guiding DLF implementation.

1.1.4. International context

Comparisons of Ireland with other countries on measures of school-related digital technology *usage* tend to paint Ireland in an unfavourable light, while broad measures of digital technology *infrastructure* tend to be slightly better in Ireland than the international averages. This underlines both the timeliness and importance of the DLF trial.

[9] https://ec.europa.eu/jrc/en/digcompedu
[10] https://ec.europa.eu/jrc/en/digcomporg

For example, data from the 2012 Programme for International Student Assessment (PISA), which focuses on the achievements and experiences of 15-year-olds, indicate that Ireland has the fourth lowest score of 29 OECD countries on an index measuring ICT usage at school (with similar usage levels as Germany, Japan and Turkey) (OECD, 2015). ICT usage at school was highest in Australia, the Czech Republic, New Zealand, the Netherlands, Norway and Sweden. Also, close to half (46%) of Irish 15-year-olds reported that they did not use the Internet at school during a typical school day, which is the 6th lowest among 29 OECD countries. Ireland had the second lowest score on an index measuring use of computers during mathematics instruction, and the third lowest rate of using computers for homework, out of the 29 countries.

In contrast to these usage indices, PISA 2012 results indicated that Ireland had a slightly higher than average share of schools with Internet access (96% compared with an OECD average of 92%) and better than average student-device ratio at school (around 3.8 compared with an OECD average of about 4.8) (OECD, 2015), which suggests that basic digital technology infrastructure is not a main barrier in digital technology usage in post-primary schools in Ireland.

In PISA 2015, students in Ireland again had mean scores on the use of ICT at school and use of ICT for homework indices that were significantly lower than the 30-country OECD averages (Shiel et al., 2016)[11].

At primary level, comparative information is available from the Trends in International Mathematics and Science Study (TIMSS 2015) and the Progress in International Reading Literacy Study (PIRLS 2016), both of which focus on Fourth Class at primary level.

The reports of the teachers of children in Fourth Class who took part in TIMSS 2015 indicate that 40% of pupils in Ireland had some form of access to devices during mathematics lessons, which is similar to the international average of 37%, but much lower than other countries such as New Zealand, the Netherlands, Denmark and Northern Ireland (where computer access rates exceeded 70%) (Mullis et al., 2016; Clerkin et al., 2017). Between 27% and 34% of teachers in Ireland reported that pupils used computers at least monthly for specific mathematical tasks (explore concepts, practice skills and procedures, and look up ideas and information). These again are similar to the international averages but much lower than the four countries with high rates of computer access, where percentages ranged between 48% and 86%.

Results from PIRLS 2016 are consistent with those of TIMSS 2015. In Ireland, teachers reported that 39% of their Fourth Class pupils had access to devices during reading lessons (Mullis et al., 2017). This is slightly lower than the international average of 43% and considerably lower in countries such as New Zealand, Denmark, the Netherlands, Sweden and Northern Ireland, where access rates exceeded 75%. In Ireland, between 10% and 21% did the following activities with their pupils at least

[11] Detailed international comparisons of these data are not yet published.

weekly: ask pupils to read digital texts (21%), teach strategies for reading digital texts (10%), teach pupils to be critical when reading on the Internet (11%), look up information online (21%), research a particular topic (17%), and ask pupils to compose texts using computers (11%). These are all lower than the corresponding international averages, and substantially lower than the percentages in the five countries with high rates of pupil access to devices mentioned above. For example, the corresponding percentages for Northern Ireland are 33%, 14%, 25%, 54%, 41% and 21%.

Based on PIRLS 2016 data, Ireland has relatively favourable pupil-computer ratios. On average internationally, 51% of pupils were in schools that had 1 computer for 1 to 2 pupils, 23% in schools with 1 computer for 3 to 5 students, 19% in schools with 1 computer for 6 or more students, and 7% in schools with no computers available for instruction. The corresponding percentages for Ireland are 57%, 19%, 24% and 0% (Mullis et al., 2017).

1.2. Aims of the Digital Learning Framework Trial evaluation

The aims of the evaluation of the Digital Learning Framework trial are:

1 To gather information on schools' views on the Digital Learning Framework (DLF) document in order to highlight strengths and describe potential improvements
2 To gather information from principals and teachers on the DLF trial in order to identify key strengths and challenges in its implementation
3 To explore whether key strengths and challenges vary with schools' contexts
4 To examine whether participation in the DLF trial has had any impact on teaching practices and/or reduction in perceived obstacles relating to teaching and learning in a digital context from the perspectives of principals and teachers
5 To describe key activities, successes and challenges of schools in their work with the PDST during the trial, from the perspectives of both PDST advisors and school staff
6 To describe the learning from the DLF trial from the schools' and PDST perspectives in order to compile information that could contribute to ongoing development and implementation of the DLF.

These aims cover the entire evaluation (i.e. both the baseline report and the final report). It is not possible at the baseline stage of the evaluation to address aim 4 in particular, and aims 1-3 and 5-6 are partially addressed in this baseline report. All 6 aims will be addressed in more detail in the final report, when data and information are available both at the start or baseline (Phase 1) and towards the end of the trial (Phase 2).

It is important to bear in mind that the evaluation is of the Digital Learning Framework and *not* of digital resources and infrastructure in schools.

1.3. Design of the evaluation

The evaluation of the Digital Learning Framework (DLF) trial was designed to gather information at the beginning or baseline (Phase 1) and again towards the end of the evaluation (Phase 2).

This section describes the role of the PDST advisors in the trial, the sample of primary and post-primary schools taking part, the timeline for the evaluation of the trial, and the content of the questionnaires administered during Phase 1 and draft content to be administered during Phase 2.

1.3.1. Role of the PDST advisors

Seven PDST advisors were each assigned to an average of seven schools. Four advisors worked at primary level and three worked at post-primary level. Their role is to guide and support the work of schools in reflecting on current activities associated with their DLF domain, to identify standards within that domain that schools wish to work on, to establish a vision for each school with respect to digital technologies in their specific domain and standard(s), to support schools as they implement changes, and to provide tailored professional development to staff involved.

Each school also established its own Digital Learning Team to oversee the DLF trial activities. During the course of the trial, it was envisaged that each school's DL Team (along with other staff, as appropriate) would receive five visits from its PDST advisor. Table 1.2 shows the numbers and locations of schools assigned to each of the PDST advisors supporting the DLF trial.

Table 1.2. Numbers and locations of schools per PDST advisor supporting the DLF trial

Primary (29 schools)*							
Advisor 1	(6 schools)	Advisor 2	(8 schools)	Advisor 3	(8 schools)	Advisor 4	(7 schools)
Dublin	2	Donegal	1	Clare	1	Cork	2
Louth	1	Kerry	1	Galway	2	Dublin	4
Waterford	1	Kildare	1	Kilkenny	1	Louth	1
Wexford	1	Longford	1	Laois	1		
Wicklow	1	Mayo	1	Limerick	1		
		Monaghan	1	Tipperary	1		
		Roscommon	1	Westmeath	1		
		Sligo	1				
Post-Primary (20 schools)							
Advisor 1	(7 schools)	Advisor 2	(7 schools)	Advisor 3	(6 schools)		
Clare	1	Cavan	1	Carlow	1		
Cork	2	Donegal	1	Dublin	2		
Dublin	1	Dublin	1	Galway	1		
Kildare	1	Leitrim	1	Mayo	2		
Limerick	1	Meath	2				
Wicklow	1	Wexford	1				

*One primary school withdrew from the trial. See Section 1.3.2.

1.3.2. Schools participating in the DLF Trial

The sample design is voluntary (schools self-select) rather than random. Two objectives guided the selection of schools to take part in the DLF trial:

- obtaining a representative mix of schools in terms of geographic spread, DEIS status, gender composition, language of instruction and enrolment size (and in the case of post-primary, sector and fee-paying status)
- achieving a sample that covered all eight domains of the DLF.

Primary schools (including special schools)

Twenty-eight primary schools and two special schools were selected to take part in the trial. One primary school withdrew from the study on December 5th due to time constraints, and this school was not replaced. This means that 29 rather than 30 primary and special schools took part and the comparisons in this section are based on the 29 participating schools.

When reporting results for these 29 schools, we refer to them as primary schools for shorthand – it should always be borne in mind that two of these schools are special schools.

Figures 1.1 and 1.2 compare the percentages of schools in the population with the percentages in the sample by DEIS status, gender composition, language of instruction, enrolment size, and geographic location[12]. For these comparisons, the population of 'mainstream' schools (N = 3115) has been combined with the population of 'special' schools (N = 135). The sample shows good representativeness on the basis of these categories, as well as good geographic spread, with 21 counties included in the sample. The average enrolment size of the selected schools is slightly larger (mean = 217.9) than in the population (mean = 171.8) and the sample has slightly fewer female pupils (47.7%) than the population (51.3%). Four of the selected schools (13.8%) are Digital Schools of Distinction[13].

[12] These comparisons are made using data from the Department of Education and Skills' schools database (2016/2017).

[13] Digital Schools of Distinction is a 'flagship programme' which aims to promote, recognise and encourage excellence in the use of technology in primary schools. As at the end of February 2018, some 1850 schools are registered in the programme, and 395 schools (12.6% of all primary schools) have been awarded Digital School of Distinction status. www.digitalschools.ie.

Figure 1.1. Percentages of primary and special schools in population (N=3250) and sample (n=29) by DEIS status, gender composition, language of instruction and enrolment size

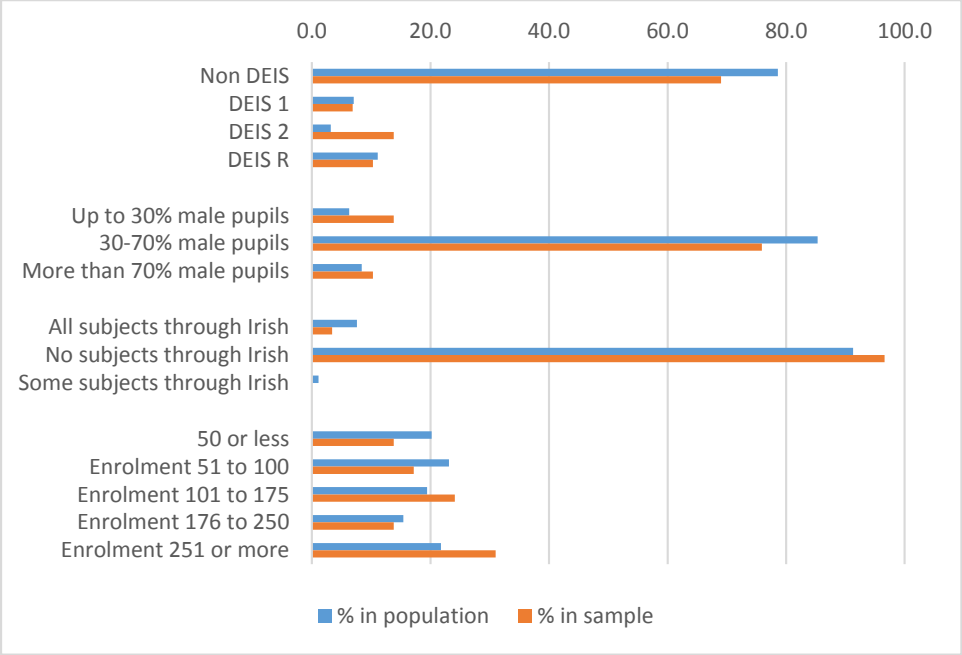
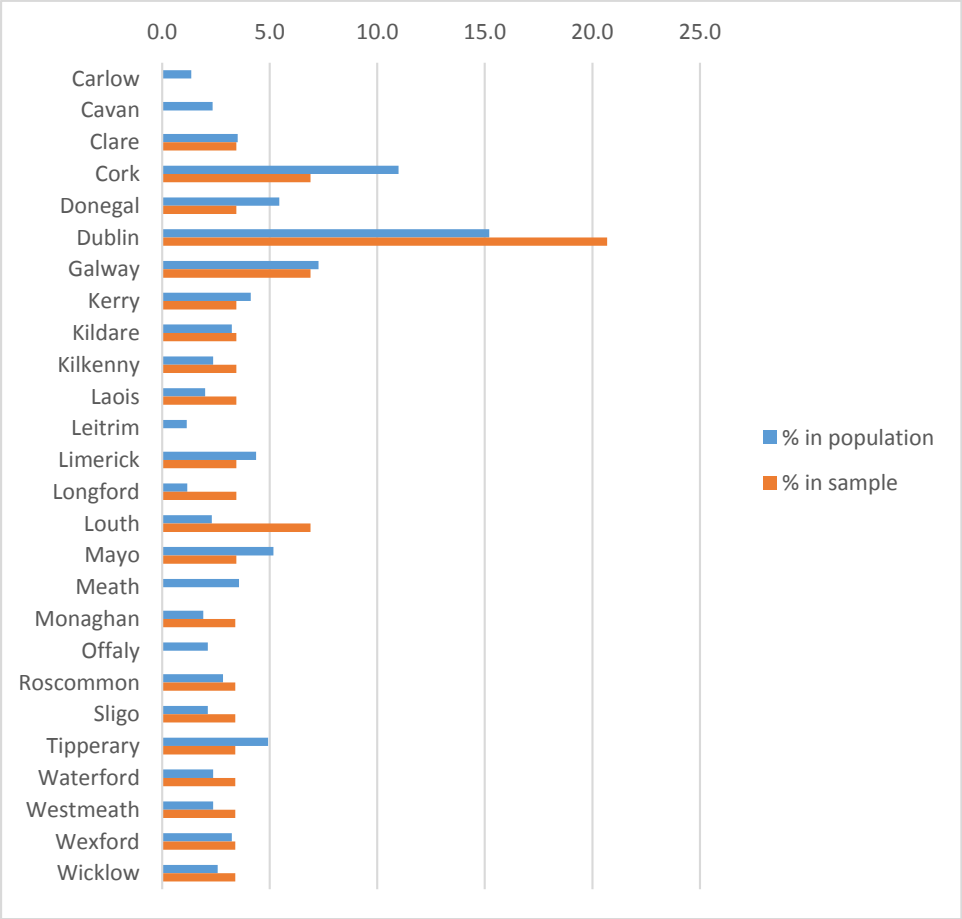


Figure 1.2. Percentages of primary and special schools in population (N=3250) and sample (n=29) by location



Post-primary schools

Twenty post-primary schools were selected to take part in the DLF trial. Figures 1.3, 1.4 and 1.5 compare the percentages of schools in the population with the percentages in the sample by DEIS status, gender composition, language of instruction, fee-paying status, enrolment size, sector, and geographic location[14].

The sample shows good representativeness on the basis of these categories, with 14 counties included in the sample. Similar to the DLF trial sample at primary level, average enrolment size of the selected post-primary schools is somewhat larger (m = 660.4) than in the population (M = 495.4) and the sample has slightly more female students (56.6%) than the population (49.6%).

Figure 1.3. Percentages of post-primary schools in population (N=711) and sample (n=20) by DEIS status, gender composition and language of instruction

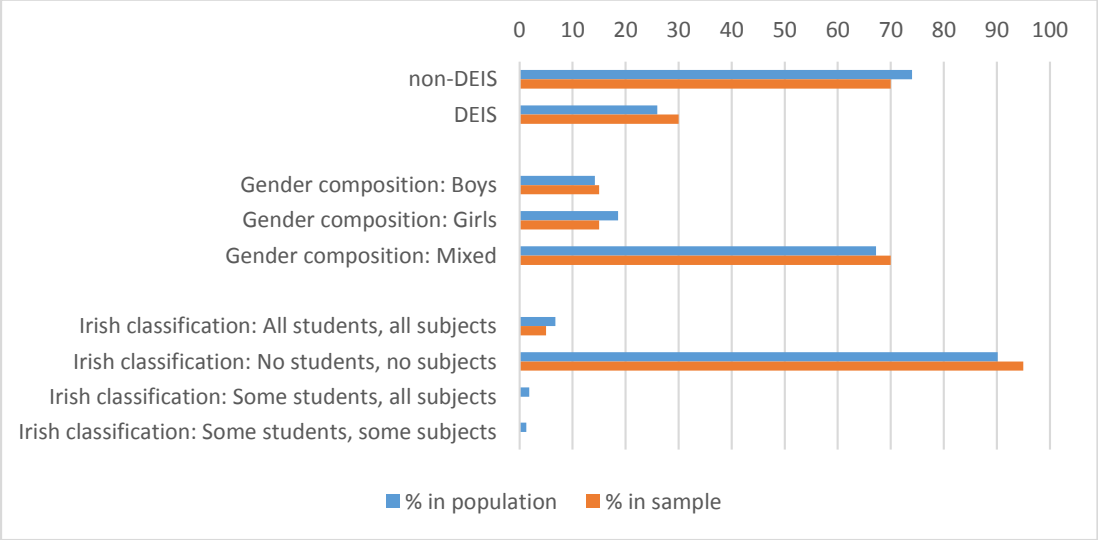
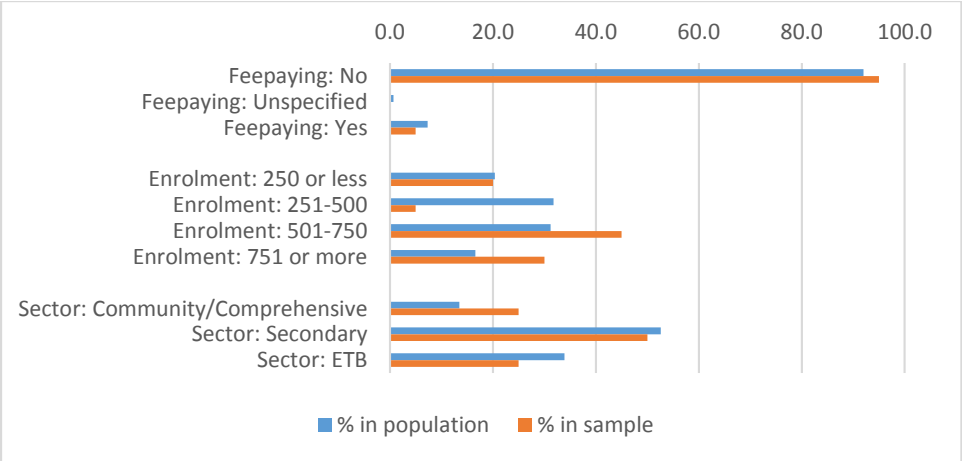
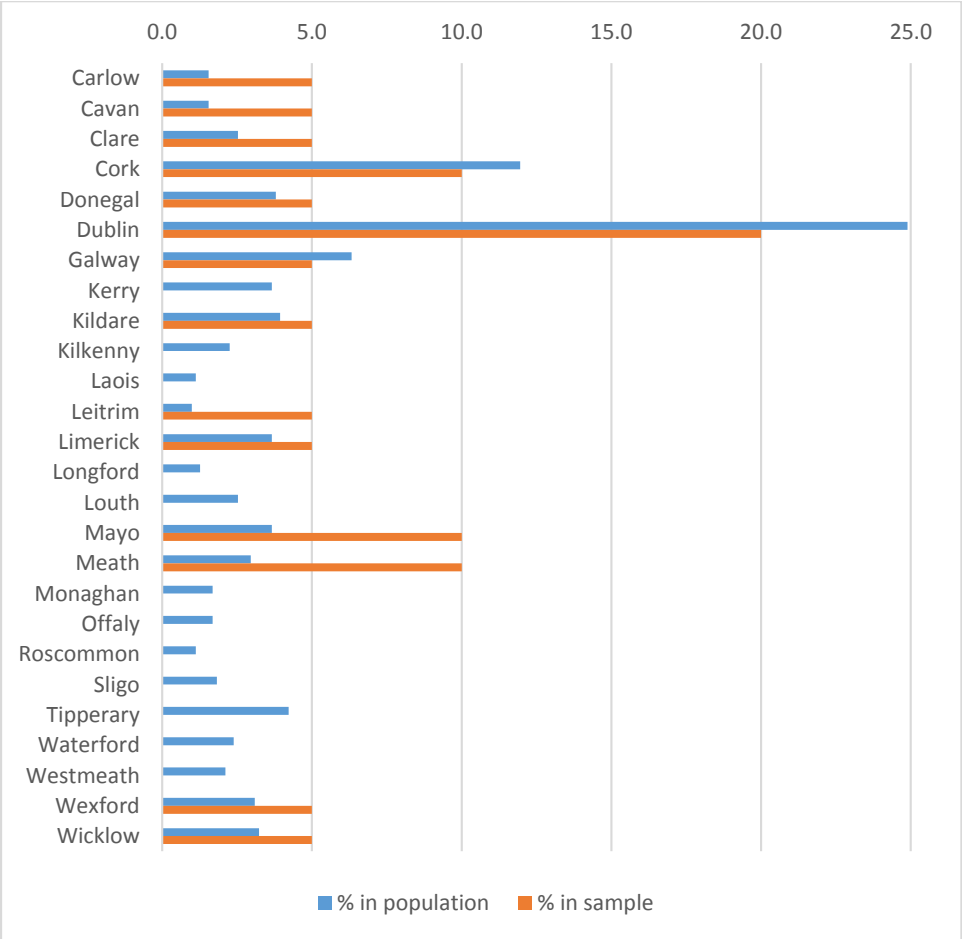


Figure 1.4. Percentages of post-primary schools in population (N=711) and sample (n=20) by fee-paying status, enrolment size and sector



[14] Again, these comparisons are made on the basis of the Department of Education and Skills' schools database (2016/2017).

Figure 1.5. Percentages of post-primary schools in population and sample (n=20) by location



Distribution of DLF domains across the sample

Table 1.3 show the distribution of DLF domains across the schools in the sample. Across all 49 schools, there is about a 60:40 split between the Teaching and Learning and Leadership and Management domains.

The most frequent domain at primary level is learner experiences (Domain 2 of Teaching and Learning; 27.6% of schools), while the most frequent domain at post-primary level is teachers' collective/collaborative practice (Domain 4 of Teaching and Learning; 35%).

Table 1.3. Distribution of DLF domains across the 49 DLF trial schools, primary, post-primary and overall

Domain	Primary (N = 29)		Post Primary (N = 20)		All (N = 49)	
	N	*% focusing on this domain*	*N*	*% focusing on this domain*	*N*	*% focusing on this domain*
Teaching and Learning						
Domain 1 Learner Outcomes	4	13.8	4	20.0	8	16.3
Domain 2 Learner Experiences	8	27.6	1	5.0	9	18.4
Domain 3 Teachers' Individual Practice	3	10.3	1	5.0	4	8.2
Domain 4 Teachers' Collective/Collaborative Practice	2	6.9	7	35.0	9	18.4
Leadership and Management						
Domain 1 Leading learning and teaching	4	13.8	2	10.0	6	12.2
Domain 2 Managing the organisation	1	3.4	3	15.0	4	8.2
Domain 3 Leading school development	5	17.2	1	5.0	6	12.2
Domain 4 Developing leadership capacity	2	6.9	1	5.0	3	6.1

General comment on the DLF trial sample

The sample of 49 schools selected to take part in the DLF trial shows good variation along the key characteristics considered: geographic spread, enrolment size, gender composition, levels of socio-economic disadvantage, language of instruction, and, in the case of post-primary schools, fee-paying status and sector.

The sample can be considered broadly representative of the population *in terms of these particular characteristics*, although it should be noted that the samples' average enrolment sizes and percentages of females enrolled both vary somewhat compared to the populations at primary and post-primary levels. Also, in line with the objectives of the DLF trial, all eight domains of the DLF framework are represented in the selected schools' proposals, though coverage is not evenly spread.

There are of course other characteristics of schools which are relevant to the DLF trial, such as indicators of digital technologies infrastructure and usage. However, since measures like these are not available for the population of schools, the representativeness of sampled schools in these aspects is unknown[15].

Schools that volunteered to take part in the DLF trial may have a higher propensity to embed digital technologies in their practices than schools that did not volunteer. The sample of schools may therefore be reflective of a more positive culture towards using digital technologies than might be the case with a nationally representative (random stratified) sample.

[15] Chapters 2 and 3 make broad comparisons between the DLF trial schools and schools that took part in the ICT census in 2013, since some of the ICT census questions are included in the principal and teacher questionnaires.

Focus group schools

Six schools (three at primary level and three at post-primary level) were selected on the basis of location, selected domain, and stage of embedding digital technologies into teaching, learning and assessment, to take part in focus group interviews of staff involved in the DLF trial. The findings from focus group interviews are described in Chapter 5 of this report. During Phase 2, it is planned to revisit these six schools and interview staff a second time. In addition, during Phase 2, students/pupils in these schools will be invited to take part in focus groups, in order to gather information on their views of the trial and of digital technologies in teaching and learning more generally.

1.3.3. Timeline for the DLF Trial evaluation

The timeline for the evaluation is shown in Figure 1.6. Phase 1 consists of the gathering of baseline data via questionnaires and focus groups, analysis of these data, and compiling this baseline report. Findings from Phase 1 feed into Phase 2, with the development and revision of the questionnaires, gathering of follow-up data via questionnaires and focus groups, and analyses of Phase 2 data, using Phase 1 data as a comparator. The final report will be submitted to the DES in July 2018.

Figure 1.6. Timeline for the DLF trial evaluation

Month	Oct-2017	Nov-2017	Dec-2017	Jan-2018	Feb-2018	Mar-2018	Apr-2018	May-2018	Jun-2018	Jul-2018
Phase 1	Develop instruments	Fieldwork	Fieldwork	Analysis: focus groups	Analysis: surveys	Draft interim report	Submit interim report			
Phase 2						Develop instruments	Fieldwork	Fieldwork Analysis: focus groups	Analysis: surveys	Draft and Submit final report

1.3.4. Design and content of the DLF Trial evaluation questionnaires

Online questionnaires for Phase 1 were developed by the Educational Research Centre (ERC) and reviewed and approved by some of the members of the Implementation Advisory Group for the Digital Strategy for Schools[16]. The questionnaires consist mainly of pre-coded multiple choice or 'tick-box' questions, with additional open or text-based response formats.

Schools were assigned a 2-digit survey ID to log in, and each participating teacher used an individual four-digit ID to log in. Teacher IDs were provided as blank lists to schools and schools assigned teacher names to the IDs in-house. Invitation/explanatory emails were distributed by the ERC to schools to coincide with

[16] The advisory group is comprised of: Brendan Tangney (TCD, Chair); Deirdre Butler (DCU Institute of Education); Giustina Mizzoni (CoderDojo Foundation): Claire Conneely (Google Ireland); Ruth Freeman (Science Foundation Ireland); Donnacha Ó Treasaigh (Principal, Gaelcholáiste Luimnigh); Joe Hogan (OpenNet); Patrick Cluskey (Adviser to Minister for Education & Skills); Eddie Ward (ICT Policy Unit, DES); Éamonn Moran (Curriculum and Assessment Section, DES); Tony Weir (DES Inspectorate); Sean Gallagher (PDST, Technology in Education); Ben Murray (National Council for Curriculum & Assessment); Séamus Knox (DES Inspectorate); Betty Regan (ICT Policy Unit); Anthony Kilcoyne (PDST, Technology in Education). Minister Bruton attends all meetings.

the first visit of their PDST advisor. Table 1.4 shows the content of the principal questionnaire, including a draft mapping of the content of Phase 2. Table 1.5 describes the content of the PDST first visit questionnaires for PDST advisors and school principals, and Table 1.6 shows the content of the teacher questionnaire.

PDF versions of the Phase 1 questionnaires are available at www.erc.ie/dlf.

Table 1.4. Content of the DLF trial evaluation principal questionnaire for phase 1 with draft content for phase 2

Principal Questionnaire	**Phase 1**	**Phase 2 (draft)**
General information	X	
Digital context of the school (perceived quality, obstacles)	X	X
Purchases from Grant Scheme for ICT Infrastructure	X	
Views and comments on the DLF document (general, domain by domain)	X	X
Use of and views on Digital Learning Planning Handbook and exemplar videos		X
Description of the DLF programme	X	X
Reasons for choosing programme	X	
Staff, students, parents involved	X	
Content or curricular areas of focus in the programme	X	X
Supports for the programme	X	X
Complementarity of DLF programme with other SSE activities		X
Level of engagement of relevant staff and students in the programme		X
Expected/perceived changes in teaching and learning activities	X	X
Expected/perceived levels of challenge and benefit of the programme	X	
Perceived overall level of success of the programme		X
Description of most significant changes as a result of the programme		X
Suggestions for other schools implementing the DLF		X

Table 1.5. Content of the DLF trial evaluation PDST first visit questionnaire (for PDST advisors and principals) for phase 1 with draft content for phase 2

PDST Advisor and PDST School Questionnaires	**Phase 1 (Visit 1)**	**Phase 2 (All Visits; draft)**
Visit date(s), length of time, format, staff present, others present	X	X
Preparatory activities undertaken	X	X
Main activities of visits		X
Visit goals	X	
Level of satisfaction with achieving visit goals	X	X
Contact between PDST advisor and school between visits		X
Key challenges identified	X	X
Key solutions identified	X	X
Most successful aspects of visits	X	X
Most challenging aspects of visits	X	X
Additional comments	X	X

Table 1.6. Content of the DLF trial evaluation teacher questionnaire for phase 1 with draft content for phase 2

Teacher Questionnaire	Phase 1	Phase 2 (draft)
General information	X	
General teaching and learning beliefs and practices	X	
Digital context of the school (perceived quality)	X	X
Digital teaching and learning practices	X	X
Views and comments on the DLF document (general, domain by domain)	X	X
Use of and views on Digital Learning Planning Handbook and exemplar videos		X
Description of DLF programme	X	
Role in the programme	X	
Content or curricular areas of focus in the programme	X	X
Expected/perceived changes in teaching and learning activities	X	X
Expected/perceived levels of challenge and benefit of the programme	X	
Perceived overall level of success of the programme		X
Description of most significant changes as a result of the programme		X
Suggestions for other teachers implementing the DLF		X

1.4. Guidelines for interpreting the results

This evaluation has some features that impose limitations on the inferences that may be drawn from the results. These relate mainly to the short overall timeline and the sample. Table 1.7 outlines these features and describes caveats that should be used as guidelines for interpreting the results.

Table 1.7. Features of the DLF trial and guidelines or caveats for interpreting the results of the DLF trial evaluation

Feature	Caveat/Guideline
The **timeline** for the study is **short**, with about 6 months between baseline and final evaluation.	The results should be interpreted as an **initial indication only** of how schools are using the DLF to embed digital technologies into teaching and learning or leadership and management.
The **sample is small and non-random** (i.e. schools volunteered to take part), with 29 primary schools (including 2 special schools) and 20 post-primary schools. The sample may therefore be biased in favour of schools with a more positive disposition towards the use of digital technologies than might be the case with a nationally representative sample.	Although broadly representative of the population of schools in the country, the **results should not be generalised to all schools**. Instead, they should be regarded as **broadly indicative** of the implementation of the DLF trial and should be understood in the **particular contexts** of the participating schools and the fact that they chose to take part.
Each school focuses on one of the 8 DLF domains, i.e. each school provides a partial picture of the entire DLF. The numbers of schools focusing on each domain varies from 3 (Developing Leadership Capacity) to 9 (Learner Experiences and Teachers' Collaborative/Collective Practice).	**Results by individual DLF domain are not reported separately**. Instead, comparisons are at the more general level of Teaching and Learning or Leadership and Management dimensions. The **findings should not be used to draw conclusions about the implementation of individual DLF domains**.

Table 1.7. Features of the DLF trial and guidelines or caveats for interpreting the results of the DLF trial evaluation (continued)

Feature	Caveat/Guideline
The **teachers** responding to the teacher questionnaire and taking part in focus groups are not necessarily representative of all teachers in participating schools as they **may be more digitally literate and digitally engaged**.	Results from the teacher survey should be interpreted with respect to the likelihood that **had all teachers** in participating schools **completed a survey**, the results **might reflect lower overall levels of digital literacy and digital engagement**.
Focus groups provide rich, in-depth information; however, focus groups were conducted in **six** of the 49 schools only (3 primary and 3 post-primary).	The purpose of the focus groups is to provide a **detailed contextual narrative** to the journeys of particular schools as they progress through the trial and are **not intended to be typical or representative** of the full sample of schools.
Students' views are not included in the **baseline** phase of the trial.	The implementation of the DLF is at the very initial stages and the **views of students will be included in Phase 2** of the evaluation. As the DLF is rolled out nationally, the relevance of students' opinions will increase.
The **DLF *Planning Guidelines* were not available at the beginning of the trial**, but were used from the second PDST advisor visit onwards[17].	**Views on the DLF document should be interpreted as initial impressions** only: a fuller picture will be available at the end of the trial.

1.5. Content of this report

Chapter 2 describes the findings from the school principal questionnaire, including the digital resource contexts of participating schools, principals' views on the DLF document, and plans for the DLF trial. The chapter also describes schools' levels of effective practice at baseline (as rated by PDST advisors), and this rating will be used as one of the baseline measures against which to measure progress during the trial.

Chapter 3 describes the views of teachers, including their digital contexts, digital teaching and learning practices, views on the DLF document, and views on the DLF trial. Where relevant, teachers' responses are compared to those of their principals.

Chapter 4 provides a description of the first visits to schools by the PDST advisors from the points of view of both advisors and school principals, including visit dates, lengths, attendees, and perceived successes and challenges of the PDST visit programme and DLF trial more generally.

Chapter 5 provides a profile of the 6 focus group schools and summarises the main findings emerging from the focus group interviews under four themes (DLF document; leadership, culture and attitudes; time and timeline; and supports).

Chapter 6 draws the findings together and provides a set of conclusions that will be used as to guide the Phase 2 instrumentation and the interpretation of the Phase 2 results.

[17] Due to industrial relations issues, some primary school management staff may have been less familiar with the Looking at Our Schools framework, whose structure aligns with the DLF document. These issues are now resolved.

Chapter 2
Findings from the Phase 1 principal questionnaire

This chapter describes the findings from the Phase 1 principal questionnaire. Results are in four sections:

- Description of respondents
- Digital contexts of participating schools
- Principals' views on the DLF document
- Schools' plans for the DLF trial (this section also includes PDST advisors' ratings of the schools' levels of digital practice at baseline).

Results are unweighted: that is, each school contributes equally to the descriptive statistics described here. Results are *not* generalizable to the population of primary and post-primary schools in the country. Additional tables are in the *Data Appendix to Chapter 2* (a separate Excel document).

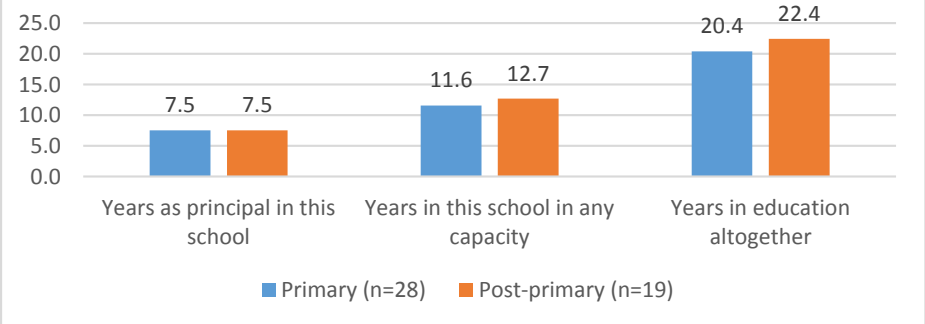
2.1. Description of respondents

All primary principals (29) and all but one post-primary principal (19) completed a questionnaire.

2.1.1. Years' experience

Figure 2.1 shows the average number of years working as principal in the school, in the school in any capacity, and in education altogether, reported by respondents. Table A2.1 in the Data Appendix compares years' experience across various school characteristics (DEIS status, enrolment size, size of local community, gender composition, and post-primary sector). At primary level, principals in larger schools had, on average, significantly more total experience working in education than principals in smaller schools. Otherwise, years' experience was statistically the same across primary schools. At post-primary level, years' experience was positively related to enrolment size, with no significant differences across the other school characteristics examined.

Figure 2.1. Mean years' experience (a) as principal in the school, (b) in the school in any capacity, and (c) in education altogether: primary and post-primary principals



2.1.2. Concurrent teaching duties (primary)

At primary level, about two in five principals reported that they had concurrent teaching duties. As would be expected, teaching principals were more frequent in smaller schools and in schools in rural locations (with community populations less than 1500) (Table 2.1)[18].

Table 2.1. Percentages of primary school principals with concurrent teaching responsibilities overall and by key school characteristics

Primary principals	*N*	*% with concurrent teaching duties*	*p (chi-square)*
All	27	40.7	
non-DEIS	19	36.8	.414
DEIS	8	50.0	
Enrolment 100 or less	9	88.9	<.001
Enrolment 101 to 175	6	50.0	
Enrolment 176 or more	12	0.0	
Community population less than 1500	5	100.0	.010
Community population 1500-10000	9	33.3	
Community population more than 100000	13	23.1	

2.2. Digital contexts of schools

2.2.1. Principals' ratings of digital technology infrastructure and usage

Principals rated 12 aspects of digital technology infrastructure and usage on a 5-point scale ranging from Excellent to Poor. Table 2.2 shows their ratings at primary and post-primary levels. The five response options have been collapsed to produce three categories (Excellent/Very good, Good, and Fair/Poor).

At primary level, responses indicate that numbers of computing devices and availability of digital devices were perceived by a majority to be Excellent, Very Good or Good. In contrast, ratings were less positive for a majority of the other items, in particular, availability of digital tools (e.g. data sensors, cameras). For five of the remaining items (including age and condition of computing devices, and pupil's knowledge of and engagement with DTs for teaching and learning), 48% or more were rated as Fair or Poor. There is also wide variation in perceived quality/adequacy of broadband connection and speed, with almost equal percentages of principals rating this as Excellent/Very Good (39%) and as Fair/Poor (36%).

At post-primary level, in contrast, ratings of broadband connection and speed were more positive (with 63% rating this as Excellent/Very Good). A majority of post-primary principals gave Excellent or Very Good ratings to number of computers,

[18] At post-primary level, just 2 of the 19 respondents reported that they had concurrent teaching duties so results are not tabulated.

availability of devices, and broadband connection and speed. Similar to primary level, ratings were least positive for availability of digital tools (with 79% rating this as Fair or Poor). Ratings of post-primary principals were less positive for three further items: availability of suitable software, awareness of suitable software, and students' overall engagement with DTs for teaching and learning.

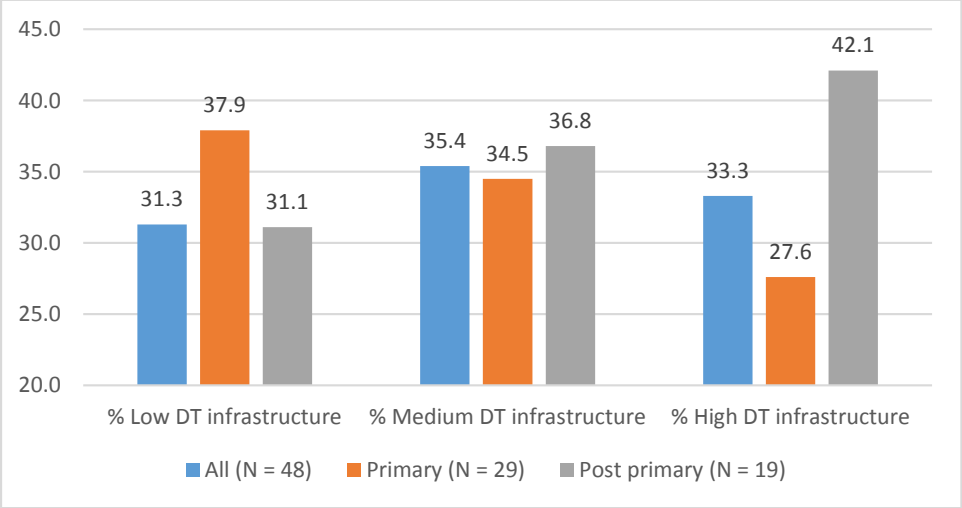
In summary, a majority of the DLF trial schools appear to have basic infrastructure (i.e. computing and digital devices) in place, although there are issues with broadband, particularly at primary level, and availability of digital tools is low across the board. Availability, awareness of, and use of suitable software are all issues of concern in two-fifths to half of schools at primary level and a quarter of schools at post-primary level.

Table 2.2. Percentages of principals rating 12 aspects of digital technologies in the school as excellent/very good, good, and fair/poor: primary and post-primary levels

Item	**Primary (N=29)**			**Post-primary (N=19)**		
	% Excellent or Very good	*% Good*	*% Fair or Poor*	*% Excellent or Very good*	*% Good*	*% Fair or Poor*
Number of computing devices (desktops, laptops, tablets)	41.4	31.0	27.6	68.4	21.1	10.5
Age and condition of computing devices (desktops, laptops, tablets)	27.6	24.1	48.3	31.6	47.4	21.1
Availability of digital devices such as whiteboards, digital projectors	62.1	20.7	17.2	52.6	31.6	15.8
Availability of digital tools such as data sensors, cameras, assistive devices, robotic tops (e.g. BeeBots)	3.4	13.8	82.8	10.5	10.5	78.9
Awareness of suitable software for teaching and learning	13.8	41.4	44.8	36.8	31.6	31.6
Availability of suitable software for teaching and learning	17.9	28.6	53.6	31.6	31.6	36.8
Broadband connection/speed	39.3	25	35.7	63.2	15.8	21.1
Technical support and maintenance	17.9	28.6	53.6	42.1	31.6	26.3
Teachers' overall level of knowledge and skills in using digital technologies for teaching and learning	13.8	51.7	34.5	15.8	57.9	26.3
Teachers' overall level of use of digital technologies for teaching and learning	10.3	51.7	37.9	15.8	57.9	26.3
Pupils' (students') overall level of knowledge and skills in using digital technologies for learning	13.8	37.9	48.3	15.8	57.9	26.3
Pupils' (students') overall engagement with digital technologies as part of teaching and learning	17.2	34.5	48.3	15.8	47.4	36.8

The responses to the first eight items in Table 2.2 were combined to form an overall scale measuring digital technology (DT) infrastructure[19]. Schools were then classified as having high, medium and low levels of DT infrastructure (using the same cut-points[20] at primary and post-primary). These percentages are shown in Figure 2.2, which shows that 27.6% of primary schools and 42% of post-primary schools were categorized as having high DT infrastructure, while 38% of primary schools and 31% of post-primary schools were categorised as having low DT infrastructure.

Figure 2.2. Percentages of primary and post-primary schools that may be categorised as low, medium and high on digital technology (DT) infrastructure based on principals' responses



Based on this principal-reported measure, primary schools have a mean DT infrastructure score that is two-thirds of a standard deviation lower than the mean score at post-primary. This difference is statistically significant (p (t) = .049).

Table A2.2 in the Data Appendix compares DT infrastructure scores across DEIS status, enrolment size, size of local community, and post-primary sector. At primary level, there are no significant differences in DT infrastructure scores across these school characteristics. In post-primary schools, DT infrastructure is higher in schools with larger enrolment sizes, and this difference is just statistically significant (p (F) = .052); similarly, non-DEIS post-primary schools have a mean DT infrastructure score that is borderline statistically significantly higher than DEIS schools (p (t) = .075). There are no significant differences in mean DT infrastructure scores across post-primary sector or across size of the local community in which post-primary schools are located.

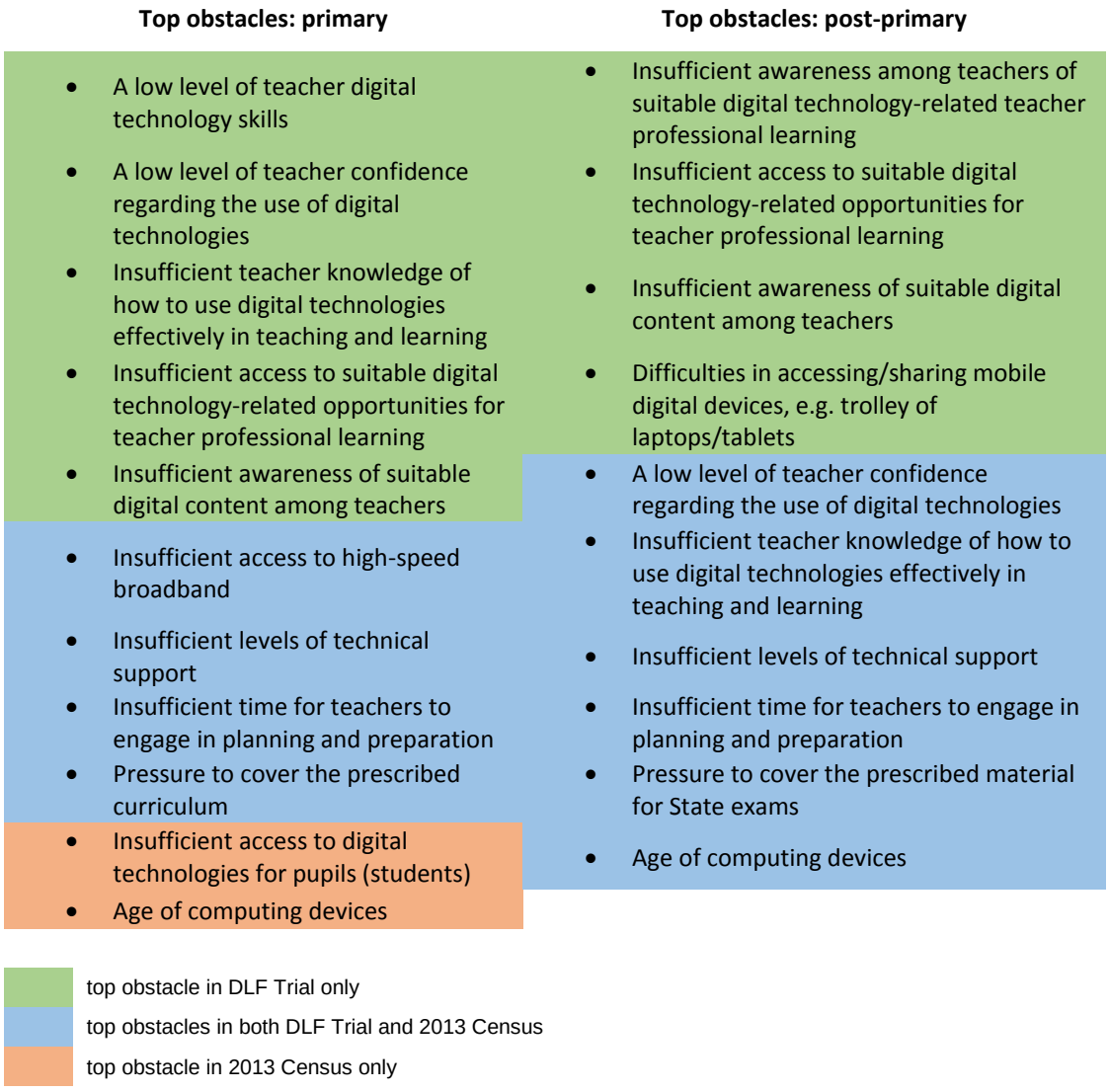
[19] The scale is computed by giving a weight of 2 to 'Excellent/Very Good', a weight of 1 to 'Good' and a weight of 0 to 'Fair/Poor' for the following 8 items: Number of computing devices (desktops, laptops, tablets); Age and condition of computing devices (desktops, laptops, tablets); Availability of digital devices such as whiteboards, digital projectors; Availability of digital tools such as data sensors, cameras, assistive devices, robotic tops (e.g. BeeBots); Awareness of suitable software for teaching and learning; Availability of suitable software for teaching and learning; Broadband connection/speed; Technical support and maintenance. Cronbach's alpha = .803 (primary) and .752 (post-primary).

[20] Low = 0-4, Medium = 5-8, High = 9-16.

2.2.2. Principals' views on obstacles hindering effective use of digital technology

Principals were asked to identify the top 6 obstacles that hindered the effective use of digital technologies in the school from a list of 19 options. This question was also included in the 2013 ICT Census of Schools (Cosgrove et al., 2014a, pp. 16-17), so broad comparisons can be made. Figure 2.3 compares the top obstacles[21] at primary and post-primary levels in the DLF trial schools and the 2013 ICT Census, while more detailed comparisons are shown in Table 2.3.

Figure 2.3. Top obstacles hindering effective use of digital technologies for teaching and learning in primary and post-primary schools: DLF trial and 2013 ICT Census



The items shaded in green are among the top obstacles identified among the DLF trial schools only; items in blue are among the top obstacles identified among the DLF trial schools and the ICT 2013 Census schools; and items in orange were identified in the 2013 Census but not in the DLF trial. In the DLF trial schools, the main perceived obstacles relate to teacher skills, knowledge, awareness and

[21] Each top obstacle was one which received a mean rating of 1.25 or higher and/or was chosen by 40% or more of respondents among their top 6 obstacles

supports. In both the DLF trial schools and the 2013 Census of schools, top obstacles also relate to time and planning constraints and infrastructural issues (e.g. technical support). These comparisons between the DLF trial and the 2013 Census suggest that there has been a shift in emphasis away from infrastructural issues towards challenges relating to teacher skills, knowledge, awareness and supports, though challenges relating to time for planning and pressure to cover prescribed curricular material remain.

Table 2.3. Top obstacles selected by principals at primary and post-primary levels that hinder the use of digital technologies for teaching and learning

Obstacle	Primary (N=29)		Post Primary (N=19)	
	Mean rating (range = 0-6)	*% choosing this among top 6 obstacles*	*Mean rating (range = 0-6)*	*% choosing this among top 6 obstacles*
A low level of teacher digital technology skills	**1.34**	31.0	0.89	26.3
A low level of teacher confidence regarding the use of digital technologies**	**1.97**	**51.7**	**2.53**	**63.2**
Insufficient teacher knowledge of how to use digital technologies effectively in teaching and learning**	**2.76**	**65.5**	**2.21**	**47.4**
Insufficient awareness among teachers of suitable digital technology-related teacher professional learning	1.03	31.0	**1.63**	**52.6**
Insufficient access to suitable digital technology-related opportunities for teacher professional learning	1.10	34.5	1.05	**42.1**
Insufficient awareness of suitable digital content among teachers	1.24	**41.4**	1.05	**42.1**
Insufficient access to suitable digital content by teachers	0.17	6.9	0.47	21.1
Insufficient access to digital technologies for teachers	0.55	13.8	0.47	10.5
Insufficient access to digital technologies for pupils (students)*	1.03	27.6	0.63	15.8
Insufficient access to high-speed broadband*	**1.34**	37.9	0.58	15.8
Age of computing devices***	0.83	34.5	**1.42**	36.8
Insufficient levels of technical support***	**1.72**	**48.3**	0.95	21.1
Insufficient time for teachers to engage in planning and preparation***	**1.69**	**41.4**	**2.11**	**57.9**
Insufficient levels of pedagogical support	0.55	17.2	0.89	31.6
Blocked access to relevant websites	0.03	3.4	0.32	5.3
Difficulties accessing computer rooms	0.00	0.0	1.24	36.8
Difficulties in accessing/sharing mobile digital devices, e.g. trolley of laptops/tablets	0.48	17.2	**1.37**	31.6
Pressure to cover the prescribed curriculum/material for State exams***	**3.34**	**72.4**	**1.47**	36.8
Timetabling arrangements	0.41	10.3	0.21	5.3

Top 8 obstacle = one which received a mean rating of 1.25 or higher and/or was chosen by 40% or more of respondents among their top 6 obstacles.

Among top 8 obstacles - primary only
Among top 8 obstacles - post-primary only
Among top 8 obstacles - primary and post-primary

* Top 6 obstacles at primary in 2013; ** Top 6 obstacles at post-primary in 2013; *** Top 6 obstacles in primary & post-primary in 2013.

Comparisons between primary and post-primary ratings of these obstacles rated by principals in the DLF trial indicate that five of the 19 items were among the top obstacles at both primary and post-primary levels; these were: low levels of teacher confidence, low levels of teacher knowledge, insufficient awareness of digital content among teachers, insufficient time for teachers to engage in planning and preparation, and pressure to cover prescribed curricular material. This suggests that teachers' supports for learning and planning are the most important requirement in these schools to enable the effective use of digital technologies in teaching and learning.

At primary level, two of the three further main obstacles identified were related to DT infrastructure (insufficient broadband, insufficient technical support) and the third was again related to teachers (low level of digital technology skills). At post-primary level, two of the three further obstacles related to infrastructure (age of computing devices and difficulties in accessing mobile digital devices), while the third related to teachers' professional learning (insufficient awareness of suitable professional learning).

2.2.3. Schools' use of the Grant Scheme for ICT infrastructure

Table 2.4 shows the purchases made by schools with the Grant Scheme for ICT Infrastructure in Spring 2017 (see Chapter 1 for a description of the Grant). At both primary and post-primary levels, spending was largely concentrated on computing devices, digital devices and technical support. Despite availability of digital tools being rated as fair to poor in a majority of schools (Table 2.2), few schools used the Grant to purchase these. The pattern of spending indicates that schools are investing in infrastructure and maintenance (hardware, technical support) to a much greater extent than on software and professional learning for teachers.

Table 2.4. Percentages of primary and post-primary schools indicating that various items were purchased using the Grant Scheme for Infrastructure, Spring 2017

Item	% Primary (N=29)	% Post Primary (N=19)
Computing devices (desktops, laptops, tablets)	89.7	73.7
Digital devices such as whiteboards, digital projectors	41.4	26.3
Digital tools such as data sensors, cameras, assistive devices, robotic tops (e.g. BeeBots)	6.9	10.5
Software for teaching and learning	13.8	10.5
Technical support	51.7	26.3
Wifi	0.0	10.5
Server upgrade	0.0	5.3
Professional training/development for teachers on aspect(s) of digital technologies for teaching and learning	6.9	10.5

2.3. Principals' views on the DLF document

Table 2.5 shows primary and post-primary principals' ratings of general aspects of the DLF document in terms of their suitability to the context of their school. Ratings

are generally quite positive, though more so at post-primary than at primary level. It should be borne in mind that at the time of providing these responses, principals would not have seen the DLF *Planning Guidelines.* It is also relevant to note that, as a result of IR issues, primary schools had been directed (since about April 2016) not to engage in the 6-step SSE (School Self-Evaluation) process. The IR issues have now been resolved and all primary schools have been provided with amendments to the SSE circular (0039/2016) in circular 0016/2018. This requires them to re-engage in the SSE process but reduces the number of areas of focus between now and 2020. However, where schools were required to continue engagement with improvement planning such as DEIS and Gaeltacht schools, the *Looking At Our School* (LAOS) framework should have been the basis of their work. There was no IR issue at any stage that prevented schools from becoming familiar with LAOS (Department of Education and Skills, Personal Communication, March 22, 2018). Having said this, it is reasonable to infer that many primary principals would not have been familiar with the LAOS framework at the time they provided their views on the DLF document, and this is relevant because the structure of the DLF document is the same as that of the LAOS.

Table 2.5. Primary and post-primary principals' ratings of general aspects of the DLF document

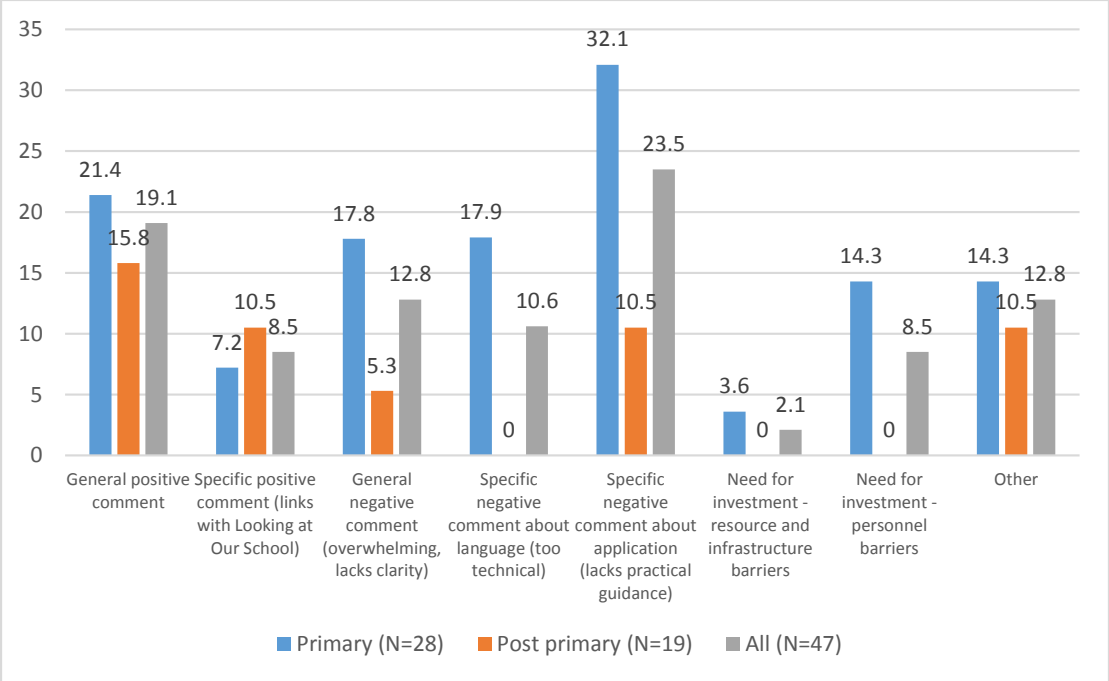
Aspect	**Primary (N=29)**			**Post-primary (N=19)**		
	% Very suited to the context of our school	*% Somewhat suited to the context of our school*	*% Not really suited to the context of our school*	*% Very suited to the context of our school*	*% Somewhat suited to the context of our school*	*% Not really suited to the context of our school*
Overall length and layout	48.3	44.8	6.9	63.2	36.8	0.0
Language and terminology	51.7	34.5	13.8	63.2	36.8	0.0
The four *teaching and learning* domains	51.7	44.8	3.4	84.2	15.8	0.0
The four *leadership and management* domains	50.0	46.4	3.6	84.2	15.8	0.0
The statements of *effective* and *highly effective* practice	41.4	55.2	3.4	68.4	31.6	0.0
The 'fit' of the document within the school's broader development and improvement planning	44.8	48.3	6.9	57.9	42.1	0.0

Principals were asked to comment on their views of the DLF, and comments were received from 45% of principals. Figure 2.4 shows the distribution of comments made. Note that percentages are out of all respondents, not out of the subset of respondents providing a comment, and that a comment could fall into more than one of the categories shown.

About one in five principals made a general positive comment about the DLF, and 9% commented specifically on its links with the *Looking at Our School* framework in a

positive manner. One in eight made a general negative comment (for example, that the DLF was overwhelming), and one in ten felt that the language was too technical (all of the comments about language were made at primary level). About a quarter of principals felt that the DLF lacked practical guidance on how it might be applied, and a small number of primary principals commented on the need for investment, both in infrastructure and in personnel development, to implement the DLF. Negative views on the DLF were more commonly expressed by primary principals than post-primary principals, and this could in part reflect their lower levels of prior familiarity with the *Looking At Our Schools* framework, as discussed above.

Figure 2.4. Distribution of comments made by principals about the DLF document at primary and post-primary levels (percentages are out of all principals; no comments were made by 55.3% of principals)



2.4. Schools' plans for the DLF trial

2.4.1. Distribution of domains and standards across participating schools

Table 2.6 shows the dimensions, domains and standards of the DLF, and Table 2.7 shows the percentages of schools focusing on each domain and standard for the DLF trial.

Each school focused on one of the eight domains of the DLF for its trial programme. Within each domain there are four standards, and schools could focus on any of these four. Some schools focused on a single standard, while others selected more than one. The standards are not hierarchical in that Standard 1 does not need to be attained prior to Standard 2, etc.

Table 2.6. Summary of the DLF dimensions, domains and standards

Dimension: Teaching and Learning	**Standard**			
	1	2	3	4
Domain 1 Learner Outcomes	Pupils enjoy their learning, are motivated to learn and expect to achieve as learners	Pupils have the necessary knowledge, skills and attitudes required to understand themselves and their relationships	Pupils demonstrate the knowledge, skills and understanding required by the primary curriculum	Pupils achieve the stated learning objectives for the term and year
Domain 2 Learner Experiences	Pupils engage purposefully in meaningful learning activities	Pupils grow as learners through respectful interactions and experiences that are challenging and supportive	Pupils reflect on their progress as learners and develop a sense of ownership of and responsibility for their learning	Pupils experience opportunities to develop the skills and attitudes necessary for lifelong learning
Domain 3 Teachers' Individual Practice	The teacher has the requisite subject knowledge, pedagogical knowledge and classroom management skills	The teacher selects and uses planning, preparation and assessment practices that progress pupils' learning	The teacher selects and uses teaching approaches appropriate to the learning objective and to pupils' learning needs	The teacher responds to individual learning needs and differentiates teaching and learning activities as necessary
Domain 4 Teachers' Collective/Collaborative Practice	Teachers value and engage in professional development and professional collaboration	Teachers work together to devise learning opportunities for pupils across and beyond the curriculum	Teachers collectively develop and implement consistent and dependable formative and summative assessment practices	Teachers contribute to building whole-staff capacity by sharing their expertise
Dimension: Leadership and Management	**Standard**			
	1	2	3	4
Domain 1 Leading learning and teaching	Promote a culture of improvement, collaboration, innovation and creativity in learning, teaching, and assessment	Foster a commitment to inclusion, equality of opportunity and the holistic development of each pupil	Manage the planning and implementation of the curriculum	Foster teacher professional development that enriches teachers' and pupils' learning
Domain 2 Managing the organisation	Establish an orderly, secure and healthy learning environment, and maintain it through effective communication	Manage the school's human, physical and financial resources so as to create and maintain a learning organisation	Manage challenging and complex situations in a manner that demonstrates equality, fairness and justice	Develop and implement a system to promote professional responsibility and accountability
Domain 3 Leading school development	Communicate the guiding vision for the school and lead its realisation	Lead the school's engagement in a continuous process of self- evaluation	Build and maintain relationships with parents, with other schools, and with the wider community	Manage, lead and mediate change to respond to the evolving needs of the school and to changes in education
Domain 4 Developing leadership capacity	Critique their practice as leaders and develop their understanding of effective and sustainable leadership	Empower staff to take on and carry out leadership roles	Promote and facilitate the development of pupil voice and pupil leadership	Build professional networks with other school leaders

Note. The standards are not hierarchical in that standard 1 does not need to be attained prior to standard 2, etc.

It was noted in Chapter 1 that coverage of the domains is not balanced across schools. Table 2.7 shows that at primary level, two or fewer schools are focused on

three of the eight domains; at post-primary level, two or fewer schools are focused on five of the eight domains. This means that results should not be analysed at the domain level for primary or post-primary schools.

Table 2.7. Percentages of primary and post-primary schools engaging with each of the domains and standards of the DLF (schools can focus on multiple standards within one domain)

Dimension/Domain	**Primary (N = 29)**					
	N	*% focusing on this domain*	*% standard 1*	*% standard 2*	*% standard 3*	*% standard 4*
Teaching and Learning						
Domain 1 Learner Outcomes	4	13.8	100.0	25.0	25.0	0.0
Domain 2 Learner Experiences	8	27.6	87.5	62.5	87.5	12.5
Domain 3 Teachers' Individual Practice	3	10.3	100.0	0.0	0.0	0.0
Domain 4 Teachers' Collective/Collaborative Practice	2	6.9	100.0	0.0	50.0	50.0
Leadership and Management						
Domain 1 Leading learning and teaching	4	13.8	50.0	50.0	75.0	50.0
Domain 2 Managing the organisation	1	3.4	100.0	0.0	0.0	100.0
Domain 3 Leading school development	5	17.2	60.0	0.0	80.0	0.0
Domain 4 Developing leadership capacity	2	6.9	50.0	100.0	50.0	50.0
Dimension/Domain	**Post Primary (N = 20)**					
	N	*% focusing on this domain*	*% standard 1*	*% standard 2*	*% standard 3*	*% standard 4*
Teaching and Learning						
Domain 1 Learner Outcomes	4	20.0	75.0	0.0	0.0	75.0
Domain 2 Learner Experiences	1	5.0	100.0	0.0	0.0	0.0
Domain 3 Teachers' Individual Practice	1	5.0	100.0	100.0	0.0	0.0
Domain 4 Teachers' Collective/Collaborative Practice	7	35.0	71.4	0.0	14.3	71.4
Leadership and Management						
Domain 1 Leading learning and teaching	2	10.0	50.0	50.0	50.0	50.0
Domain 2 Managing the organisation	3	15.0	66.7	66.7	0.0	33.3
Domain 3 Leading school development	1	5.0	100.0	100.0	0.0	0.0
Domain 4 Developing leadership capacity	1	5.0	0.0	100.0	100.0	0.0

Note. Some schools focused on a single standard, while others selected more than one. The standards are not hierarchical in that standard 1 does not need to be attained prior to standard 2, etc. See Table 2.6 for description of the standards within each domain.

In addition, Table 2.7 shows that the coverage of standards *within* domains is not evenly spread. For example, at primary level, it can be seen that five schools are focusing on the Leadership and Management domain of Leading School Development and, within this domain, three of these five schools are focusing on Standard 1, none on Standard 2, four out of five on Standard 3, and none on Standard 4.

2.4.2. Levels of effective/highly effective practice in schools at baseline

Towards the beginning of the trial and after their first school visits, PDST advisors were asked to rate each school on how it may best be described in terms of effective or highly effective practice for the domain and standard(s) that are the focus of its work during the trial.

Information on levels of effective/highly effective practice was gathered at the baseline stage in order to be able to assess changes in practice towards the end of the trial. A low level of practice in no way implies a poor-performing school; rather, it provides a starting context for interpreting the impact of the DLF trial on levels of practice in the final report (July 2018). During the second phase of data collection, both PDST advisors and school principals will be asked to rate levels of practice and these rating will be compared with the baseline levels.

PDST advisor ratings were made on an 8-point scale, with results summarized in Figure 2.5.

Figure 2.5. Levels of effective/highly effective practice in primary and post-primary schools towards the beginning of the DLF trial (rated by PDST advisors)

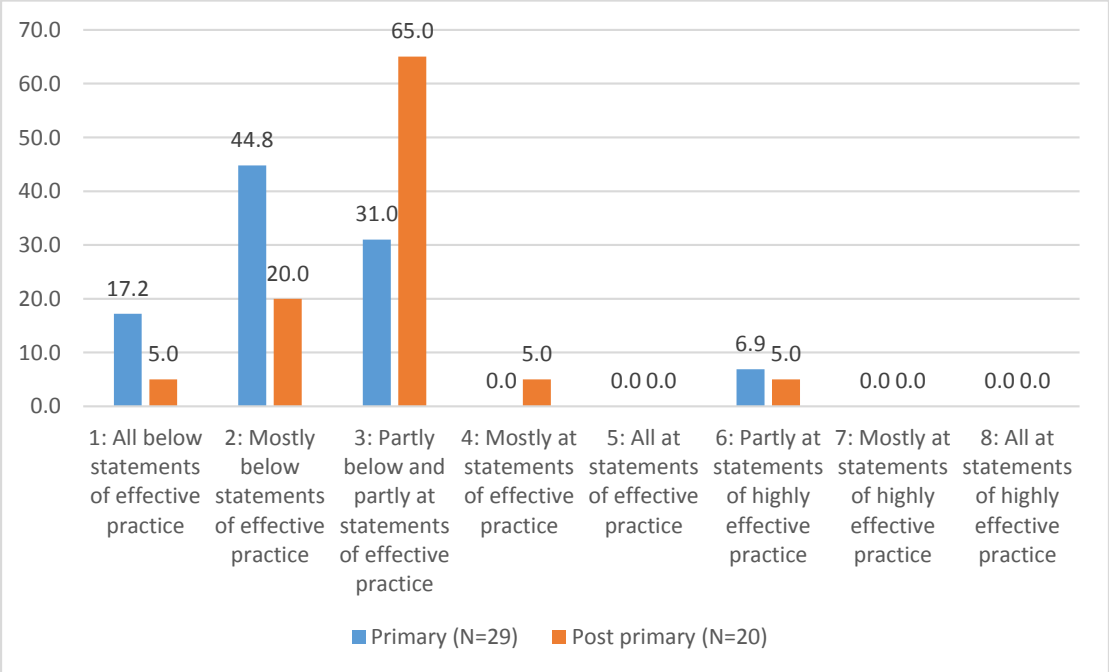


Figure 2.5 shows that levels of effective practice were slightly higher in post-primary than in primary schools, and that a large majority of schools (94% of primary and

90% of post-primary) were rated at the bottom three points on the scale i.e. partially at statements of effective practice or lower). These ratings are at about the levels one might expect, given the results of the 2013 ICT Census (Cosgrove et al., 2014, a, b) and international comparisons described in Chapter 1.

Table A2.3 in the Data Appendix compares these ratings for schools split by Teaching and Learning/Leadership and Management dimension. Levels of effective practice are very similar, regardless of which dimension of the DLF the school is focusing on.

It is worth noting that the correlation between the PDST advisors' ratings and the DT infrastructure scale score described in Section 2.2 is strong, positive and significant. At primary level, it is .56 ($p = .001$) and at post-primary level it is .50 ($p = .030$). In other words, lower levels of effective practice are quite closely related to lower levels of DT infrastructure, and *vice versa*. However, we cannot infer from this that low DT infrastructure causes low levels of effective practice, but rather, that it is one of a number of possible relevant factors in understanding levels of effective practice.

2.4.3. Staff involvement, planning, supports and expectations

Table 2.8 shows the numbers of teachers involved in the DLF trial in primary and post-primary schools. In a majority of schools, 10 or fewer teachers are involved, and this could relate to the manner in which the question was interpreted. As noted in Chapter 1, each school convened a Digital Learning Team to implement the trial, and it is possible that principals counted only the members of that team when responding to this question. In reality, more teachers could be involved, albeit less directly. Also, total numbers of teaching staff are low particularly in small primary schools (the review of the primary school sample in Chapter 1 shows that 14% of the primary schools in the trial had an enrolment size of 50 or less).

Table 2.8. Numbers of teachers involved in the DLF trial in primary and post-primary schools

Number of teachers	% Primary (N=29)	% Post Primary (N=19)
4 or fewer	37.9	11.1
5 to 10	27.6	61.1
11 to 20	24.1	5.6
21 or more	10.3	22.2

Principals were also asked to rate the level of focus that they expected to have on a range of curricular and content areas. These ratings are shown in Table 2.9 (and split by DLF dimension in Table A2.4 in the Data Appendix). At primary level, the focus is mainly on collaborative and team work, literacy and numeracy skills, and critical thinking and analysis. At post-primary level, the focus is mainly on collaborative and team work and critical thinking and analysis. Other areas mentioned included more general staff-relevant themes such as creating a school vision or making the school paperless. For Phase 2 of the study, this question will be included again on the principal surveys, but it is planned add items that are focused on the work of staff in addition to curricular/content areas.

Table 2.9. Level of focus on curricular or content areas reported by primary and post-primary principals

Curricular or content area	Primary (N = 26)			Post Primary (N = 18)		
	% High focus	*% Medium focus*	*% Low or no focus*	*% High focus*	*% Medium focus*	*% Low or no focus*
Literacy skills	69.2	15.4	15.4	33.3	38.9	27.8
Numeracy skills	69.2	11.5	19.2	38.9	33.3	27.8
Science skills	30.8	34.6	34.6	38.9	27.8	33.3
Critical thinking and analysis	50.0	23.1	26.9	61.1	11.1	27.8
Collaborative and team work	73.1	23.1	3.8	72.2	16.7	11.1
Wellbeing	23.1	15.4	61.5	33.3	38.9	27.8
Business skills/Entrepreneurship	0.0	26.9	73.1	22.2	38.9	38.9
Artistic and creative skills	15.4	26.9	57.7	16.7	50.0	33.3
Another area (areas mentioned include school vision, leadership and management, making school paperless)	19.2	0.0	80.8	16.7	5.6	77.8

A large majority of schools taking part in the DLF trial planned multiple supports during its implementation (other than PDST advisor support), such as regular staff meetings, professional development activities and school-wide communications (Table 2.10). A majority of schools also planned communications with parents, although meetings with parents were less frequently planned for.

Table 2.10. Planned supports (other than PDST advisor support) during the DLF trial in primary and post-primary schools

Type of support planned	% Primary (N=29)	% Post Primary (N=19)
Regular staff meetings for information and planning purposes	86.2	84.2
Professional development activities for staff	93.1	89.5
Peer-to-peer mentoring or coaching among teachers	N/A*	78.9
School-wide communications (e.g. emails, posters)	79.3	78.9
Meetings with parents	31.0	15.8
Communications (e.g. letters, emails) to parents	65.5	57.9
Other support(s) (include meetings with Board of Management, Parents' Association or class groups, social media, specific training for teachers)	13.8	26.3

*There was an error in the data capture of item 3 at primary level.

2.4.4. Principals' views on benefits and challenges of the DLF Trial

Principals were asked about their expectations for changes to various school and class activities as a result of taking part in the DLF trial. These are shown in Table 2.11. At primary level, over 70% of principals indicated that they expected large or moderate changes to class activities, pupils' interest and engagement, teachers' assessment practices, and school policies or guidelines. At post-primary level, over 85% of principals indicated that they expected large or moderate changes to all of

these activities in addition to students' study or homework activities. Other changes mentioned by principals are related to teaching staff, such as upskilling and increased levels of enthusiasm about digital technologies. Similar to the question shown in Table 2.10, this question will be included in the Phase 2 questionnaire, along with additional items relating specifically to staff. Table A2.5 in the Data Appendix compares principals' responses by Teaching and Learning/Leadership and Management dimension.

Table 2.11. Changes envisaged by principals as a result of participating in the DLF trial in primary and post-primary schools

Item	Primary (N=28)				Post Primary (N=19)			
	% Large change	*% Moderate change*	*% Small change*	*% No change*	*% Large change*	*% Moderate change*	*% Small change*	*% No change*
Teaching and learning activities during class time	48.1	25.9	22.2	3.7	41.2	52.9	5.9	0.0
Pupils' (students') study or homework activities	19.2	23.1	46.2	11.5	16.7	77.8	5.6	0.0
Pupils' (students') interest and engagement in learning activities	46.4	39.3	10.7	3.6	44.4	50.0	5.6	0.0
Teachers' assessment practices	29.6	48.1	11.1	11.1	38.9	61.1	0.0	0.0
Collaborative practices among teachers	50.0	35.7	7.1	7.1	73.7	21.1	5.3	0.0
School policies or guidelines	40.7	33.3	25.9	0.0	27.8	61.1	11.1	0.0
Other change(s) (include staff upskilling, staff enthusiasm, infrastructure	8.7	4.3	0.0	87.0	12.5	6.3	0.0	81.3

Principals were asked how challenging and beneficial they felt that the DLF trial would be for their school. Responses are shown in Table 2.12. At both primary and post-primary levels, the most typical response was that the principal expected the programme to be moderately challenging and highly beneficial. Comparing responses across Teaching and Learning/Leadership and Management dimensions, at primary level, it can be seen that principals perceived that implementing a domain in the Leadership and Management dimension would be more challenging and somewhat less beneficial than implementing a domain in the Teaching and Learning dimension (although these differences are not statistically significant). Differences across these dimensions were not statistically significant at post-primary level either.

Interestingly, there is no significant association between principals' ratings of expected challenge and benefit and the school's level of DT infrastructure, or the PDST advisors' ratings of levels of effective practice at either primary or post-primary level. In other words, levels of challenge and benefit were perceived to be about the

same regardless of the school's infrastructure or the school's level of effective practice at the baseline stage of the DLF trial.

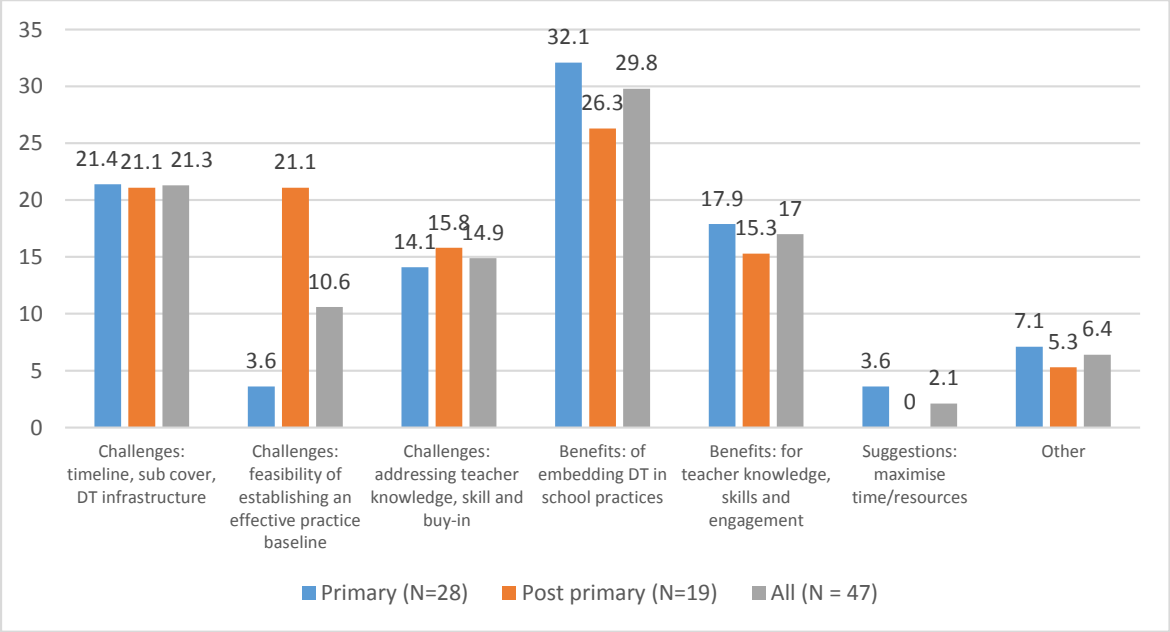
Table 2.12. Levels of challenge and benefit expected by principals as a result of participating in the DLF trial in primary and post-primary schools, and split by school's domain area/dimension (T&L or L&M)

All (N = 47)					
Primary (N=28)	*Challenge*	*Benefit*	**Post Primary (N=19)**	*Challenge*	*Benefit*
% High	25.0	89.3	*% High*	21.1	94.7
% Medium	46.4	7.1	*% Medium*	68.4	5.3
% Low	28.6	3.6	*% Low*	10.5	0.0
Teaching and Learning only (N = 29)					
Primary (N=17)	*Challenge*	*Benefit*	**Post Primary (N=12)**	*Challenge*	*Benefit*
% High	23.5	100.0	*% High*	25.0	91.7
% Medium	58.8	0.0	*% Medium*	75.0	8.3
% Low	17.6	0.0	*% Low*	0.0	0.0
Leadership and Management only (N = 18)					
Primary (N=11)	*Challenge*	*Benefit*	**Post Primary (N=7)**	*Challenge*	*Benefit*
% High	27.3	72.7	*% High*	14.3	100.0
% Medium	72.8	18.2	*% Medium*	57.1	0.0
% Low	0.00	9.1	*% Low*	28.6	0.0

Some (53%) principals provided comments on the challenges and/or benefits they expected during, or as a result of, taking part in the DLF trial. These are summarised in Figure 2.6. Note that percentages are out of all respondents, not out of the subset of respondents providing a comment, and that a comment could fall into more than one of the categories shown.

A fifth of principals commented on challenges relating to the overall timeline, time required, difficulties with DT infrastructure, and/or the need for substitute cover. One in ten commented that it was challenging to establish a baseline of effective practice in their school, and this was more common in post-primary than primary schools. Close to one in six commented on challenges relating to teachers' DT competence and buy-in to the DLF programme. On the other hand, three in ten principals commented on the general benefits they expected as a result of embedding digital technologies into school and teaching practices, and 17% commented that the programme would have benefits for teachers' knowledge, skills and engagement with digital technologies.

Figure 2.6. Comments from principals regarding challenges and benefits of the DLF programme, primary and post-primary (percentages are out of all principals; no comments were made by 46.8% of principals)



2.5. Key points from Chapter 2

Digital contexts of participating schools

- A majority of the DLF trial schools appear to have basic digital technology infrastructure (computing and other devices) in place. However, broadband connectivity was rated as 'fair' or 'poor' by principals in 36% of primary schools and 21% of post-primary schools. Software availability, teacher awareness of software, and teacher and student/pupil use of suitable software were all rated 'fair' or 'poor' in a significant number of schools (ranging from 38-54% at primary level and from 26-37% at post-primary level).
- Based on responses from principals to eight items asking about digital technology infrastructure (computing devices, broadband, technical support etc.), primary schools have a mean digital technology (DT) infrastructure score that is two-thirds of a standard deviation (and statistically significantly) lower than the mean score at post-primary. Based on this measure, 28% of primary schools and 42% of post-primary schools in the study may be classified as having high levels of digital technology infrastructure, while 38% of primary schools and 31% of post-primary schools may be classified as having low levels of infrastructure.
- At both primary and post-primary levels the main obstacles to the integration of digital technology into teaching and learning (identified by principals) relate to teacher supports. These were: low levels of teacher confidence, low levels of teacher knowledge, insufficient awareness of digital content among teachers, insufficient time for teachers to engage in planning and preparation, and pressure to cover prescribed curricular material. A

comparison of responses of principals in the DLF trial to responses of principals to the same question in the 2013 ICT Census (Cosgrove et al., 2014a, b) indicates a shift away from infrastructural issues towards challenges relating to teacher skills, knowledge, awareness and supports. However, in both the 2013 ICT Census and the present study, challenges relating to time for planning and pressure to cover prescribed curricular material were among the top obstacles identified by principals.

- The pattern of spending of the Grant Scheme for ICT Infrastructure indicates that schools are investing on infrastructure and maintenance (hardware, technical support) to a much greater extent than on software and professional learning for teachers.

Principals' views on the Digital Learning Framework document

- Views about the DLF document were generally positive, with a tendency for more positive ratings among post-primary than primary school principals. For example, 52% of primary school principals and 63% of post-primary school principals indicated that the language and terminology in the document were very suited to the context of their school. It may be the case that, as a result of (now-resolved) industrial relations issues at primary level, fewer primary than post-primary schools engaged with the *Looking At Our School* (LAOS) framework. Given that the DLF has the same structure as LAOS, this could account for at least some of the differences in rating by primary and post-primary principals.
- In commenting on the DLF document, between one in ten and one in four principals felt that the DLF lacked practical guidance on how it might be applied, that it was overwhelming, and/or that the language was too technical. Note that these responses were provided in the absence of the DLF's accompanying *Planning Guidelines,* which were used from the second PDST advisor visits onwards.
- PDST advisors rated schools' levels of effective practice at the beginning of the trial. The purpose of this rating is to provide a baseline against which to monitor progress over the course of the trial, and in no way reflects the quality of schools. Ratings of effective practice were slightly higher in post-primary than in primary schools. A large majority of schools were rated at the bottom three points on the eight-point scale (i.e. partially at a level of effective practice or lower). These baseline levels of effective practice are consistent with the findings of the 2013 ICT Census (Cosgrove et al., 2014 a, b) and Ireland's relatively unfavourable standing on international indices of digital technology usage at primary and post-primary levels (Mullis et al., 2016, 2017; OECD, 2015).
- The correlations between the PDST advisors' ratings of effective practice levels and the DT infrastructure scale score (based on principals' ratings) are strong, positive and significant (.50-.60): lower levels of effective practice are closely related to lower levels of DT infrastructure, and *vice versa.* However, it should not be inferred from this that low DT infrastructure causes low levels of effective practice, but rather, that it is one of a number of possible relevant factors in understanding levels of effective practice.

Schools' plans for the Digital Learning Framework trial

- Principals were asked about the expected focus of the school's work in terms of curricular or content areas during the DLF trial. At both primary and post-primary levels, the schools' DLF programmes tend to focus on collaborative and team work and/or critical thinking and analysis.
- At primary level, over 70% of principals indicated that they expected large or moderate changes to class activities, pupils' interest and engagement, teachers' assessment practices, and school policies or guidelines. At post-primary level, over 85% of principals indicated that they expected large or moderate changes to all of these activities plus students' homework or study activities. Other changes mentioned by principals are related to teaching staff, such as upskilling, and increased levels of enthusiasm among teachers about digital technologies.
- Typically, principals expected participation in the DLF trial to be moderately challenging and highly beneficial. Levels of challenge and benefit were perceived to be about the same regardless of the school's DT infrastructure or the school's level of effective practice at the baseline stage of the DLF trial.
- In commenting on challenges and benefits of taking part in the trial, one-fifth of principals mentioned difficulties in relation to the overall timeline of the DLF trial, time required for them to implement changes needed as part of the DLF programme, difficulties with DT infrastructure, and/or the need for substitute cover for members of the school's Digital Learning Team to attend meetings and implement the DLF trial programme. About one in six commented on challenges relating to teachers' DT competence and buy-in to the DLF programme. However, three in 10 principals commented in a general way on the benefits they expected as a result of embedding digital technologies into school and teaching practices, and 17% commented in general on expected benefits to teachers.

Chapter 3
Findings from the Phase 1 teacher questionnaire

This chapter describes the findings from the phase 1 teacher questionnaire. Results are in five sections:

- Description of respondents
- Digital contexts of teachers
- Digital teaching and learning practices
- Teachers' views on the DLF document
- Teachers' plans for the DLF trial.

Where relevant, we compare teachers' responses with those of their principals.

Results are weighted by a teacher weight that is based on the average number of teachers involved in the DLF trial in each school, so that each school is represented equally in the calculation of descriptive statistics (frequencies and means)[22]. This mirrors the approach taken in reporting the school principals' responses in Chapter 2 (i.e. each school is of equal importance, regardless of enrolment size). Results are *not* generalizable to the population of primary and post-primary schools/teachers in the country. Additional tables are in the *Data Appendix to Chapter 3* (a separate Excel document).

3.1. Description of respondents

At primary level, 245 teachers were selected to take part (i.e. were identified by their school principals as being involved in the DLF trial). A total of 190 teacher questionnaires from 28 of the 29 schools were returned, giving a response rate of 77.6%. At post-primary level, 145 teachers were selected/involved in the DLF trial, and 118 completed teacher questionnaires (a response rate of 81.4%). Since these teachers were more likely to be on the Digital Learning Teams in their schools, it is likely that their views reflect higher levels of engagement with digital technologies than the population of teachers in general.

3.1.1 Primary teachers

At primary level, teachers had worked in their current school for an average of 9.4 years, and had been teaching for an average of 12.7 years altogether.

Number of years teaching in their current school did not vary by schools' DEIS status. However, teachers in smaller schools were in their current school for significantly longer than teachers in larger schools; teachers in semi-rural communities (local population 1,500 to 100,000) were in their current school for longer than teachers in rural and urban communities; and teachers in all girls' schools were in their current

[22] This weight is computed (at the school level) by dividing the average number of teachers selected per school by the number of responding teachers in each school. The numerator at primary level (average number of teachers selected per school) is 8.75, and it is 7.25 in post-primary schools.

school for longer than teachers in all boys' and mixed gender schools (Table A3.1, Data Appendix).

Just under half of primary teachers (46%) were teaching more than one class level and were relatively evenly distributed across all class levels (Table 3.1). About one in three respondents had additional duties: 6.4% were teaching principals, 13% were assistant principals, and 15.5% had special duties (Table 3.1).

Teaching principals were significantly more common in smaller schools and rural schools (p (chi-square) < .05). It was significantly more common for teachers in rural and small schools to teach more than one class level (p (chi-square) < .05). Also, significantly more teachers in small schools had assistant principal duties (p (chi-square) < .05), and significantly more teachers in rural schools had special duties (p (chi-square) < .05). There were no statistically significant differences between teachers working in DEIS and non-DEIS schools on these characteristics.

Table 3.1. Profile of primary school teachers: Class levels taught, percentage working as teaching principals, and percentages with additional posts of responsibility

Class level(s) taught	**% teaching this level (N = 212)**
Junior Infants	28.0
Senior Infants	26.6
First Class	26.3
Second Class	29.3
Third Class	18.6
Fourth Class	25.0
Fifth Class	30.7
Sixth Class	31.6
Teaching more than one class level	*45.8*
Additional duties	**% with additional duties (N = 234)**
Teaching principals	6.4
Assistant principals	13.2
Special duties	15.5

3.1.2. Post-primary teachers

At post-primary level, teachers had been in their current school for an average of 8.5 years, and had been teaching for an average of 11.5 years altogether (Table 3.2). Years' teaching did not vary significantly by DEIS status, enrolment status, size of local community, or sector (Table A3.2, Data Appendix).

As shown in Table 3.2, most (85%) of the participating post-primary teachers taught at both Junior and Senior cycles and 65% to 75% reported teaching each of First to Sixth years, with about one in eight (13%) teaching other levels or programmes, such as PLC (Table 3.2). Participating post-primary teachers were teaching across a wide range of subjects. Most commonly, a science subject was their main subject taught (23%), while 10-16% indicated that either Irish, Mathematics, Business

studies/Accounting, Art, craft, design/Construction studies/Metalwork was their main subject taught (Table 3.2). Given the relatively small numbers of teachers with specific subjects as their main subject taught, results are not compared across teachers' subject areas.

About one in seven post-primary teachers (14%) were assistant principals, and 9.4% held a special duties post (Table 3.2). There were no significant differences by enrolment size, size of local community or sector in terms of the percentages of teachers with an assistant principal or special duties post.

Table 3.2. Profile of post-primary school teachers: Year levels and subjects taught, and percentages with additional posts of responsibility

Year level	*% teaching this level (N = 142)*	**Subject**	*% currently teaching (N=142)*	*% main subject taught (N = 142)*
First Year	79.2	English	6.4	8.4
Second Year	70.7	Irish	13.9	13.3
Third Year (Junior Cert.)	68.0	Mathematics	21.2	11.2
Transition Year	66.7	Sciences*	21.8	23.2
Fifth Year	69.0	Foreign Languages	8.8	6.4
Sixth Year (Leaving Cert.)	74.8	History	4.6	3.3
Other Year(s), e.g. PLC	13.0	Geography	13.8	5.3
Junior cycle only	*4.8*	Business studies/Accounting	13.7	15.8
Senior cycle only	*10.0*	Art, Craft, Des/Cons Studies/Metalwork	12.1	11.5
Junior and senior cycles	*85.2*	ESS, CSPE or SPHE	11.2	0.0
Additional duties	*% (N = 141)*	Religious Education	2.0	0.0
Assistant principals	13.9	Physical Education	1.9	1.7
Special duties	9.4	Other(s)	27.3	8.5

*Junior Cert. Science; Leaving Cert. Biology, Physics, Chemistry, Physics/Chemistry, Ag. Science; Home Economics.

3.2. Digital contexts of teachers

3.2.1. Teachers' ratings of digital technology infrastructure and usage

Teachers rated 12 aspects of digital technology infrastructure and usage on a 5-point scale ranging from Excellent to Poor. Table 3.3 shows their ratings at primary and post-primary levels (with responses combined to form three categories: Excellent/Very good, Good, and Fair/Poor). This question corresponds to that shown in Table 2.2 (Chapter 2) in the principal questionnaire. Table 3.3 also shows the correlations between the responses of teachers and their principals to each of the items.

At primary level, responses indicate that a third or more of teachers rated all 12 aspects as Fair or Poor. Responses were least positive for availability of digital tools (80% rated as Fair/Poor). In addition, 45-60% of primary teachers rated the following as Fair/Poor: awareness of suitable software, availability of suitable software, technical support and maintenance, their own level of knowledge and skills with

digital technologies, and their own level of engagement with digital technologies for teaching and learning.

Table 3.3. Percentages of teachers rating 12 aspects of digital technologies in the school as excellent/very good, good, and fair/poor, and correlations with their principals' ratings: primary and post-primary levels

Item	Primary (N=244)				Post-primary (N=145)			
	% Excellent or Very good	*% Good*	*% Fair or Poor*	*Correlation with school's rating*	*% Excellent or Very good*	*% Good*	*% Fair or Poor*	*Correlation with school's rating*
Number of computing devices (desktops, laptops, tablets)	33.2	31.4	35.3	**.428**	41.0	31.4	27.6	**.440**
Age and condition of computing devices (desktops, laptops, tablets)	29.1	30.2	40.6	**.434**	19.2	42.8	38.0	**.618**
Availability of digital devices such as whiteboards, digital projectors	53.9	22.8	23.4	**.360**	45.7	34.0	20.3	**.353**
Availability of digital tools such as data sensors, cameras, assistive devices, robotic tops (e.g. BeeBots)	11.7	8.7	79.6	**.333**	10.8	13.8	75.4	**.320**
Awareness of suitable software for teaching and learning	21.7	22.9	55.4	**.224**	26.2	22.9	50.8	**.375**
Availability of suitable software for teaching and learning	18.6	22.4	58.9	**.339**	22.7	28.6	48.6	**.241**
Broadband connection/speed	38.2	22.8	39.0	**.467**	37.8	30.0	32.3	**.171**
Technical support and maintenance	22.8	29.9	47.3	**.136**	32.1	34.6	33.3	**.436**
My own level of knowledge and skills in using digital teaching and learning technologies	23.6	28.8	47.6	.096	41.6	35.8	22.7	**.344**
My own level of engagement with digital teaching and learning technologies	23.6	30.4	46.1	.103	43.4	34.5	22.1	**.433**
My pupils' (students') level of knowledge and skills in using digital learning technologies	18.9	41.5	39.6	**.286**	26.0	46.6	27.4	**.353**
My pupils' (students') level of engagement with digital teaching and learning technologies	26.6	37.6	35.8	**.416**	34.6	29.6	35.8	**.498**

Statistically significant correlations ($p < .05$) are marked in bold.

At post-primary level, ratings on these items were slightly more positive, although none of them was rated as Excellent/Very good by a majority of teachers. Similar to

primary teachers, the item with the least positive rating was the availability of digital tools. Around half of post-primary teachers rated two further items as Fair/Poor: awareness of suitable software and availability of suitable software.

Correlations between principals' and teachers' reports shown in Table 3.3 are almost all positive and statistically significant, indicating a general level consistency in reports of digital technology infrastructure and usage across principals and teachers.

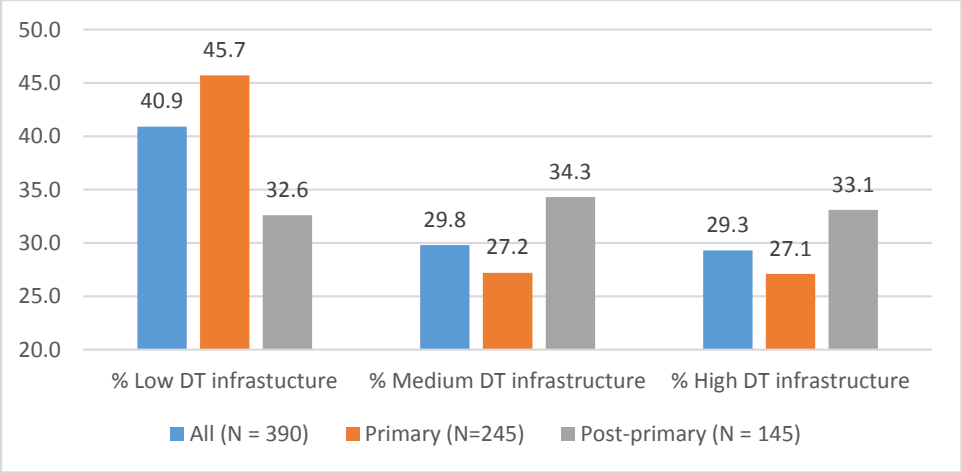
However, primary school teachers reported substantially lower ratings than their principals (10% or more difference in Fair/Poor ratings) to two of the items: awareness of suitable software, and their own level of knowledge and skills in using digital technologies. Post-primary schools reported substantially lower ratings than their principals (10% or more difference in Fair/Poor ratings) to five of the items: number of computing devices, age and condition of computing devices, awareness of suitable software, availability of suitable software, and broadband connection/speed. These differences may well reflect the different roles of principals (managers) and teachers (practitioners) in the school. In the case of post-primary teachers in particular, the differences could suggest a level of frustration or dissatisfaction with the amount and quality of digital technology resources and usage among teachers that is not shared to the same extent by their principals.

The responses to the first eight items in Table 3.3 were combined to form an overall scale measuring digital technology (DT) infrastructure (in the same manner as principals' responses were, as described in Chapter 2)[23]. Teachers were then classified as reporting high, medium and low levels of DT infrastructure (using the same cut-points[24] at primary and post-primary, and the same cut-points as used for principals' responses in Chapter 2). These percentages are shown in Figure 3.1: 46% of primary teachers and 32.6% of post-primary teachers were in schools considered by them to have low DT infrastructure, while 27% of primary teachers and 33% of post-primary teachers were in schools considered by them to have high DT infrastructure.

[23] The scale is computed by giving a weight of 2 to 'Excellent/Very Good', a weight of 1 to 'Good' and a weight of 0 to 'Fair/Poor' for the following 8 items: Number of computing devices (desktops, laptops, tablets); Age and condition of computing devices (desktops, laptops, tablets); Availability of digital devices such as whiteboards, digital projectors; Availability of digital tools such as data sensors, cameras, assistive devices, robotic tops (e.g. BeeBots); Awareness of suitable software for teaching and learning; Availability of suitable software for teaching and learning; Broadband connection/speed; Technical support and maintenance. Cronbach's alpha = .882 (primary) and .836 (post-primary).

[24] Low = 0-4, Medium = 5-8, High = 9-16.

Figure 3.1. Percentages of primary and post-primary teachers that may be categorised as being in schools with low, medium and high on digital technology (DT) infrastructure



Even though more primary than post-primary teachers saw themselves as being in schools with low levels of DT infrastructure (Figure 3.1), there is no statistically significant difference between the DT infrastructures reported by teachers at primary and post-primary levels (p (t) = .200). This is in contrast with principals' reports, where DT infrastructure scores were significantly lower in primary schools than post-primary schools (Table A2.2, Data Appendix).

Table A3.3 in the Data Appendix compares teacher-reported school DT infrastructure scores across DEIS status, enrolment size, size of local community, and post-primary sector. At primary level, DT infrastructure is significantly higher in DEIS than non-DEIS schools (p (t) = .011) and is also significantly higher in schools located in small rural communities than in schools located in larger and urban communities (p (F) < .001). Teacher-reported DT infrastructure does not vary significantly by primary school enrolment size.

In post-primary schools, DT infrastructure is significantly higher in non-DEIS than DEIS schools (the reverse of what is the case at primary level) (p (t) = .004) and is also significantly higher in schools with higher enrolment (p (F) < .001). Teacher-reported DT infrastructure is also significantly higher in post-primary schools located in small rural communities than in larger and urban communities (p (F) = .022) and is higher in Community and Comprehensive schools than in secondary and Education and Training Board (ETB)[25] schools (p (F) = .003).

Variations in teacher-reported school digital technology infrastructure, particularly variations across urban and rural communities, should be interpreted with respect to the fact that the DLF sample is not nationally representative.

[25] ETB schools were formally known as vocational schools. Some of these are community colleges, not to be confused with community schools.

Correlations between school- and teacher-reported school DT infrastructure are positive and strong (primary r = .60, p < .001; post-primary r = .66, p < .001), indicating a fairly high degree of consistency on this measure overall across teachers and principals at both primary and post-primary levels.

3.3. Digital teaching and learning practices

3.3.1. Teachers' usage of digital technologies in teaching and learning activities

Teachers were asked the frequency with which they used digital technologies in a range of 16 teaching and learning activities. Their responses are shown in Table 3.4.

Table 3.4. Frequency with which teachers report that their students/pupils use various digital technologies, primary and post-primary levels

Activity	Primary (N=239)			Post Primary (N=145)		
	% Never	*% Sometimes*	*% Usually/ Always*	*% Never*	*% Sometimes*	*% Usually/ Always*
Reinforce and practise routine skills and procedures	14.1	54.1	31.7	10.4	55.5	34.1
Submit homework	83.4	12.5	4.1	39.2	38.0	22.7
Use e-books	49.3	32.9	17.8	49.8	25.5	24.7
Find information on the Internet (teacher-directed)	9.9	45.8	44.3	4.1	34.9	61.0
Carry out research on the Internet (pupil/student-led)	20.4	48.1	31.5	9.2	31.5	59.3
Publish and present work online	65.0	25.3	9.7	46.1	29.1	24.8
Work with spreadsheets and databases	86.8	11.1	2.1	52.2	36.4	11.4
Use data-logging tools (e.g. in science for weather, environment)	80.5	18.7	0.8	67.5	27.4	5.0
Analyse data or information	56.7	34.7	8.6	23.2	46.8	30.0
Create presentations using a range of media (e.g., podcast, video)	58.3	32.3	9.5	21.3	38.9	39.8
Use simulations or abstractions to explore a system or abstract concept	83.2	13.4	3.4	52.0	29.3	18.7
Create simulations or abstractions to explore a system or abstract concept	88.3	10.1	1.6	62.4	23.1	14.5
Use social networks for school-related learning activities	77.5	14.9	7.6	45.4	33.5	21.1
Collaborate with peers from class through email, videoconferencing, or online forums	80.5	16.8	2.7	37.0	27.7	35.4
Work with pupils/students or adults from outside class (e.g., students from other schools or adult mentors)	80.7	17.6	1.7	66.9	24.8	8.2
Give feedback to peers or assess other pupils'/students' work	70.0	20.2	9.8	34.0	33.8	32.2

At primary level, the pattern of teachers' responses indicates that the use of digital technologies is largely confined to routine and teacher-led activities (i.e. reinforcing and practicing routine skills and procedures; teacher-directed use of the Internet). E-

books were Never in use among 49% of teachers. Between 55% and 87% of primary teachers indicated 'Never' to the 13 remaining activities.

At post-primary level, digital technology usage tended to be slightly more frequent, and most commonly for reinforcing and practicing routine skills and procedures; finding information on the Internet (teacher-led or student-led); analyzing data or information; and creating presentations using a range of media. Usage was less common in terms of e-books; working with spreadsheets and databases; using data-logging tools; using and creating simulations; and working with students or adults from outside class. There was variation across the remaining items: submitting homework; using social networks for learning activities; collaborating with class peers; and giving feedback to peers or assessing other students' work.

During Phase 2, teachers will be asked this question again, and comparisons between Phase 1 and Phase 2 responses will be made in the final report on the DLF trial evaluation.

3.3.2. Comparisons of teachers' reports with the 2013 ICT Census of Schools

This question was included in the 2013 ICT Census of Schools (Cosgrove et al., 2014b, p. 153). Broad comparisons between the responses in Table 3.4 and the Census results indicates that at primary level, teachers in schools in the DLF trial are using digital technologies in the various areas to a similar degree as teachers who took part in the 2013 Census were. At post-primary level, usage among teachers in the DLF trial schools are using digital technologies slightly more frequently than their counterparts in the 2013 Census.

3.3.3. Teachers' usage of digital technologies during class time

Teachers were also asked to indicate how frequently eight digital technology-related activities occurred in their classes (in their main subject area, if post-primary teachers) since January 2017. Their responses are shown in Table 3.5. At primary level, the three most common activities (with between 29% and 38% indicating that they did these at least fortnightly) were using digital technologies to give different work to different pupils, using digital technologies to refer to a problem from everyday life, and presenting a summary of learned content using digital technologies/devices. However, between 59% and 84% of teachers 'Never or Almost Never' did the following using digital technologies: have pupils work in small groups to come up with a joint solution to a task; have pupils practice tasks until the subject matter is mastered; check homework submitted digitally; and have pupils work on projects that require at least one week to complete.

At post-primary level, teachers' responses indicate more frequent usage of digital technologies (consistent with the results shown in Table 3.4). Usage was most frequent for presenting a summary of learned content using digital technologies/devices (with 69% doing this at least once a fortnight) and 46% of post-primary teachers indicated that students use digital technologies for projects or class work at least once a fortnight. Between 24% and 37% of teachers reporting doing the remaining six activities with their students at least once a fortnight.

Table 3.5. Frequency with which teachers report using digital technologies in class for various purposes (since January 2017), primary and post-primary levels

Activity	Primary (N=236)				Post Primary (N=144)			
	% Never/ almost never	*% Once/ twice a month*	*% Once/ twice a fortnight*	*% Weekly or more often*	*% Never/ almost never*	*% Once/ twice a month*	*% Once/ twice a fortnight*	*% Weekly or more often*
I present a summary of learned content using digital technologies/devices	51.1	19.8	11.3	17.8	12.7	18.1	30.2	38.9
Pupils/students work in small groups using digital technologies to come up with a joint solution to a problem or task	63.0	21.1	7.4	8.5	46.6	20.5	19.3	13.6
I use digital technologies to give different work to the pupils/students who have difficulties learning and/or to those who can advance faster	29.9	31.9	13.8	24.4	51.1	25.3	12.5	11.2
I use digital technologies to refer to a problem from everyday life or work to demonstrate why new knowledge is useful	45.2	21.5	22.1	11.1	23.7	39.2	20.0	17.1
I let pupils/students practice similar tasks using digital technologies until I know that every student has understood the subject matter	59.8	20.1	11.2	8.9	44.2	26.3	9.6	20.0
I check pupils'/students' assignments or homework which have been completed electronically/digitally	83.5	9.0	2.9	4.6	37.6	25.3	16.9	20.2
Using digital technologies, pupils/students work on projects that require at least one week to complete	59.4	35.7	2.4	2.5	34.3	31.1	12.8	21.9
Pupils/students use digital technologies for projects or class work	38.1	41.8	8.3	11.8	16.7	37.1	15.1	31.1

The responses to the eight items in Table 3.5 were combined to form an overall scale measuring digital technology (DT) engagement[26]. Teachers were then classified as reporting high, medium and low levels of DT engagement using the same cut-points[27] at primary and post-primary. These percentages are shown in Figure 3.2: low DT engagement was reported by 45% of primary teachers and 33% of post-

[26] The scale is based on responses (Never or almost never, Once or twice a month, Once or twice a fortnight, Weekly or more often) to these eight items and giving a weight of 2 to 'Once or twice a fortnight' and 'Weekly or more often', a weight of 1 to 'Once or twice a month and a weight of 0 to 'Never or almost never'. Cronbach's alpha = .837 (primary) and .898 (post-primary).

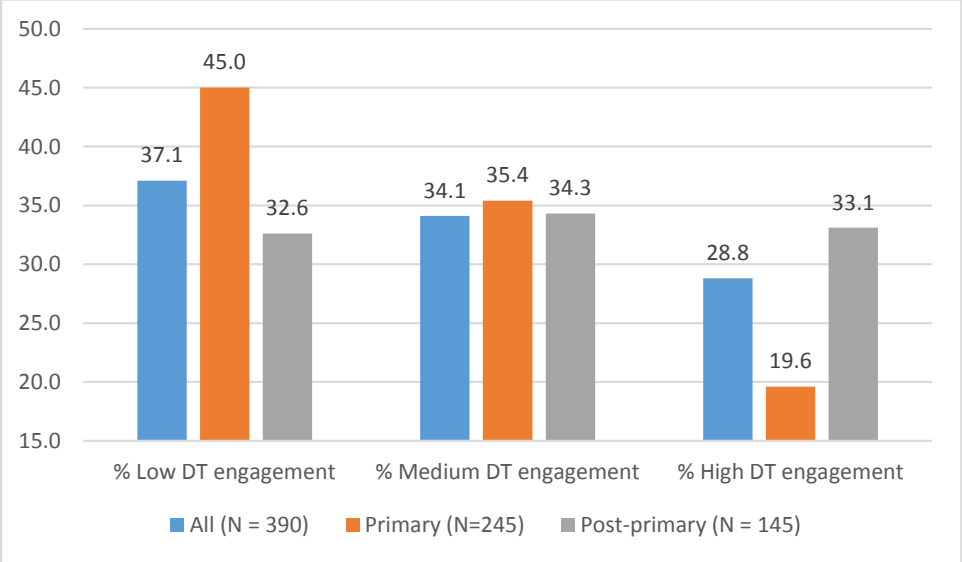
[27] Low = 0-4, Medium = 5-8, High = 9-16.

primary teachers, while high engagement was reported by 20% of primary teachers and 33% of post-primary teachers.

Teachers in primary schools had significantly lower levels of DT engagement than post-primary teachers (p (t) < .001). Teachers in primary schools with lower enrolment size also had significantly lower levels of DT engagement than teachers in larger schools (p (F) = .041). There were no differences in primary teachers' DT engagement by DEIS status of the school or across schools in rural, semi-urban and large urban local communities (Table A3.4, Data Appendix).

At post-primary level, teachers' reports of DT engagement were higher in schools in small rural communities (population 1,500 or less) (p (F) = .022) and teachers' mean DT engagement was also just significantly higher in schools with larger enrolment sizes (p (F) = .056. In contrast, level of teacher DT engagement did not differ across DEIS and non-DEIS schools, across schools or across school sector.

Figure 3.2. Percentages of teachers that may be categorised as low, medium and high on DT engagement for primary and post-primary schools



Variations in teacher-reported engagement with digital technologies for teaching and learning, particularly variations across urban and rural communities, should be interpreted with respect to the fact that the DLF sample is not nationally representative.

It is worth noting that teachers' reports of DT engagement are moderately positively related to their reports of DT infrastructure (r (primary) = .43, p < .05; r (post-primary) = .35, p < .05). They are also weakly positively correlated with school principals' reports of DT infrastructure (r (primary) = .21, p < .05; r (post-primary) = .23, p < .05). There are weak positive correlations between teachers' reports of DT engagement and PDST advisors' ratings of the level of effective practice of the school, although the association is not statistically significant in the case of post-primary schools (r (primary) = .19, p < .05; r (post-primary) = .14, p > .05).

During Phase 2, the DT engagement index (measured from January 2018) will be compared with the results on the index from Phase 1 (measured from January 2017) and these comparisons will be included in the final report on the evaluation.

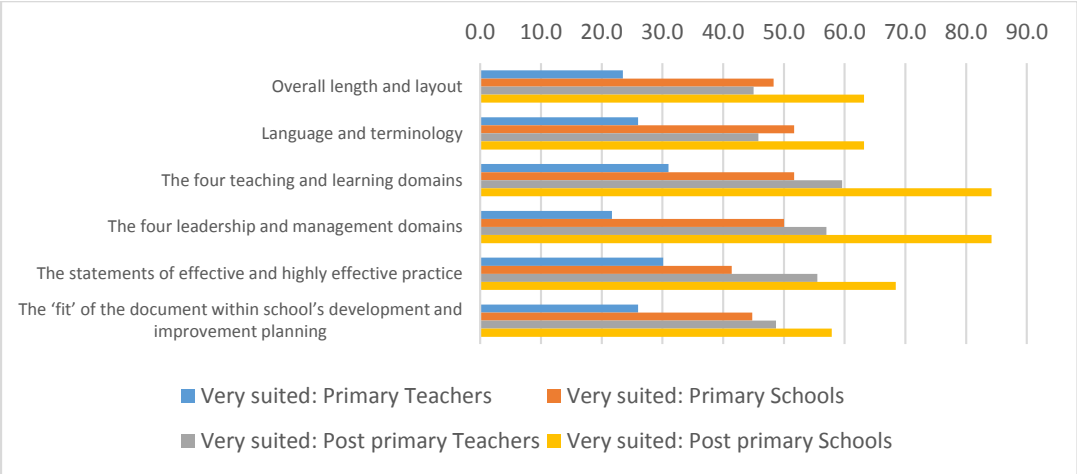
3.4. Teachers' views on the DLF document

Table 3.6 shows primary and post-primary teachers' ratings of general aspects of the DLF document in terms of their suitability to the context of their work. Note that these ratings were made on the DLF document only and not in reference to the DLF's accompanying *Planning Guidelines.* These ratings were made shortly after the first PDST advisor visits to the schools. Ratings are generally quite positive, though more so at post-primary than at primary level. Post-primary principals also tended to view the DLF document more positively than primary principals (Chapter 2, Table 2.5). Comparing responses of teachers in Table 3.6 to principals' responses in Table 2.5 (Chapter 2) suggests that principals have a more positive view than teachers of the DLF document. This is further illustrated in Figure 3.3.

Table 3.6. Primary and post-primary teachers' ratings of general aspects of the DLF document

Aspect	**Primary (N=234)**			**Post-primary (N=140)**		
	% Very suited to the context of our school	*% Somewhat suited to the context of our school*	*% Not really suited to the context of our school*	*% Very suited to the context of our school*	*% Somewhat suited to the context of our school*	*% Not really suited to the context of our school*
Overall length and layout	23.5	71.5	5.1	45.0	50.8	4.2
Language and terminology	26.0	67.7	6.3	45.8	50.4	3.8
The four *teaching and learning* domains	31.0	62.2	6.8	59.6	38.7	1.7
The four *leadership and management* domains	21.7	66.6	11.7	57.0	40.5	2.6
The statements of *effective* and *highly effective* practice	30.1	66.8	3.1	55.5	41.3	3.2
The 'fit' of the document within the school's broader development and improvement planning	26.0	71.7	2.3	48.7	49.8	1.5

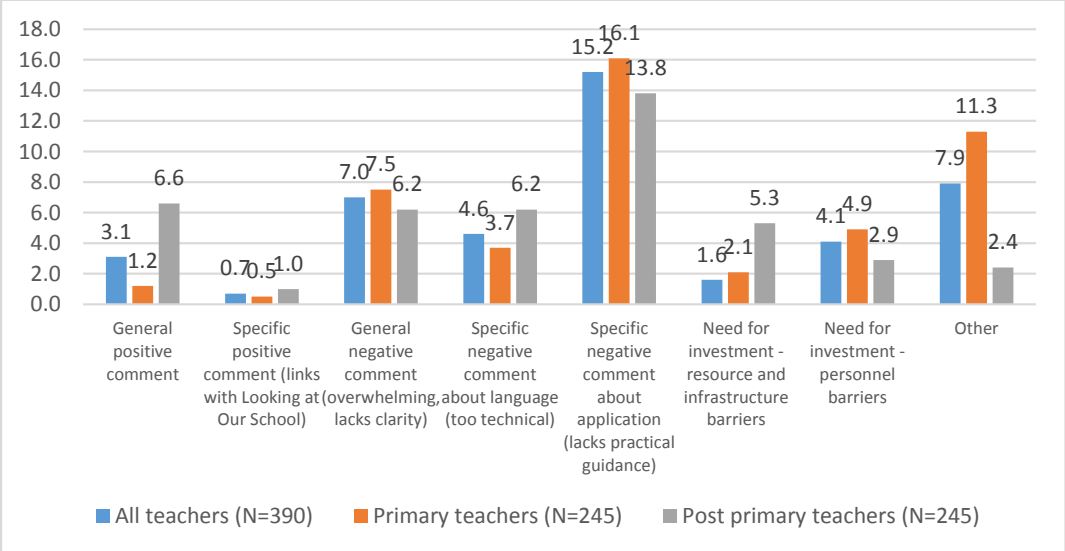
Figure 3.3. Comparisons of teachers' and principals' ratings of general aspects of the DLF document



Teachers, like principals (Chapter 2, Figure 2.4), were asked to comment on their views of the DLF, and comments were received from 18.6% of teachers. Figure 3.4 shows the distribution of comments made. Note that percentages are out of all respondents, not out of the subset of respondents providing a comment, and that a comment could fall into more than one of the categories shown.

Close to one in six of all teachers (15%) made a specific negative comment about the DLF in terms of it lacking practical guidance for its application or implementation. A further 7% commented negatively more generally on the DLF, e.g. that they thought it was overwhelming or lacked clarity. Personnel (4%) and resource or infrastructure barriers (1.6%) were also mentioned. On the other hand, 3% of teachers made a positive general comment about the DLF, and positive comments were more common at post-primary (6.6%) than at primary (1%) level.

Figure 3.4. Distribution of comments made about the DLF document at primary and post-primary levels (no comments were made by 81.4% of teachers; percentages are out of all teachers)



3.5. Teachers' expectations for the DLF Trial

3.5.1. Expected areas of focus during the trial

Teachers were asked to rate the level of focus that they expected to have on a range of curricular and content areas. These ratings are shown in Table 3.7 (and split by DLF dimension in Table A3.5 in the Data Appendix). At both primary and post-primary level, the focus is mainly on four areas: literacy skills, numeracy skills, collaborative and team work, and critical thinking and analysis. However the focus on literacy and numeracy skills is higher at primary than post-primary level, while there is more of a focus on collaborative and team work and on critical thinking/analysis at post-primary level.[28] The pattern of results in Table 3.7 is broadly consistent with principals' responses to this question (Table 2.9, Chapter 2), although at primary level, principals rated collaborative team work and critical thinking and analysis as having a higher level of focus than teachers.

Table 3.7. Level of focus on curricular or content areas reported by primary and post-primary principals

Curricular or content area	**Primary (N = 212)**			**Post Primary (N = 128)**		
	% High focus	*% Medium focus*	*% Low or no focus*	*% High focus*	*% Medium focus*	*% Low or no focus*
Literacy skills	70.6	22.9	6.5	50.2	37.5	12.3
Numeracy skills	60.0	31.7	8.3	38.8	43.7	17.6
Science skills	21.3	50.3	28.4	17.4	43.1	39.5
Critical thinking and analysis	35.0	51.5	13.6	55.6	26.1	18.3
Collaborative and team work	48.2	42.1	9.7	84.8	11.7	3.5
Wellbeing	20.1	46.8	33.1	29.6	48.0	22.4
Business skills/Entrepreneurship	3.5	30.9	65.6	14.9	40.9	44.2
Artistic and creative skills	12.8	36.9	50.3	19.7	44.0	36.4
Another area	5.5	15.9	78.6	8.3	17.4	74.2

3.5.2. Expected changes as a result of the trial

Teachers were asked about their expectations for changes to various school and class activities as a result of taking part in the DLF trial. These are shown in Table 3.8 (and split by DLF dimension in Table A3.6). At primary and post-primary levels, over 70% of principals indicated that they expected large or moderate changes to all areas asked about, with the exception of pupils' homework or study practices which had a slightly lower percentage (59%) expecting a large or moderate change[29].

[28] For Phase 2 of the study, this question will be included again on the teacher surveys, but it is planned to add items that ask about staff-specific areas of focus such as collaborative work.
[29] This question will be included in the Phase 2 teacher questionnaire, and will include additional items relating specifically to staff.

Table 3.8. Changes envisaged by teachers as a result of participating in the DLF trial in primary and post-primary schools

Item	Primary (N=226)				Post Primary (N=132)			
	% Large change	*% Moderate change*	*% Small change*	*% No change*	*% Large change*	*% Moderate change*	*% Small change*	*% No change*
My teaching and learning activities during class time	30.2	61.3	7.1	1.4	44.7	44.2	11.1	0.0
My pupils'/students' study or homework activities	14.4	44.2	23.5	18.0	42.4	42.6	12.9	2.0
My pupils'/students' interest and engagement in learning activities	31.5	57.1	10.4	0.9	38.2	51.5	8.0	2.3
My assessment practices	20.8	52.1	26.4	0.7	47.6	30.7	18.5	3.2
Collaborative practice among teachers in the school	32.2	47.5	16.5	3.8	64.0	31.2	4.3	0.6
Other change(s)	4.5	9.2	3.2	83.1	18.0	6.3	1.5	74.2

3.5.3. Teachers' views on benefits and challenges of the DLF Trial

Teachers were asked how challenging they felt that the DLF trial would be, and the level of professional benefit they expected as a result of taking part. Responses are shown in Table 3.9.

Table 3.9. Levels of challenge and benefit expected as a result of participating in the DLF trial in primary and post-primary schools, and split by school's domain area

All schools					
Primary (N=232)	*Challenge*	*Professional Benefit*	**Post Primary (N=132)**	*Challenge*	*Professional Benefit*
% High	19.4	57.9	% High	24.6	85.4
% Medium	49.5	40.8	% Medium	58.0	14.6
% Low	31.1	1.4	% Low	17.3	0.0
Teaching and Learning only					
Primary (N=137)	*Challenge*	*Professional Benefit*	**Post Primary (N=84)**	*Challenge*	*Professional Benefit*
% High	17.9	65.5	% High	18.5	86.2
% Medium	53.9	34.5	% Medium	58.5	13.8
% Low	28.2	0.0	% Low	23.0	0.0
Leadership and Management only					
Primary (N=96)	*Challenge*	*Professional Benefit*	**Post Primary (N=49)**	*Challenge*	*Professional Benefit*
% High	21.6	46.8	% High	35.3	84.1
% Medium	43.2	49.9	% Medium	57.2	15.9
% Low	35.2	3.3	% Low	7.5	0.0

At both primary and post-primary levels, the most common response was that teachers expected the programme to be moderately challenging and highly beneficial. Comparing responses across Teaching and Learning/Leadership and Management dimensions, at primary level, it can be seen that teachers perceived

that implementing a domain in the Leadership and Management dimension would be more challenging and somewhat less beneficial than implementing a domain in the Teaching and Learning dimension (although these differences are not statistically significant).

At primary level, the expected level of challenge did not vary by Teaching and Learning/Leadership and Management dimension. However, primary teachers in schools focusing on a Teaching and Learning domain expected a significantly higher level of professional benefit (p (chi-square) = .005). Teachers in schools rated by PDST advisors as being at lower levels of effective practice also perceived significantly higher levels of challenge (p (chi-square) < .001) and lower levels of perceived benefit (p (chi-square) = .021). Similarly, primary teachers reporting lower levels of DT engagement reported significantly lower levels of expected professional benefit (p (F) = .015).

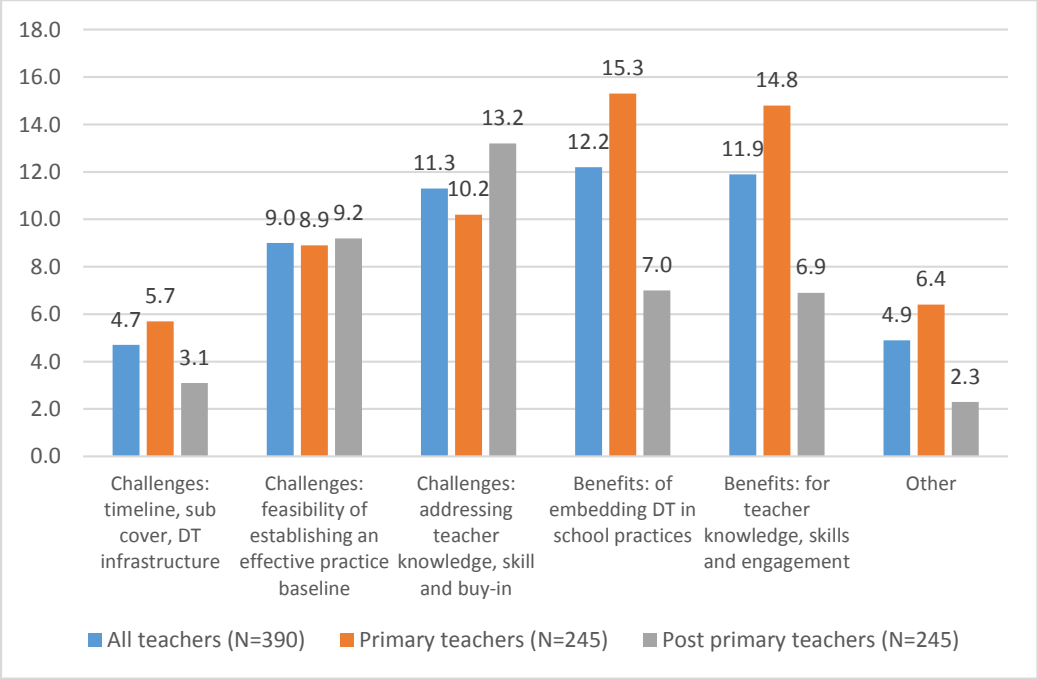
At post-primary level, teachers in schools focusing on a domain in the Leadership and Management dimension perceived the DLF trial as significantly more of a challenge than teachers in 'Teaching and Learning' schools (p (chi-square) = .033), but there were no differences in terms of expected professional benefit. Teachers in post-primary schools rated by PDST advisors as being at lower levels of effective practice also perceived significantly higher levels of challenge (p (chi-square) = .003) but level of perceived benefit did not vary with level of effective practice. Unlike primary level, post-primary teachers reporting lower levels of DT engagement did not report significantly lower levels of expected professional benefit (p (F) = .727).

These findings suggest that teacher 'buy-in' to the DLF may be more challenging in schools where existing DT practices are lower, particularly at primary level.

Some (27%) of the teachers provided comments on the challenges and/or benefits they expected during, or as a result of, taking part in the DLF trial. These are summarized in Figure 3.5. Note that percentages are out of all respondents, not out of the subset of respondents providing a comment, and that a comment could fall into more than one of the categories shown.

Around 9-13% of teachers commented on challenges relating to the feasibility of establishing a baseline level of effective practice in their school context and/or challenges relating to teacher skill, knowledge or buy-in. About 5% commented on practical challenges (such as time required, timeline, or DT infrastructure). On the other hand, about one in eight teachers commented on the benefits they expected with respect to their own practices or more generally, and primary school teachers made comments about expected benefits slightly more frequently than did post-primary teachers.

Figure 3.5. Comments from teachers regarding challenges and benefits of the DLF programme, primary and post-primary (no comments were made by 72.9% of teachers; percentages are out of all teachers)



3.6. Key points from Chapter 3

Numbers of teachers responding to the questionnaire

- A total of 390 teachers were asked to take part. Response rates were high: 77.6% at primary level, and 81.4% at post-primary level. For analyses, survey weights are applied so that each school is equally represented in the results. It should be noted that teachers taking part were more likely to be on the Digital Learning Teams in their schools, and therefore may have higher levels of digital technology engagement than the population of teachers in general.

Digital contexts of teachers

- At primary level, a third or more of teachers' ratings of 12 digital technology infrastructure and usage items were Fair or Poor (number of devices, technical support, broadband connectivity, their own level of usage of digital technologies, etc.). At post-primary level, ratings were slightly more positive. Correlations between teachers' and principals' ratings on these items indicate an overall degree of consistency. However, teachers reported substantially lower ratings than their principals on some of the items. These differences suggest dissatisfaction with the level and quality of digital technology resources and usage among teachers that is not shared to the same extent by their principals.
- Based on responses to eight of these items assessing digital technology infrastructure from the point of view of teachers, there is no statistically significant difference between the DT infrastructures reported by teachers at primary and post-primary levels, even though 46% of primary teachers compared to 32.6% of post-primary teachers were in schools considered by

them to have low DT infrastructure (while 29% of primary teachers and 33% of post-primary teachers were in school they considered as having high DT infrastructure). This is in contrast with principals' reports, where scores were significantly lower in primary than post-primary.
- Nonetheless, correlations between school- and teacher-reported school DT infrastructure are positive and strong (.60-.70) indicating a fairly high degree of *overall* consistency on this measure across teachers and principals at both primary and post-primary levels.

Digital teaching and learning practices

- At primary level, teachers' and pupils' use of digital technologies is largely confined to routine and teacher-led activities (i.e. reinforcing and practicing routine skills and procedures; teacher-directed use of the Internet). At post-primary level, digital technology usage tends to be slightly more frequent, and most commonly for reinforcing and practicing routine skills and procedures; finding information on the Internet (teacher-led or student-led); analysing data or information; and creating presentations using a range of media.
- Comparisons of teacher usage of digital technologies for teaching and learning activities with the same questions included in the 2013 ICT Census (Cosgrove et al., 2014a, b) indicates that at primary level, teachers in schools in the DLF trial are using digital technologies in the various areas to a similar degree as were teachers who took part in the 2013 Census. At post-primary level, teachers in the DLF trial schools are using digital technologies slightly more than in 2013.
- Based on their responses to eight items asking about the frequency of using digital technologies in class since January 2017, teachers in primary schools had significantly lower levels of DT engagement than post-primary teachers: low DT engagement was reported by 45% of primary teachers and 32.6% of post-primary teachers, while high DT engagement was reported by 29% of primary teachers and 33% of post-primary teachers. Teacher DT engagement is moderately positively correlated with teacher-reported DT infrastructure (.35-.45). These correlation suggest that DT infrastructure is one of a range of possible factors related to teachers' DT engagement and it should not be inferred that low levels of DT infrastructure cause low levels of DT engagement.

Teachers' views of the Digital Learning Framework document

- Teachers' ratings of the DLF document are generally quite positive, though more so at post-primary than at primary level. This is consistent with principals' views of the DLF document, where views at post-primary level were also slightly more positive than at primary level. Teachers' views on the DLF document should be interpreted with respect to the fact that the DLF *Planning Guidelines* were not available to schools at the time they provided these ratings. Also, primary school teachers would have been less likely to be familiar with the *Looking At Our School* (LAOS) framework than post-primary

teachers at the time (the DLF framework has the same structure as the LAOS framework).

- Close to one in six of all teachers (15%) made a specific negative comment about the DLF in terms of it lacking practical guidance for its application or implementation. A further 7% commented negatively more generally on the DLF, e.g. that they thought it was overwhelming or lacked clarity. On the other hand, 3% of teachers made a positive general comment about the DLF, and positive comments were more common at post-primary (6.6%) than at primary (1%) level.

Teachers' views on the Digital Learning Framework trial

- When asked which curricular or content areas were likely to be a focus of the DLF trial programmer in the schools, teachers reported that the focus of the DLF programme in their school is mainly on collaborative and team work, literacy skills, numeracy skills, and/or critical thinking and analysis. Teachers' responses are broadly consistent with principals' responses although at primary level, principals rated collaborative team work and critical thinking and analysis as having a higher level of focus than did the teachers.
- At both primary and post-primary levels, a majority of teachers expected large or moderate changes to their teaching and learning activities during class time, their pupils'/students' homework or study activities, their pupils'/students' interest and engagement, their assessment practices, and collaborative practices in their school.
- Asked about expected level of challenge and perceived professional benefit associated with taking part in the DLF trial, the most common response was that teachers expected the programme to be moderately challenging and highly beneficial.
- Teachers in schools rated by PDST advisors as being at lower levels of digital technology-related effective practice perceived significantly higher levels of challenge and, at primary level only, lower levels of perceived benefit. This indicates that teacher 'buy-in' to the DLF may be more challenging in schools where existing DT practices are lower, particularly at primary level.
- Between 9% and 13% of teachers commented on challenges relating to the feasibility of establishing a baseline level of effective practice in their school context and/or challenges relating to teacher skill, knowledge or buy-in. About 5% commented on practical challenges (such as time required, timeline, or DT infrastructure). On the other hand, about one in eight teachers commented broadly on the benefits they expected with respect to their own practices.

Chapter 4
Findings from the PDST advisors' first school visits

This chapter describes the first visits from PDST advisors to the 49 participating schools from the perspectives of both school principals and advisors. Results are described in three sections:

- Resources for the first visits
- General description of the first visits
- Main challenges/difficulties identified by schools and advisors
- Main successes/solutions identified by schools and advisors.

Results are unweighted (i.e. each school contributes equally to the calculation of means and percentages) and are *not* generalizable to the population of primary and post-primary schools in the country. Unlike Chapters 2 and 3, there are no additional tables and therefore no *Data Appendix* to this chapter. There is, however an *Appendix to Chapter 4* that contains the resources used by PDST advisors during their first visits to schools.

4.1. Resources for the first visits

The PDST advisor team developed a set of resources for schools to be used during their first visits, and gave schools access to these resources via a shared online folder.

The suite of resources consisted of:

- A checklist of activities for PDST advisors to complete during the visit
- A presentation on developing the school's digital learning vision
- A set of questions to enable schools to develop this vision
- A worksheet to facilitate the mapping or unpacking of the school's domain and standard(s) in terms of levels of current practice and the gathering of evidence during the course of the trial.

These materials are available as a zip archived file, *Appendix to Chapter 4.*

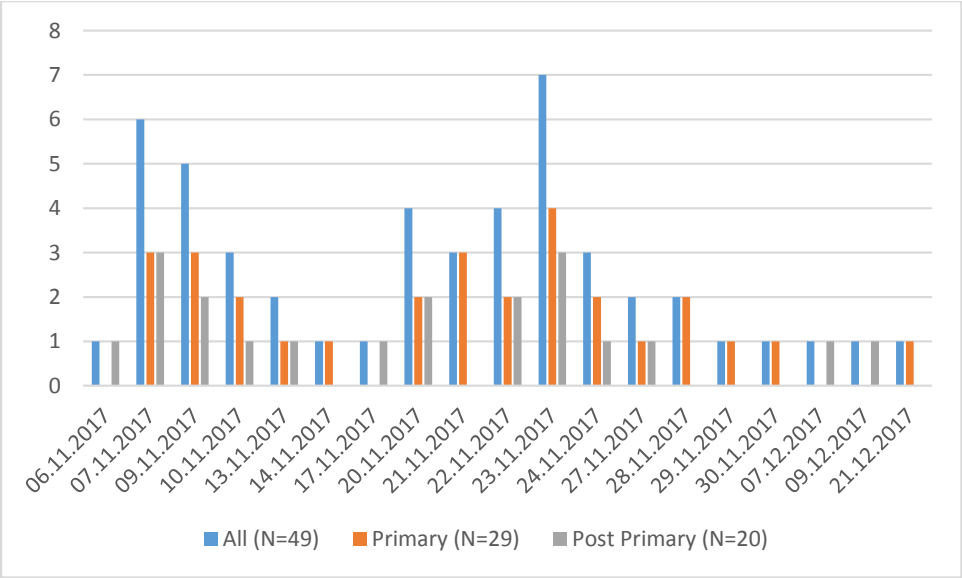
Note that the DLF's *Planning Guidelines* were not available for the first PDST visits but were available from the second visit onwards.

4.2. General description of the first visits

4.2.1. Visit dates

As described in Chapter 1, seven PDST advisors (4 working at primary level and 3 at post-primary level) were assigned to an average of 7 schools each (see Chapter 1, Table 1.2). Figure 4.1 shows the dates of PDST advisor first visits to each school. Half of schools were visited on or before November 21 and all but three schools were visited by the end of November. The schools with first visits in December had unforeseen events and a requirement to re-schedule.

Figure 4.1. PDST advisor first visit dates in primary and post-primary schools



4.2.2. Visit length, format and staff present

Table 4.1 shows the distribution of visit length, visit format, and number of school staff present. In a large majority of schools at primary (76%) and post-primary (70%), visits took between 2 and 4 hours. The most common format for the visit was small group (i.e. members of the schools' Digital Learning Teams). This was the case in 90% of the visits at post-primary level. At primary level, 62% of the visits were small group format, while an additional 28% of visits took place with the school management (i.e. one-to-one meeting with the principal or with principal and deputy principal).

At primary level, the numbers of staff present tended to be smaller than at post-primary level, with 52% involving just 1-2 staff and a further 38% involving 3-4 staff. At post-primary level, 35% of meetings involved 3-4 staff, 20% involved 5-6 staff, and 25% involved 7-8 staff.

Table 4.1. PDST first visit lengths, structure, and numbers of staff present in primary and post-primary schools

Visit length	All (N = 49)	Primary (N = 29)	Post Primary (N = 20)
Less than an hour	0.0	0.0	0.0
1-2 hours	6.1	0.0	15.0
2-3 hours	49.0	51.7	45.0
3-4 hours	24.5	24.1	25.0
4-5 hours	8.2	6.9	10.0
5-6 hours	12.2	17.2	5.0
More than 6 hours	0.0	0.0	0.0
Visit format			
Small group	73.6	62.1	90.0
Whole school	4.1	6.9	0.0
Small group, followed by whole school	0.0	0.0	0.0
One-to-one or small group meeting with principal/school management	16.1	27.6	0.0
Mixed format (two or more sequential meetings with different staff members)	6.3	3.4	10.0
Number of staff present			
1-2 staff	32.7	51.7	5.0
3-4 staff	36.7	37.9	35.0
5-6 staff	10.2	3.4	20.0
7-8 staff	14.3	6.9	25.0
9-10 staff	0.0	0.0	0.0
11-15 staff	4.1	0.0	10.0
16-20 staff	0.0	0.0	0.0
21-30 staff	2.0	0.0	5.0

4.2.3. Preparatory activities

Both PDST advisors and school principals were asked about activities undertaken in preparation for the first visit to each school. These are shown in Table 4.2. At both primary and post-primary level, PDST advisors reported phone and email contact with schools in all cases. In addition, two-fifths of schools had PDST advisors who reviewed the school plan or school documentation relevant to the DLF (though this was more common at post-primary than primary level), and a third of schools had advisors who reviewed the school's draft targets (with reviewing of targets more common at primary than at post-primary level).

PDST advisors were also asked about other preparatory activities. Their text responses were coded numerically and are reported in Table 4.2. In about one-fifth of visits, advisor preparation included sharing access to online folder containing DLF-relevant resources prior to the visit, about 10% of visits were preceded by a review of school's public-facing documentation (e.g. website, WSE report), and in a small number of primary schools, PDST advisors had informal discussions with the staff prior to the first visit. In about one in five schools, PDST advisors mentioned other preparatory activities, but these related mainly to activities that occurred during rather than prior to the first school visit.

Table 4.2. Preparatory activities undertaken by PDST advisors and school staff in primary and post-primary schools

Advisors	**All (N=49)**	**Primary (N=29)**	**Post primary (N=20)**
Review of school's plan/documentation relevant to the DLF (e.g. general plan, digital technology plan)	42.9	37.9	50.0
Review of school's draft targets	32.7	48.3	10.0
Phone contact with school	100.0	100.0	100.0
Email contact with school	100.0	100.0	100.0
Other preparatory activities:			
Shared access Google drive folder containing DLF and/or other documentation/resources	20.4	27.6	10.0
Review of schools public-facing documentation (e.g. website, WSE report)	10.2	17.2	0.0
Informal discussions with school staff	4.1	6.9	0.0
Other, including activities with school during rather than prior to first visit	20.4	3.4	45.0
School staff			
Staff planning meeting	42.9	41.4	45.0
Review of the Digital Learning Framework (DLF)	81.6	75.9	90.0
Review of school's plan/documentation relevant to the DLF (e.g. general plan, digital technology plan)	51.0	58.6	40.0
Review of school's draft targets	20.4	20.7	20.0
Phone contact with PDST team member	61.2	62.1	60.0
Email contact with PDST team member	77.2	72.4	85.0
Other preparatory activities:	6.1	3.4	10.0

A majority of school principals reported that they reviewed the DLF document prior to the first visit, and this was slightly more frequent in post-primary (90%) than primary (76%) schools. About half of school principals indicated that they had reviewed their school's documentation relevant to the DLF (59% of primary schools and 40% of post-primary schools), and in 43% of schools, there was a staff planning meeting prior to the first visit. A majority of schools also reported email (77%) and phone contact (61%) with the PDST advisor. Less commonly, schools reported reviewing draft targets in preparation for the first visit (20.4%). A small number of schools (6%) reported other preparatory activities, not described in detail here.

All advisors reported that four further visits were planned for their schools and in all but one school, all (12.2%) or some (85.7%) of the subsequent visit dates had been set.

4.2.4. First visit goals

PDST advisors were asked to describe the goals of the first visit. Their text responses were coded into categories, which are shown in Table 4.3. There is a high degree of consistency in PDST advisors' goals across three of the categories: establish the school's vision for digital learning (100% of visits), explore or elaborate on the school's DLF domain (100%), and establish methods of gathering information or evidence to support the implementation of the DLF (94%). In 39% of schools (28% of primary and 55% of post-primary) the advisors stated that one of the goals was to

review or discuss current practice and in 27% of schools (45% at primary level but 0% at post-primary level), a further stated goal was to establish goals or actions to monitor the progress of the DLF programme in the school. About one in three advisors' visits referred to other goals: most commonly these referred to revisiting the material from the Croke Park DLF launch day on October 26, for staff who had not attended the launch.

From school principals' point of view, visit goals of establishing a school vision for digital learning (54%), elaborating on the school's DLF domain (67%), and establishing methods of gathering information or evidence (30.4%) were cited less frequently than in the case of the advisors. In contrast, school principals cited establishing goals or actions to monitor progress (65%) more frequently than PDST advisors (26.5%).

Differences in advisors' and schools' views of the goals of the first visit are apparent. For example, while 100% of PDST advisors mentioned establishing a school vision for digital learning during their first visits, only 54% of school principals did so. This could be due to an absence, in some cases, of developing a shared, explicit understanding of what the visit's goals were.

Table 4.3. Main goals of the first visit as described by schools and PDST advisors in primary and post-primary schools

	All schools		**Primary schools**		**Post Primary schools**	
Goal	*Advisors (N=49)*	*Schools (N=46)*	*Advisors (N=29)*	*Schools (N=27)*	*Advisors (N=20)*	*Schools (N=19)*
Review/discuss current practice	38.8	21.7	27.6	29.6	55.0	10.5
Establish school vision for digital learning	100.0	54.3	100.0	70.4	100.0	31.6
Explore/elaborate on school's DLF domain	100.0	67.4	100.0	63.0	100.0	73.7
Establish methods of gathering evidence	93.9	30.4	100.0	29.6	85.0	31.6
Establish goals/actions to monitor progress	26.5	65.2	44.8	63.0	0.0	68.4
Other goal(s)	34.7	13.0	55.2	22.2	5.0	0.0

4.2.5. Levels of satisfaction with the first visit

PDST advisors and school principals were asked to rate their level of satisfaction with the first visit, in terms of achieving the goals of the visit. Their ratings are shown in Table 4.4. Across all 49 schools, 78% of advisors' reports and 89% of school principals' reports indicated that they were very satisfied with the first visit, with only 4% of advisor visit reports and 2% of school principals indicating that they were Not Satisfied. Principals' levels of satisfaction were higher in primary than post-primary schools, but these differences are not statistically significant. In contrast, PDST advisors reported significantly lower levels of satisfaction with the first visit than school principals at post-primary level (p (chi-square) = .006).

Levels of satisfaction as reported by PDST advisors and principals did not vary depending on whether the school was engaging with a Teaching and Learning or a Leadership and Management domain, nor did it vary depending on the level of digital technology infrastructure reported by principals (see Chapter 2, Figure 2.2).

Table 4.4. Level of satisfaction with the first visit reported by schools and PDST advisors in primary and post-primary schools

Satisfaction with first PDST visit	All schools (N = 49)		Primary schools (N = 29)		Post primary schools (N = 20)	
	% Advisors	*% Schools*	*% Advisors*	*% Schools*	*% Advisors*	*% Schools*
Very satisfied	77.6	88.9	93.1	96.2	55.0	78.9
Satisfied	18.4	8.9	6.9	3.8	35.0	15.8
Not satisfied	4.1	2.2	0.0	0.0	10.0	5.3
Differences between advisor and principal ratings						
% with advisor giving higher rating	6.6		3.8		10.6	
% with same rating	73.5		88.5		52.6	
% with school giving higher rating	20.0		7.7		36.9	

4.3. Main challenges/difficulties identified by schools and advisors

PDST advisors and school principals were asked to describe the main challenges identified during the first visit, along with aspects of the first visit that they felt did not work so well. Thematic categories were identified and responses were coded using these categories. Table 4.5a shows examples of the categories identified and the types of responses from advisors and principals, while Table 4.5b shows the percentages of responses that fell into each of these categories.

From the point of view of PDST advisors, challenges most commonly related to difficulties with school or staff culture as it relates to digital technologies (61%), difficulties with levels of staff competence in using digital technologies in teaching and learning (59%) and practical challenges (e.g. the overall tight timeline, need for substitute cover). An additional 39% of advisors cited difficulties with digital technology infrastructure or resources.

It should be noted that principals were somewhat less inclined to respond to this open-response question and when they did, they gave shorter overall responses than the PDST advisors. From school principals' point of view, the most frequently cited challenges were practical in nature (e.g. overall timeline, substitute cover; 37%) and difficulties with levels of staff competence in using digital technologies in teaching and learning (32.6%). About a fifth of principals (22%) cited challenges relating to digital technology resources and infrastructure.

Table 4.5a. Challenges and difficulties identified by schools and PDST advisors at primary and post-primary levels: examples of responses (thematic categories)

Main challenges identified in the first visit	**Examples from Advisors**	**Examples from Schools**
Difficulties with school/staff culture	There were concerns raised about lack of buy-in from teachers.	How to get our staff as enthused as we are.
Difficulties with staff level of competencies in managing and using digital technologies in teaching and learning	The teachers found working collaboratively on a shared google folder new and very beneficial and they would love to do this with all staff but expressed that competence levels in this regard may be quite low with a number of teachers.	The skillset of our staff vis-a-vis digital learning [is a challenge].
Difficulties with digital technology infrastructure/resources	The main challenge that was identified was the schools lack of broadband/ Wifi. They have looked in to this and unfortunately, they are not located geographically in an area that can be served with this service.	Funding & availability of necessary infrastructure and technology [is a challenge].
Practical challenges (e.g. substitute cover, timeline, feasibility)	The main challenge identified was more in relation to a practicality issue. In order for all 3 members of staff to meet with me today to begin the process, the school had to take a half day.	No sub cover provided. Teacher principal and teaching DP in our school, so a principal day had to be used to facilitate this day, and 4 more will have to be used for the further 4 days.
Difficulties in home access to digital technologies	Equity of access to digital technologies for children at home [is a challenge].	*Not applicable*
Difficulties with data gathering process (for internal evaluation of DLF)	Gathering evidence from staff and preventing 'questionnaire overload' [is challenging].	Asking the right kind of questions to make sure that we get results that will assist in developing a strong Digi Tech Plan for the school [is a challenge].
Other challenge(s)	[Teachers] were under the impression that they had to implement all domains of the DLF (a misconception which arose as they were unable to attend the DLF seminar day in Croke Park).	How to best integrate ICT with our SEN teacher [is a challenge].
Aspects of the visit that did not work so well	**Examples from Advisors**	**Examples from Schools**
Logistic issues (timing of session; teacher tiredness; lack of or partial teacher attendance)	Although I was working with the DL team throughout this session, the principal and other members of the team were coming and going so it was challenging having to catch them up upon their return but also progress with those who were present.	Timing, as usual, is a factor. Also the issue of supervision of children while the facilitator was present.
Levels of awareness or knowledge among staff (Digital technologies or DLF)	DLF & Vision Guidelines - Unpacked - The principal and Deputy didn't have the time to really get stuck into the unpacking. They understood the process but suggested that it would be done when the team was created.	We were unsure what was going to happen at the first meeting so didn't make participants available.
Low levels of buy-in to DLF and/or collaborative practices	Teachers' initial reluctance to engage with the framework [was an issue].	Only the team leaders were present for the unpacking of the statements and this might make it more difficult for the DLT to feed back to other staff members.
Resource- or infrastructure-driven obstacles outside the scope of the DLF trial	Poor wifi connection, devices which were difficult to use.	Lack of wi-fi/poor internet connection in our school.
Conceptual issues (translating effective practice statements to specific settings)	The unpacking of the statements is a draining task. The principal and deputy were both exhausted by the end of the session. They both noted on a number of occasions that they would have found it an extremely difficult task to do on their own without the support of the PDST advisor.	Reviewing examples/strategies on how to implement technology and creating lessons that support that [is a difficulty].
Other aspect(s)	Principal hadn't attended Croke Park seminar and was hearing a lot of the content for the first time.	The complexity of this new venture is significant but that is necessary so ok.

Table 4.5b. Percentages of challenges and difficulties identified by schools and PDST advisors at primary and post-primary levels (thematic categories)

Challenges and difficulties	All schools		Primary schools		Post Primary schools	
	Advisors (N=49)	*Schools (N=46)*	*Advisors (N=29)*	*Schools (N=27)*	*Advisors (N=20)*	*Schools (N=19)*
Main challenges identified in the first visit						
Difficulties with school/staff culture	61.2	19.6	55.2	25.9	70.0	10.5
Difficulties with staff level of competencies in managing and using digital technologies in teaching and learning	59.2	32.6	55.2	40.7	65.0	21.1
Practical challenges (e.g. substitute cover, timeline, feasibility)	51.0	37.0	44.8	33.3	60.0	42.1
Difficulties with digital technology infrastructure/resources	38.8	21.7	51.7	25.9	20.0	15.8
Difficulties in home access to digital technologies	8.2	0.0	13.8	0.0	0.0	0.0
Difficulties with data gathering process (for internal evaluation of DLF)	8.2	10.9	3.4	7.4	15.0	15.8
Other challenge(s)	22.4	23.9	20.7	18.5	25.0	31.6
No challenges identified	2.0	17.4	3.4	18.5	0.0	15.8
Aspects of the visit that did not work so well						
Logistic issues (timing of session; teacher tiredness; lack of or partial teacher attendance)	51.0	30.4	37.9	25.9	70.0	36.8
Low levels of buy-in to DLF and/or collaborative practices	22.4	10.9	24.1	7.4	20.0	15.8
Conceptual issues (translating effective practice statements to specific settings)	22.4	4.3	13.8	0.0	35.0	10.5
Levels of awareness or knowledge among staff (Digital technologies or DLF)	18.4	10.9	6.9	3.7	35.0	31.1
Resource- or infrastructure-driven obstacles outside the scope of the DLF trial	6.1	6.5	10.3	11.1	0.0	0.0
Other aspect(s)	8.2	10.9	3.4	7.4	15.0	15.8
No aspects identified	26.5	52.2	37.9	51.9	10.0	52.6

Some differences in perceived challenges across primary and post-primary levels are worth noting. For example, difficulties with infrastructure or resources were more widely cited by both PDST advisors and principals at primary level than at post-primary level, while practical challenges (timeline, substitute cover) were more

frequently mentioned by both school principals and PDST advisors at post-primary than at primary level.

Turning now to respondents' views on aspects of the first visit that did not work so well (the lower portions of Tables 4.5a and 4.5b), these most commonly related to logistic issues such as the timing of the session or lack of/partial teacher attendance due to lack of substitute cover across advisors and principals alike, and across both primary and post-primary levels. Lack of awareness of digital technologies or the DLF was cited as an issue by 35% of PDST advisors and 31% of principals at post-primary level. Also, about 22% of advisors cited low levels of buy-in to the DLF and/or conceptual difficulties in translating the DLF into statements of effective practice as aspects of the first visit that did not work so well: these were cited less frequently by school principals.

4.4. Main successes/solutions identified by schools and advisors

PDST advisors and school principals were asked to describe the main solutions identified during the first visit to address challenges encountered, along with aspects of the first visit that they felt were most successful. Thematic categories were identified and responses were coded using these categories. Table 4.6a shows examples of the categories identified and the types of responses from advisors and principals, while Table 4.6b shows the percentages of responses that fell into each of these categories.

The range of solutions identified by both schools and PDST advisors is impressive. What stands out the most from advisors' responses, perhaps, is the positive view they had about the solutions identified through collaborative discussion and/or changes to the communications structure in the school as a result of the discussion. This was particularly the case at post-primary level. In addition, 45% of advisors felt that cultural or attitudinal changes had been achieved, and around 35-35% cited solutions via planned improvements or short-term workarounds to existing infrastructure difficulties (26.5%), CPD to address identified needs (37%), practical solutions (e.g. seeking substitute cover or re-distributing the DLF workload among school staff), and solutions via the school's internal data-gathering (or fact-finding) process.

Between one-fifth and one-third of principals identified the following potential solutions: CPD to address skill needs (32.6%), collaborative discussion of school's vision and/or changes in school's communication structures (32.6%), cultural or attitudinal changes resulting in increased buy-in (26%), practical solutions (24%), and solutions via data-gathering.

Table 4.6a. Solutions and successes identified by schools and PDST advisors at primary and post-primary levels: examples of responses (thematic categories)

Main solutions identified in the first visit	**Examples from Advisors**	**Examples from Schools**
Collaborative discussion of school vision and/or changes to communication structures	Requesting regular time slots during staff meetings to share good practice in using technology and not always having that time slot at the end of the staff meeting when teachers are tired and want to leave.	Staff cooperation and 'plenty of discussion/good communication' to get each other into the same lane. This needs to be facilitated by the Principal and Deputy Principal.
Cultural/Attitudinal changes resulting in increased buy-in or engagement	It was suggested that members of staff who don't currently use technology would be mentored and that they would showcase their use of technology at subsequent staff meetings in order to get buy-in from teachers who don't typically use technology.	There is a much clearer understanding within our DLF team as to the expectations of this trial programme. The resources and support that PDST is offering bring with it a reassurance of ongoing, informative assistance.
CPD to address skills needs	Training for staff will be provided as part of the DLF trial process.	[The school aims to] ensure that all teachers are properly trained in first year through courses and tech buddy system.
Improve existing infrastructure/resources or develop short term workarounds (outside scope of PDST)	The principal will arrange for technical support to address the school's WiFi issues.	[The school plans to] begin tender process using the Framework for wifi upgrade.
Practical solutions (e.g. seek substitute cover, redistribution of workload/roles)	All staff members involved in the digital learning team to share the workload. This should also alleviate the issue of staff turning off from updates from the same person all the time.	Principal to provide cover where subs are available.
Solution(s) via data gathering process	Instead of sending out a questionnaire for staff to complete in their own time, the data gathering for staff will take place during a staff meeting.	Picked a number of data gathering methods.
Other solution(s)	I provided an overview of the content of the DLF Seminar day in Croke Park to allay the concerns of the teachers.	No time to address solutions to the above problems.
Main successes of the first visit	**Examples from Advisors**	**Examples from Schools**
Advance planning (PDST advisor)	I felt having the online shared google folder prepared before going into the school provided a great structure to the visit as I had each resource needed to aid progression at hand and the teachers were very appreciative that they would have access to all the resources and could look at them in their own time after the visit.	The facilitator created a very workable framework for the visit. As a result of his preparation we achieved a huge amount of planning during the visit.
Advance planning (school) - (including school facilitation of DLF implementation)	I really felt that the constitution of the school's DT Team was very beneficial and worked really well today. A representative of each class level and the special ed section was present on the 8 teacher team which I felt added greatly to the quality of discussion we could have regarding the school's vision and in subsequent activities.	We had a dedicated room and wifi. This enabled us to get through the program of work quite clearly and quickly.
Positive school culture (reported by PDST advisor)/Praise for PDST advisor (reported by schools)	[The advisor noted] Openness of the principal to try new things [and] work already being done in the school with regard to digital technology.	The visit established an excellent rapport with PDST advisor and amongst members of newly established digital learning team.

Table 4.6a. Solutions and successes identified by schools and PDST advisors at primary and post-primary levels: examples of responses (thematic categories) (continued)

Main successes of the first visit	Examples from Advisors	Examples from Schools
Use of PDST-prepared tools and resources	I felt having the online shared google folder prepared before going into the school provided a great structure to the visit as I ... felt it modeled effective use of digital technology amongst the staff members present as we were all able to collaborate simultaneously on a shared document.	Excellent resources provided ... and excellent presentations.
Discussion which resulted in clarity on school DLF programme purpose	Time to talk and discuss the domain - focusing on what is currently happening in the school, what they would like to happen and their options to convert their vision into their reality [worked well].	Friendly, informal meeting - Time to ask questions and tease out what is actually required and meant by the statements in practice.
Allaying school/staff concerns, identifying potential solutions	Allocating time for teachers to voice their concerns and the principal to address these [worked well].	[The PDST advisor] explained that we didn't need to aim too high and that we should make sure our goals are attainable.
Future planning (including Action plan, Next visit date, CPD)	... having the actions document was invaluable as it's a record of what actions need to be completed between now and the second visit, for both the teachers and myself, denoting responsibilities and thus engagement for all in the process as co-collaborators.	The plan for the future visits and in house work that needed to be done [worked well].
Other success(es)	… having a member of the Board of Management present was great as any discussions we had were given a fresh perspective and all suggestions the DL Team posed were supported and valued by the Board member present for some of this visit.	Meeting with Senior Management.

In commenting on the main successes of the first visit, it was common for schools to be very positive about the work of the PDST advisor (mentioned by 50% of schools) and for the advisor to be very positive about the positive culture of the school (51%). Also, a majority of principals (76%) and advisors (67%) were positive about discussion which resulted in clarity in the purpose of the school's DLF programme. PDST advisors felt that the advance planning on the part of the school contributed to the success of the first visit in 43% of cases, and advisors also regarded their own planning (65%) and use of PDST-prepared tools and resources (51%) to be a success. These aspects of the PDST advisors' work/planning were mentioned by 11% and 24% of school principals, respectively. Allaying staff fears and concerns was mentioned by 28.6% of advisors and 15% of school principals, and this success was mentioned more frequently at primary than post-primary level.

Table 4.6b. Percentages of solutions and successes identified by schools and PDST advisors at primary and post-primary levels (thematic categories)

Solutions and successes	All schools		Primary schools		Post Primary schools	
	Advisors (N=49)	*Schools (N=46)*	*Advisors (N=29)*	*Schools (N=27)*	*Advisors (N=20)*	*Schools (N=19)*
Main solutions identified in the first visit						
Collaborative discussion of school vision and/or changes to communication structures	67.3	32.6	48.3	14.8	95.0	57.9
Cultural/Attitudinal changes resulting in increased buy-in or engagement	44.9	26.1	44.8	25.9	45.0	26.3
CPD to address skills needs	36.7	32.6	37.9	29.6	35.0	36.8
Solution(s) via data gathering process	34.7	21.7	20.7	3.7	55.0	47.4
Improve existing infrastructure/resources or develop short term workarounds (outside scope of PDST)	26.5	10.9	31.0	14.8	20.0	5.3
Practical solutions (e.g. seek substitute cover, redistribution of workload/roles)	26.5	23.9	24.1	18.5	30.0	31.6
Other solution(s)	10.2	4.3	6.9	7.4	15.0	0.0
No solutions identified	4.1	19.6	6.9	25.9	0.0	10.5
Main successes of the first visit						
Discussion which resulted in clarity on school DLF programme purpose	67.3	76.1	48.3	70.4	95.0	84.2
Advance planning (PDST advisor)	65.3	8.7	82.8	14.8	40.0	0.0
Use of PDST-prepared tools and resources	51.0	23.9	69.0	14.8	25.0	36.8
Positive school culture (reported by PDST advisor)/Praise for PDST advisor (reported by schools)	51.0	50.0	48.3	48.1	55.0	52.6
Advance planning (school) - (including school facilitation of DLF implementation)	42.9	10.9	24.1	7.4	70.0	15.8
Allaying school/staff concerns, identifying potential solutions	28.6	15.2	34.5	22.2	20.0	5.3
Future planning (including Action plan, Next visit date, CPD)	20.4	17.4	34.5	22.2	0.0	10.5
Other success(es)	2.0	2.2	3.4	0.0	0.0	5.3
No successes identified	2.0	4.3	0.0	7.4	5.0	0.0

4.5. Key points from Chapter 4

Resources for the first PDST advisor visits

- The PDST advisor team developed a set of resources for schools to be used during their first visits, and gave schools access to these resources using a shared online (cloud-based) folder. These were: a checklist of activities to be completed during the first visit, a presentation on developing a school digital learning vision, a set of questions to enable this vision to be developed, and a worksheet to assist with 'unpacking' the domain and standard(s) in the context of an individual school. The DLF *Planning Guidelines* were not used during this first visit (but rather were used from the second visit onwards).

General description of the first PDST advisor visits

- All but three of the 49 participating schools had their first PDST advisor visit for the DLF trial during November 2017. In about three-quarters of the schools, the visit lasted between two and four hours. Visits mostly took the format of a small-group meeting (with members of the schools' Digital Learning Team).
- PDST advisors undertook a range of preparatory activities. In all cases email and phone contact was made with the school. PDST advisors also reviewed school documentation relevant to the DLF trial (43% of visits), reviewed schools' draft targets (33%), provided shared access to an online folder containing DLF resources (20.4%), and/or reviewed schools' public-facing documentation (10%).
- To prepare for the PDST advisors' first visits, 82% of principals reported that they reviewed the DLF document, 51% reviewed relevant school documentation, 43% held a staff planning meeting, and 20.4% reviewed the school's draft targets.
- All advisors reported that four further visits were planned for their schools and in all but one school, all or some of the subsequent visit dates had been set.
- Almost all, or all, of PDST advisors' school visit reports listed three activities as goals of the first school visit: establish school's vision for digital learning (100%), explore or elaborate on the school's DLF domain (100%), and establish methods for gathering evidence (94%). In addition, 39% mentioned a review of current practice and 27% mentioned establishing goals or actions to monitor progress.
- School principals had somewhat different views of the goals of the first visit: 54% mentioned establishing the school's vision for digital learning, 67% cited exploring or elaborating on the schools DLF domain, and 30.4% mentioned methods for gathering evidence. One in five (22%) mentioned a review of current practice and 65% mentioned establishing goals or actions to monitor progress.
- Differences in advisors' and schools' views of the goals of the first visit could be due to an absence, in some cases, of a shared, explicit understanding of the visit's goals.

Principals' and PDST advisors' views on the first visits

- Across the 49 schools, 78% of advisors and 89% of school principals reported being very satisfied with the first visit in terms of achieving the visit's goals.
- Levels of satisfaction as reported by PDST advisors and principals did not vary depending on whether the school was engaging with a Teaching and Learning or a Leadership and Management domain, nor did it vary depending on the level of digital technology infrastructure reported by principals. However, PDST advisors working with post-primary schools reported slightly lower levels of overall satisfaction with the first visit: the reasons for this are unclear.

Successes and challenges identified during the first PDST advisor visits

- From point of view of PDST advisors, challenges most commonly stemmed from difficulties with school or staff culture as it relates to digital technologies (61%), difficulties with levels of staff competence in using digital technologies in teaching and learning (59%) and practical challenges (e.g. the overall tight timeline, need for substitute cover to attend meetings and implement elements of the programme). Two fifths (39%) of advisors cited difficulties with digital technology infrastructure or resources as a challenge.
- From school principals' point of view, the most frequently cited challenges were practical in nature (e.g. overall timeline, substitute cover; 37%) and difficulties with levels of staff competence in using digital technologies in teaching and learning (32.6%). Also, 22% cited challenges relating to digital technology resources and infrastructure.
- Difficulties with infrastructure or resources were more widely cited by both PDST advisors and principals at primary level than at post-primary level, while practical challenges (timeline, substitute cover) were more frequently mentioned by both school principals and PDST advisors at post-primary than at primary level.
- A range of solutions to challenges was suggested by school principals and PDST advisors. PDST advisors expressed a very positive view about the solutions and/or changes identified through collaborative discussion. Both advisors and school principals mentioned the following as viable solutions: open and collaborative discussion giving rise to cultural or attitudinal changes and increased buy-in, CPD to address identified skill needs, practical solutions (such as seeking substitute cover or re-distributing the workload across staff), and solutions via data-gathering.
- When asked about the successes of the first visit, half of school principals made very positive comments about the work of the PDST advisor; similarly, half of PDST advisors made very positive comments about the culture of the school. A majority of principals (76%) and advisors (67%) commented that discussion which resulted in clarity in the purpose of the school's DLF programme was a success. PDST advisors felt that the advance planning on the part of the school contributed to the success of the first visit in 43% of cases, and advisors also regarded their own planning (65%) and use of PDST-prepared tools and resources (51%) to be a success.

Chapter 5
Key messages from the Phase 1 focus groups

This chapter describes the main themes from the focus groups that were conducted during the second half of November and first half of December 2017. A *Data Appendix*, summarising the main findings of these focus group interviews in more detail, is available as a separate Word document.

This chapter provides a high-level summary of the key themes emerging, illustrating themes with extracts from the focus group interviews:

- Digital Learning Framework document
- Leadership, culture and attitudes
- Time and timeline
- Supports.

The chapter is organised into four sections:

- Profile of the focus group schools
- Conduct of the focus groups
- Findings organised by theme
- Concluding comments.

The *Data Appendix to Chapter 5* summarises the findings under five headings:

- Digital Learning Framework document (pros, cons and suggestions)
- DLF programme in the school (domain, standards, description, expectations and challenges)
- Views on the PDST advisor role (pros, cons and suggestions)
- School culture and attitudes (leadership, organisation, communication and collaboration).

It is important to bear in mind that the views expressed by participants of the focus group interviews are not necessarily representative of the views of staff in the 49 DLF trial schools, but rather, provide an in-depth of context in which to consider the initial stages of the DLF trial.

5.1. Profile of focus group schools

Three primary and three post-primary schools took part in the focus groups. The six schools were located across Connaught, Leinster and Munster.

One of the three primary schools was DEIS Band 1 while the other two were non-DEIS. Primary schools varied in enrolment size from medium to very large. Two of the primary schools were focusing on a DLF domain relating to the Teaching and Learning dimension (learner experiences, teachers' individual practice), while the third was focusing on a domain relating to the Leadership and Management dimension (managing the organisation). Two of the primary schools were mixed gender while the third was all girls. Based on their own commentary and the ratings of the PDST advisors described in Chapter 2, two of the primary schools may be

described as being at an intermediate stage of embedding digital technologies, while one may be described as being at an advanced stage of embedding digital technologies.

One of the three post-primary schools was in DEIS, while the other two were non-DEIS. Post-primary focus group schools ranged in size from small to large. Two of these schools were mixed gender ETB schools, while one was an all boys' secondary school. Two of the post-primary schools were focused on the DLF Teaching and Learning domain of learner outcomes, while the third was focused on developing leadership capacity in the Leadership and Management dimension of the DLF. Based on the focus group discussions and the PDST advisor ratings, one of the three post-primary schools may be classified as at an emergent stage with respect to embedding digital technologies, while the other two schools can be described as being at an intermediate stage of embedding digital technologies.

Table 5.1. Profile of the six focus group schools

School identifier	Level	Region	Enrolment size	DEIS status	Gender composition	Domain	Stage of embedding digital technologies
A	Primary	South Leinster	Very Large (251 or more)	DEIS Band 1	Mixed	T&L: Learner Experiences	Advanced
D	Primary	North Leinster	Medium (101 to 175)	Non-DEIS	Mixed	T&L: Teachers' Individual Practice	Intermediate
F	Primary	Munster	Large (176 to 250)	Non-DEIS	All girls	L&M: Managing the Organisation	Intermediate
B	Post-primary	Connaught	Medium/Large (501 to 750)	Non-DEIS	All boys (secondary)	T&L: Learner Outcomes	Intermediate
C	Post-primary	Leinster (Dublin)	Small (250 or less)	DEIS	Mixed (vocational)	T&L: Learner Outcomes	Emerging
E	Post-primary	West Leinster	Large (750 or more)	Non-DEIS	Mixed (vocational)	L&M: Developing Leadership Capacity	Intermediate

School A (primary) is at an advanced level in terms of embedding digital technologies into teaching and learning. It is located in a new building. There has been significant investment in digital technologies since around 2009, using DEIS funding. Broadband is considered by the focus group participants to be excellent, and teachers have access to desktop computers in each classroom (with cloud-based storage, desktops are more durable and laptops unnecessary); laptops are also available. The school has one iPad for every two pupils. Day-to-day technical support is managed by one member of staff in the school (including software installations), while the server and hardware are maintained by an external technical support company. The school is enrolled in Apple School Manager and digital technologies are fully embedded in both administration (with a virtual staffroom, emails, shared calendar (Google Drive and apps), and electronic archives of children's reports) and teaching and learning (where iPads are constantly in use, digital assessment practices are widespread;

BeeBots (junior classes) and Lego (senior classes) were recently introduced). An ASD unit in the school also uses digital technologies extensively with the children.

School B (post-primary) is at an intermediate stage of embedding digital technologies. It has recently made improvements to the number of working devices. Broadband quality was described as 'good' by the group and each teacher has a laptop and each classroom has a projector and interactive whiteboard; about 7 classrooms have data visualisers. There are around 50-60 computers located in three dedicated computer/technology rooms and a small number of iPads for children with special educational needs; despite this, adequate access to student computers was noted as a challenge. Day-to-day technical support is managed by one member of staff in the school (maintenance, security, software updates), along with 6 hours per week from an external technical support company. The school uses Microsoft 365 for administration and Google Suite (since 2012) for teaching and learning. There are variations across teachers in the school in the extent to which digital technologies are used: for example not all teachers use email, students' reports are a mixture of paper-based and electronic, and there is wide variation in frequency and type of apps used. CensorNet (www.censornet.com) is used to restrict Internet access; however, it is viewed as an expensive service and causes difficulties in both teacher access (e.g. YouTube) and teachers' technical knowledge (about how to alter settings). Digital technologies are used extensively in Transition Year with e-portfolios. A digital technology programme was introduced to first years in September 2017. A private company provided professional training to teachers to support this.

School C (post-primary) staff saw themselves at the early or emerging stages of embedding digital technologies into teaching and learning. The principal had recently come from a school where digital technology practices were more embedded in the school culture. The school's administration is largely paper-based and staff do not have access to the school domain email. Previously, Microsoft One Drive was used, but the school found difficulties both with this and with the usage restrictions associated with the ETB network. Current use of digital technologies is dependent on teachers' individual preference, knowledge and interest, with some use of software for specific subjects. There are approximately 20 overhead projectors and an e-Box in each room; teachers' personal laptops and/or phones are used, depending on teacher preference. Students have access to 5 computer rooms, each with 20 desktops, and students' personal devices are used at individual teachers' discretion.

School D (primary) staff noted significant investment in digital technologies over the past 5-6 years and at the time of the interview, were at an intermediate stage of embedding digital technologies. E-fibre was installed in Summer 2017, and broadband was described as 'fine' by the group. Internal technical support is provided by one teacher out-of-hours, and external technical support is provided by private company for an annual fee. Digital technologies are embedded into the administrative practices of the school, for example with 'Google Suite' used throughout the school for communication, collaboration, cloud storage etc. This affects new teachers who are required to adapt the digital technology practices in

the school. With respect to teaching and learning, there are both core practices and variations in the school. For example, all pupils in 2nd-6th class have Google accounts; this is co-ordinated with Study Ladder (www.studyladder.com) and is used for typing software and Kahn Academy (www.khanacademy.org). In contrast, use of apps and software varies across teachers, with more frequent usage among teachers of senior classes. The school is currently in the process of embedding digital technologies in a systematic way into the teaching and learning of SESE, which is now textbook free and follows a 4-year plan to ensure no overlap from year to year.

School E (post-primary) is at an intermediate stage of embedding digital technologies. Digital technology usage is focused on iPads, which were introduced four years ago in order to encourage students to have an active role in their own learning and to aid the transition to post-primary school. In addition, there is a desktop in in every classroom and two computer rooms. Each teacher is expected to purchase their own iPad and each student has their own personal iPad, purchased using the first year registration fee. Student iPads are purchased from an external company, which also covers maintenance and repair. Insurance costs have been high and will be transferred to the students in future. Members of the Digital Learning Team in the school are responsible for software-related technical support, while an external technical support company is responsible for hardware issues. Digital technologies are embedded into administrative practices, with Microsoft 365 and One Drive used throughout the school. The whole school uses Schoology (https://app.schoology.com) for teaching and learning, and student iPads come pre-loaded with apps requested by teachers in the school. There are variations in the extent to which iPads are integrated into teaching and learning.

School F (primary) noted that to date, the emphasis on digital technology usage has largely been with children with special educational needs, and would consider themselves as approaching an intermediate stage of embedding digital technologies into teaching and learning. There is an interactive whiteboard in each classroom and all teachers have laptops. There are two pupil devices per class (1st-6th) and SEN teachers have access to additional digital technology resources. The broadband connection is supported by two routers and is somewhat inconsistent. School management provides day-to-day technical support. Additional support is provided where necessary by an external company on a needs basis (€90 per hour). The school is at the early stages of embedding digital technologies into administrative activities, with most activities paper-based or reliant on face-to-face communication or USB sticks for information transfer. The use of digital technologies in teaching and learning is not structured or consistent across the school. However, since last year, all pupils (1st-6th) use typing.com. SEN teachers use a range of apps with the children depending on children's need.

5.2. Conduct of the focus group interviews

Focus groups were conducted by two researchers from the ERC (one guiding the discussion, and the other taking notes) during the late November and the first half of December, 2017, in all cases after the first PDST advisor visit had taken place. Interviews were recorded with the permission of the participants and subsequently

transcribed verbatim. Names of schools, persons and places were retracted in the interview transcripts to protect the anonymity of participants. The focus group interview followed the structure shown in Table 5.2.

Table 5.2. Focus group interview structure and questions

Part 1: Opening
1. Introductions
2. Purpose of focus group
3. Confidentiality, anonymity and permission to record
Part 2: School context
1. About how many student and teacher devices are there – are these laptops, tablets, desktops…?
2. Where and when and how (for what purposes) are the devices used by students and teachers…?
3. What kinds of software are used by teachers and students…?
4. How is the broadband connectivity…?
5. Is there a central school server…?
6. How is technical support organised? Does this work well?
7. In what ways have digital technologies transformed teaching and learning in your school in the past 5 years or so?
8. Can you give us a couple of examples of digital teaching and learning practices or projects that the school is proud of?
9. Does the school participate in or promote student participation in extracurricular activities related to digital technologies (e.g. Coderdojos)?
10. What are the challenges in your school in efforts to integrate digital technologies in teaching and learning?
Part 3: Views on the DLF document
1. What are your initial impressions of the document?
2. Do you have any general observations, positive, neutral or negative?
3. Can we hear your thoughts on the domain that the school is focusing on for the trial?
4. Do you have any suggestions for improvement?
5. What impacts do you think the DLF will have on the teaching and learning practices in the school?
Part 4: Plans for the DLF trial
1. Can you describe the programme that you plan to develop with the PDST?
2. What were the main reasons for choosing this programme?
3. Who is involved in developing the programme, and who is involved in implementing the programme (teachers, students, parents, others)?
4. How was the development of the programme linked to or influenced by the school's SSE processes ?
5. What are your expectations for the DLF trial? (what do you hope to achieve…?)
6. What are the challenges that you expect?
7. How can the PDST best support you in implementing the programme?
8. Are there other supports that you would find useful? What are these?

Focus groups were attended by members of the school's management and Digital Learning Teams, and the number of participants ranged from four to eight. Interviews lasted an average of 72 minutes. Unfortunately, in the case of School E, some of the audiofile was corrupted (approximately the last 20 minutes of the 63-minute recording was lost), so the record of this interview is partially complete.

5.3. Findings organised by theme

This section considers some of the key findings from the focus group interviews organised under four sub-headings:

- Digital Learning Framework document
- Leadership, culture and attitudes
- Time and timeline
- Supports.

Readers looking for a more detailed description of the findings should refer to the *Chapter 5 Data Appendix.*

5.3.1. Digital Learning Framework document

[Even] *Teachers familiar with and using DT struggle to understand the document… where do I start? There's just too much in it!* (School B)

As noted in Chapter 4, at the time of the focus groups, schools would only have seen the DLF document, and would not have seen its accompanying *Planning Guidelines*. In addition, primary schools may not have engaged with the *Looking At Our Schools* framework and would therefore have been less or un-familiar with the concepts of dimensions, domains etc.

A range of views on the DLF document, both positive and negative, was expressed by participants. The three most frequent observations from the focus group schools concerning the framework (mentioned in all groups except one at post-primary) were that:

- The content is too technical or overwhelming, particularly for school staff working with lower levels of digital technology literacy and/or in school contexts with lower levels of digital technology practices.

My first thing is, the wording is very technical. … And it also would have, probably would require that you knew the other document that it lines up with, Looking At Our School, and not all teachers know about that … [for a school at entry level] it can be quite overwhelming. … Even finding one domain to focus on and one domain, that can be overwhelming because there's so much in it and if you got it without context or without anyone kind of guiding you it could be a bit… overwhelming… This is just a bit too much or we're so far away from this that the concept of trying to get there is… It's an awful lot to learn and I couldn't understand it. Domains. You know. (School C)

- There is duplication within and across the domains – for example the four teaching and learning domains could be collapsed to two; the distinction between levels of effective and highly effective practice is unclear.

There's kind of repetitiveness and at times it's confused me. (School F)
I don't know what they really want ultimately… They're not tangible or measurable. …they're just too waffly, they're not specific enough, they're not smart targets. (School D)

- The framework lacks important practical information to aid its interpretation – for example, there are no concrete examples of effective or highly effective practice; there are no suggested timelines.

[It should] *Give examples maybe or how you go about it. You want to come away from it and know how you're going to go about it. … a how-to, what methodologies. Because I was reading that this morning and I was like, I don't know what they actually really, like I can get the link, a broad kind of idea of what they want…* (School B)
[support the DLF document with a]… *video starting from scratch, step by step over a timeline then the next video, then the next video and build, build, build.* (School F)

Focus group participants also made some positive comments about the framework. Three of the six groups (two post-primary and one primary) felt that the DLF is a useful tool to encourage reflection on current levels of practice, to identify areas for improvement, or to introduce digital technologies into the school.

It's given you a framework to see where you want to go to. (School A)
Personally, I think the fact that it's broken down in your effective and your highly effective practice, it kind of gives you a basis for saying: What are we doing? Where have we fallen into? That's a good guidance in that sense. (School E)

A number of suggestions were provided as ways to improve the DLF. Below is a list of suggestions made by two or more of the groups:

- Develop guidelines for entry-level schools that will enable them to reach a baseline of digital technology practice that will, in turn, allow them to work on achieving a level effective practice in a given domain.
- Provide practical guidance, such as sample timelines.
- Provide step-by-step case studies that include administrative aspects of digital technologies, not just examples for teaching and learning.
- Provide clearer guidelines on how the DLF is to be used.
- Provide a clearer distinction between levels of effective and highly effective practice e.g. through exemplars.
- Integrate and cross-reference the domains through the use of visual graphics.
- Improve the labelling of dimensions and domains (e.g. accompany them with numbers or letters).

Make it [the DLF] easy for those to implement, don't make it where it's a struggle where you need guidance and you need scaffolding to even understand one page of it. (School A)

Views on the DLF document need to be interpreted in context. As already noted, the documentation that supports the DLF document (the planning guidelines and template) were published after it and the above observations were made about the DLF as a stand-alone document, rather than as a document which is designed to be used in conjunction with the *Planning Guidelines* and other tools on the PDST

website. Furthermore, staff in some of the focus groups may not have time to consider the content of the DLF document other than during the first visit of the PDST advisor, and despite the existence since 2016 of the *Looking at Our Schools* framework (DES, 2016), only one of the focus groups (at post-primary) referenced this framework. Second, the DEIS primary school (School A) noted that while schools in general may be used to the concept of a framework, DEIS schools have a culture of frameworks, planning and documentation of this nature.

Therefore, these comments should be interpreted as the initial impressions of school staff working for the first time with the DLF. The second part of the evaluation of the DLF trial will include a fuller exploration of the DLF document and its accompanying resources.

5.3.2. Leadership, culture and attitudes

> *Teachers will run through water for you, but you have to give them the confidence and the tools to run through that water, that's all.* (School F)
> *… any child that leaves secondary school and cannot use a computer at this stage is so disadvantaged in this world.* (School D)

This theme focuses on the impact of school leadership, culture and attitudes on the implementation of the DLF. In all focus groups, the central role of the school principal as the leader and driver of the implementation of the DLF was strongly in evidence.

All focus groups expressed an awareness that the staff on their Digital Learning Teams were positively predisposed to digital technologies, and that this was not necessarily the case across the school or across schools in the country. This led to observations that school-wide practices were at times fragmented and also raises the question as how to engage all staff to develop school-wide, cohesive digital technology practices.

> *We've put a team together but it's the goodwill of the lads here. It's the goodwill of three teachers you know.… with the barriers that are in place it kind of, it was more individual teachers doing it [using digital technologies] themselves than as a whole collaborative.* (School C)
> *There'll be certain staff that I suppose wouldn't use it. But the majority would want to. The older ones and they haven't long left. I wouldn't blame them. Why would you be bothered?... It's also to do with training so it's like if they haven't received training on embracing digital technologies then how are you expected to do it because it's kind of something unfamiliar and overwhelming.* (School B)

Having one school in the focus groups that is at an advanced stage of embedding digital technologies into teaching and learning practices (School A) permits comparisons to be made between the leadership, culture and attitudes of that school with the others. In School A, the use of DTs is part of the accepted culture of the school where it is perceived that DTs are fully embedded in teaching and learning and that an iPad is just another tool in the toolbox. As stated by the

principal *"… there's a curriculum to be covered here, and if it can be covered in a better or more engaging way and ICT adds to it, then use it. If it doesn't then we don't, we don't use in every lesson and that's fine."*

In School A, there is already a strong culture of school improvement and evidence-based decision-making (as it is a DEIS Band 1 school). There is a strong focus on pupil-led learning, and teachers were of the view that while pupils can teach teachers and other pupils when it comes to some aspects of digital technology, their role as teachers is still to lead teaching and learning.

In the other schools, arguably the most salient issue with respect to leadership, culture and attitudes was the perceived challenges in bringing all teachers on board without overwhelming or demotivating them. Hence, there are both psychological and practical components to this challenge.

Schools tended to fall into two groups in this regard: one of the five schools (School B) expressed a preference for limiting the learning from the DLF programme to staff on the Digital Learning Team, while the other five expressed a preference for a 'lead by example' approach that incorporated whole-school processes, and management in these five schools was very supportive of the Digital Learning Team. In these schools, staff expressed ways in which the Digital Learning Team could model the desired practices and disseminate them gradually through mentoring, team teaching etc., emphasising the benefits of these approaches (e.g. time-saving after initial set-up, increased student engagement).

… it's [digital technology's] been used by different teachers using it differently which is kind of more where we're going in terms of creating the cohesion across the staff in its use. (School E)
… if you throw something at someone, they won't do but if you can show them the effective use of it and get them to see the you know 'the buy in' for it, then we're hoping that – that will increase the uptake in the use of the iPad and it might reduce some of the resistance that some teachers may have. If you give them a concrete example that shows, 'well this is really effective at doing X', then they might be inclined to try out the Y. (School F)

Finally, comments made by the participants suggest the need for leadership strategies and ways to address commonly-expressed concerns, namely dealing with wide variation in teachers' digital competencies and confidence; the management of students using digital technologies; and strategies that teachers can use when technology breaks down.

… you have to be mindful of every teacher within your staff, it's not just about 1 teacher or 2 teachers or 3 teachers having a high level because it has to be something that can be maintained and in order for it to be maintained all teachers need to be upskilled to the same standard if you want your school to go forward. (School D)

… if they haven't received training on embracing digital technologies then how are you expected to do it because it's kind of something unfamiliar and overwhelming. …teachers are at different stages of the skills. (School B)
I think the only concerns would be about like that when the system breaks down. … It is important to remember though, that the people who are here, are all very pro digital you know, integration and everything. There's a whole group of teachers out there who would be very – not very – but resistant to the use of the iPad tool. (School F)
It's the management of the children when they're using the technologies that we feel I suppose is the biggest challenge. (School D)

5.3.3. Time and timeline

I think a lot of teachers are willing, but it's just… I think it's more time and more training. (School E)

The short timeline for the DLF trial, and the time required to implement the trial, emerged as challenges in all but one school. The only school that did not identify these issues as a challenge was School A, which is further along the journey of embedding digital technologies: in this school, the DLF trial builds on established structures and practices, while in the other schools, the DLF trial necessitated the establishment of new structures and practices.

Although focus group participants spoke with enthusiasm about the DLF trial and the benefits they expected following the initial high volume of workload associated with setting up the programme, they commented on the time required to:

- plan, set up, implement and monitor new digital administrative structures that would be needed to facilitate enhancements to embedding digital technologies in teaching and learning and/or leadership and management practices
- research the suitability of new apps for teaching and learning
- communicate planned changes to staff to achieve engagement and 'buy-in' to the changes
- bring all staff to a level of digital literacy needed to use the digital technologies as envisaged.

Like this trial is great and we're involved and all of that but now we're in the middle of it I'm finding I don't have time for it, do you know what I mean? And they're not giving substitution cover for teachers to be offered this because it's eating into our hours. Like … the Vice Principal now is supervising those classes to get us out. That was the main thing. Like they're expecting us to do all this but not giving us the resources. (School B)
…teachers are going off spending time given for something and it takes so long that if you don't find the particular one [app] you want you might end up giving up. We need an awful lot of time to actually go and research some [apps] ourselves because or really there's probably only a few that we would use with the kids because we just haven't had the time to research the other ones. (School F)

In two cases the time required to set up new digital technology structures or practices appears to have been exacerbated by the level of IT expertise required to set up digital administrative structures with correct settings and login access for all teachers (e.g. Google Suite). A common observation was that this initial 'set-up' work, and work relating to the review and selection of apps for teaching and learning, was done out of hours.

> *When do you get time to learn to teach yourself except at night? It's not as if I can say to my class sit down and colour a picture I'm just going to figure out how to work out Google spreadsheets.* (School D)

In three of the schools, the Croke Park hours were seen as insufficient to cover this work, which meant that the work would be done out-of-hours. Lack of substitute cover for the DLF trial affected schools' ability to free up teachers to work together on DLF planning, and it also meant that teachers were 'stretched' between attending class and attending the PDST advisor meeting.

> *Such a small thing. Just give cover, sub and hours. It wouldn't cost that much.* (School B)

Staff in three of the focus group schools felt that the overall timeline to implement the DLF trial was unrealistic to achieve and embed the changes envisaged, and commented on the challenges associated with setting realistic timelines and sustainable goals.

> [for the DLF to work we need] *sustainable goals and also, I guess there's a timeline for it, this is setup, this is then implementing and then this is following through.* (School F)

Two schools noted that the lack of clarity they perceived in the DLF document (since it was not accompanied by the planning guidelines and planning tool at the time of the first PDST visit) meant that too much time was spent during the first PDST visit in 'unpacking' their domain and standard(s) at the expense of other planning work.

5.3.4. Supports

At the focus group interviews, we asked for participants' views on the PDST advisor's role in the trial and about any other supports that participants felt would be important in implementing the DLF trial programme. The theme of supports also arose in the discussion more generally.

All participants had positive comments about their work with the PDST advisors. They expressed the views that:

- Having dedicated time to working with the PDST advisor had the positive effect of enabling collaborative discussion to take place, shared understanding and goals to be developed, and skill-sharing among the members of the Digital Learning Team in the school. In some schools, there was the impression that this was the first opportunity for collaborative discussion about digital technologies in the school.
- The advisor provided essential clarity to the DLF domain and standard(s) that the school planned to focus on during the trial.
- The PDST advisor is a source of expert knowledge and provided useful guidance and problem-solving skills.
- The enthusiasm and commitment of the advisors gave the school staff an energy and commitment to the DLF trial that was seen as very valuable.
- The advisor was a useful source of knowledge about practices in other schools, and therefore an important source of suggestions for different ways of doing things.
- Without some input from the PDST advisor, the implementation of the DLF programme would not be possible.

They [PDST advisors] bring a different dynamic to the table, they bring stuff they've seen working in other schools that we may not have heard of and by suggesting they'd be challenges. That's where we would see it and they bring enthusiasm because obviously the people who are out in PDST are highly enthusiastic about it and committed so they are bringing that to the table as well. (School A)
[without the PDST advisor] *I don't think we wouldn't have got our heads around it.* (School D)
It's nice to have somebody different come in with expertise because it can be more engaging for certain members of staff… it's the actual time and the fact that somebody new is coming in and saying 'give it a go and I'm going to support you'. (School D)
[There] needs to be someone to structure and strategise and break down the task. (School F)

Technical support was a theme that arose in all focus groups. An analogy was drawn between the school and an organisation, both of which depend on digital technologies in their day-to-day operations. In the case of an organisation, there is a dedicated IT team or department, while in the school, this is not the case.

Would there be any companies in the world that would be asked to have 800 devices and not have an ICT person? (School A)
I don't know how they would expect the average teacher to know how to fix digital problems. (School D)

One school expressed the view that the Department needs to consider the challenges that accompany both the volume of devices and need to be managed and

maintained as well as the diversity of systems operating on these devices. In all schools, technical support was being managed on a day-to-day basis, mainly by a single member of staff, in their spare time and hence dependent on goodwill.

There was a strongly-expressed view in five of the schools that there should be a dedicated IT coordination and support post in schools.

> *The possibilities are huge for somebody in that role [IT co-ordinator] you know, to guide the teaching and learning, to look after the maintenance.* (School E)

Technical support within schools tended to focus on device maintenance and upgrade, with little or no time for the strategic development of digital technology practices across the school (an essential component of DLF programme implementation). Furthermore, all of the schools had, in addition, a need for a paid external technical support company, and in two of the schools, the view was expressed that having a Department-run technical support service across clusters of schools could be cheaper and more efficient than reliance on private technical support in the longer term.

> *Accessing any kind of tech support is impossible unless we ask for the crowd to come in and sure it's 90 euro an hour and we've to make sure when they are brought out there's a series of jobs but that doesn't help if you're the 2nd class teacher who wants to print 10 things and you know you can't link either to your classroom one or you can't link to the office one. … we're probably paying 4 times over the cost [than] if the department actually secured their own IT.* (School F)

Within the theme of support, the sub-theme of **guidance** emerged. Four of the focus groups commented on the perceived need for guidance in selecting appropriate apps for various aspects of teaching and learning, and indicated that they would like to see a guidance tool for this purpose (for example, a centrally available searchable tool of well-researched apps for various purposes and curricular areas).

> *I would love to be able to click into something and say ok I want to look for apps to do with 'sensory processing'.* (School F)
> *There's so many of them [apps] out there that you can get lost* (School C)
> *…if they upskill themselves on 1 or 2 apps, that they can use well and once they get good at that, they can keep getting better.* (School E)

Two of the schools expressed the need for guidance in determining how best the ICT infrastructure grant might be spent, given existing resources and practice in the school, and the school's immediate priorities for building on these.

> *…it's better than for the government if the money that's invested is invested well instead of being squandered and I can guarantee that there's cuts in schools all over the country at this moment … and because they didn't bother getting the broadband sorted first before buying a load of equipment that they can't be using in one end of*

the school. …there really needs to be an advisory body of some description. This business of 'you know it's up to you and your own school and where you're at and every school is different', some people just do not know where to start genuinely. (School D)

In three of the focus groups, participants commented on the huge potential for harnessing students' own devices (e.g. smartphones) but expressed the need for guidance on this as well, particularly with respect to developing a child-safe acceptable usage policy.

Why would schools spend a fortune on what the kids already have in their bags and we won't let them take out? [In order to use personal devices] …we have to put some data protection stuff in place. (School A)

Upskilling of teachers, particularly in the context of enabling a whole-school approach and bringing all teachers to a baseline level of digital technology competence and skills to implement the DLF programme, was seen as a significant challenge in four of the schools.

They're putting massive pressure on the schools and on the teachers, you know without facilitating. …it's not natural to everybody to integrate digital technology naturally into teaching, we have to work hard at it and a lot of us have to work hard at it. (School D)
You'll only get engaged with them [teachers] if you say right, we value this so much that the schools can close for a day to do this [plan/train for the DLF], because you're saying the Department's coming up with all these action plans but … we're not investing in the resources to do it right. (School B)

Participants in two of the focus groups felt that there was a lack of awareness or availability of suitable professional development opportunities. Five of the focus group schools were in favour of clustering schools to provide opportunities for shared learning, but noted that time and funding would be needed for school staff to plan and attend shared learning events.

Clusters really do work and it will work like they do for JCT ...if you just had it on a subject specific... then you get ideas here, for example business ideas and how you could use it more effectively. (School B)
... cluster schools together like to improve ... There's schools in such close proximity together, different school skills, and sharing more, and that can be done in any curriculum area. (School D)
We could come to a central school do it 3 to 4[pm], have a half an hour our drive time for argument's sake consecutive time and do it 3 to 4 and get a presenter to come in and talk to us or whatever the case may be, it does work... As long as it's... well led I think it's ok, I think that would work. (School F)

Some participants spoke about the importance of the **context** of the school in terms of the supports it might need to implement the DLF. Some felt that the DLF lent itself more readily to being implemented in larger schools. One school suggested that the type of supports for the DLF would be different depending on existing digital technology infrastructure: a school with good infrastructure and low levels of practice might require an approach that focused on enabling change in school culture/attitudes and the upskilling of staff, whereas a school with poor infrastructure and connectivity might require a more practical approach focused on maximising the use of available resources and building on them.

5.4. Concluding comments

General observations on the focus group interviews

- The engagement, enthusiasm and professionalism of the focus group participants is to be commended. In the absence of the DLF *Planning Guidelines*, participants' views should be interpreted as an initial impression only: a more fully informed picture of the DLF document, planning guidelines and template will be available towards the end of the trial, when we re-visit the staff in these schools.
- Some of the issues and topics raised by focus group participants are reflective of challenges in the broader context of digital technologies in education. However, all comments have been included to provide a complete context for interpreting DLF-specific findings, and also to provide a foundation on which the Phase 2 results can be interpreted.
- The inclusion of one school among the six focus group schools that is further along in its journey of embedding digital technologies into teaching and learning provides a useful counterpoint to the five schools that are at an earlier stage, and illustrates what can be achieved after the more challenging initial work is in place.
- The particular stage of the school with respect to digital technologies may indicate the need for different leadership strategies to address teachers' concerns and skill needs, and these strategies may need to address both the psychological and practical components of concerns in order to be effective.

Key findings emerging from the focus group interviews

- In five of the six focus groups, it was noted that the investment of time and effort is not constant: high levels of time and energy are needed during the 'setting up' stage of the DLF programme, and participants saw this as a challenge, while recognising the likely benefits in the longer term. They also recognised the need for DLF programme goals to be realistic and sustainable, but some felt that the overall timeline for the DLF trial was unrealistic in terms of achieving deeper and more fully-embedded changes in school culture and practices.
- The schools were unanimously positive about their experiences in working with the PDST advisors and in some cases, the first PDST advisor visit appears to have been the first opportunity for school staff to have a collaborative discussion about the school's vision for digital technologies. The external

support and guidance brought to the table was highly valued by focus group participants, who felt that this input was essential to implement the DLF programme in their school.

- Focus group participants spoke about the need for other supports in implementing the DLF programme in their school. In all but one school, technical support and maintenance was the responsibility of a single member of teaching staff (doing this work out of hours) and external technical support was required in all cases. To free up time for more strategic and developmental work on digital technologies for teaching and learning, schools felt that more, and possibly centralised, technical support, along with dedicated IT co-ordinator posts in schools, were needed.
- Participants also spoke about the time required to research and test out new apps for teaching and learning (and the introduction of new apps and software is part of some schools' DLF programmes). Staff in these schools expressed the desire to see a pre-researched, pre-tested list of apps with a clear description about their purpose and curricular area. Two of the six focus groups also thought that guidance to achieve the most beneficial spend of the ICT Infrastructure Grant would be helpful in terms of their school's digital technology priorities and needs.
- Upskilling of teachers was seen as a significant challenge in five of the schools, and participants were generally in favour of a clustered approach towards delivering professional learning, while recognising that this would have planning, time and resource implications.

Chapter 6
Conclusions

The professionalism, enthusiasm and engagement of schools and teachers, and the high quality of the work of the PDST advisors, are evident in the findings presented in this report.

Some of the challenges that have been raised by participants reflect complex issues in the broader context of embedding digital technologies into the work of schools, and, while the DLF trial is not designed to address these, these challenges have been included in this report to provide a full context in which to interpret the results arising at the end of the DLF trial.

6.1. Key findings and implications for Phase 2

At this baseline stage, the key findings and the follow-up work that is proposed to further explore these during Phase 2 may be summarised as follows:

1. Arguably the most promising finding at the baseline stage is the **high potential for change offered by the collaborative environment** that is created via the PDST advisor visits, and the collaboration among school staff required to implement their DLF trial programmes. This could be seen as a key driver for initiating and maintaining cultural change and shared learning in schools, and will be one area of focus of the final report.
2. The **important leadership role** that principals and other school staff play in guiding and shaping the changes occurring during the DLF trial outcomes was highlighted in the focus group interviews and will be a second area of focus of the final report.
    a. To address these two areas of focus – collaboration as a vehicle for change, and leadership – the Phase 2 questionnaires and Phase 2 focus group interviews will include questions specifically targeted to these themes.
3. Focus group schools were generally **in favour of clustering schools** in order to provide a co-ordinated set of supports for the DLF, which in turn creates environments to share learning across schools. Participants' views on clustering schools will be further explored in Phase 2, both in the follow-up focus groups and in the questionnaires.
4. Information on **levels of effective/highly effective practice** was gathered at the **baseline** stage in order to be able to assess changes in practice towards the end of the trial. Levels of practice broadly in line with international and national research findings reviewed in the report. During the second phase of data collection, both PDST advisors and school principals will be asked to rate levels of practice. Two issues are of interest here: first, the extent to which these **may have changed** over the course of the trial, and second, **reasons for variations** in effective levels of practice, both at baseline and at the end of the trial.

5. Principals' and teachers **views on the DLF are incomplete** at this stage of the evaluation, and should be interpreted as initial impressions only. The Phase 2 questionnaires and focus groups will ask for respondents' views on the DLF at a stage when staff have had time to use the DLF over the course of the trial, along with the *Planning Guidelines* and other resources on the PDST Technology in Education website (such as the planning template and exemplar videos).
6. As already noted, the **views of pupils and students** have not been included in the baseline stage of the DLF trial evaluation. During Phase 2, pupils and students from the 6 focus group schools will be invited to share their views on using digital technologies in school and any changes they may have observed in this regard over the course of the trial, and these will form an important part of the final report.
7. Findings reveal some **differences across respondent groups**.
    a. First, post-primary schools were slightly more favourable towards the DLF than primary schools. This may in part be due to the lower levels of familiarity of primary schools with the *Looking At Our Schools Framework,* whose structure aligns with that of the DLF. The final report will aim to provide a more complete picture of schools' views on the DLF and a better understanding of why any differences exist.
    b. Second, there were some differences in the views of principals and teachers. Principals were more favourable about the DLF than teachers, and also tended to have more favourable views than teachers about the digital technology infrastructure in their schools. These differences may simply reflect the different roles of teachers (practitioners) and principals (leaders) in schools. The final report will examine whether these different viewpoints are related to changes in digital technology practices over the course of the trial.
    c. Third, PDST advisors and school principals had differing views on the goals of the first PDST advisor visit. These differences may indicate an incomplete shared understanding of the purposes of the first visit in the overall objectives of the DLF trial, and the final report will re-examine the perspectives of school principals and PDST advisors in terms of the goals, successes and challenges of these visits. PDST advisors to post-primary schools also tended to give slightly lower satisfaction ratings than for the first visit (though overall satisfaction ratings were high). This issue will be explored further in a focus group with PDST advisors in April 2018, as well as through comparisons of school principals' and PDST advisors' views of the entire visit programme, both of which will be included in the final report on the DLF trial evaluation.

6.2. Next steps

- During April and May, focus group interviews will be held with PDST advisors, school staff in the 6 focus group schools who already participated in an interview at the baseline stage, and with pupils and students in these schools.
- Also during April and May, school principals, teachers and PDST advisors will be invited to complete online questionnaires. The questionnaires are designed to allow comparisons with baseline information, as well as capturing information on some of the key themes emerging from the baseline stage (as noted above).
- The final report on the DLF trial is due to be submitted to the DES in July 2018.

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Appendices

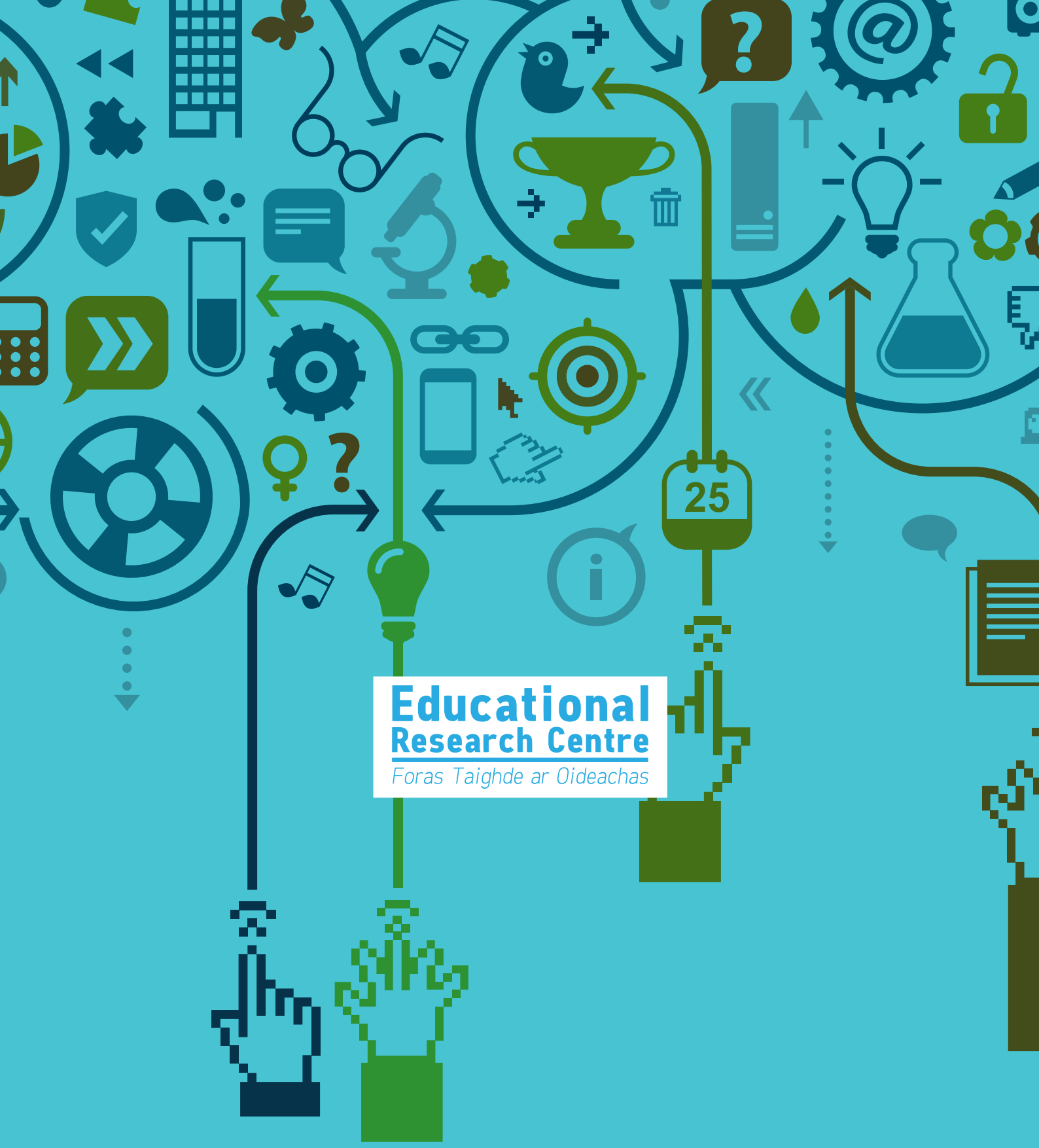
Please refer to separate files for appendices to Chapters 2, 3, 4 and 5:

Chapter 2 Data Appendix [Excel, http://www.erc.ie/wp-content/uploads/2018/05/Chapter-2-Data-Appendix.xlsx]

Chapter 3 Data Appendix [Excel, http://www.erc.ie/wp-content/uploads/2018/05/Chapter-3-Data-Appendix.xlsx]

Chapter 4 Appendix [Zip Archive, http://www.erc.ie/wp-content/uploads/2018/05/Chapter-4-Appendix.zip]

Chapter 5 Data Appendix [Word, http://www.erc.ie/wp-content/uploads/2018/05/Chapter-5-Data-Appendix.docx]



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