



Northern Ireland Teacher Survey:

Teacher experiences of remote learning in Northern Ireland
mainstream schools during the initial 2020 Covid-19 lockdown

TABLE OF CONTENTS

Table of Figures	4
EXECUTIVE SUMMARY.....	5
Introduction.....	5
Findings	6
1. Teacher experiences of supporting learning continuity during the initial 2020 Covid-19 lockdown	6
2. Challenges that schools are facing in supporting online remote learning.....	6
3. Challenges relating to providing equality in supporting online remote learning	7
4. Opportunities for learning and growth	7
Conclusion	8
1. INTRODUCTION	9
1.1 Background	9
1.2 Survey Aim and Objectives.....	12
1.3 Methodology.....	12
2. FINDINGS	15
2.1 Teacher experiences of supporting learning continuity during the initial lockdown which occurred in response to the Covid-19 pandemic	15
2.1.1 The impact of the initial lockdown on normal working patterns	15
2.1.2 Family, health and caring considerations during lockdown	16
2.1.3 The impact of lockdown on teachers' work-life balance and hours of work.....	19
2.1.4 The realities of working from home	20
2.1.5 Different approaches to supporting learning continuity during the initial 2020 lockdown	22
2.1.6 Access to support/training	24
2.2 Challenges that schools are facing in supporting online remote learning.....	26
2.2.1 Background.....	26
2.2.2 Transitioning from classrooms to online remote learning	27
2.3 Challenges relating to providing equality in supporting online remote learning	36
2.3.1 Background.....	36
2.3.2 The benefits of online remote learning during lockdown.....	36
2.3.3 Challenges for learners with remote online teaching.....	38
2.3.4 Curriculum areas less likely to be covered.....	40
2.3.5 Learner participation in online remote learning classes	42
2.3.6 Factors limiting learner participation	43
2.3.7 Other concerns	46
2.4 Opportunities for learning and growth.....	48
2.4.1 Background.....	48
2.4.2 Support for teachers during the initial Covid-19 lockdown	48
2.4.3 Should teaching approaches be replicated or redesigned for remote online learning?.....	50
2.4.4 Attitudes to digital education	52
3. LIMITATIONS.....	56
4. KEY MESSAGES AND CONCLUDING REMARKS	57
4.1 Key Message 1: Good partnerships are essential to support remote learning.....	57
4.2 Key Message 2: Teachers are concerned about the impact of Covid-19 on mental health and wellbeing	58
4.3 Key Message 3: Redesign not Replication	59
4.4 Key Message 4: Address lack of capacity to support the development of digital education.....	60
4.5 Key Message 5: To achieve an inclusive digital education, we need a regional strategy	62
4.6 Concluding Remarks	64
5. REFERENCES	65



FIGURES

Figure 1: Teacher working patterns during lockdown	15
Figure 2: Teachers with individual and family health and/or caring considerations during lockdown.....	16
Figure 3: Likelihood of having family, health and/or caring considerations by years of teaching	17
Figure 4: Teachers with individual and family health and/or caring considerations during lockdown.....	18
Figure 5: Impact of home situation on positive and negative views of changes in work-life balance and hours of work.....	19
Figure 6: Work-life balance of teachers who identified as a primary carer for a child with special needs.....	20
Figure 7: Teacher access to technology at home.....	20
Figure 8: Teachers using their personal laptop/computer for work by teaching experience.....	21
Figure 9: Approaches used to facilitate remote learning.....	22
Figure 10: Types of learning activities completed at home.....	23
Figure 11: Teacher confidence using education technology by experience teaching.....	24
Figure 12: Teacher access to remote learning support/training.....	25
Figure 13: Schools open as part of emergency response.....	26
Figure 14: Schools with an agreed strategy for remote learning.....	27
Figure 15: Teacher approaches to remote learning online.....	28
Figure 16: Tools used during lockdown by teachers to facilitate remote learning activities	29
Figure 17: Remote online learning tasks completed by teachers.....	30
Figure 18: Providing feedback to learners online	31
Figure 19: Applications used for Video Conferencing	34
Figure 20: Top 20 responses for curriculum/subject areas not delivered using online remote learning	40
Figure 21: Percentage of learners participating in remote online learning daily	42
Figure 22: Percentage of learners without adequate access to a device or internet for learning	43
Figure 23: Factors limiting learner participation in remote learning online	44
Figure 24: Top ten additional reasons given for pupils not engaging in online remote learning.....	45
Figure 25: Factors limiting learner participation, simplified for digital exclusion.....	45
Figure 26: Top five concerns teachers have about learners	46
Figure 27: Teacher support to transition to online remote learning.....	48
Figure 28: Should online learning teaching practices replicate or redesign existing classroom focused approaches?.....	50
Figure 29: Has this experience made you more or less likely to engage with online learning?.....	52
Figure 30: Has this experience made you more or less likely to advocate for professional digital skills training for teachers?.....	53
Figure 31: Good partnerships are essential to support remote learning.....	57
Figure 32: Supporting the development of digital education system-wide.....	60
Figure 33: Digital exclusion factors as experienced in learning environments	62

Executive Summary

Introduction

- The coronavirus (Covid-19) pandemic has had an unprecedented impact on the education of children across the world as governments enforce a range of measures to limit the spread of the virus including strict lockdowns and school closures. The United Nations estimate that 1.6 billion learners, across 190 countries have been affected in 'the largest disruption of education systems in history'¹. This widespread disruption to education prompted many countries to consider alternative ways to provide schooling continuity for young people and various approaches were adopted, often using digital technology and broadcast media.
- On the 18th March 2020, with increases in the number of confirmed cases, the First Minister and deputy First Minister for Northern Ireland announced that schools would close to most pupils at the end of that week due to the coronavirus pandemic.
- This report documents the experiences of teachers between 21st May and the 12th June 2020 during this initial educational response to Covid-19. An online survey was developed and distributed to teachers across Northern Ireland mainstream primary and post-primary schools. During this time, many schools remained open to provide educational supervision of vulnerable children and key workers' children. However, faced with the challenge of providing emergency remote learning for most children, many teachers explored the use of online remote learning.
- The aim of this online survey was to explore the experiences of teachers and gather information on the various strategies being adopted by schools to support remote learning during the initial lockdown in 2020. Teachers shared information about their experiences supporting learning continuity during this period, providing a timely account of the more general challenges they faced, as well as information regarding online remote learning.
- The survey was created online using Microsoft Forms and the invitation to teachers to complete was sent to every mainstream primary and post-primary school in Northern Ireland on Thursday, 21st May 2020, using publicly available email

¹ United Nations: Policy Brief, Education during COVID-19 and beyond, August 2020. Available at: https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg_policy_brief_covid-19_and_education_august_2020.pdf

addresses. The email to the school principal contained the online survey link and explained the purpose of the research, with request to circulate to teaching staff

- The survey comprised 52 open-ended and closed multiple choice questions and it

was open for responses between the 21st May and 12th June 2020. Six hundred and ten (610) valid responses were received representing the primary (n=334, 55%) and post-primary sectors (n=276, 45%) and all Education Authority areas.

Findings

The key findings of the research have been summarised according to the four following themes:

1. Teacher experiences of supporting learning continuity during the initial 2020 Covid-19 lockdown

Most teachers completing the survey (n=593, 97%) found themselves working from home, most of the time during the initial period of lockdown. This sudden change in working patterns, combined with family, health and caring considerations provided a complex reality for many teachers to navigate.

On balance, teachers with family, health or caring considerations found that their work-life balance was much worse during lockdown compared to teachers without such considerations, who conversely found that their work-life balance had improved.

Overwhelmingly during this time, teachers were supported by school colleagues. However, qualitative survey responses suggested that teachers were critical of the support available outside school, in particular guidance and support from the Department of Education and educational agencies, including the Education Authority and CCEA.

2. Challenges that schools are facing in supporting online remote learning

Teachers responses indicated that various approaches were used to support online remote learning in effort to provide learning continuity for learners over the lockdown period. Considering the wide variety of tools used by teachers to facilitate online learning activities and the range of remote learning tasks completed, it is clear that the process of transition to online learning necessitated considerable effort on behalf of teachers to adapt, upload, create, support and capture digital content.

However, particular challenges were apparent in the data regarding the availability, timeliness and frequency of feedback for learners and also facilitating opportunities for learners to collaborate in shared spaces online.

Ninety percent (n=547) of the teachers surveyed were not using video conferencing to provide 'real time' lessons with their class(es); these teachers expressed a variety of concerns relating to the use of video conferencing with students, particularly issues regarding safeguarding and both student and teacher privacy.

3. Challenges relating to providing equality in supporting online remote learning

The transition to online remote learning was particularly challenging for certain activities and areas of the curriculum. Teaching activities less likely to be covered using online remote learning included practical lessons, group activities and discussion and play. Curriculum subjects most likely not to be delivered included Music, Physical Education (PE), Art, Science, Personal Development and Mutual Understanding (PDMU) and Religion. Significant gaps were also identified in speaking and listening and reading, as well as a reluctance to introduce planned new topics.

Responses suggested that student participation and engagement was adversely impacted during this time while learner participation in online remote learning classes was mixed, with the most common teacher response being that between 41-60% of learners participated daily.

Teachers identified many factors that had an impact on learner engagement and participation including, perhaps predictably, access to the internet and suitable devices for learning. However, a range of other limiting factors were identified by teachers including a lack of appropriate skills (29%) and a lack of motivation (33%).

Teachers also identified other concerns they had about learners in their class(es) as a direct result of learning from home. Seventy-nine percent (n=481) of teachers reported additional concerns they had about learners more generally, which included mental health, lack of socializing for students, dealing with vulnerable young people, isolation and issues relating to the learners' general emotional wellbeing and stress levels.

4. Opportunities for learning and growth

Overall, 68% (n=411) of the responding teachers indicated that they had been well supported to make the transition to online remote learning. However, of the 32% (n=197) who did not feel well supported, just under half (n=99) 'strongly' disagreed about this issue.

Teachers participating in this survey indicated that they would welcome more guidance, support and training to improve online remote learning. Many also commented that increased understanding of teachers' caring, and childcare responsibilities was needed, especially when providing childcare for their own children while teaching from home. The transition to online remote learning also provided teachers with a 'double burden': the expectation that teachers could readily teach online lessons, as well as the considerable work involved in planning for this new way of online delivery, was incredibly difficult to manage.

A number of the teachers responding to the survey also reflected that many of the approaches used in traditional classroom environments do not translate well to online teaching. In fact, only 10% (n=63) of the teachers who answered felt that online learning should replicate classroom approaches. Guidance and support were also considered necessary in this regard, with many teachers calling for consistency and uniformity across schools – a 'level playing field' – so that all teachers can feel confident in their skills and abilities.

Overall, this experience of lockdown did have a positive impact on the participating teachers' attitudes to online learning and digital skills training for teachers, with 76% (n=464) more likely to engage with online learning and 93%

(n=569) more likely to advocate for professional digital skills training for teachers.

Overall, this experience of lockdown did have a positive impact on the teachers' attitudes to online learning and digital skills training

for teachers, with 76% (n=464) more likely to engage with online learning and 93% (n=569) more likely to advocate for professional digital skills training for teachers.

Conclusion

As the Coronavirus pandemic endures, we move cautiously through 2021 and schools and teachers continue to navigate uncertainty and disruption to provide education in the most challenging of times. Although teachers appear to be rising to the challenge there is a pressing need to have a regional strategy that can bring all the crucial development needs up to speed for a new type of schooling in which blended

learning will demand better resources, better access, better pedagogical skills, better training – and coordination of all the main bodies involved. This study provides vital perspective and experience to learn from, essential not only if further lockdowns are necessary but also potentially for a more inclusive digital, online future.

1. Introduction

1.1 Background

On the 18th March 2020, the First Minister and deputy First Minister in Northern Ireland announced that schools would close to most pupils at the end of the school day on Friday 20th March 2020. Since then, teachers in Northern Ireland have been coping with unprecedented circumstances, attempting to provide learning continuity during the Covid-19 pandemic and lockdown.

The first case of coronavirus in Northern Ireland was reported on the 27th February 2020. In the weeks that followed, rates of transmission increased rapidly across the UK and the Republic of Ireland, prompting calls for the Government to introduce measures to reduce the virus spread. In the confusion and uncertainty of a rapidly evolving emergency, teachers and schools had a week to prepare for widespread school closures, the impact of which has been challenging for school leadership, teachers, parents and learners. The closure of schools across Northern Ireland has meant that strategies for distance/remote learning have been explored. A variety of approaches have been used, including using digital technology, to communicate and provide online learning resources and teaching.

Over the past few decades, Northern Ireland has invested considerably in school IT infrastructure, in particular the centrally managed service,

C2K, which provides standardised hardware and software across the school system. Since 2000, over £632 million has been invested and the Department of Education regards Northern Ireland as 'a recognized leader in the use of ICT in education.'² The revised Northern Ireland Curriculum was introduced in 2007 which included Using ICT (UIC) as one of the three statutory cross-curricular skills, alongside Communication and Using Mathematics³. UIC required that pupils should have opportunities to transfer knowledge, understanding and skills across the curriculum and consequently that all teachers in all subjects embrace its use and develop pupil skills.

However, despite developments in infrastructure and curriculum, recent reports have highlighted that Northern Ireland may be falling behind in the development of digital skills. Research by Citizens Online (UK) in 2017 suggests that NI has the worst digital exclusion rates in the UK with 32.2% of 16-65-year old's having low or no digital skills⁴. In addition, the Matrix 2016 Digital ICT Report states, '*Northern Ireland needs an ambitious regional strategy to support the development and delivery of digital skills and computing in school*'.⁵ The Chief Inspector's Report 2016-2018 recognises there is some good work and some weaknesses in primary schools but notably

² <https://www.education-ni.gov.uk/articles/ict-schools>

³ www.ccea.org.uk.

⁴ Citizens Online, 2017, page 8

⁵ Matrix Digital ICT Report 2016, Foresight & Horizon Scanning, page 34

makes little mention of ICT in secondary post primary sector. It asserts that ‘Given the constant advancement of technology more teachers need to develop their digital skills’.⁶ In addition, Northern Ireland is the only region in the UK without a government-led digital strategy or a digital

strategy for education.⁷ The table below taken from a consultancy review of digital education policy and implementation illustrates how NI compares with the rest of the UK and Republic of Ireland.⁸

Table 1:1: Assessment of how NI compares in relation to digital education policy and implementation

Element	England	Scotland	Wales	RoI	NI
Digital skills / digital education included in the PfG	NR ⁴	✓	✓	✓	x
Digital Strategy	✓	✓	x	x	x
Digital Education / Teaching Strategy	x	✓	x	✓	x
National / Regional Leadership	✓	✓	✓	✓	x
Investment in Digital Infrastructure	✓	✓	✓	✓	✓
Teaching Standards / competencies relating to digital skills	✓	✓	✓	✓	✓
Initial Teacher Education includes digital skills	x	✓	✓	✓ ⁵	x ⁶
National Level CPD programmes for teachers	✓	✓	✓	✓	x
Digital education incorporated as part of the national curriculum	✓	✓	✓	✓	✓

⁴ England has a different structure which means it does not have a PfG (Programme for Government)

⁵ RoI does not have a standard for digital literacy however digital is built into each standard

⁶ Competences include that ‘teachers will have developed a knowledge and understanding of how to use technology effectively, both to aid pupil learning and to support their professional role’ however there is insufficient detail on what knowledge and understanding means

⁶ Education & Training Inspectorate 2018, Chief Inspector’s Report 2016-2018, page 38

⁷ Northern Ireland Screen 2018, RSM Final Report Review of Digital Education Policy and Implementation in UK and Ireland, page 6

⁸ Northern Ireland Screen 2018, RSM Final Report Review of Digital Education Policy and Implementation in UK and Ireland, page 6

As the Covid-19 crisis emerged, there was no expectation that teachers were equipped and able to transfer schooling entirely to remote or online delivery. However, many have sought to utilise educational technology solutions and online learning to provide continuity of learning for their students. For this reason the findings of this study offer a unique contribution to recent studies regarding the experiences of learning continuity during the initial 2020 lockdown. The focus on teachers, remote online teaching and equality of access for learners will provide additional information regarding this experience to add to existing research following parents/carers surveys (O’Connor Bones et al, 2020⁹, Walsh et al. 2020¹⁰) as well as reports from across the UK and Ireland (Mohan, G et al. (2020)¹¹, Andrew, A et al. (2020)¹²). This collection of cumulative documentation of an assimilative and historic event may provide timely insight into the future role of digital education and issues which need to be addressed in order to ensure equality of access for all learners.

This study also contributes to recent studies calling for digital education in Northern Ireland to be prioritised and resourced (Galanouli & Clarke, 2019)¹³, as well as providing additional weight to reports calling for greater investment and policy in this area, including the report from Matrix (the Northern Ireland Science Industry Panel) who have called for a ‘coherent educational progression model which embeds the necessary skills from primary level onward, a framework for teacher professional development in digital skills and a clear skills investment action plan for the Digital ICT sector’ (Matrix Digital ICT Report, 2016, p68-69).¹⁴

This study prioritises the professional voice of teachers, and asks how they and their learners are coping with the increased use of digital skills and online tools for learning, asking for their professional views on the implications for digital education moving forward.

⁹ O’Connor Bones, U, Bates, J, Roulson, S, Taggart, S & Finlay, J, (2020) Ulster University Northern Ireland Parent Surveys: Experiences of Supporting Children’s Home Learning during Covid-19, UNESCO Centre, July 2020; Available at: https://www.ulster.ac.uk/_data/assets/pdf_file/0009/597969/UU-School-survey-Report-web.pdf

¹⁰ Walsh, G, Purdy, N, Dunn, J, Jones, S, Harris, J & Ballentine, M (2020) Home-Schooling in Northern Ireland during the COVID-19 Crisis: The experiences of parents and carers, Belfast: Centre for Research in Educational Underachievement/Stranmillis University College, 20/5/2020, Available at: <https://www.stran.ac.uk/research-paper/creu-home-schooling-during-covid/>

¹¹ Mohan, G, McCoy, S, Carroll, E, Mihut, G, Lyons, S & MacDomhnaill, C (2020) Learning for all? Second-level Education in Ireland during Covid-19, ESRI Survey and Statistical Report Series, Number 92, June 2020

¹² Andrew, A, Cattan, S, Cosa-Dias, M, Farquharson, Kraftman, L, Krutikova, S, Phimister, A, Sevilla, A (2020) Learning during the lockdown:real-time data on children’s experiences during home learning, The Institute for Fiscal Studies, IFS Briefing Note BN288, 2020.

¹³ Galanouli, D & Clarke, L (2019) Study into the Development of Digital Education in Primary Schools in Northern Ireland, Available at: <https://www.northernirelandscreen.co.uk/wp-content/uploads/2020/01/Digiskills-Full-Report.pdf>

¹⁴ Matrix NI (2016), Matrix Digital ICT Report 2016: Foresight & Horizon Scanning, Matrix Digital ICT Panel. Available from: <https://matrixni.org/wp-content/uploads/2016/03/2016-Matrix-Digital-ICT-Report.pdf>

1.2 Survey Aim and Objectives

The aim of this online survey was to explore the experiences of teachers and gather information on the various strategies being adopted by schools to support remote learning during the initial lockdown, and responses were invited between the 21st May and 12th June 2020. The survey invited responses from teachers currently employed in mainstream primary and post-primary schools in Northern Ireland. The teachers were asked to comment on their own experiences and also on how they believe parents and children at home are coping with remote learning.

1.3 Methodology

The survey was created online using Microsoft Forms and the invitation to teachers to complete was sent to every mainstream primary and post-primary school in Northern Ireland on Thursday, 21st May 2020, using the info@ email addresses for schools. The email to the school principal contained the online survey link and explained the purpose of the research, with request to circulate to teaching staff. To promote engagement, the survey link was also circulated widely on social media and to addresses on databases held by Ulster University's School of Education. The invitation to participate included details of how the survey was to be used and stated that no information would be gathered that would identify an individual or school. It was made clear that participation was voluntary, with the design of the survey ensuring that respondents indicated their informed consent at the start of the survey. All respondents were aware that they could choose to not complete at any time

The objectives central to the survey were:

1. To examine teacher opinion on experiences of supporting learning continuity during the initial lockdown which occurred in response to the Covid-19 pandemic
2. To investigate challenges that schools faced in supporting online remote learning during the initial 2020 lockdown
3. To understand the challenges relating to providing equality in supporting online remote learning and digital education going forward.

before submitting a response. All responses were confidential and no personal information was requested.

The survey was open for responses between the 21st May and 12th June 2020 and received 610 valid responses. Initial breakdown of the survey responses from teachers are as follows:

- Fifty-five percent (55%, n=334) of responses from Primary schools, 45% (n=276) from Post-primary schools.
- All Education Authority areas were represented. The highest response rate was achieved in Locality 3 (Belfast and South East) at 44% (n=267), while both Locality 2 (North) 28% (n=170) and Locality 3 (South and West) achieved a response rate of 28% (n=173).
- The breakdown of primary responses by sector was: Maintained (n=156, 47%), Controlled (n=133, 40%), Integrated (n=31, 9%), Irish Medium (n=9, 3%), Special (n=3 and Independent (n=2)

- Post-primary responses by sector were Maintained (n=82, 30%), Controlled Grammar (n=44, 16%), Controlled Non-Grammar (n=50, 18%), Voluntary Grammar (n=65, 24%), Integrated (n=25, 9%), Irish Medium (n=5, 2%), Special (n=1), KS3 Only (n=1), Independent (n=1), with an additional two responses identifying themselves as 'Other.'
- Responses from teachers represent varying years' experience with the majority of teachers having 20-29 years' teaching experience (n=216, 35%). Just under one third of the respondents had between 10-19 years' teaching experience (n=194, 32%) while 79 (13%) teachers belonged to those most experienced with over 30 years in teaching. From those teachers with less years of teaching experience, 67 (11%) had between 5-9 years and 54 (9%) less than 5 years.

The survey comprised 52 open-ended and closed multiple choice questions, which were designed to address the main research objectives. In developing questions for the survey, the research team reviewed recent and emerging literature relating to factors that contribute to digital exclusion (Ragnedda & Mushert, 2013¹⁵; DiMaggio et al., 2004¹⁶; Bennett & Kervin, 2008¹⁷). Digital exclusion refers to inequalities relating to the use of digital technologies and is

experienced by a diverse range of individuals and communities, including young people (Ragnedda & Mutsvairo, 2018¹⁸, Scolari 2019¹⁹). Being a digitally included individual can be defined as 'having the access, motivation and skills to navigate confidently online and access opportunities on the internet' (Dept. for Digital, Culture, Media and Sport, 2017²⁰). Recent research studies relating to Northern Ireland and the development of digital education were also reviewed and informed the approach used (Galanouli & Clarke, 2019²¹).

To understand the challenges relating to ensuring equality, while providing remote online learning, three main themes relating to digital exclusion were identified in the design of the questionnaire: sufficiency and quality of access to technology, sufficiency of skills to use technology and motivation to apply access and skills for learning. Questions were developed around these three themes and teachers were asked to reflect on their own experiences, access, skills and motivation as well as reflecting on the experiences of the young people they teach.

A focus group of teachers from primary and post-primary schools was invited to input to the design of the questionnaire. A draft sample survey was also circulated to a small group of primary and post-primary school teachers and

¹⁵ Ragnedda, M & Mushert, G.W., (2013) *The Digital Divide: The Internet and Social Inequality in International Perspective*, Routledge

¹⁶ DiMaggio, P, Hargittai, E, Celeste, C, & Shafer, S (2004) *Digital Inequality: From Unequal Access to Differentiated Use*. In Neckerman, K ed. *Social Inequality*. New York: Russell Sage Foundation: 355-400

¹⁷ Bennett, S, Maton, K, & Kervin, L (2008) *The 'digital natives' debate: A critical review of the evidence*. *British Journal of Educational Technology*, 39(5): 775-786

¹⁸ Ragnedda, M, & Mutsvairo, B, (2018). *Digital Inclusion: An International Comparative Analysis*, Lexington Books

¹⁹ Scolari, C (2019) *Beyond the myth of the "digital native"*, Adolescents, collaborative cultures and transmedia skills, *Nordic Journal of Digital Literacy*, Vol. 14, No.3_4_2019, pages 164-174

²⁰ Department for Culture, Media & Sport (DCMS). (2017). *The UK Digital Strategy*. Available at: <https://www.gov.uk/government/publications/uk-digital-strategy> [Accessed 15/02/2019].

²¹ Galanouli, D & Clarke, L (2019) *Study into the Development of Digital Education in Primary Schools in Northern Ireland*, Available at: <https://www.northernirelandscreen.co.uk/wp-content/uploads/2020/01/Digiskills-Full-Report.pdf>

* Details regarding categories for schools in Northern Ireland is available at <https://www.nidirect.gov.uk/articles/types-school>

feedback from this pilot was used to inform the final version used.

The survey sought to gather data on the views and perceptions of teachers in relation to the following topics:

1. **Teacher experiences of supporting learning continuity during the initial lockdown which occurred in response to the Covid-19 pandemic**
2. **Challenges that schools are facing in supporting online remote learning during the initial 2020 lockdown**
3. **Challenges relating to providing equality in supporting online remote learning during the initial 2020 lockdown**
4. **Opportunities for learning and growth**

The next section presents the findings of the survey using the topics outlined above and provides a further breakdown according to specific survey questions and relating to emerging themes generated from teacher responses.

2. Findings

2.1 Teacher experiences of supporting learning continuity during the initial lockdown which occurred in response to the Covid-19 pandemic

2.1.1 The impact of the initial lockdown on normal working patterns

It is clear that teachers across Northern Ireland experienced the initial 2020 lockdown in very different ways. For many of the teachers participating in the survey, schools remained open (n=343, 56%) as part of the emergency response to providing education for vulnerable learners and learners from key worker families. For others, teacher responses indicated that their schools were closed (n=243, 40%), while a minority (n=24, 4%) reported that their schools would open as needed.

Most of the teachers (n=372, 61%) were working mainly from home but going into school when required, some on a rota system and others when asked to attend. Twenty-seven percent (27%) (n=164) of the respondents were working from home full-time while 10% (n=62) were working from home in a reduced capacity due to caring duties. A minority (2%) (n=12) were working in school each day.

Teacher working patterns during lockdown

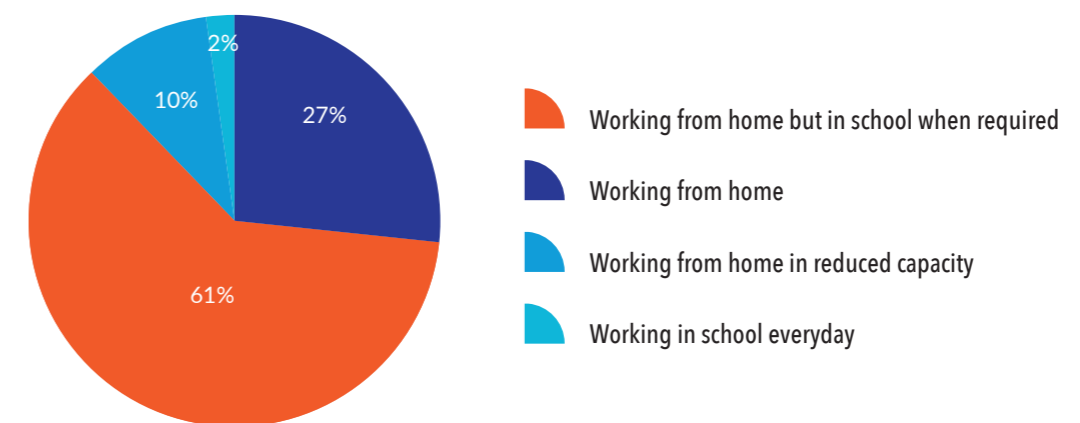


Figure 1: Teacher working patterns during lockdown

2.1.2 Family, health and caring considerations during lockdown

The research team wanted to capture information relating to other concerns that teachers may have during this time relating to their own health, the health of others in their households or whether or not they have caring responsibilities. Most teachers surveyed (n=464, 76%) responded with details of family, health and caring considerations during lockdown. Figure 2 shows the variety and frequency of family, health and caring considerations returned. Caring for children featured strongly in the responses. Many teachers (34%) (n=210) were the main carer for a child or children under 13 when school was closed. Five percent (n=33) of teachers surveyed were also parents of children with special needs.

Teachers' individual health concerns or concerns for another person living in their household also featured strongly. Fourteen percent (n=86, 14%) of participating teachers stated that they had an underlying health condition which put them at higher risk during the pandemic. An additional 29% (n=178) of respondents lived with someone in their household who either had underlying health conditions or had been shielding during the lockdown period.

Figure 3 shows how teachers were impacted by family, health and caring duties during lockdown across the breadth of teaching experience in years in comparison with teachers that had no family, health or caring considerations. Least impacted groups were the less experienced teachers and teachers with over 30 years' experience. A higher proportion of teachers in 10-19 and 20-29 years categories had caring responsibilities for children.

Separating these family, health and caring considerations across the breadth of years teaching also provided an opportunity to understand some of the factors that shaped the 'lived' experience of many teachers working at home.

Teachers with family and caring considerations during lockdown

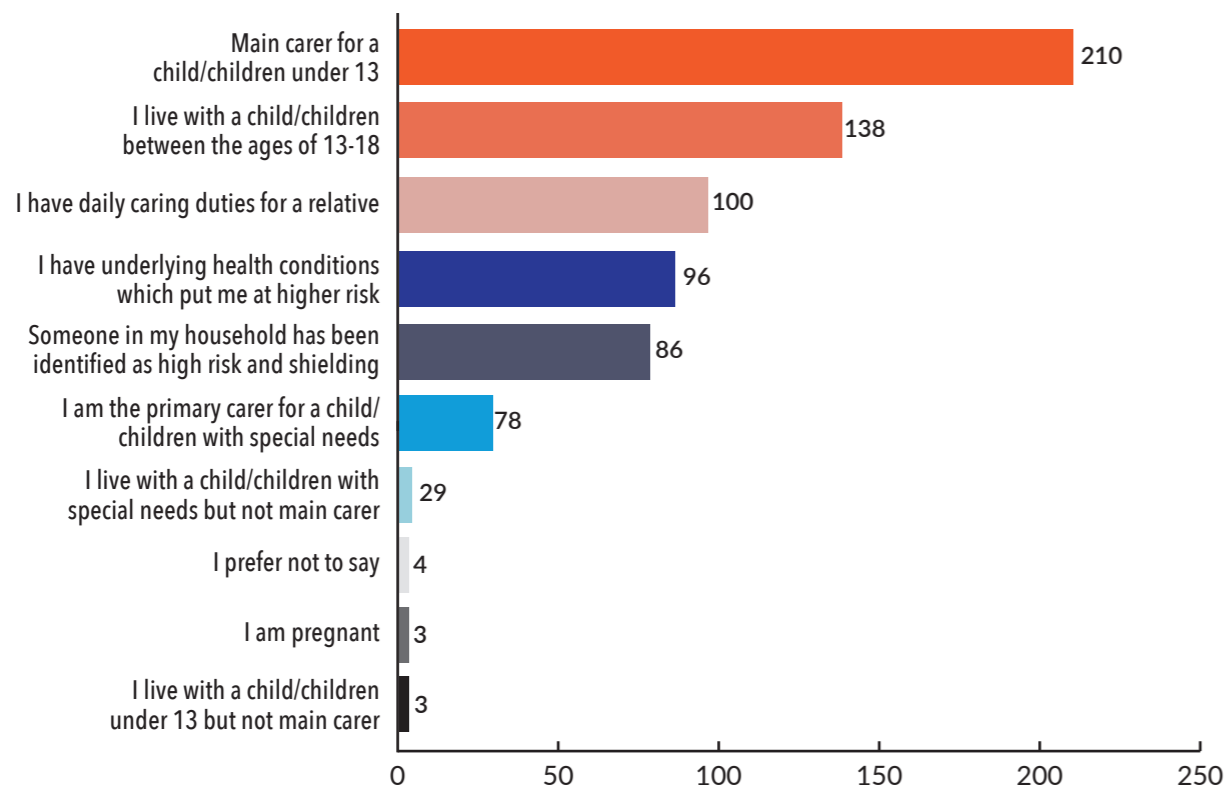


Figure 2: Teachers with individual and family health and/or caring considerations during lockdown

Likelihood of having family, health and/or caring considerations by years of teaching

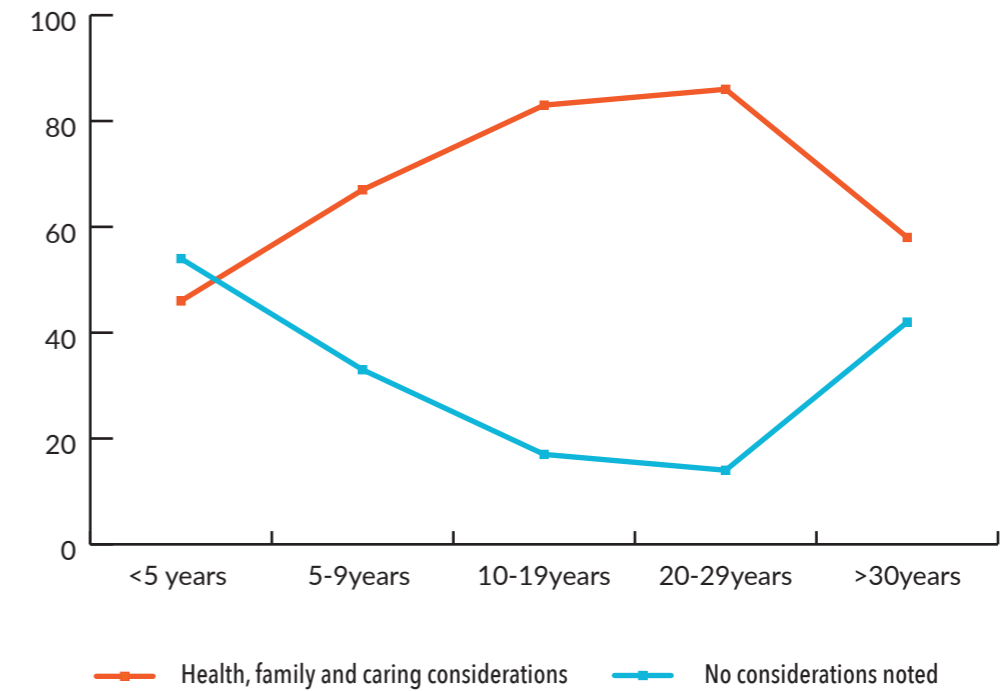


Figure 3: Likelihood of having family, health and/or caring considerations by years of teaching

Figure 4 below provides more details regarding the range of responsibilities and duties experienced.

In addition, the cumulative impact of multiple family, health and caring responsibilities were experienced by forty-six percent (n=242) of teachers responding. Twenty-seven percent of teachers reporting two or more considerations (n=165, 27%) and nineteen percent of teachers replying that three or more family, health and caring considerations applied to them (n=117,

19%), highlighting the complex individual realities that life during a pandemic can expose.

During the initial lockdown in 2020 and throughout the time the survey was inviting responses, the educational response to Covid-19 was often covered by the local media and many teachers reflected on how they had found media coverage challenging, particularly as they found themselves often grappling with additional responsibilities the following comment illustrates:

“I think it needs to be made clear to the media that teachers are working to the best of their ability with the resources we were given at short notice. It is difficult to remain positive with, at times, negative press. This does not feel like a holiday and it can be quite stressful making sure my own children are completing tasks, being a carer for my mum and committing my time to Google Classroom. Sometimes I will have to provide pupils with feedback in the evening as I need to closely monitor my children class work during the day.” (Post-primary teacher, between 20-29 years teaching, Locality 1(South and West))

2.1.3 The impact of lockdown on teachers’ work-life balance and hours of work

Not surprisingly, having an increased number of family, health or caring considerations at home during lockdown had a negative impact on how teachers felt about their work-life balance. Living with a child or children under the age of 13, having daily caring duties for a relative or having an underlying health condition negatively impacted on work-life balance, as depicted in Figure 5 below.

Teacher individual and family, health and/or caring considerations during lockdown

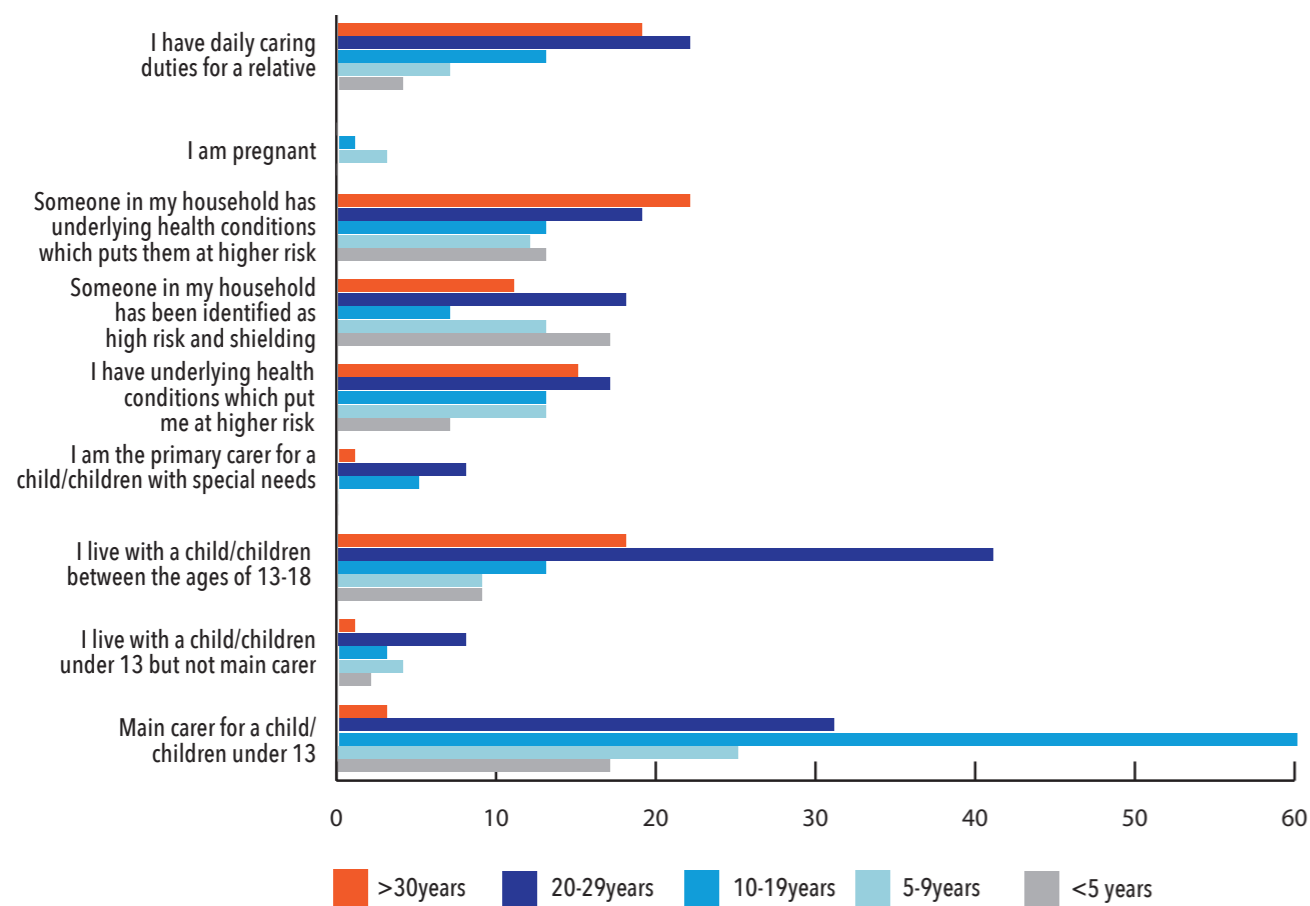


Figure 4: Teachers with individual and family health and/or caring considerations during lockdown

Impact on home situation on positive and negative views in changes of work life balance

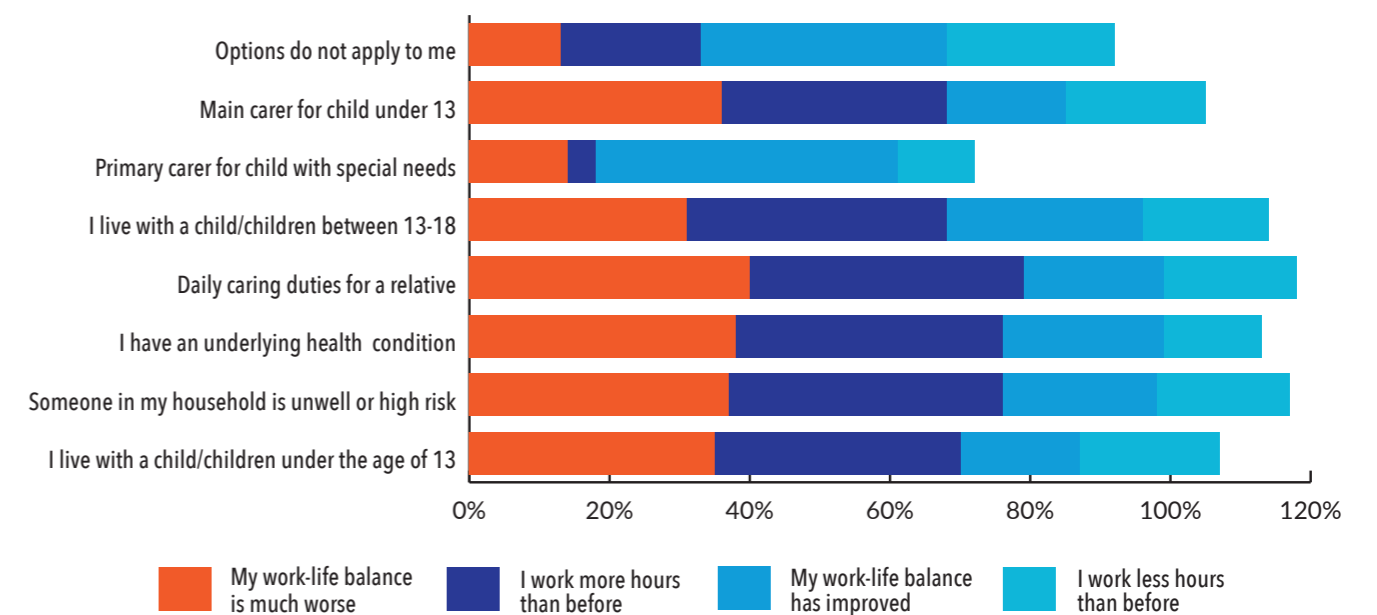


Figure 5: Impact of home situation on positive and negative views of changes in work-life balance and hours of work

Work-life balance for some teachers however did improve during lockdown for two categories identified. Perhaps more obviously, teachers who did not have family, health or caring responsibilities experienced an improved work-life balance as Figure 6 below depicts. Teachers who identified as the primary carer for a child with special needs also responded that their work-life balance had improved.

2.1.4 The realities of working from home

While working from home, teachers used a variety of digital devices to provide continuity support for learning and to communicate with colleagues with 'Smartphone' returning as the most popular device (n=383, 63%). Teachers were able to choose multiple answers, and many returned multiple options, indicating that teachers use a range of digital devices. Figure 7 below depicts the range of technology being used by teachers in the survey.

Many teachers were working on their own smartphones (n=383, 63%) laptops or computers (n=305, 50%), with a fewer number using their own iPads (n=100, 16%). Only 33% (n=200) of teachers surveyed used a computer or laptop provided by their own school. Eighteen percent (n=111) of teachers responded that they were using a shared laptop or computer for teaching purposes. Tablets or iPads were also being used widely, 43% (n=261) of teachers responded that they were using an iPad or tablet provided by their school.

The great majority of less experienced teachers (n=45, 83%) reported using their own personal laptop or computer (teachers with less than 5-years teaching experience) compared to 40% (n=86) of teachers who had between 20-29 years teaching experience (Figure 8).

Work-life balance of teachers who identify as a primary carer for child with special needs

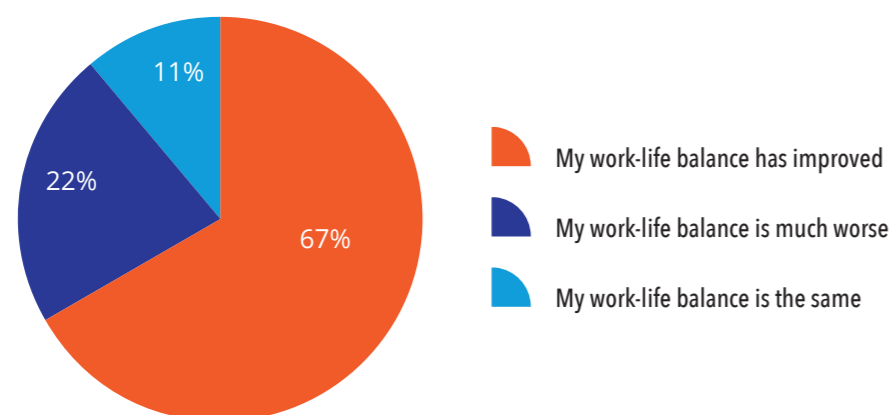


Figure 6: Work-life balance of teachers who identified as a primary carer for a child with special needs

Percentage of teachers using their own (personally bought) laptop or computer by teaching experience (years)

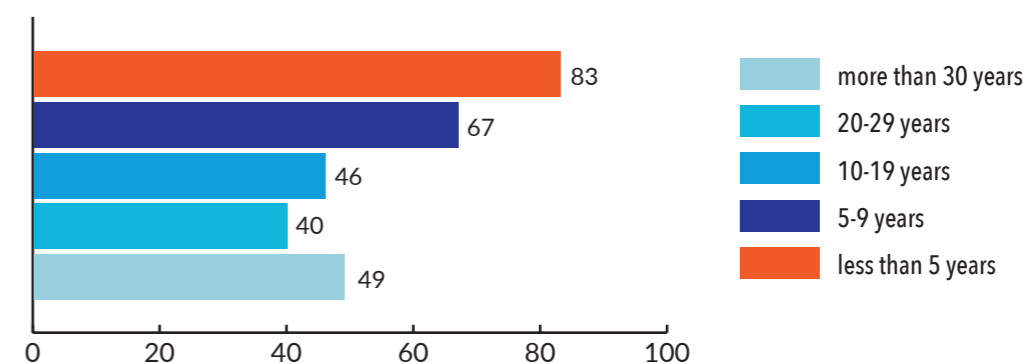


Figure 8: Teachers using their personal laptop/computer for work by teaching experience

What access to technology do you have in your home for teaching purposes?

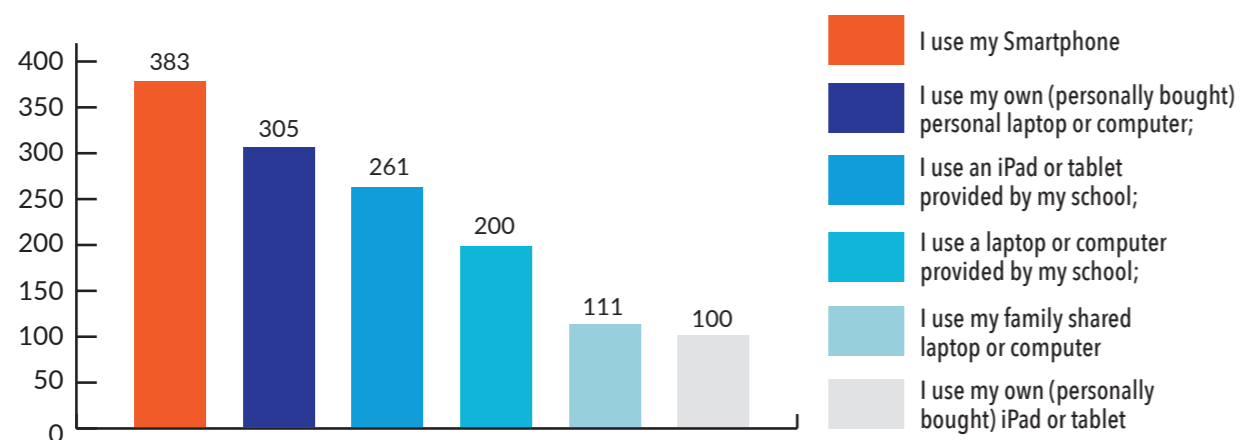


Figure 7: Teacher access to technology at home

Regarding technical support, 62% (n=378) of teachers responded that they did have access to technical support when working from home while 38% (n=232) did not. However, responses were much higher for primary school teachers with fifty-two percent (n=173) of primary school teachers responding that they did not have access to technical support when working from home compared with twenty-one percent (n=59) of post-primary school teachers. Teachers responding to the survey also highlighted issues they experienced while using technology at home. While only 2% (n=13) did not have sufficient access to a laptop or computer for professional use, the high number of personally bought or shared laptops and

computers (n=305, 50%), smartphones (n=383, 63%) raises questions about the access that teachers have to quality, suitable, professional equipment, given that for any teacher, digital devices are essential tools. Eight percent (n=47, 8%) of respondents worried that their laptop or computer was not secure enough for professional use and 6% (n=37) did not have access to relevant software from their device at home. Regarding internet connectivity, 11% (n=65) had trouble accessing the internet from their home. It is worth mentioning that as this was an online survey, teachers experiencing a lack of access to devices or poor or no internet access are less likely to have completed it.

2.1.5 Different approaches to supporting learning continuity during the initial 2020 lockdown

On the 16th March 2020, the Department of Education issued COVID-19 guidance to educational settings in Northern Ireland that included a request that schools prepare ‘a work schedule for their pupils in the event of a school closure, to cover a minimum of four weeks.’²² Schools were advised that in preparing for a potential school closure, the priority was to ensure that teaching and learning continue. Although online remote learning was not mandated, schools were instructed to provide resources, test links and provide emails of teachers to parents. It was also advised that where access to IT equipment or internet was not available, that ‘every effort should be made to lend equipment or provide printed material for learners’.

It is clear that teachers and schools responded to the challenge of supporting learning continuity in different ways as depicted in Figure 9. Most were using technology in some capacity to support learning. The most popular response (n=359, 59%) was using an online learning platform while 38% (n=230) were using a learner engagement application such as Seesaw²³ or ClassDojo.²⁴

Twenty-eight percent (n=170) of respondents indicated that they were regularly emailing learners directly to provide learning activities and 23% (n=142) were regularly emailing parents to provide online learning activities for learners. Twenty-nine percent (n=176, 29%) had distributed a one-off learning pack (hard-copy) and 24% (n=148) were regularly preparing home learning packs (hard-copy) to learners.

Of the 12% (n=70) of teachers responding ‘Other’ in relation to approaches used to facilitate remote learning, the most popular choice was uploading learning activities and instructions to the school website (n=40, 53%). Other popular answers included, signposting to apps/online resources (n=8, 11%), uploading work to shared folders (n=7, 9%), providing additional hard-copy resources to supplement a primary online learning approach (n=7, 9%), and additionally contacting learners/parents by phone or email to keep in contact (n=4, 5%).

Teachers were also asked ‘What types of learning activities have you asked your class(es) to complete at home?’ and a range of responses were noted (Figure 10). The most popular learning activity that classes were asked to complete was ‘Worksheet completion – offline/paper’ (n=482, 79%), with the least returned responses ‘Using ICT Tasks’ (n=68, 11%). Many

teachers commenting in the ‘Other’ section also highlighted tasks linked to reading, language practice and physical education. Despite significant investment in IT infrastructure in schools in Northern Ireland, the popularity of offline/paper options perhaps reflects many teachers’ preference to maintain offline and paper-based learning activities for learners in class.

Teachers also reported using a range of tools to communicate with colleagues in their school during lockdown. The most popular response returned by teachers was ‘Email’ (n=586, 96%) ‘Social media’ (E.g. WhatsApp) (n=500, 82%), Phone calls (n=498, 82%), ‘Video Conferencing’ (n=333, 55%) and ‘Other’ (n=20, 3%). Many of the teachers commenting in the ‘Other’ category indicated that they had also met with colleagues, respecting social distancing, in person, in school.

Approaches used to facilitate remote learning

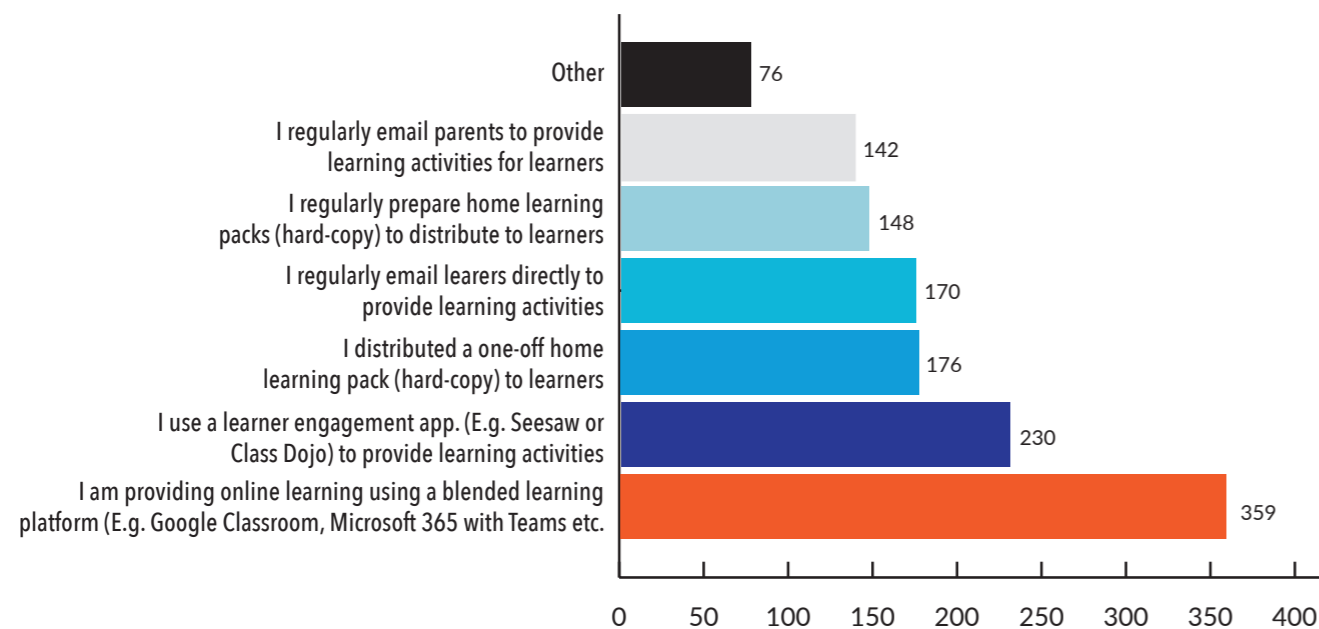


Figure 9: Approaches used to facilitate remote learning

What types of learning activities have you asked your class(es) to complete at home?

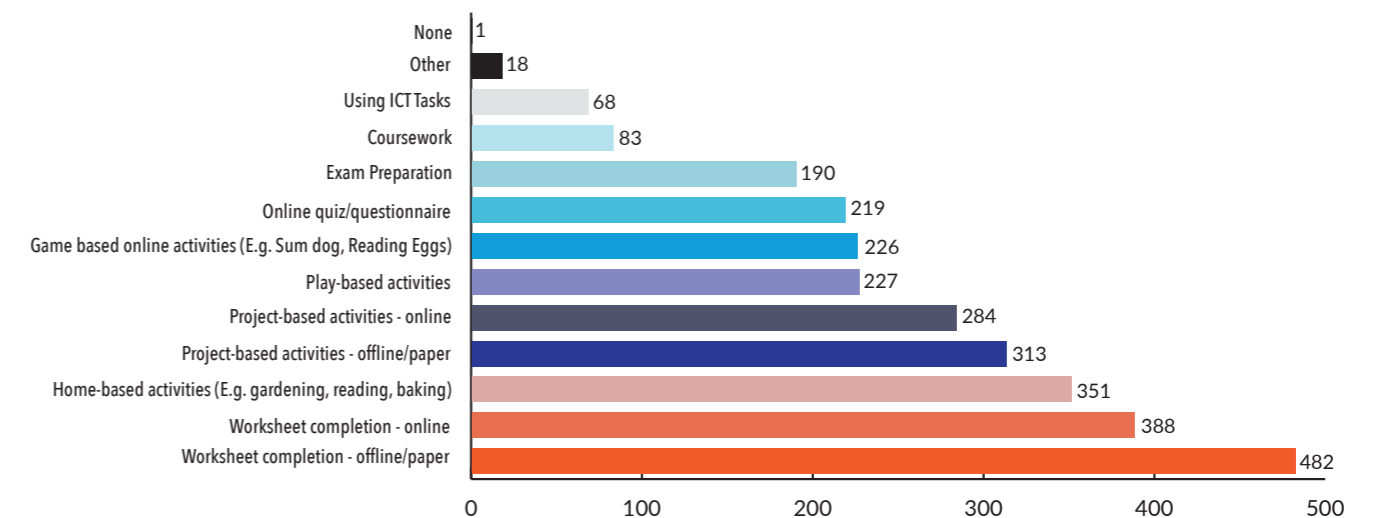


Figure 10: Types of learning activities completed at home

²² DENI, 16th March 2020, Available at: <https://www.education-ni.gov.uk/education-minister-issues-covid-19-guidance-educational-settings>

²³ www.seesaw.me

²⁴ www.classdojo.com

2.1.6 Access to support/training

Teachers were asked to indicate the extent to which they agreed with the following statement: 'When lockdown began, I felt confident I could use educational technology to provide remote learning for my class.' Overall 63% of the respondents (n=386) agreed and 37% (n=224) disagreed. A range of responses was returned, 'Strongly agree' (n=85, 14%), 'Somewhat agree' (n=198, 32%), 'Slightly agree' (n=103, 17%), 'Slightly disagree' (n=48, 8%), 'Somewhat disagree' (n=71, 12%) and 'Strongly disagree' (n=105, 17%).

Geographically, from east to west in Northern Ireland, teacher confidence before lockdown appeared to reduce. Teachers responding from Locality 2 North and Locality 3 Belfast and South East, returned similar percentages of teachers responding that they 'Agreed' with

65% (n=111) for Locality 2, and 66% (n=176) for Locality 3. Teachers responding from Locality 1 South and West, were least confident, with 57% (n=99) of respondents saying they 'Agreed' and 43% (n=74) responding that they 'Disagreed'.

The primary school teachers in the sample were proportionately more likely than the post-primary school teachers to select 'Strongly disagree' or 'Somewhat disagree', 34% in primary (n=113) compared with 12% in post-primary (n=63).

Levels of confidence indicated by teachers surveyed also varied depending on how long they had been teaching, with teachers earlier in their career displaying higher degrees of confidence than more experienced teachers. Teachers with over 30 years' experience were proportionately most likely to 'Strongly disagree' with the statement (n=33, 42%).

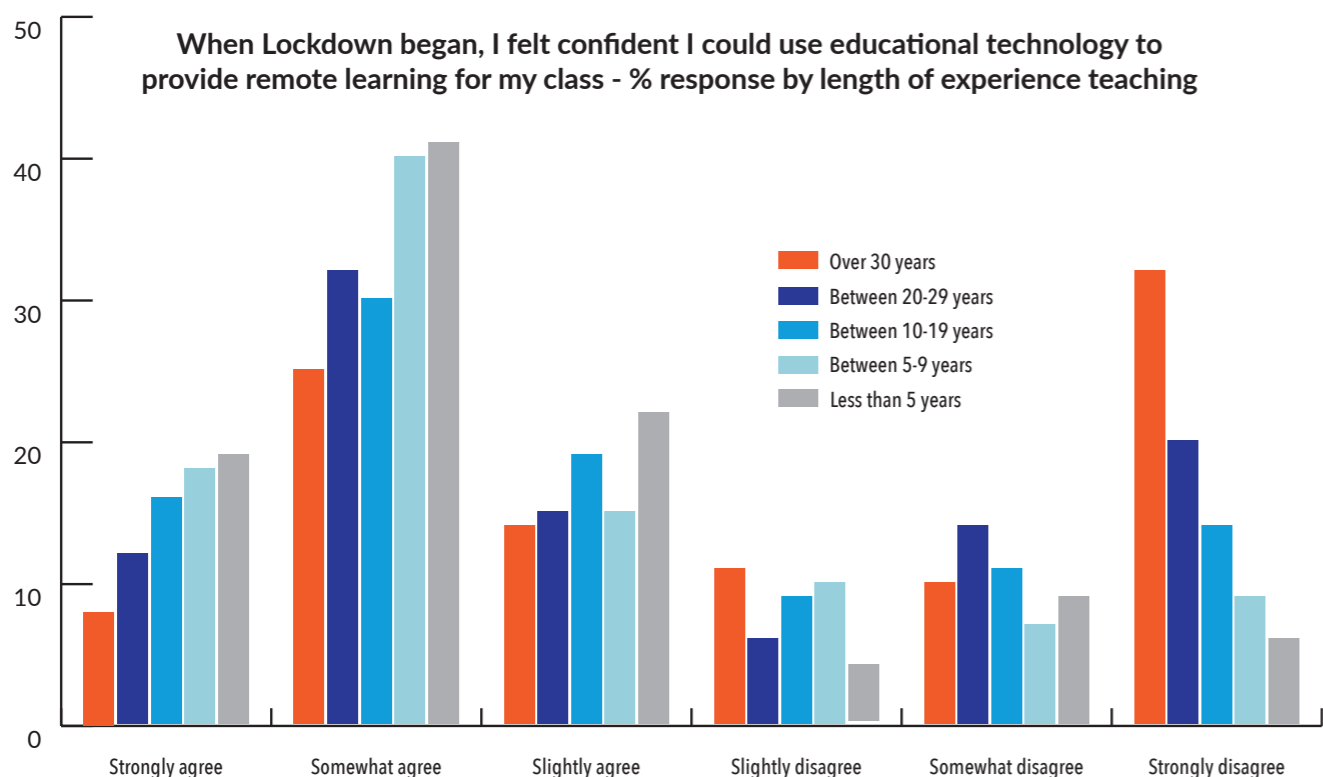


Figure 11: Teacher confidence using education technology by experience teaching

Teachers were asked 'Where have you been able to access support and/or training to assist you to provide remote learning?' and they were able to

select multiple answers to this question if they had used more than one source of support. Figure 12 below reveals the results.

Where have you been able to access support and/or training to assist you to provide remote learning?

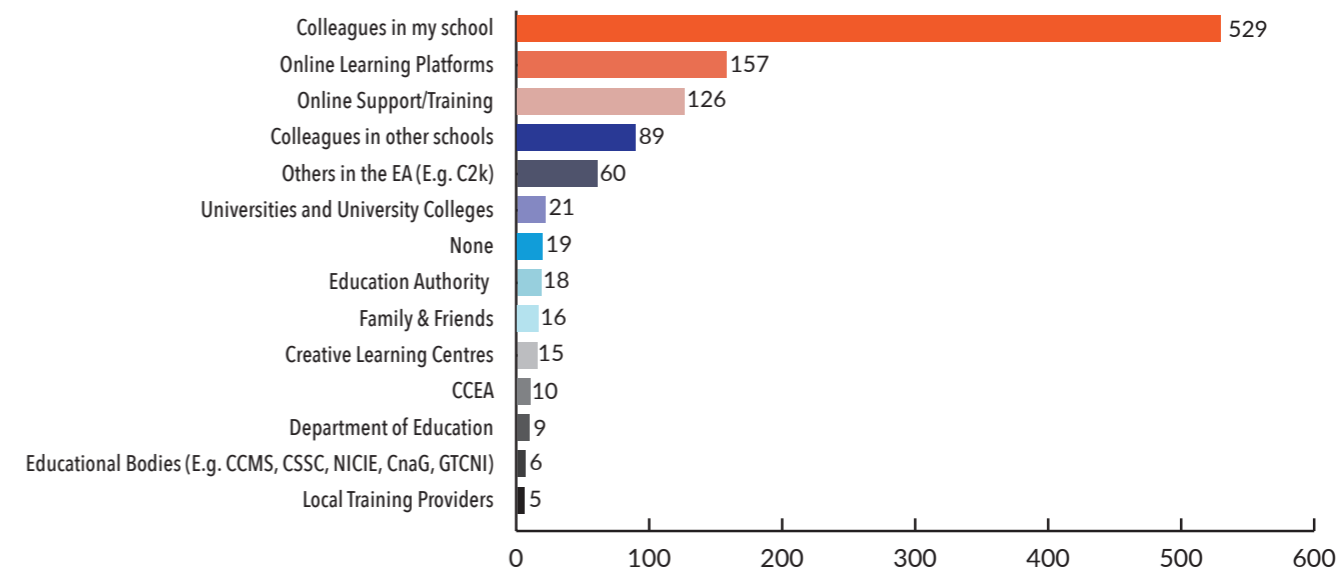


Figure 12: Teacher access to remote learning support/training

Overwhelmingly teachers responded that during the first lockdown they found support and/or training from colleagues in their own school (n=529, 87%). In fact, despite being able to choose multiple options, 43% (n=262) of those responding chose to *only* select 'Colleagues in my school'. Smaller number of teachers accessed support from online learning platforms (n=157, 26%) and online support/training (n=126, 21%), with many referencing YouTube as a main source for training and information.

It is clear that very few of the teachers who responded were accessing support and/or training from the Department of Education (n=9, 1%), or the main educational statutory or publicly funded organisations (CCEA (n=10, 2%), Education Authority (n=18, 3%), Others in the EA (E.g., C2k (n=60, 10%),

Universities and University Colleges (n=21, 3%), Creative Learning Centres (n=15, 2%), Educational Bodies (n=6, 1%). This was an unprecedented emergency event, however it does raise significant questions regarding the availability of suitable support for schools and teachers for online remote learning and digital education. Indeed, it raises an additional fundamental question as to whether or not clear roles, guidance and actions across all these organisations exist to provide teachers with timely information, advice and training to support them with online remote learning.

2.2 Challenges that schools are facing in supporting online remote learning

2.2.1 Background

Many teachers and schools have been involved in rapidly shifting the 'normal' delivery of education to online remote learning in unprecedented circumstances. Guidance issued by the Department of Education on the 16th March 2020 suggested that schools should prepare work to cover a minimum of four weeks 'with the required resources and online links to enable their children to continue their education in a home setting with the support of parents and remote access to teachers where this is possible.'²⁵ With that said, there is plenty to learn from the information provided by teachers about their experiences of online remote learning and the challenges that schools are facing.

Although many schools and educational settings were closed to learners for normal in-school lessons, schools across Northern Ireland were also expected to provide supervised learning for children of key/critical workers and vulnerable children.²⁶ Many of the teachers surveyed responded that their schools were indeed open (n=343, 56%) while 40% (n=243) indicated that they were not open and 4% (n=24) reported that their schools opened as needed or requested by parents of vulnerable learners and key worker families.

²⁵ DENI, (2020) Covid-19 (Coronavirus) – Guidance to Educational Settings in Northern Ireland, 16th March 2020, Available at: <https://www.education-ni.gov.uk/news/education-minister-issues-covid-19-guidance-educational-settings>
²⁶ DENI, (2020) General Guidance on Covid-19 for schools, March 2020, Available at: <https://www.education-ni.gov.uk/general-guidance-covid-19-schools>

Is your school currently open as part of the emergency response to provide supervised education for vulnerable learners and learners from key worker families?

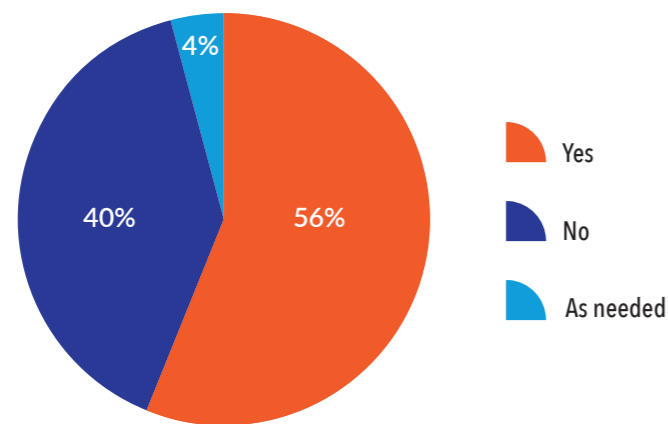


Figure 13: Schools open as part of emergency response

2.2.2 Transitioning from classrooms to online remote learning

Transitioning from classrooms to online remote learning requires schools and teachers to rapidly adapt existing classroom teaching for online delivery. This survey asked teachers to reflect and comment on different aspects of this transition:

1. Strategy;
2. Teacher approaches to remote teaching online;
3. Tools to facilitate remote learning activities for learners;
4. Tasks relating to remote online learning transition;
5. Facilitating feedback from learners;
6. Facilitating learner to learner collaboration;
7. Using video conferencing.

Strategy

Teachers were asked if their school had agreed a strategy for remote learning during the Covid-19 lockdown. Eighty percent (n=490) of the teachers responded that their schools had agreed a strategy for remote learning during the Covid-19 lockdown while the remaining teachers (n=120, 20%) indicated that their schools had no agreed strategy (Figure 14). This ratio was similar across primary and post-primary and in each of the localities represented.

Has your school agreed a strategy for remote learning during Covid-19 lockdown?

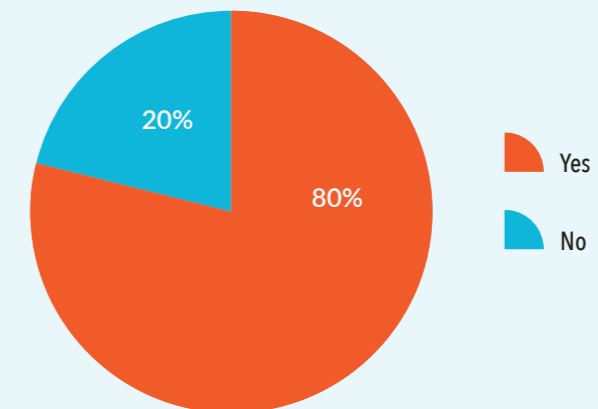


Figure 14: Schools with an agreed strategy for remote learning

Teacher approaches to remote teaching online

To try to understand what types of approach were being used to facilitate remote teaching, teachers were asked to select one answer to the question 'Which of the following statements best describes your approach to remote teaching online?'. Figure 15 shows the popularity of responses given, with the most popular two approaches being: 'My approach has been to publish my teaching resources online for learners to work through' for 33% (n=202) of the respondents and 'My approach has been to send physical home-learning packs home and then use online communication tools (E.g. Seesaw) to support suggested activities' (n=174, 29%). Nineteen (3%) teachers responded that they were not providing online remote teaching.

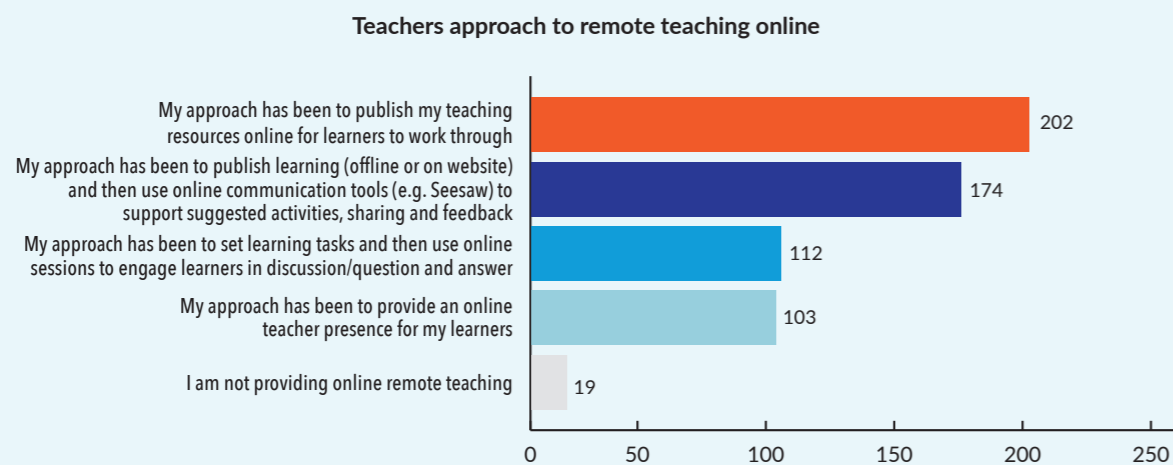


Figure 15: Teacher approaches to remote learning online

Tools to facilitate remote learning activities for learners

Teachers were asked 'Which of the following tools have you used during lockdown to facilitate remote learning activities for learners?' (see Figure 16 below) and were allowed to choose more than one answer. Responses from teachers indicated that although 'Email' was the most popular response (n=430, 70%), teachers were using a wide variety of tools to facilitate remote learning activities for learners. Google Classroom,²⁷ a free web service developed by Google for schools to allow for creating, distributing and grading assignments was the second most popular tool with 40% (n=243) of teachers surveyed identifying it as a tool they had used. The popularity of video conferencing application 'Zoom'²⁸ was also reflected in survey responses, despite reported security concerns, with 16% (n=95) of teachers using it while the C2K alternative, *Blackboard Collaborate Ultra*²⁹, a web-conferencing solution built for education and training was only used by 4% (n=26) of the respondents. However, 18% (n=108) of teachers surveyed were using Microsoft Teams³⁰, a chat-based collaboration and communication platform.

²⁷ <https://edu.google.com/intl/en-GB/products/classroom/>

²⁸ <https://zoom.us>

²⁹ <https://www.blackboard.com/teaching-learning/collaboration-web-conferencing/blackboard-collaborate>

³⁰ <https://www.microsoft.com/en-gb/microsoft-teams>

Of the 38 teachers who selected 'Other', an additional 28 educational websites or applications were identified; the most popular additional options included Showbie³¹, an educational app that provides a classroom management platform and Purple Mash³², which is a creative online space aimed at primary school learners. Six percent of teachers (n=37) responded that they only used traditional email or the school website.

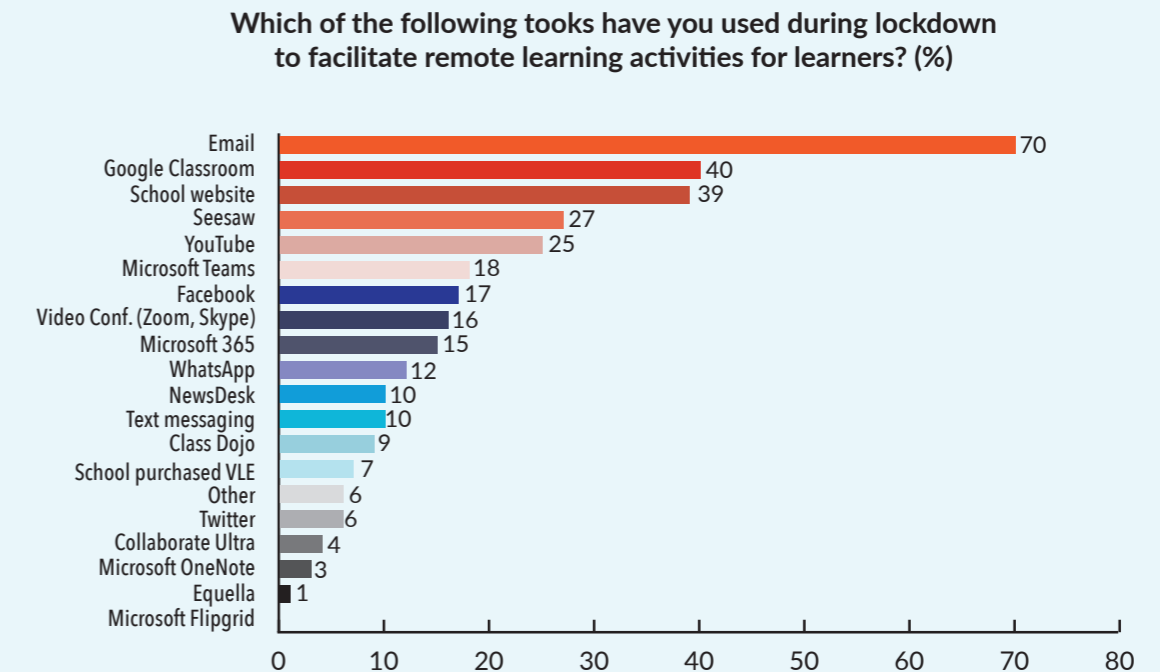


Figure 16: Tools used during lockdown by teachers to facilitate remote learning activities

Tasks relating to remote online learning transition

Preparing for and executing the transition from classroom to online remote learning required teachers to engage in a range of tasks, some of which have been outlined in Figure 17. Although necessary to make the transition to online remote learning, these tasks highlight the range of extra activities required. It is also important to mention that teachers mostly selected two or more responses to this question, so the cumulative impact of an increased number of tasks required to transition to remote online learning would have certainly been an additional burden on teaching time. The most common answers were 'Sought out or created new resources/materials for online learning platforms' (n=497, 81%) and 'Uploaded existing resources/material to online learning platforms', (n=492, 81%). A similar activity 'Adapted existing resources/material so that they can be used on online learning platforms' was selected by 77% (n=470) of respondents.

³¹ <https://www.showbie.com>

³² <https://www.purplemash.com>

These results do give some insight into the previous use of online learning platforms and the increased effort involved in transition. It is also noteworthy that while 57% (n=347) of teachers clearly collaborated with colleagues to improve online remote learning, 43% (n=263) did not, which raises questions as to how well supported teachers were with this transition. Fifty-five percent (n=336, 55%) of teachers also responded that they ‘Supported parents to access online remote learning’ which highlights the difficulties that many parents and learners were experiencing with the sudden transition. Regarding capturing feedback, only 38% (n=229) of teachers responded that they had captured feedback from parents/carers and 37% (n=227) that they had captured feedback from learners themselves.

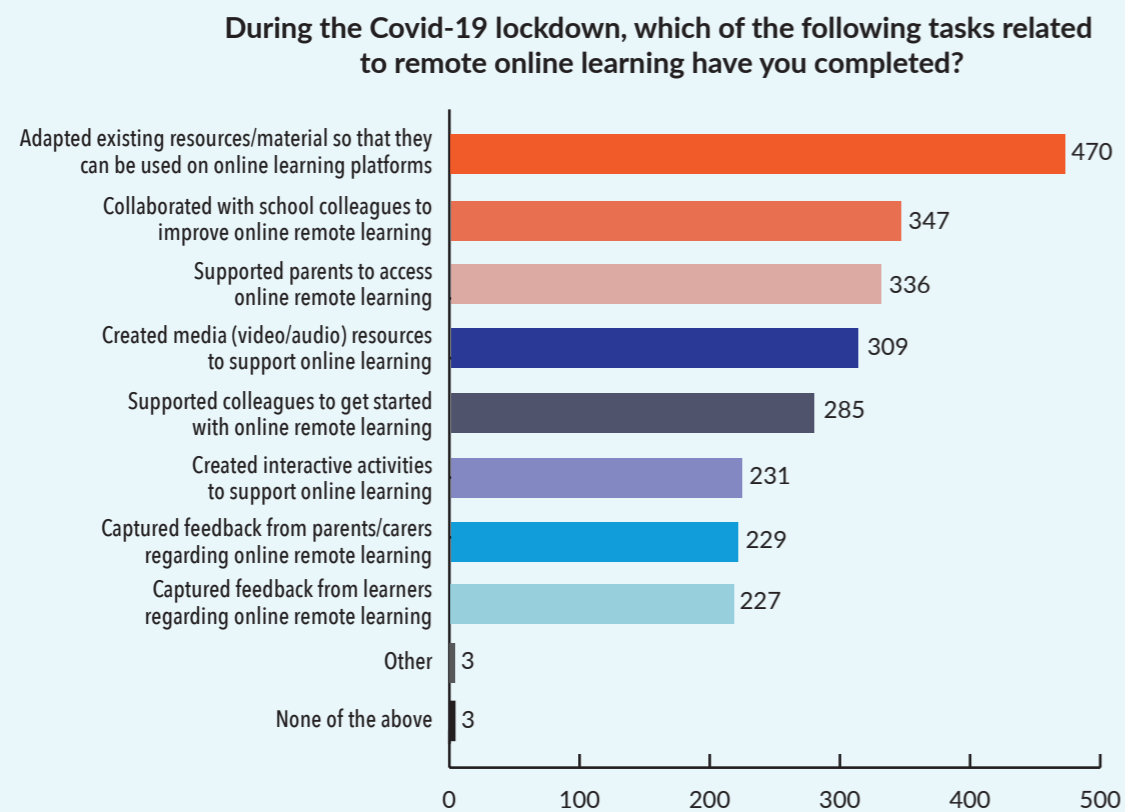


Figure 17: Remote online learning tasks completed by teachers

Facilitating feedback from learners

For learners, receiving instant feedback from their teacher in a classroom setting is an integral and essential part of the classroom learning experience. Providing instant feedback has been difficult to achieve with remote, online learning. Teachers’ qualitative comments in this survey give some interesting insights into this process:

“It isn’t possible to replicate classroom practices in an online forum. Yes, there are aspects of teaching that can be replicated such as differentiated work for pupils and deadline for work. However, feedback is a massive part of learning in my experience I find that

pupils take on board better from verbal feedback which is given in a classroom rather than written or visual feedback. Most of the time pupils don’t even read their feedback.” (Post-Primary teacher, less than 5 years teaching, Locality 2 (North))

Teachers indicated a variety of ways that feedback could be given. Half of the respondents (n=304, 50%) were facilitating feedback to learners via the online learning platform, with learners posting questions or comments on the online learning platform and the teacher responding. Teachers were also able to provide feedback on work submitted via the online learning platform (n=235, 39%). Many teachers (n=172, 28%) used online communication tools (e.g., Seesaw, Class Dojo) to provide feedback. Learners also submitted work, asked questions and received responses via email (n=103, 17%). Five of the teachers who responded (1%) used instant messaging to learners during ‘real time’ online lessons and for some, parents were submitting learners’ work and teachers were responding to their email (n=5, 1%). A small minority of teachers (n=18, 3%) responded that they were not providing learners with feedback on their work.

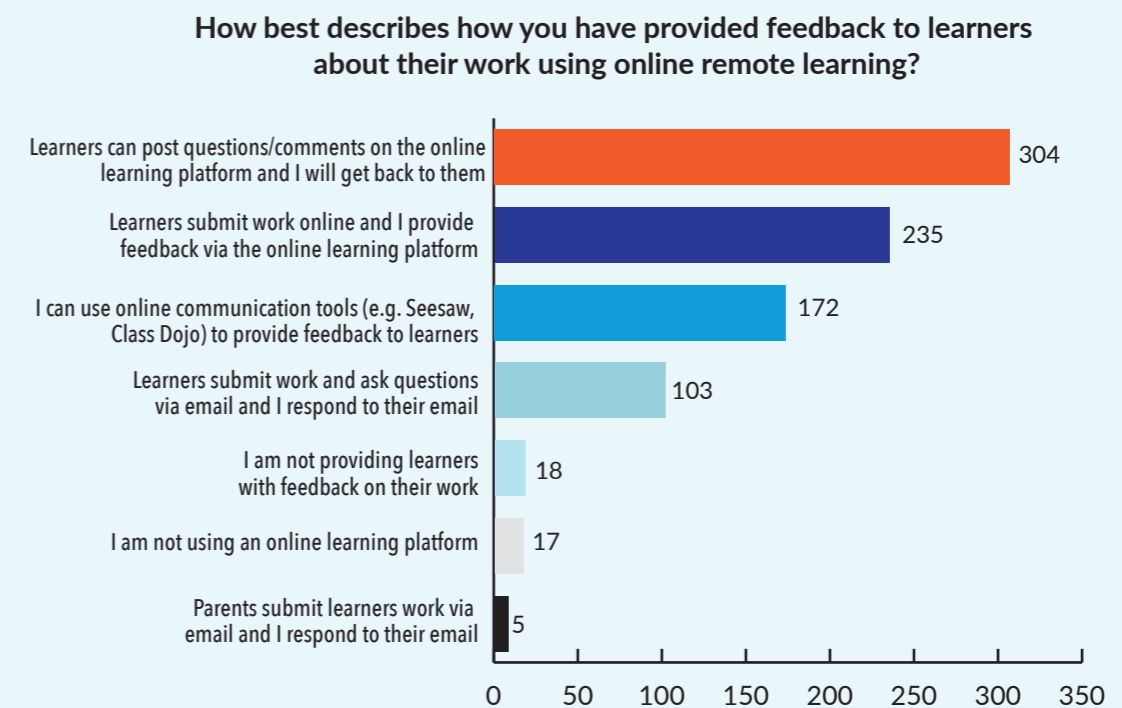


Figure 18: Providing feedback to learners online

One teacher provided the following comment to emphasise the importance of immediate feedback in a classroom setting:

“The addition of online learning is useful and has been taken up with more enthusiasm than I expected but the personal approach of dealing with individual problems as they arise and being able to respond to the way a lesson is being received at the time is a big loss.” (Post-Primary teacher, over 30 years teaching, Locality 3 (Belfast and South East))

Answers received from teachers indicate that they have tried to provide regular feedback for learners with 61% (n=372) reporting that they responded at regular intervals throughout the day to questions from learners and 24% (n=149) reporting that they responded instantly. Five percent of teachers indicated that they responded once a day to questions from learners and an additional 5% (n=31) responded at regular intervals throughout the week. Four percent (n=27) of teachers responded that *'Learners are not able to ask me direct questions about their work'*.

Facilitating learner to learner collaboration

Most teachers (n=583, 93%) participating in the survey responded that learners were not able to work together online during learning activities. This is important as the Northern Ireland Curriculum emphasizes collaboration: *'children are helped to develop self-management skills and the ability to interact effectively with others'*³³ particularly developing skills in 'Working with Others'. Collaboration is also an integral part of 'Using Information and Communications Technology across the curriculum, particularly under 'share, collaborate, exchange and develop ideas digitally'³⁴.

Although this was overwhelmingly the case in both primary and post-primary schools, teachers working in post-primary schools were more likely to have learner to learner collaboration.

Microsoft Teams, Google Classroom and Collaborate Ultra were popular tools to facilitate learner to learner collaboration and the following teachers' comments explain some of the methods being used:

"Using google classroom via google docs- I can assign groups to work on live documents and they can each see each other's work - teacher has an overview and can comment in real time also." (Post-primary teacher, Over 30 years teaching, Locality 3 (Belfast and South East))

"They can message each other within our Google Classroom and create shared documents in Google Slides, Docs, etc. We also use Collaborate Ultra where they can co-present about their work." (Primary teacher, 10-19 years teaching, Locality 3 (Belfast and South East))

Post-primary teachers also responded that learners were finding their own ways to collaborate on shared tasks:

"Pupils (in their friendship groups) are able to rehearse task (body percussion music exercise) together via face time/WhatsApp. They can then upload a recording of that." (Post-primary teacher, 20-29 years teaching, Locality 1 (South and West))

³³ CCEA, 2007, The Northern Ireland Curriculum, page 8

³⁴ CCEA, 2007, The Northern Ireland Curriculum, page 7

For primary school teachers, Google Classroom, Zoom, Seesaw and Games-based apps such as Minecraft³⁵ and Sumdog³⁶ were also identified as tools to support collaboration:

"Competition e.g., Sumdog. i.e., competing against each other in numeracy games." (Primary teacher, over 30 years teaching, Locality 2 (North))

Teachers also mentioned that, although the opportunity to collaborate with C2K provided applications were possible, they would have needed to set this up prior to lockdown:

"Pupils are able to collaborate online via Teams but I haven't used this option as it would have required me to set up working groups before lockdown which I hadn't done and would be problematic now as parents/pupils would need too much ICT support and not all would engage which could leave some pupils working alone." (Primary teacher, 20-29 years teaching, Locality 3 (Belfast and South East))

Using Video Conferencing

Most teachers surveyed (n=547, 90%) were not using video conferencing to provide 'real time' lessons with their classes. However, of the 10% (n=63) who were, many had positive views of how this was managed as explained in the following teachers' quotes:

"We are using Google Meet to arrange lessons online. Two members of staff are present. Depending on the year group, one person might teach the main portion of the lesson, while the other takes a register and deals with any written queries in the comments section. This would be applicable to shared classes. Where 1 teacher teaches a class, the second member of staff is present, with no audio or video switched on, as a "second person in the room" for child protection etc." (Post-primary teacher, 10-19 years teaching, Locality 2 (North))

"I have a regular slot for specific groups and prior to submitting work it gives me a chance to entice subject specific details and also just reassure them. Connections with the internet are problematic for many pupils and can make this a bit tedious for some." (Post-primary teacher, 20-29 years teaching, Locality 1 (South and West))

Other teachers explained why they felt video conferencing was important for their class(es):

"It's more of a social interaction exercise, giving pupils the opportunity to see me and each other. We have been doing our weekly spelling tests via Collaborate ultra." (Primary teacher, 10-19 years teaching, Locality 1 (South and West))

"I use Collaborate Ultra. I post a message for my students in the Google Classroom to let them know the day and time of our video conference. I set work in advance of the

³⁵ <https://www.minecraft.net/en-us/>

³⁶ <https://sumdog.com>

conference- it's opportunity to discuss problems, issues, questions and just to be in contact- it is a very positive experience! We like chatting and being able to see each other.
(Post-primary teacher, 20-29 years teaching, Locality 3 (Belfast and South East))

With regard to the small group of teachers who were using video conferencing, the most popular application was Zoom (n=23, 43%), then Microsoft Teams (n=13, 25%), Collaborate Ultra (n=9, 17%) and Google Meet (n=8, 15%).

Application used for Video Conferencing

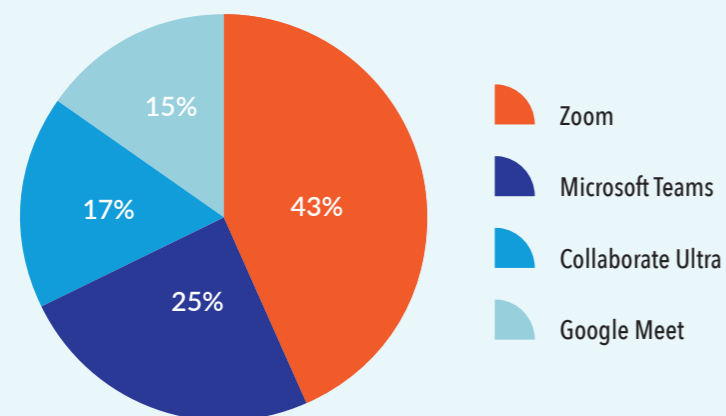


Figure 19: Applications used for Video Conferencing

Teachers using video conferencing also explained some of the challenges they were encountering:

"Some students don't have access to online platforms during the school day as other siblings or parents are using the computer." (Post-primary teacher, 10-19 years teaching, Locality 2 (North))

"For safeguarding reasons camera on my computer and their computer must be switched off. This makes video conferencing pointless as can't properly engage with pupils" (Post-primary teacher, over 30 years teaching, Locality 3 (Belfast and South East))

Some of the teachers who responded were frustrated at only being able to use the applications in a limited capacity because of safeguarding concerns when using video conferencing:

"I use Zoom to teach - send pupils link to class group email or Google classroom. pupils can only hear my voice and see the shared screen. Pupils can ask questions verbally or via the chatroom. Lessons are recorded and posted up on google classroom." (Post-primary teacher, 10-19 years teaching, Locality 1 (South and West))

Teachers were also asked to comment on what they thought the main barriers are for teachers considering to provide 'real time' lessons online using video conferencing. A range of responses were returned from both a learner and teacher perspective. Examples of teacher reflections regarding learners are:

"My learners are 5/6 years old and it is just not appropriate" (Primary teacher, 10-19 years teaching, Locality 3 (Belfast and South East))

"Not all pupils have access or are comfortable 'displaying their home'" (Post-primary teacher, 20-29 years teaching, Locality 3 (Belfast and South East))

Teachers were also concerned about the realities of being broadcast into learners' homes and were worried about the 'scrutinizing of lessons by parents,' as well as other challenges such as safe-guarding:

"Video conferencing pupils at home is not safe unless there are two teachers on the call and parents have given permission." (Primary teacher, 20-29 years teaching, Locality 2 (North))

Issues regarding official guidance relating to child protection were also raised with a clear appetite from many teachers for additional guidance and a unified message to provide clarity as the following comments reflect:

"There has been no guidance from DE on this issue and the unions have given teaching staff varying guidance" (Primary teacher, 20-29 years teaching, Locality 3 (Belfast and South East))

"There are many issues relating to child protection in this area. As a primary school teacher, it's unrealistic to expect all children have access to appropriate technology and that they would have the ability to utilise it correctly. Many children live in homes where they are not the only child and the family laptop may need to be used by multiple children and adults throughout the day. It would be difficult to schedule online sessions around this. In addition to this, not all teachers have access to adequate equipment, teaching resources or Wi-Fi at home and would struggle to provide live lessons. The Department of Education have provided schools with almost no guidance in this area. Schools would benefit from the Department of Education and EA working together to provide a unified approach for every school to follow." (Primary teacher, 5-9 years teaching, Locality 2 (North)).

2.3 Challenges relating to providing equality in supporting online remote learning

2.3.1 Background

Teachers' opinions and professional reflections on how learners in their classes are experiencing online remote learning are key to understanding the challenges relating to providing equality for learners who engage in online remote learning.

This survey asked teachers to reflect on the following:

1. The benefits of online remote learning during lockdown
2. The aspects of remote teaching which inhibit learner progress
3. Curriculum areas less likely to be covered
4. Learner participation in online remote learning classes
5. Factors limiting learner participation
6. Other concerns

2.3.2 The benefits of online remote learning during lockdown

Teachers were asked to comment on how online learning had been beneficial to learners. This presented teachers with the opportunity to reflect on the experiences of remote online learning for individual learners in their class. These teacher comments were analysed thematically, and several main themes were identified. Selected teacher comments illustrate these themes:

In some instances, teachers reported that pupils who would ordinarily be less engaged (i.e. in the normal classroom) gained confidence from the relative isolation of doing their work without

an audience. The selected quotations serve to illustrate some of these beneficial effects.

"I have had some older boys (Year 11) who were reluctant to be seen to engage in class as it was "uncool". These students were generally disengaged and displayed a poor work ethic. However, a small number of these boys have thrived with online working, away from the critical eyes of their peers. They are submitting work regularly, taking onboard my regular feedback and guidance, and their work is notably improving and progressing as we go. This has been a truly unexpected, and most welcome, outcome." (Post-primary teacher, less than 5 years teaching, Locality 1 (South and West))

"I have noticed how much their confidence has grown over the past few weeks in presenting and delivering their work orally online via seesaw. I have also noticed that their skills in using various functions in seesaw to present their learning have also developed." (Primary teacher, 20-29 years teaching, Locality 1 (South and West))

Some respondents pointed to increased teacher confidence, for example:

"We had never used seesaw prior to lockdown and I set it up for each class, instructed teachers how to use it and set up home learning codes and related info on how to access and use seesaw to pupils and parents via email. It provides a great means of communication and offers a platform for guiding learning and resolving issues relating

to activities remotely." (Primary teacher, 20-29 years teaching, Locality 1 (South and West))

There were also benefits from the increased engagement of parents and carers:

"Children who do engage have been working 1:1 with their parent and so having bonding time/ enabling my parents to get involved / interested and to recognise how their child learns the processing and type of thinking/ doing they demonstrate. This in turn has a positive impact on children's confidence / well-being. Parents feel more involvement!!" (Primary teacher, over 30 years teaching, Locality 1 (South and West))

"More interaction with parents and parents realising the extent of teacher intervention. Children have been able to interact and complete activities with their parents that they wouldn't have been able to before." (Primary teacher, 10-19 years teaching, Locality 2 (North))

Some primary and post-primary teachers suggested that the enforced online approach was helping to increase pupil independence:

"I think it has made them more independent. They have to read and think for themselves - instead of always just asking. At the same time, if they are struggling I am able to help them with more information, video clips etc. I have personalised work for individuals, emailing them extra resources, videos and typing or recording explanations." (Post-primary teacher, 20-29 years teaching, Locality 3 (Belfast and South East))

"No falling behind if you are having a bad day - ability to make time up." (Primary teacher, 20-29 years teaching, Locality 3 (Belfast and South East))

One teacher felt that the online medium enabled her/him to inject more fun into lessons:

"Pupils can see me when I upload a video e.g. reading to my class and this helps connect to the pupils. Online teaching has helped make learning fun rather than death by worksheet. Pupils can video message me, upload a photo, their work etc and I give instant feedback. It's not as beneficial as physically teaching but it is the next best thing." (Primary teacher, 20-29 years teaching, Locality 1 (South and West))

Learning skills development was also a benefit mentioned by some, e.g. :

"It will also hopefully foster some greater independence and skills required for study at University where they will have online lesson etc." (Post-primary teacher, 20-29 years teaching, Locality 2 (North))

"It will hopefully develop some IT skills - many surprisingly had never sent an email, added an attachment etc." (Post-primary teacher, less than 5 years teaching, Locality 3 (Belfast and South East))

Some teachers recognised the benefits of the online approach providing a structure for their pupils' days, in contrast to the potentially unstructured and aimless circumstances that might exist for them in a lockdown situation:

"Pupils who have been engaging have felt connected to school. Remote learning opportunities have provided a bit of structure to the day for pupils and their families. Providing learning opportunities relieves boredom of being indoors or stuck to confines of garden or local area." (Primary teacher, 10-19 years teaching, Locality 3 (Belfast and South East))

"I am able to see that my pupils and their families are managing. It is also good for my pupils mental health to have regular contact with their teachers. Learning is a bonus!" (Primary teacher, over 30 years teaching, Locality 3 (Belfast and South East))

2.3.3 Challenges for learners with remote online teaching

Teachers were asked to comment on which aspects of remote teaching have inhibited learner progress during lockdown. Responses highlighted a wide variety of themes emerging including lack of access to suitable technology at home, lack of parental support, lack of engagement from learners, lack of motivation from learners, lack of face-to-face time with teachers, poor broadband and lack of accountability/follow-up. These themes are illustrated below with representative comments from teachers.

A common theme which concerned teachers responding related to inequalities in access to technology at home. This may be because of difficulties in accessing broadband or may be related to insufficient devices in homes for learners to use as the following comments reflect:

"Not all children have access to broadband as we are a rural school and not all have their own tablet/device and have to share." (Primary teacher, 20-29 years teaching, Locality 2 (North))

'We have several students who live in a house with perhaps 3/4 siblings, all sharing one laptop, or students accessing work just from their mobiles, and so struggle to access the technology required on a regular basis.

Additionally, we have been contacted by parents who are still working, or working from home, and are unable to supervise the online learning. This can means these children are often struggling to engage with the work in a meaningful way." (Post-primary teacher, less than 5 years teaching, Locality 1 (South and West))

Teachers also responded that poor levels of engagement with both, parents and learners, was a significant challenge as the following comments suggest:

"Unfortunately not all children/ parents are fully engaging and teacher has no control over this - this age group requires parental support to access and engage in the activities!" (Primary teacher, over 30 years teaching, Locality 1 (South and West))

"Some of my students have not engaged AT ALL. Despite phone calls and letters home, they still continue to opt-out, and I don't know what else we can do in this situation. At least in school they may have picked something up. Teaching in a school in a rural area, many of my students live on farms or help on family members' farms. They will often contact me to say they won't be able to complete assignments as they are needed on the farm." (Post-primary teacher, less than 5 years teaching, Locality 1 (South and West))

Some teachers commented on lack of parental knowledge of online learning platforms as a major challenge for learner participation. Another challenge was related to parents' concerns over screen time:

"Lack of parental knowledge about how to use the online learning platform to access learning activities and upload work." (Primary teacher,

20-29 years teaching, Locality 3 (Belfast and South East))

"Parents are concerned about the amount of screen time their children are being exposed to and some children are having to do access work on smartphones as they do not have laptops, iPads etc. at home. It has been important to also give them paper resources too. It is difficult to see how beneficial it has been to our young children and time will tell." (Primary teacher, 20-29 years teaching, Locality 2 (North))

Both primary and post-primary school teachers had concerns regarding learner accountability and whether or not work submitted was an accurate reflection of learner abilities as the following comments illustrate:

"Activities completed at home are not a true reflection of children's abilities. All activities completed are basic but we feel we need to give positive praise as they could be doing nothing at home!" (Primary teacher, 10-19 years teaching, Locality 2 (North))

"At KS4 I have a small number of students that are submitting work that has clearly been heavily aided, if not fully completed, by parental help. These students are submitting work that is no way reflective of the level of work previously completed in school time, e.g. students entitled to scribe, reader etc, previously working to D/E level, submitting A grade essays." (Post-primary teacher, less than 5 years teaching, Locality 1 (South and West))

In primary schools, foundation stage teachers were particularly concerned about the difficulties for younger children as these comments illustrate:

"Can give suggested ideas but obviously organised structured play, talking and listening and actually gauging children's correct assessment of progress - in my case written work is not evidence of a child's actual ability." (Primary teacher, 20-29 years teaching, Locality 1 (South and West))

"As they learn through play, it is difficult to set up challenging activities as I'm unsure what resources each child has at home!" (Primary teacher, over 30 years teaching, Locality 1 (South and West))

For both primary and post-primary school teachers, being unable to provide an in-class teacher presence contributed to a number of challenges that are illustrated in the teacher comments that follow:

"Lack of face to face time is frustrating and when a pupil struggles to understand a concept you have to provide your explanations in written form and it is not guaranteed that will work." (Post-primary teacher, 10-19 years teaching, Locality 3 (Belfast and South East))

"I didn't quite finish the curriculum with P6 and P7. Therefore there are concepts I can't provide using a remote learning platform as they would need to be with me in the classroom learning these concepts." (Primary teacher, 20-29 years teaching, Locality 1 (South and West))

"Lack of groupwork, lack of differentiation - higher attainers can't be challenged and the weaker pupils don't ask for help - they just don't engage and 'run away' from the problem." (Post-primary teacher, 20-29 years teaching, Locality 1 (South and West))

There were 14 responses from Irish-Medium education teachers. These teachers outlined particular difficulties that they were experiencing which included a lack of Irish-Medium resources online. This meant that teachers experienced an extra burden to recreate or translate resources for their students, as well as difficulties, in some cases, as parents struggled with their own level of Irish to support their children learn at home:

“There is also a lack of Irish Medium support online and parents have been struggling and worrying about their Irish during the closures. Although I have provided videos, voice notes and translations, this is nowhere near as effective as an immersive classroom would be.”
(Primary teacher, 5-9 years teaching, Locality 2 (North))

2.3.4 Curriculum areas less likely to be covered

Teachers were asked to identify which aspects of planned curriculum or subject areas had NOT been able to deliver using online remote learning. A wide range of responses were returned, reflecting both primary and post-primary curricular and subject areas. In reviewing responses, it is evident that teachers have made assumptions regarding the perceived limitations of online learning which reflect their own level of confidence and know-how in the delivery of online learning. Nevertheless, responses returned give an indication of gaps that may have emerged in learning and indicate where particular challenges exist moving forward.

Figure 20 shows the top 20 ranked responses as follows:

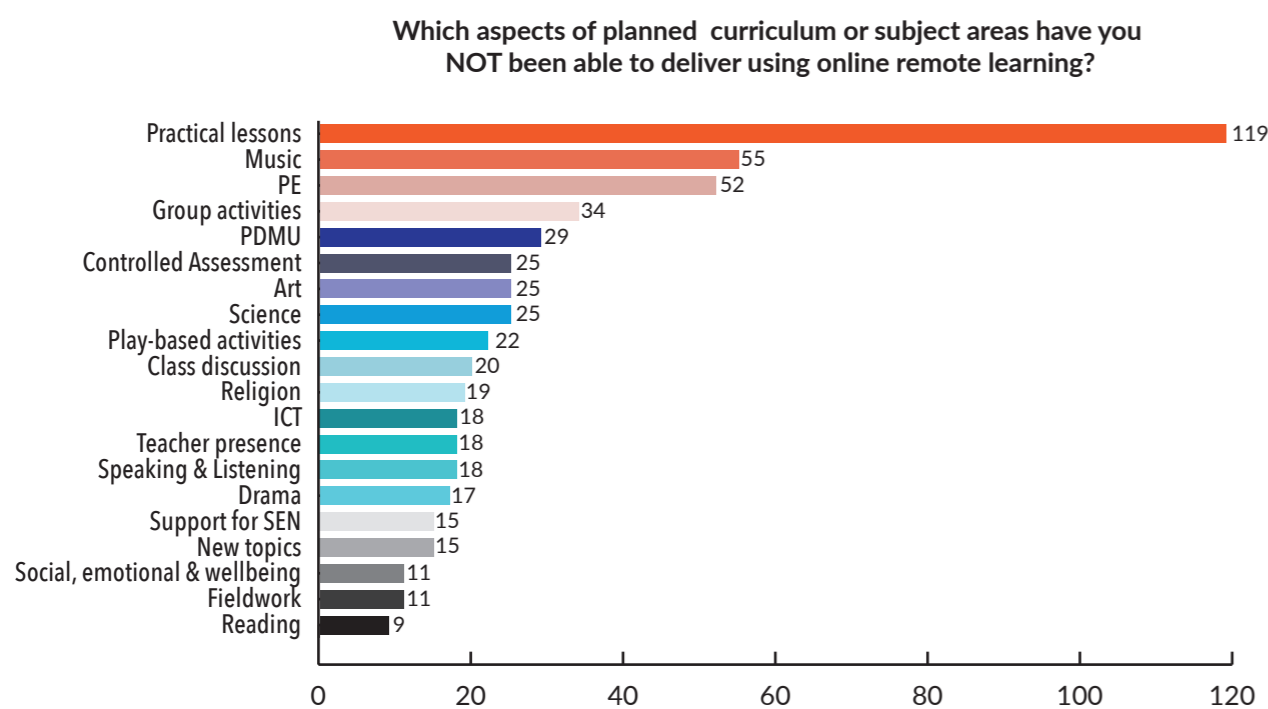


Figure 20: Top 20 responses for curriculum/subject areas not delivered using online remote learning

Overall, qualitative feedback from teachers in both primary and post-primary schools suggested that, although topics have been covered, compromises have been made which may have had a negative impact on learning.

‘I have been able to set work in every curricular area. Some majorly adapted to suit remote learning. Activity based learning difficult. Activities shorter.’ (Primary teacher, 5-9 years teaching, Locality 3 (Belfast and South East))

“We have had to adapt our scheme of work as there were parts we felt would be too difficult to teach without face to contact and appropriate scaffolding and activities. I have found that some of our kids just don’t want to read anything. They will reply “I don’t understand this” without having tried to read the instructions or explanations. It’s incredibly frustrating and occurred even when covering topics that we had previously covered in class. This lead to us changing our scheme of work.” (Post-primary teacher, less than 5 years teaching, Locality 3 (Belfast and South East))

In both primary and post-primary settings, teachers responded that some practical subjects and/or practical activities related to subject areas such as experiments and fieldwork had not been possible:

“As a science teacher I have obviously been unable to deliver the prescribed practical components of the CCEA GCSE specifications and I feel that real lessons are essential in order to teach any kind of mathematical skills e.g. graph plotting and chemical calculations.” (Post-primary teacher, 20-29 years teaching, Locality 1 (South and West))

“Fieldwork visit – it is important for some learners to be in the field to see the methods

of fieldwork in action and to participate and discuss anomalies at certain sites.” (Post-primary teacher, 10-19 years teaching, Locality 3 (Belfast and South East))

Teachers also had experienced difficulties in facilitating group work online as this primary teacher comments:

“Practical Maths activities, Science activities, PDMU discussion work, PE team lessons are all hands on/group work and therefore have not been possible.” (Primary teacher, over 30 years teaching, Locality 1 (South and West))

In addition, elements of the curriculum that had been previously delivered as part of shared education had also been disrupted, with one teacher remarking:

“Practical/collaborative work e.g. in WaU, Art, drama, PE, PDMU Also a significant proportion of these aspects are delivered in shared classes with our partner school so that has restricted learning opportunities in both schools.” (Primary teacher, over 30 years teaching, Locality 1 (South and West))

Teachers in both primary and post-primary school settings commented on access to software and hardware for learners at home, indicating that in some cases students did not have access to particular software at home or that access to technology would limit particular activities as the following comments suggest:

“Access to video edit software that is not available via MySchool and some adobe packages that again are only accessible on school site computers.” (Post-primary teacher, 10-19 years teaching, Locality 3 (Belfast and South East))

“UICT can vary greatly with uptake due to the equipment required. I have completed some coding activities with my class using the Lightbot App. I am planning to introduce PowerPoint, but I know that some households don’t always have access to technology or have limited access (computer/tablet) required by the adult for working from home. Households with multiple children can also have problems accessing enough digital resources. Our school has lent out some of our iPads to families we noticed had been struggling to engage with remote learning.” (Primary teacher, 10-19 years teaching, Locality 3 (Belfast and South East))

2.3.5 Learner participation in online remote learning classes

Teachers were asked to estimate, over their most recent working week, the percentage of learners who were actively participating in remote online learning daily. The results can be seen on Figure 21 and showed that according to the teachers surveyed, the two most popular responses were 41-60% learner participation (n=127, 21%) and 61-80% learner participation (n=125, 20%). Only 13% (n=80) of teachers thought that learner participation was over 80%. Thirty-three percent (n=199, 33%) of teachers thought that learner participation was under 40%.

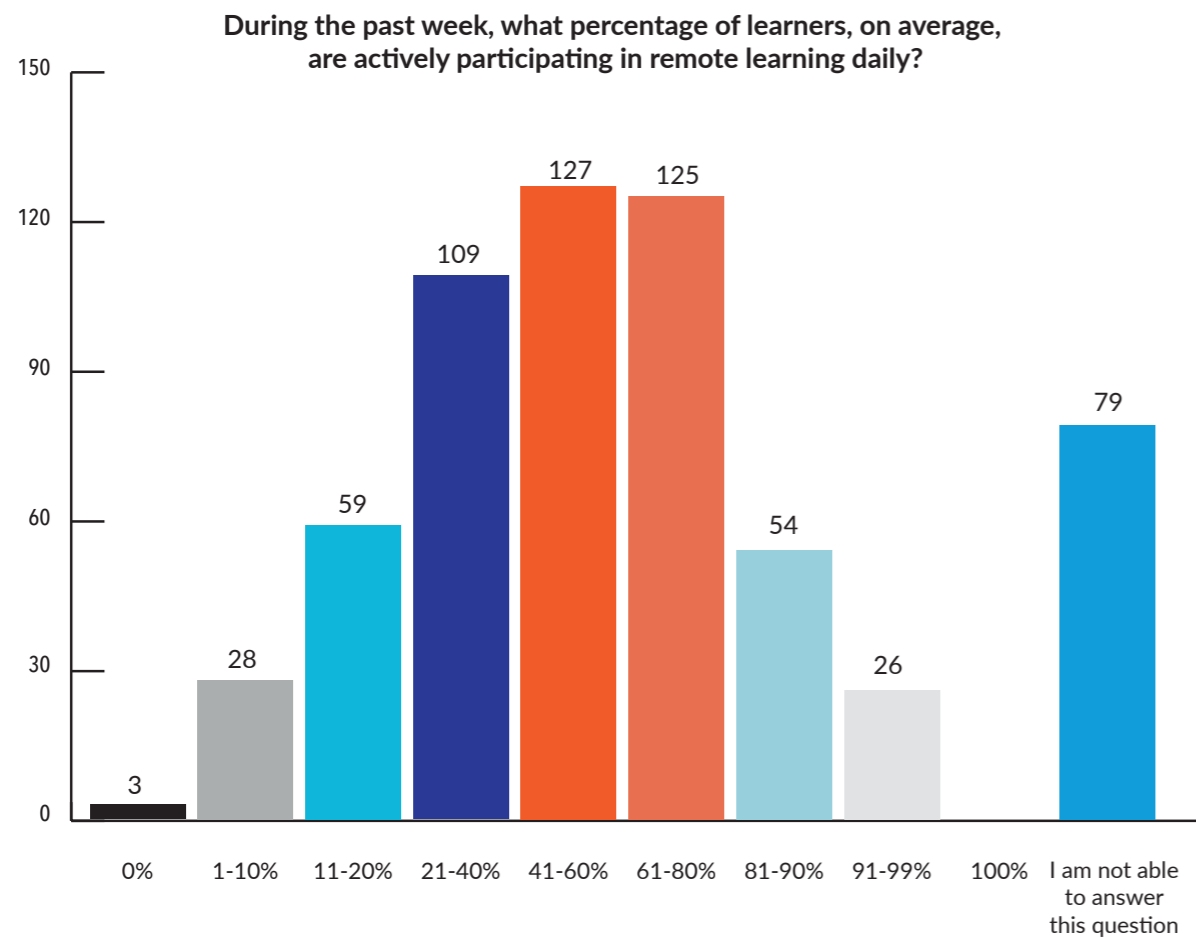


Figure 21: Percentage of learners participating in remote online learning daily

2.3.6 Factors limiting learner participation

Teachers were asked to estimate what percentage of learners in their class(es) did not have adequate access to a device for learning (laptop/tablet) or sufficient access to the internet for learning purposes.

Overall it is clear from Figure 22 that the majority of teachers believe that some learners in their class(es) had difficulty accessing devices and the internet. Only 10% (n=59) of teachers responded that all learners had adequate access

to devices and 13% (n=77) responded that all learners had access to the internet. A higher percentage of teachers estimated that 1 in 10 learners did not have access to devices (n=123, 20%) and/or internet access (n=101, 17%).

Many teachers surveyed were unable to answer both questions regarding access. Fourteen percent (n=86, 14%) did not know if learners had difficulty accessing devices for learning and 16% (n=98) did not know if learners had difficulty accessing the internet.

Percentage of learners without adequate access to a device (laptop/tablet) or internet for learning

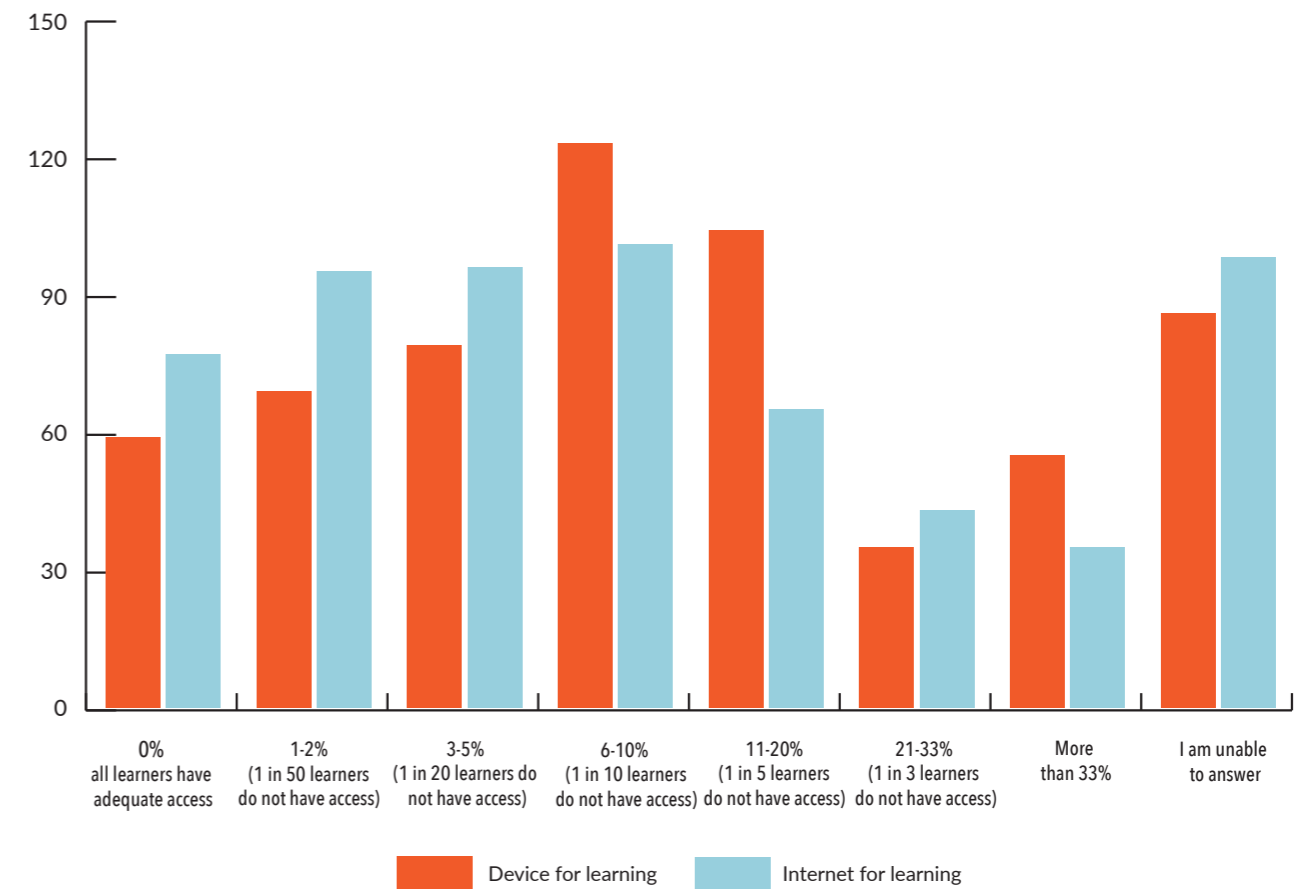


Figure 23 below shows the full range of responses from teachers regarding factors limiting learner participation in remote learning online.

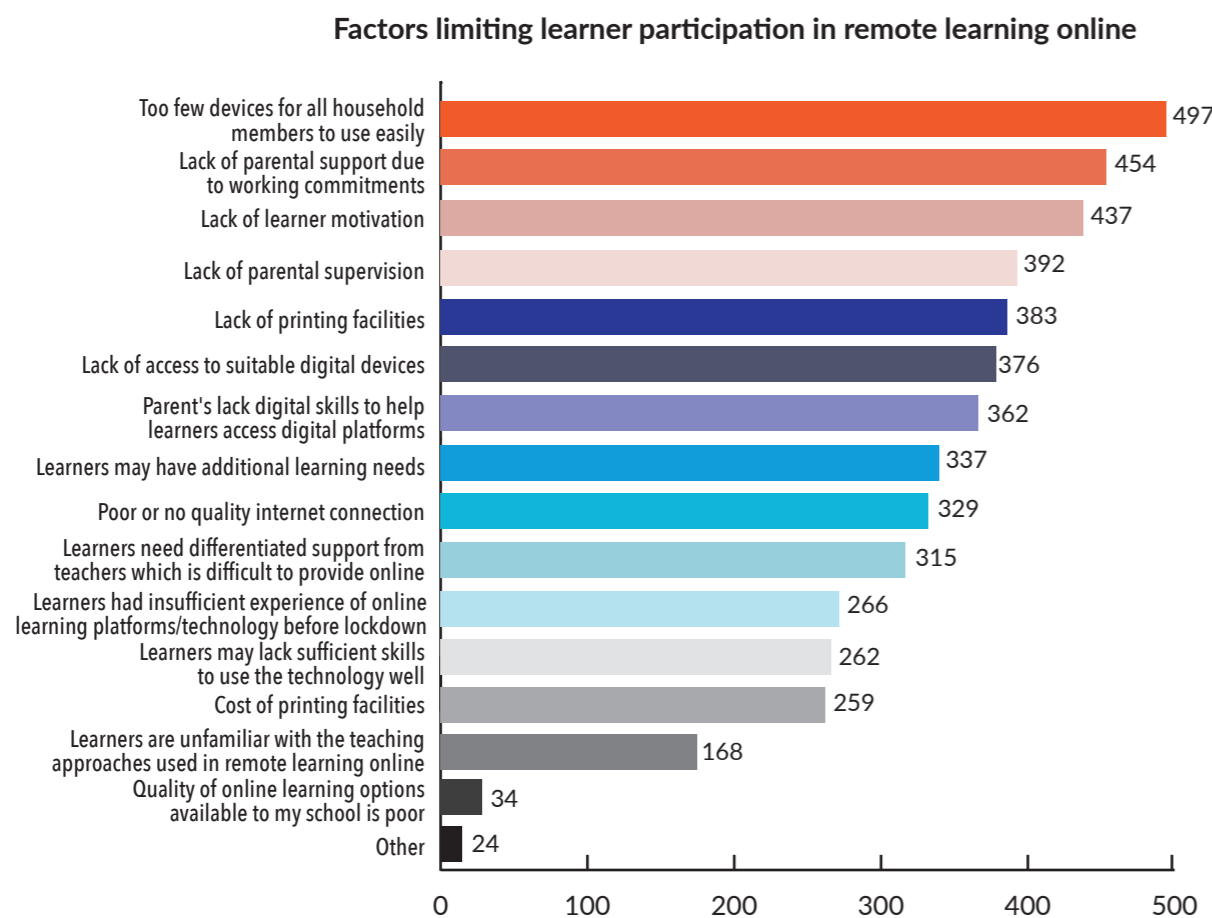


Figure 23: Factors limiting learner participation in remote learning online

The most common response was 'Too few devices for all household members to use easily' (n=497, 81%), as one teacher noted:

"Trying to get around digital poverty is the key concern I have. How to manage remote learning when there is little to no access for the pupils." (Post-primary teacher, 10-19 years teaching, Locality 2 (North))

The second and third most popular responses were 'Lack of parental support due to working considerations' (n=454, 74%), and 'Lack of learner motivation' (n=437, 72%). The least popular factor was 'Quality of online learning options available to my school is poor' (n=34, 6%).

Of the teachers surveyed 97% (n=591) responded with more than one answer, with many commenting that multiple factors, if not all, impacted on learner participation. Teachers

were also asked to suggest reasons why pupils were not engaging in online remote learning and Figure 24 presents the top ten answers returned.

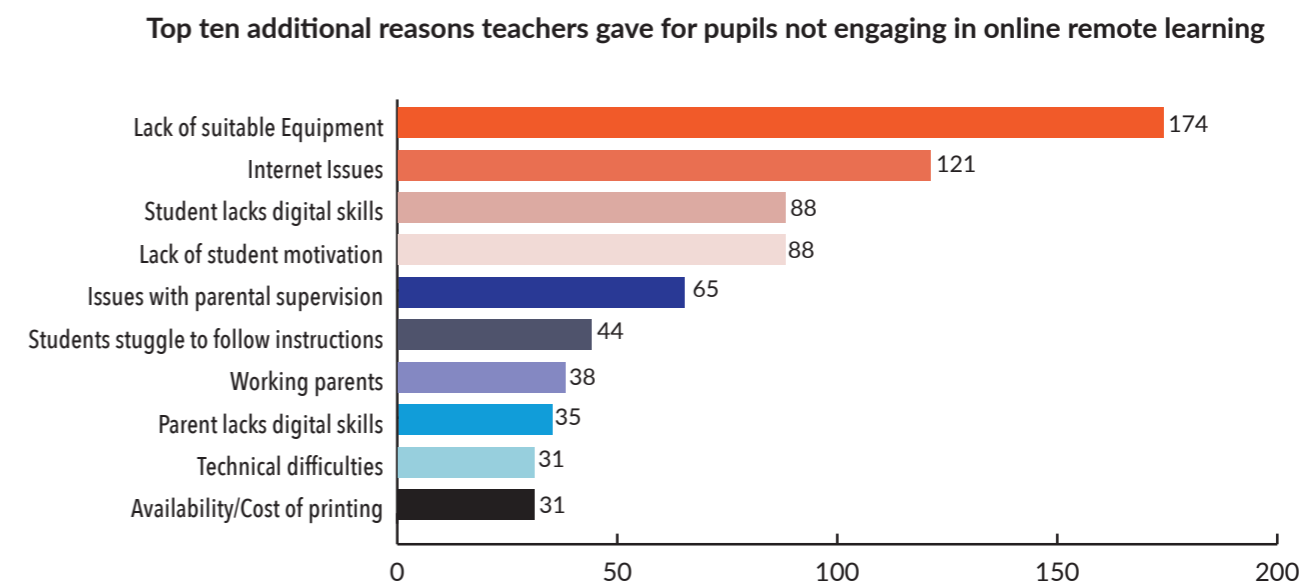


Figure 24: Top ten additional reasons given for pupils not engaging in online remote learning

Overall responses from teachers surveyed could be broken down into the three areas which are known to contribute to digital exclusion (Figure 25), namely lack of access to technology (38%), lack of motivation (33%) and lack of skills (29%).

Factors limiting learner participation - simplified for digital exclusion

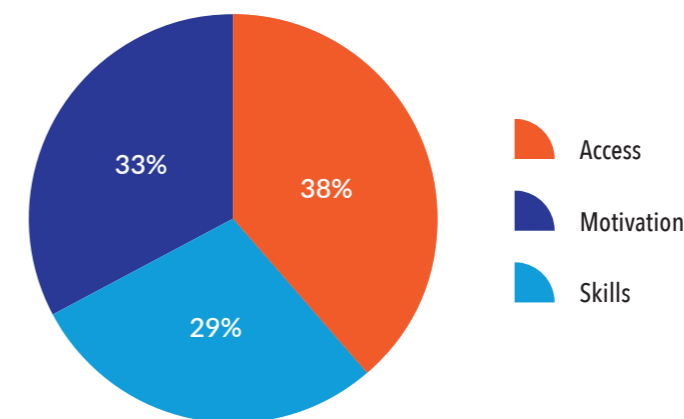


Figure 25: Factors limiting learner participation, simplified for digital exclusion

Many teachers responding to the survey questions raised the issue of digital exclusion for some learners and expressed their fears about the long-term impact for socially disadvantaged children, as this teacher comments:

“It may be stating the obvious but without the correct infrastructure in terms of home internet access and availability of suitable devices for ALL children giving everyone an equal opportunity, then even the most elaborate online planning will still see socially disadvantaged children slip through the cracks in the system. Unfortunately, they will live with the consequences of being “educationally hamstrung” by their lack of economic resources for the rest of their lives long after the impact Covid19 has passed for the rest of society!”
(Primary teacher, over 30 years teaching, Locality 1 (South and West))

2.3.7 Other concerns

Teachers were asked whether they had concerns about other issues that might be impacting on individual learners in their classes as a direct result of having to stay at home during the initial lockdown.

Figure 26 shows the top five concerns identified by teachers. Overall, 79% (n=481) of teachers responded that they did have concerns and 21% (n=126) responded that they had none. It was clear that teachers had a range of concerns about learners, and also about themselves and their colleagues.

These themes are illustrated below with representative comments from teachers.

- **Mental health and emotional wellbeing of learners**

“Emotional difficulties. Isolation. Some children are experiencing nightmares about leaving their homes. Some have reported not wanting to speak to friends on video calls - only wanting to speak to mum or Dad.”
(Primary teacher, 20-29 years teaching, Locality 3 (Belfast and South East))

- **Socialising**

“Some pupils will have missed out on events, activities which can never now happen. Primary 7 children will this year, have no experience of getting prepared and feeling ready to move on to secondary education. They were not ready for this, nor were their parents.”
(Primary teacher, over 30 years teaching, Locality 2 (North))

- **Vulnerable children**

“There are many pupils in my school who are vulnerable in their own homes and are not being cared for, eating properly, possibly abused mentally, physically, sexually, also exploited, and made to take on more caring duties of other siblings or family members.”
(Post-primary teacher, 10-19 years teaching, Locality 2 (North))

- **Isolation**

“Low mood and depression among children due to change in routine and lack of social interaction.”
(Primary teacher, 10-19 years teaching, Locality 2 (North))

- **Emotional Wellbeing/Stress**

“Fear, stress and worry over the situation. Young children and those with special needs (ASD) unable to understand why they can’t return to school. The impact on their social and emotional development.”
(Primary teacher, 20-29 years teaching, Locality 2 (North))

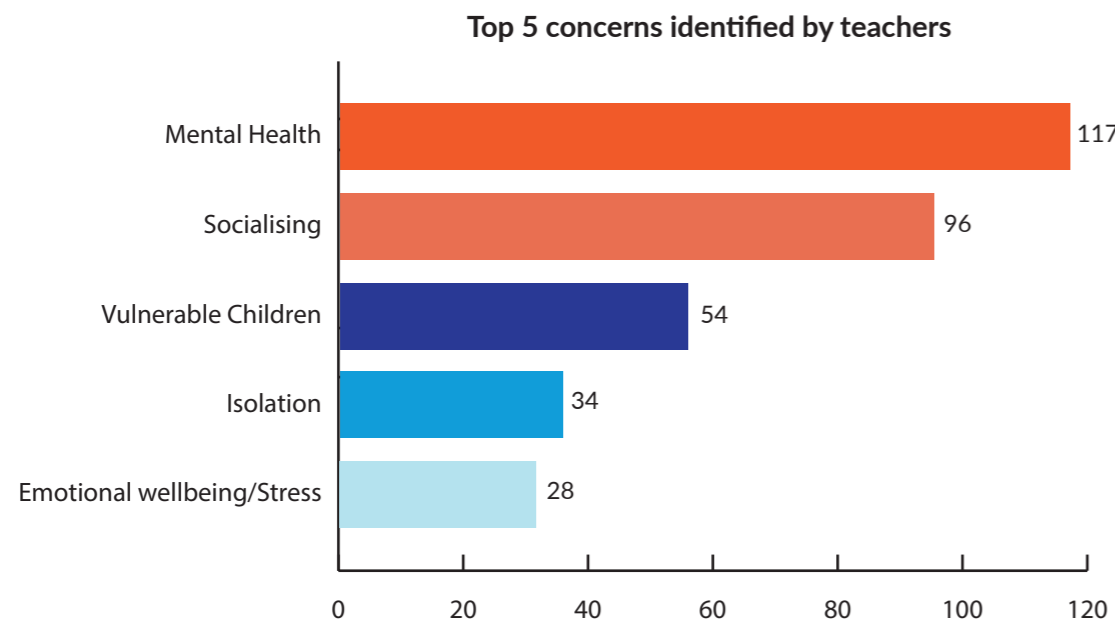


Figure 26: Top five concerns teachers have about learners

2.4 Opportunities for learning and growth

2.4.1 Background

A number of opportunities for learning and growth emerged while exploring teachers' experiences of remote learning in Northern Ireland during Covid-19. In the final section of this survey, teachers were asked to reflect on aspects of remote online delivery such as support availability. Also, looking ahead, if their opinions/attitudes to digital education had changed as a result of this experience.

2.4.2 Support for teachers during the initial Covid-19 lockdown

Teachers were asked to indicate to what extent they felt well supported to make the transition to online remote learning during the initial Covid-19 lockdown. As Figure 27 shows, overall, more teachers felt well supported (n=411, 67%) than not (n=194, 32%).

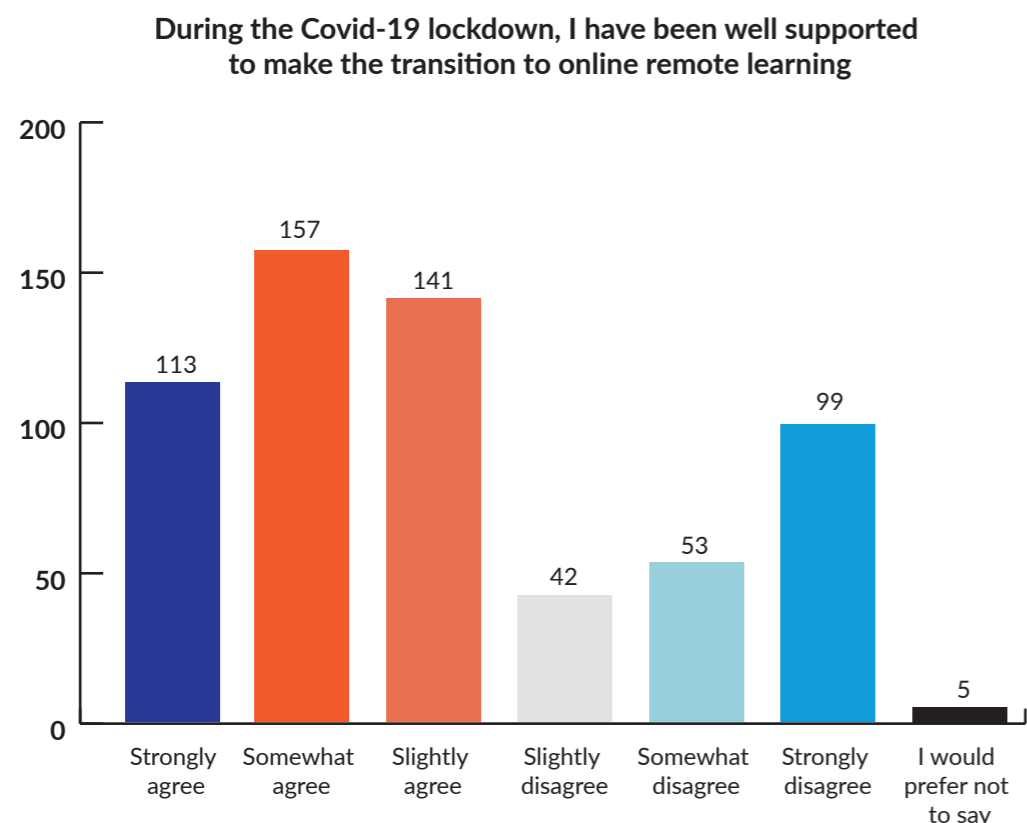


Figure 27: Teacher support to transition to online remote learning

However, with 16% (n=99) of teachers selecting 'Strongly disagree', there is clearly more that can be done. A selection of open comment responses follows, with main themes emerging regarding additional help which teachers would

welcome if they were to continue to provide online remote learning should lockdown was to continue or return.

- **Improve learner access to technology**

"Pupils would need access to appropriate devices so there is a level playing field for all learning to take place." (Post-primary teacher, 10-19 years teaching, Locality 3 (Belfast and South East))

- **More guidance for teachers regarding good standards for remote online learning**

"What is adequate? What is a good lesson? How much should children be doing at home when they have no teacher support? Guidance from EA on all of this!" (Primary teacher, 10-19 years teaching, Locality 3 (Belfast and South East))

"There is a wide interpretation of the term 'remote learning' and schools are continuously adapting as their staff and skills allow." (Primary teacher, over 30 years teaching, Locality 1 (South and West))

- **Increased opportunities for teacher training to improve remote teaching online**

"Being able to find alternative/different tasks/websites/strategies. The imagination only stretches so far, and can be restricted to what we know and what works in the classroom." (Post-primary teacher, 10-19 years teaching, Locality 2 (North))

- **More technical support for teachers**

"Apps such as Google classroom and Collaborate Ultra appeared on the MySchool home page without any training or guidance on how to use these. I applied last week to get on online training, only to be told I was 44th reserve!" (Primary teacher, 20-29 years teaching, Locality 1 (South and West))

"I am struggling with my personal laptop, it runs very slowly perhaps it is outdated, I really don't know. Technology support including a laptop would be required." (Primary teacher, 10-19 years teaching, Locality 2 (North))

- **More support and understanding of caring/childcare responsibilities**

"Childcare of my own young children while I attempt to support my class is another issue impacting on my work life balance and hugely impacting on my mental health." (Primary teacher, 10-19 years teaching, Locality 2 (North))

- **More time to plan lessons and develop/translate resources online**

"With the classes set to return slowly and having to provide online learning and plan lessons for children who are in school. It would be incredibly difficult to have the time to plan for both. Personally I feel that substitute teachers who are being paid but not doing online learning or contributing to hub schools should be in schools providing support to teachers who are having to now plan double lessons." (Primary teacher, 5-9 years teaching, Locality 2 (North))

2.4.3 Should teaching approaches be replicated or redesigned for remote online learning?

Teachers were asked, 'If we had to transition to remote online learning for a longer period of time, do you think teaching practices should replicate existing classroom-focused approaches or should we need to redesign approaches specifically to include online learning?' Figure 28 summarises the results, with most teachers choosing 'Redesign' (53%), 'Replicate' (10%), 'Mix of Both' (19%), with the remaining 18% 'Unsure'.

Teachers were also asked to explain their answer and their comments provide a range of opinion. Various themes emerge, explaining not only their answer but also highlighting other considerations for online remote learning:

Should teaching practices replicate existing classroom-focused approaches or do we need to redesign approaches specifically to include online learning?

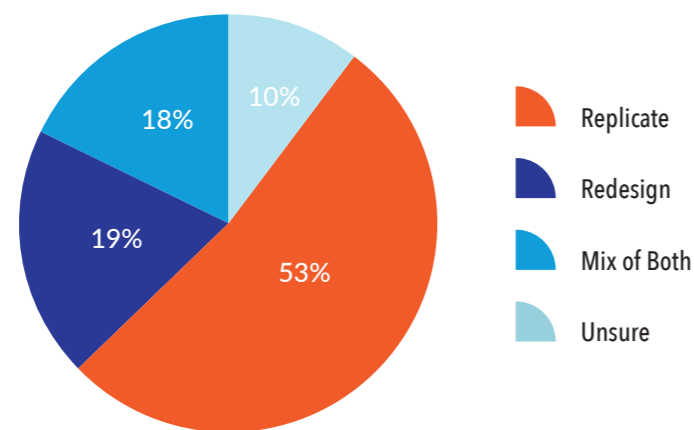


Figure 28: Should online learning teaching practices replicate or redesign existing classroom focused approaches?

- **Redesign**

“Redesign required. The way we normally teach does not translate to online teaching. Schemes of work and methods need completely rethought. Teachers need upskilled to be able to do this effectively. Additional equipment needs to be purchased to facilitate this as well, e.g. microphones, webcams etc. Online lessons could easily become the new norm but only after teacher confidence is built and appropriate resources are in place.” (Post-primary teacher, 10-19 years teaching, Locality 1 (South and West))

“The classroom and it’s approaches can never be replicated at home. Parents need to be parents not teachers and children cannot be expected to spend the same amount of time learning at home as they do in school. The approaches need to be redesigned to include on line learning. However, we must get the technology needed to children who cannot access it for sufficient time.” (Primary teacher, 10-19 years teaching, Locality 2 (North))

- **Replicate**

“I believe we should be replicating the existing classroom focused approaches as it is working for those pupils who have access to equipment. Redesigning approaches would cause chaos and confusion for teachers, parents and pupils, which is not needed at this already uncertain time. The problem doesn’t lay with how we are teaching. The problem is that the government have not provided children with the much-needed equipment to access learning. We were donated 15 chrome books recently and these were given to 15 pupils. Those 15 were able to get online and engage with their learning. Equipment is the issue, not asking teachers to change their teaching practices.” (Post-primary teacher, 10-19 years teaching, Locality 1 (South and West))

- **Mix of Both**

“A mixture of both. Some practices can be replicated, but others must be redesigned. Curriculum requirements must also be considered, particularly for practical subjects such as mine.” (Post-primary teacher, 10-19 years teaching, Locality 2 (North))

“A mixed approach in which the online platform supplements classroom- focused approaches. Teach led, pupil led, peer groups and practical work are still essential” (Post-primary teacher, less than 5 years teaching, Locality 1 (South and West)).

2.4.4 Attitudes to digital education

Teachers were asked to reflect on their experiences during the initial lockdown and whether or not this had changed their attitudes to elements of digital education, such as online learning, digital skills training and guidance for teachers and also attitudes to the future of digital education.

- **Online Learning**

Figure 29 shows that the majority of teachers responded that this experience had made them more likely to engage with online learning (n=464, 76%), while 13% (n=80) of teachers thought it was less likely.

Has this experience made you more or less likely to engage with online learning?

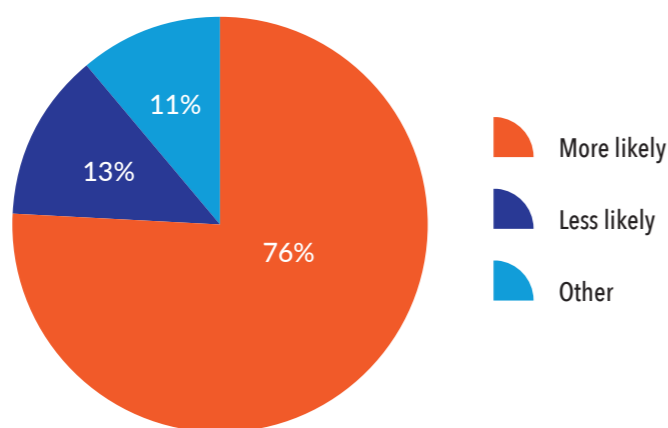


Figure 29: Has this experience made you more or less likely to engage with online learning?

Teachers responding in the survey recognised that online learning had been instrumental in facilitated learning continuity during this initial lockdown period. Although this was overwhelmingly seen as a positive, some teachers also commented on the limitations of online learning moving forward:

“We cannot afford to continue online learning at the rate we are. Sure, we can integrate it on a weekly basis from here on but not over prolonged periods. It is good at the start and for a few weeks, but it takes its toll on students, parents and teachers after a few weeks and can become tedious. ‘Real-life’ teaching practices can never be fully replicated online, and children are losing out on their education as well as developing all the social skills and

aspects with their peers. If we combine the class-room focused approach and online together...do teachers get double the time to prepare lessons.” (Primary teacher, 5-9 years teaching, Locality 1 (South and West))

Teachers participating in the survey often commented that a more blended approach to online learning needed to be developed, acknowledging that training would be required to support teachers, parents and learners, as the following comment illustrates:

“I don’t think we can fully replicate classroom-focused approaches for distance learning – this relies a lot on a level of interaction (in particular non-verbal communication) which cannot be achieved to the same extent, not even on

video conferencing. I think we need to prepare for a more blended approach. Universities already do this, so in a way, it would be good preparation for the future. However, course specifications, especially for accredited qualifications would need to be revised to come in line with this new approach. Then teacher, parents and pupils would need appropriate training - all of which will take time.” (Post-primary teacher, 10-19 years teaching, Locality 2 (North))

- **Digital skills training and guidance for teachers**

Teachers were asked if this experience had made them more or less likely to advocate for professional digital skills training for teachers. Figure 30 shows that an overwhelming majority of teachers were more likely to advocate for professional digital skills training (n=563, 92%) while only 4%(n=23) were less likely.

Has this experience made you more or less likely to advocate for professional digital skills training for teachers?

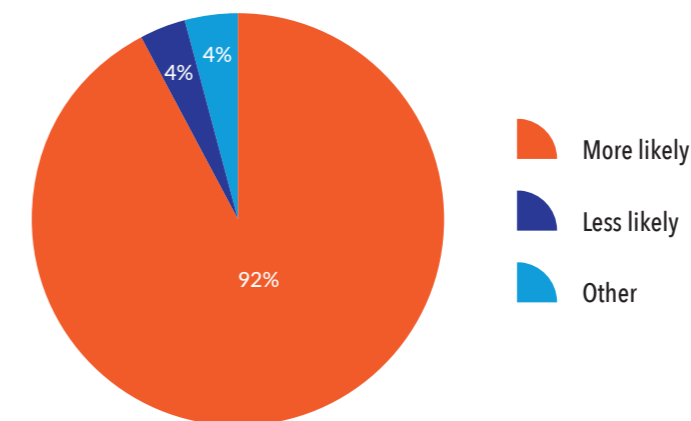


Figure 30: Has this experience made you more or less likely to advocate for professional digital skills training for teachers?

The sudden onset of the initial 2020 lockdown presented unprecedented challenges for teachers and frequent comments were received regarding the lack of training and support during this initial transition. Many teachers articulated feeling on their own during this time and this is reflected in the following comment:

“The shutdown happened overnight, so we had no training to help us and very little guidance. After using a set of classroom-based techniques for 23yrs, we have had to think on our feet and solve problems as and when they arise, with very little support or guidance”. (Post-primary

teacher, 20-29 years teaching, Locality 2 (North))

This additional comment reflects frustration that some teachers felt:

“I would like this support to be provided to me, rather than have to go looking for it myself.” (Post-primary teacher, 10-19 years teaching, Locality 3 (Belfast and South East))

Although many teachers responding in the survey did ask for additional training for software and technical issues, teachers also

commented on the need for additional guidance relating to expectations in this situation, and the balance that needed to be struck with teaching colleagues in order to offer some uniformity across their school. In addition, teachers responding identified the need to prepare for what online learning approaches require:

"I think we need guidance as to what is expected of us in our roles. We are trying to muddle through online learning, which is a completely different pedagogy in itself, whilst trying to do our best we are also cautious as to not make other teachers look like they are not doing enough. There is little guidance from school management as they have had little guidance themselves." (Primary teacher, less than 5 years teaching, Locality 1 (South and West))

In addition to needing additional training and guidance, many teachers also stressed the need for more time to support them as they make the transition to remote learning online:

"Remote learning is a totally different learning experience than being in the actual classroom and has to be planned for accordingly. These are not resources we have sitting somewhere but they are new resources we need to prepare, make and gather daily. This is very time consuming." (Primary teacher, 20-29 years teaching, Locality 2 (North))

Teachers responding to the survey reflected that increased uniformity is needed across all schools, to include resources, equipment and guidelines in order to provide equality of opportunities for all learners as the following statements from teachers illustrate:

"I think we should include online learning as has been shown it isn't a level playing field, all teachers need to be able to access resources and feel confident about using it so that when necessary it can be used." (Primary teacher, 20-29 years teaching, Locality 1 (South and West))

"If remote learning is to become commonplace, then every school needs to be provided with the same equipment and guidelines. A uniform approach to this is necessary from all schools. The Department of Education needs to provide explicit guidelines and training in this area." (Primary teacher, 5-9 years teaching, Locality 2 (North))

• **Changing attitudes to technology in education**

Teachers were invited to comment on whether or not this experience had changed their approach to technology in education and to provide suggestions regarding how approaches might be improved.

Of the responses received, many teachers recommended that increased use of video-conferencing and synchronous approaches would be welcomed:

"Recorded videos and detailed guidance would therefore be better and 'live streamed' lessons." (Post-primary teacher, 10-19 years teaching, Locality 3 (Belfast and South East))

Teachers also offered suggestions on how increased use of technology could have other benefits for learners including encouraging greater independence:

"We need to rethink - the biggest challenge is having a platform where learners take responsibility themselves for their work. Pupils in school are used to a great deal of support and supervision. There needs to be a stronger teacher presence to motivate and encourage" (Post-primary teacher, 20-29 years teaching, Locality 3 (Belfast and South East))

"I feel it could a real chance to look at what is truly needed from education ... the opportunity to foster more creative, independent learners who can share their learning is within our grasp." (Primary teacher, over 30 years teaching, Locality 3 (Belfast and South East))

Teachers responding in the survey were provided with an opportunity to comment further on their experiences of online remote learning and a selection of positive and negative responses are presented below:



3. Limitations

The findings from this online survey offer a snapshot of teacher opinion and reflect the experiences of teachers during this unprecedented event. These findings reflect a specific period of time, between the 21st of May and 12th of June, just beyond the initial, sudden closure of schools, when teachers had been experiencing the effects of emergency remote learning for just over two months.

There are several important limitations of the survey which must be acknowledged.

First, the survey was live for responses for a limited period of time between the 21st May and 12th June 2020. If it had been open for a longer time, response numbers may have been higher. In addition, it would have been useful if teachers' responses had been tracked during a prolonged period of time, exploring changes over time for both teacher approaches and student engagement.

Second, this being an online survey, it is accepted that teachers with lower levels of digital skill or access are likely to be underrepresented in the teacher responses recorded. Although using an online survey was an inevitable strategy due to COVID restrictions, in addition to this, administering this survey using more traditional offline methods might have achieved a better response by targeting those teachers with less access or lower levels of digital skills.

Third, many teachers were also experiencing increased workloads, combined with increased family caring responsibilities and stress levels as a result of the pandemic; therefore, finding the time to complete the survey would be less

likely for them at the time of distribution than in normal times.

Fourth, the survey invitation was sent to all primary and post-primary schools via email by using the 'info@' email address which is publicly available for schools. Although addressed to the principal, it is anticipated that some of these invitations may have not been successful in getting through due to the usually high demand on 'info@' email accounts. It is also likely that, due to increased workload, in some cases, these invitations were not passed on to teachers.

Fifth, although teachers were asked to reflect on the experiences of students, surveying students in addition to teachers would have been extremely beneficial in developing a deeper understanding of how learning was impacted during this period of time.

It is evident that, as an emergency response in the middle of a worldwide health pandemic, the experiences presented in this report are representative of an extraordinary event. However, this sudden immersion for many into online learning platforms and digital approaches offer a glimpse into the challenges of an increasingly online, increasingly digital, future for education. Therefore, the opportunity exists to extract the experiences and insights from teachers collected here to inform an innovative and opportunist response, addressing a central question for the future of education, namely, 'how can we ensure an inclusive digital education for all?'

To this end, several important messages have been identified and are discussed in the concluding section of this report.

4. Key Messages and Concluding Remarks

4.1 Key Message 1: Good partnerships are essential to support remote learning

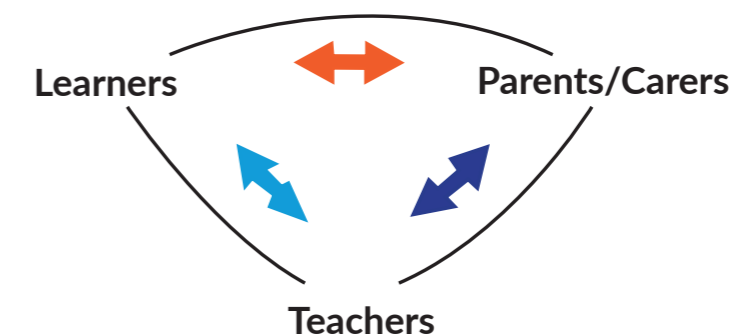


Figure 31: Good partnerships are essential to support remote learning

The first key message is the pivotal importance of partnership between teachers and parents/carers to ensure that learners are supported, engaged and learning during periods of remote learning. The importance of the relationship between teachers and parents/carers for learners is well established but the sudden and abrupt shift that was experienced during remote learning in lockdown brought the importance of this relationship into stark reality. Teachers, particularly primary teachers, needed the co-operation and ongoing active support of parents to ensure learning continuity, to provide not only practical assistance in getting

and keeping children online but also to provide extrinsic motivation to keep them engaged and participating.

Although post-primary school students had better digital skills and capacity to be more independent in their learning, teachers maintained that parental support was pivotal in ensuring student engagement and participation. Challenges related to online delivery of remote learning also highlighted the importance of parents' digital skills, critical to ensure they could support their children online.

4.2 Key Message 2: Teachers are concerned about the impact of Covid-19 on mental health and wellbeing

The second key message is that concern about the impact of Covid-19 on mental health and wellbeing for many young people in Northern Ireland is at the forefront of teachers' minds. Throughout teacher responses in this survey, concerns were repeatedly raised about young people's wellbeing over this time. Teachers were concerned that young people were missing out on learning and that there would not be sufficient opportunity for students to make up for learning lost. They were particularly concerned about the implications for vulnerable students and SEN students. Teachers expressed frustration that continuing to provide pastoral care for students remotely was challenging, if not impossible.

They identified groups for which lost learning would be considerably disruptive and might endure beyond the lockdown period, including children with additional needs, exam year students and students transitioning from primary to post-primary school.

Wellbeing has been identified as a key area for the Department of Education's 'Education Restart Programme' and measures such as the 'Education Restart Wellbeing fund', a £5million fund to help support the mental health and wellbeing of children and young people in educational settings, are welcome first steps to address the negative impact of Covid-19.

However, the Youth Wellbeing NI Survey (2020)³⁷ has identified that one in eight children and young people (13%) in Northern Ireland has an emotional disorder such as anxiety or depression. It also highlights that adult populations here have 25% higher rates of common mental health conditions than England, Scotland and Wales. Considerable resources and ambitious planning are needed to deal with the long-term impact of Covid-19 across our education system and to ensure that children and young people can continue to access vital services going forward. Also, that the particular needs of learners, including the most vulnerable, SEN, exam and transition year pupils, are met.

³⁷ Bunting, L et al, (2020) The Mental Health of Children and Parents in Northern Ireland, Executive Summary of the Youth Wellbeing Prevalence Survey, October 2020

4.3 Key Message 3: Redesign not Replication

The third key message is that, across the education system, this experience of emergency online remote learning suggests that we should consider that the successful delivery of online learning may require redesign not replication of existing classroom approaches. The argument that no one could have anticipated this event and as such, no education system could have been sufficiently prepared, has some validity. However, contributions from a range of academics over the past few decades have offered valuable insights into the development of ICT in education and the growing understanding and consensus for the need for education to change: 'if young people are to become equipped to compete in the global information society, education has to be transformed'.³⁸

Successfully developing the use of ICT in education in line with evolving and emerging pedagogy needs significant funding, resources and attention. This is not only true for schools and teachers but also for educational researchers, policymakers, statutory and supporting agencies and consequently it should be a priority for the Department of Education:

"Much of the research on the use of ICT in education takes a rather naïve view based on the idea that technology transforms educational practice. What is clear is that no technology has an impact on learning in its own right; rather, its impact depends upon the way in which it is used."³⁹

There are signs that this sudden, deep exposure to ICT use and online remote learning for many teachers has provided a more radical shift in how they view teaching and learning approaches. Over half (53%) of the surveyed teachers responded that if they were to transition to remote online learning for a longer period of time, they would need to redesign online learning approaches and only 10% suggested that existing classroom approaches should be replicated.

A key workstream identified within the DE-funded, EA Transformation Programme plans to develop and procure a new managed education technology service to schools, replacing the current C2k platform from 2021/2022⁴⁰. The new 'Education Technology Service' could provide a timely opportunity to address the current gaps in support for teachers, creating a service that potentially could meet the evolving expectations of a transforming education.

The lived experience, professional insights and sharing of teacher practice from this sudden and unexpected lockdown have the potential to provide invaluable, positive contributions to the redesign of policy development, planning and future teacher support with regards to the development of digital education. Such significant developments could ultimately lead to unlocking and driving innovation and improvement for learners across Northern Ireland for generations to come.

³⁸ Galanouli et al, 2004, pg 6438

³⁹ Gros B, Kinskuk, Maina, M, (2015). 'The dialogue between emerging pedagogies and emerging technologies', in *The Future of Ubiquitous Learning* (pp. 3-23). Springer Berlin Heidelberg.

⁴⁰ Education Authority (2019), Annual Report and Accounts for the Year Ended 31 March 2019, pp.68-69. Available at: <https://www.eani.org.uk/sites/default/files/2020-07/EA%20Annual%20Report%20%26%20Accounts%202018-19.pdf>

4.4 Key Message 4: Address lack of capacity to support the development of digital education

The fourth key message is that throughout the system of education in Northern Ireland, we need to urgently address the lack of capacity so that we can support the development needs of teachers to provide an inclusive digital education. The overall aim of the Department of Education’s strategy for teacher professional development, the ‘Learning Leaders’ strategy, is to ‘empower the teaching profession to strengthen its professionalism and expertise to meet the challenging educational needs of young people in the 21st century’ (DENI, Learning Leaders, p4).

Evidence gathered in this report suggest that although teachers turned to their teaching colleagues in their school for much needed support during this time, they were vocal about their dissatisfaction with regard to the guidance and support they received from elsewhere, with the overarching feeling of ‘being on their own.’ In a minority of cases teachers were also adversely impacted by lack of or poor internet availability, difficulties accessing equipment to use for professional purposes and also experienced a range of difficulties transitioning to ‘working from home’.

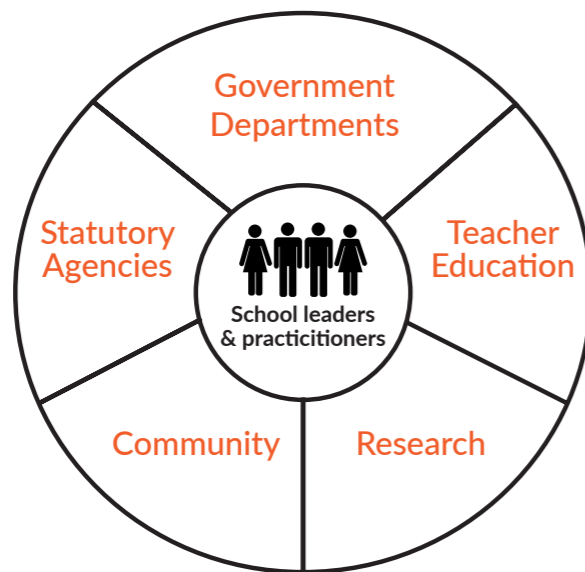


Figure 32: Supporting the development of digital education system-wide

The Education and Training Inspectorate’s Chief Inspector’s Report 2016-2018 states that the core purpose of the Learning Leaders Strategy is to encourage teachers to exercise greater

autonomy in advancing their professional learning and that in the most effective practice this is supported by planned activities in Area Learning Communities.⁴¹ However, mindful

⁴¹ Education & Training Inspectorate (2018) Chief Inspector’s Report 2016-2018. Available at: https://www.etini.gov.uk/sites/etini.gov.uk/files/publications/cir-2016-2018_1.pdf

that teachers also need support to advance professional learning, Galanouli and Clarke assert in their 2019 report that others within the system of education (ETI, EA, CCMS and GTCNI) also have a supportive role to play in order ‘to build their capacity as effective reflective practitioners and to evaluate improvement first hand.’⁴² Digital education is a rapidly evolving changing area and it is vitally important that it is not seen as the sole responsibility of teachers.

The experiences of teachers responding to the realities of supporting learning during the initial 2020 lockdown indicate that prioritising the development of the professional practice of teachers with regards digital education is essential within the context of implementing the Learning Leaders Strategy. In order to empower the teaching profession, across

education, teachers need to have ready access to quality, timely support, training and resources to support their development needs regarding digital education. Developing this capacity across our education system requires professionals, teacher experts and advisors to be employed and professionally empowered to provide this support. Exciting innovations using social media regarding peer-to-peer support have emerged since the beginning of lockdown (E.g., BlendedNI, NI Teachers Collaborate). However, future developments including the Education Authority’s Education Technology Service as well as key areas identified in Learning Leaders, particularly the proposed Teacher Professional Learning Framework, need to be revised to take into account the emerging, present and future needs of providing an inclusive digital education.

⁴² Galanouli, D & Clarke, L (2019) Study into the Development of Digital Education in Primary Schools in Northern Ireland, Available at: <https://www.northernirelandscreen.co.uk/wp-content/uploads/2020/01/Digiskills-Full-Report.pdf>

4.5 Key Message 5: To achieve an inclusive digital education, we need a regional strategy

The fifth key message is that there is an urgent need for a regional strategy for digital education which places inclusion at the heart of future educational developments. Even before the Coronavirus pandemic emerged, over the last few decades, rapid technological change has taken place having significant effect on society, economy, skills and employment. Development of digital skills has become a priority and it has been argued that pupils' ICT skills should receive the same attention and investment as literacy and numeracy (Selwyn, 2011).

To date, Northern Ireland remains the only region within the UK without a Digital Strategy (Northern Ireland Screen/RSM Consulting,

2018). The last long-term development plan for technology in education was set out by the Department of Education over sixteen years ago, namely: the 'EmPowering Schools Strategy' (DENI, 2004). Although there is no reliable local research data on NI's digital development, research by Citizens Online (UK) in 2017 suggests that Northern Ireland has the worst rates in the UK regarding digital skills, with 32% of those aged 16-65 (representing over 378,000 people) having low or no digital skills (Citizens Online, 2017). Research gathered from teachers in this report provide further evidence and insight into the gaps and challenges that exist for both teachers and learners engaging in digital education.

Across the UK, research from the Sutton Trust in England revealed that students from the poorest backgrounds had unequal access to online educational provision stating that 60% of private schools and 37% of state schools in the most affluent areas already had an online platform in place to receive work, compared to 23% of the most deprived schools⁴³.

Addressing digital inclusion however cannot be achieved by education alone. Digital exclusion factors, access, skills and motivation impact on all citizens and, extrapolated within the context of providing digital education, the relationship between teacher, parents/carers and learners

necessitates that, in order to be successful, all parties have sufficient digital skills and competencies.

If future generations are to take their place in the global economy, it is imperative that we manage and prepare regionally for the significant skills and competency shift required in this digital age. To this end, there is an urgent need for a regional strategy for digital education and this should be addressed as part of an overarching Digital Strategy for Northern Ireland.

⁴³ Sutton Trust: COVID-19 and Social Mobility Impact Brief #1: School Shutdown, April 2020: <https://bit.ly/3ciN9C9>

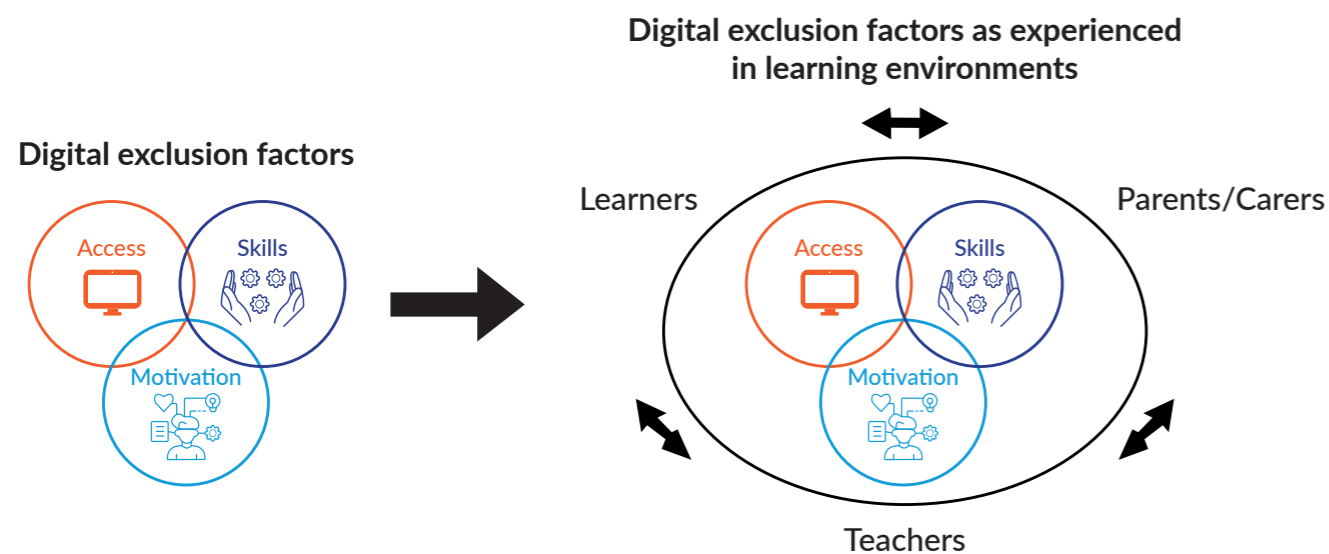


Figure 33: Digital exclusion factors as experienced in learning environments

4.6 Concluding Remarks

This report documents the experiences of teachers during the initial educational response to Covid-19 between 21st May and the 12th June 2020. The aim was to explore the experiences of teachers and gather information on the various strategies adopted by schools to support remote learning during this time. Prioritising the professional voice of teachers, we sought to discover how teachers and learners were coping with the increased use of digital skills and online tools for learning. It was hoped that, in gathering this information, we could better understand the challenges relating to providing equality in supporting online remote learning and also to assess the implications for the development of digital education moving forward.

As the Coronavirus pandemic has evolved, teachers and schools have been working tirelessly to continue to provide learning continuity for learners across Northern Ireland's schools. At the time of writing, schools are emerging from an additional period of lockdown to curb the spread of Covid-19. It is hoped that this report captures the magnitude of the challenge presented to teachers and schools, especially during that initial response period and the considerable efforts made to meet unprecedented circumstances by many teachers and schools.

Most importantly, in an increasingly digital, online world, it is hoped that the information presented here contributes, in part, to the necessary conversation with regard to the future of education and in particular a digital education which maximises equality of opportunity and inclusion for all learners.

5. References

- Andrew, A, Cattan, S, Cosa-Dias, M, Farquharson, Kraftman, L, Krutikova, S, Phimister, A, Sevilla, A (2020) *Learning during the lockdown: Real-time data on children's experiences during home learning*, The Institute for Fiscal Studies, IFS Briefing Note BN288, 2020
- Bennett, S, Maton, K, & Kervin, L (2008) *The 'digital natives debate: A critical review of the evidence*. British Journal of Educational Technology, 39(5): 775-786
- Bunting, L et al. (2020) *The Mental Health of Children and Parents in Northern Ireland, Executive Summary of the Youth Wellbeing Prevalence Survey*, October 2020
- Citizen's Online, BT and Digital Assist. (2017). *Research report exploring people at risk of digital exclusion, existing digital inclusion work, and the state of public sector digital transformation across Northern Ireland outside Belfast*. Available at: <https://www.citizenonline.org.uk/wp-content/uploads/CO-Portfolio-v1.1.pdf>
- Department for Culture, Media & Sport (DCMS). (2017). *The UK Digital Strategy*. Available at: <https://www.gov.uk/government/publications/uk-digital-strategy>
- CCEA, (2007), *The Northern Ireland Curriculum*
- DENI, (2020) *General Guidance on Covid-19 for schools, March 2020*, Available at: <https://www.education-ni.gov.uk/general-guidance-covid-19-schools>
- DENI, (2020) *Covid-19 (Coronavirus) – Guidance to Educational Settings in Northern Ireland, 16th March 2020*, Available at: <https://www.education-ni.gov.uk/news/education-minister-issues-covid-19-guidance-educational-settings>
- DENI, (2019). *ICT in schools*. Available at: <https://www.education-ni.gov.uk/articles/ict-schools>.
- DENI (2016) *Learning Leaders. A Strategy for Teacher Professional Learning*. Available at: <https://www.education-ni.gov.uk/sites/default/files/publications/de/strategy-document-english.pdf>.
- DiMaggio, P, Hargittai, E, Celeste, C, & Shafer, S (2004) *Digital Inequality: From Unequal Access to Differentiated Use*. In Neckerman, K ed. *Social Inequality*. New York: Russell Sage Foundation: 355-400.
- Education Authority (2019), *Annual Report and Accounts for the Year Ended 31 March 2019*, pp.68-69. Available at: <https://www.eani.org.uk/sites/default/files/2020-07/EA%20Annual%20Report%20%26%20Accounts%202018-19.pdf>
- Education Authority (2017), *Interim Strategic Plan 2017-2027*. Available at: <https://www.eani.org.uk/sites/default/files/2018-09/EA%20Strategic%20Plan%202017.pdf>
- Education & Training Inspectorate (2018) *Chief Inspector's Report 2016-2018*. Available at: https://www.etini.gov.uk/sites/etini.gov.uk/files/publications/cir-2016-2018_1.pdf
- Galanouli, D., Murphy, C.A. & Gardner, J. (2004). *Teachers' perceptions of the effectiveness of ICT-competence training*. Computers and Education, 43(1-2), pp.63-80.
- Galanouli, D & Clarke, L (2019) *Study into the Development of Digital Education in Primary Schools in Northern Ireland*, Available at: <https://www.northernirelandscreen.co.uk/wp-content/uploads/2020/01/Digiskills-Full-Report.pdf>

Gros B, Kinskuk, Maina, M, (2015). 'The dialogue between emerging pedagogies and emerging technologies', in *The Future of Ubiquitous Learning* (pp. 3-23). Springer Berlin Heidelberg.

Matrix NI (2016), Matrix Digital ICT Report 2016: Foresight & Horizon Scanning, Matrix Digital ICT Panel. Available from: <https://matrixni.org/wp-content/uploads/2016/03/2016-Matrix-Digital-ICT-Report.pdf>,

Matrix NI (2018), Study on Creative Technologies in Northern Ireland. Available at: <http://matrixni.org/wp-content/uploads/2018/04/MATRIX-Creative-Technologies-report.pdf>

Northern Ireland Screen (2018), *RSM Final Report Review of Digital Education Policy and Implementation in UK and Ireland*, Available at: <https://www.northernirelandscreen.co.uk/wp-content/uploads/2020/01/RSM-Final-Report-Review-of-Digital-Education-Policy-and-Implementation-in-UK-and-Ireland.pdf>

Mohan, G, McCoy, S, Carroll, E, Mihut, G, Lyons, S & MacDomhnaill, C (2020) *Learning for all? Second-level Education in Ireland during Covid-19*, ESRI Survey and Statistical Report Series, Number 92, June 2020

O'Connor Bones, U, Bates, J, Roulson, S, Taggart, S & Finlay, J, (2020) *Ulster University Northern Ireland Parent Surveys: Experiences of Supporting Children's Home Learning during Covid-19*, UNESCO Centre, July 2020; Available at: https://www.ulster.ac.uk/__data/assets/pdf_file/0009/597969/UU-School-survey-Report-web.pdf

Ragnedda, M & Mushert, G.W., (2013) *The Digital Divide: The Internet and Social Inequality in International Perspective*, Routledge

Ragnedda, M, & Mutsvairo, B, (2018). *Digital Inclusion: An International Comparative Analysis*, Lexington Books

Sutton Trust, (2020), *COVID-19 and Social Mobility*, Impact Brief #1: School Shutdown, April 2020: <https://bit.ly/3ciN9C9>

United Nations (2020), *Policy Brief: Education during COVID-19 and beyond*, August 2020. Available at: https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg_policy_brief_covid-19_and_education_august_2020.pdf

Walsh, G, Purdy, N, Dunn, J, Jones, S, Harris, J & Ballentine, M (2020) *Home-Schooling in Northern Ireland during the COVID-19 Crisis: The experiences of parents and carers*, Belfast: Centre for Research in Educational Underachievement/Stranmillis University College, 20/5/2020, Available at: <https://www.stran.ac.uk/research-paper/creu-home-schooling-during-covid/>