The Use of Digital Technologies in Distance Learning during School Closures

This article looks at primary and post-primary schools' experience of using digital technologies during school closures. It considers what we have learned and makes proposals on how we can build on this learning in the future.

Primary and post-primary schools closed with less than twenty-four hours' notice in March 2020. They had very little time to put plans in place to ensure continuity of teaching and learning for their students while they were at home. School leaders and teachers were thrust into an entirely new experience of working and engaging remotely with students and parents. Technology played a crucial role in ensuring that schools and teachers continued to connect with their students, enabling them to progress in their learning. In many instances, schools and teachers adapted very well. In other instances, they found it difficult at first but adapted to the challenge over time.

This article looks at the experience of schools in this new context, considers what we have learned about the use of technology, and makes proposals on how we can build on this learning in the future. It draws on information gathered by the Department of Education and Skills' (DES) Inspectorate as it engaged with school principals during the school closure and presents data from a survey of parents carried out by the Department in collaboration with the National Parents Council Primary. It also draws on studies done by national research and academic institutions.

A new level of digital competency
The sudden closure of schools meant that teachers had to adapt quickly to distance learning. This led to an unprecedented use of digital technologies and necessitated a new level of digital competency for teachers and students. Schools and teachers used digital technologies in many ways, including to communicate with their pupils, facilitate live or recorded lessons, assign work, and provide learners with feedback.

Teachers also used digital technologies and school learning platforms to support and monitor children's engagement with learning. Digital technologies played a really important role in helping learners stay connected with their teachers and classmates. The innovation shown by teachers during school closure has demonstrated

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the significant potential of digital technologies to enhance students' learning.

Varied use of digital technologies

Since its publication in 2015, the Digital Strategy for Schools has underpinned the use of digital technologies in teaching, learning, and assessment. While many schools have developed strong application of digital technologies, practice varies considerably. During the school closure, use of digital technologies ranged from simply setting tasks and assigning work, to giving feedback on work and providing recorded or live lessons. Some schools found the transition somewhat easier, while for others it took time to adjust and put arrangements in place.

There were also differences between primary and post-primary schools. Many post-primary schools had pre-existing infrastructure in place that allowed them to adapt more quickly. Primary schools found it more challenging, at least initially. The Inspectorate's discussion with principals suggests that asynchronous learning was more common at primary level and appeared to be the most practically suitable arrangement at the time and the most appropriate for the age cohort involved.

Email and platforms that facilitate sharing of digital portfolios of work were reported to be the most frequent modes of engagement between school and home. Synchronous learning was a stronger feature in post-primary schools, with more frequent use of videos and real-time interactive learning experiences from the outset. The capacity to provide video or live lessons increased in primary schools and became a more extensive feature during the school closure.

The DES surveys of parents (2020) indicated varying practice in teachers' provision of feedback to students and pupils, particularly in the initial period of school closures. 63% of the 1,806 parents of post-primary students who responded agreed that their children received regular and practical feedback from their teacher on work completed, while only 43% of 8,053 parents of primary pupils did so.

Factors affecting the use of digital technologies

A range of interrelated factors impacted on the use of digital technologies in schools. These related to schools, learners, or infrastructure.

A key school-related factor was the capacity to deploy digital technology already in the school (Inspectorate, DES, 2020; Mohan et al., 2020). Schools that had already embraced whole-school approaches and had well-established practices for the use of digital technologies, together with the necessary infrastructure, were in a better position to support students' learning in the remote environment. Schools that had not embedded digital technologies in their teaching and learning practice found it much more challenging to do so. While some moved quickly to develop their infrastructure, others did not fully exploit the potential of digital technologies.

Teacher confidence and competence in digital learning were also important school-based factors. Teachers varied considerably in their experience, confidence, and ability to use digital technologies to support learning. Supports from the Teacher Education Centre network and the extensive suite of customised CPD supports and training modules facilitated by the Professional Development Service for Teachers (PDST) provided very valuable guidance and helped to upskill teachers.

Learner-related factors included learner confidence and competence in digital learning and the level of learner access to digital technologies and reliable broadband (Inspectorate, DES, 2020). Where there was a lack of learner and parent familiarity with applications or platforms, this greatly constrained the use of digital technologies by children to engage with their teachers or the learning tasks provided. This issue was less acute in schools with existing digital learning platforms or applications, as learners were already familiar with the technologies. Other schools sent links or made short videos to help parents and learners access and use them.

Access to devices and to broadband was an important factor affecting the use of digital technologies (Devitt et al., 2020). Learners living in areas with

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inadequate broadband connectivity or with limited access to devices experienced difficulties engaging with the online materials or activities that their teachers were providing. Many schools provided devices to their students as one way of overcoming the obstacles of distance learning. Other schools invested significant effort in reaching out to their communities and made local arrangements to deliver and collect learners' work. This enabled the schools to maintain valuable two-way communication with the learners.

Practical considerations of infrastructure limited the choices available to some schools and teachers for distance learning. In a study by the Economic and Social Research Institute (ESRI) (Mohan et al., 2020), almost half of second-level school leaders reported that home-broadband connectivity and access to ICT devices for students significantly constrained how schools responded during school closure. Second-level schools with catchments where there was lower coverage of high-speed broadband were less likely to use online teaching and learning. Similarly, over half of primary principals who responded to a survey carried out on behalf of the Irish Primary Principals' Network considered issues of pupils' access to broadband when deciding on distance-learning provision (Burke and Dempsey, 2020).

Vulnerable students were most affected
Students from socioeconomically disadvantaged backgrounds and students with special educational needs were most likely to be impacted during the period of school closure (Mohan et al., 2020). This reflects the experience in other countries. The DES's investment in technology and resource supports for disadvantaged and at-risk learners aimed to ensure that the disruption to learning would not exacerbate differences in achievement and progression between those who are advantaged and those who are disadvantaged.

Even in schools where ICT infrastructure and access to devices was not an issue, students at risk of disadvantage appeared to be most adversely

affected, with their levels of engagement with teachers declining over the school closure period. Principals who spoke to inspectors during this time were deeply concerned about the educational welfare and well-being of these students. Of particular concern was the lack of engagement of some Leaving Certificate Applied (LCA) students, despite the best efforts of schools and teachers to connect with them.

In the case of students from disadvantaged backgrounds, the lack of access to devices and to high-speed broadband exacerbated the impact that school closure had on them – hence the Department's significant investment to improve access to devices in those school communities. However, it is recognised that the period of school closures has highlighted the digital divide experienced by students from lower-income families or who lived in areas that have been designated as socially and economically disadvantaged (Burke and Dempsey, 2020; Mohan et al., 2020).

Going forward

The period of school closure has highlighted the vital social role that our schools play in society and the invaluable role they play in the socialisation of our children. Without doubt, there is a greater appreciation of the work and skills of teachers and the central role they play in nurturing the well-being of children and young people. While there were many notable successes associated with schools' use of digital technologies to support and stay connected with students during the period of school closure, it was clear that the use of technology for distance learning was not a substitute for the classroom.

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We have learned a lot about the potential of technology at a time of change and uncertainty. We have also learned that technology has its limitations even when deployed effectively. The challenge now is to leverage the additional digital learning experience, knowledge, and skills gained by schools and teachers as they responded to the crisis to embed the use of digital technologies to make students' learning more effective.

We also need to address teacher-related, student-related, and infra-structural factors that constrained the use of technology in the teaching and learning experience during the school closure. In doing so, we should consider:

- the need to make digital learning accessible and equally available to all learners, particularly those at risk of disadvantage
- the need to ensure that all our teachers have the necessary confidence, knowledge, and skills to use digital technologies to enrich teaching and learning, including assessment and giving feedback
- the need to better prepare all teachers to use digital technologies to support student-driven learning, which in turn will facilitate continuity of learning when distance learning is required
- the need to support school leaders on how to lead and manage whole-school use of digital technologies.

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New Chief Executive Officer for Educate Together

In February 2020 Emer Nowlan replaced Paul Rowe as Chief Executive Officer of Educate Together. Commenting on her appointment, Emer said:

"I am delighted to be appointed as Educate Together's next CEO. Huge progress has been made in equality-based education over the past 20 years… Demand for Educate Together's equality-based schools has never been greater, and I look forward to working with families, students, campaigners, educators and our partners across the sector to meet that demand."