An Roinn Oideachais
Department of Education

Summary Report:

Open call for submissions on the development of a new Digital Strategy for Schools to 2027.

Department of Education
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Contents

1. Introduction

As part of the development of the new Digital Strategy for Schools, a wide-ranging consultation process was undertaken to ensure that all voices were given the opportunity to be heard and taken into consideration to help inform the new strategy and its associated actions.

A key element of this overall process was an online open call for submissions with 4 overarching questions. The questions set were as follows:

1. Please outline your observations and comments on how the existing Digital Strategy for Schools 2015-2020 has supported the integration of digital technologies into teaching, learning and assessment practices in schools.

2. From your understanding of the current Digital Strategy for Schools 2015-2020 what challenges have schools faced in the integration of digital technologies into teaching, learning and assessment practices.

3. Your comments and observations on the key areas and priorities that should be addressed in the development of the new Digital Strategy for Schools.

4. Please provide below any other comments and observations you wish to make on the development of a new Digital Strategy for Schools.

This summary report aims to capture and highlight the main issues and themes raised throughout the submissions under relevant headings and this, along with the detailed examination of the individual submissions and the other elements of the consultation process, has helped inform the overall development and approach of the new Digital Strategy for Schools to 2027. This report does not set out to reflect every comment or recommendation made in the various submissions but rather endeavours to give an overall indication of the key areas raised.

In total, 100 submissions were received from a wide range of interested parties including management bodies, teachers unions, industry, individual teachers and parents and agencies. The full list of submissions received is at Appendix A.

2. Positive aspects of the current Digital Strategy for Schools

The current Digital Strategy for Schools 2015-2020 has been recognised as a success throughout the submissions with the view that it has had a transformative effect on teaching, learning and assessment in schools. It has done this by providing a clear vision in terms of realising the potential of digital technologies to enhance teaching, learning and assessment so that young people become engaged thinkers, active learners, knowledge constructors and global citizens to allow them participate fully in society and the economy.

The fact that the strategy has guiding principles with a core pedagogical focus was seen as a positive and that it supports both teachers and students in their use of digital technologies as well as supporting collaboration within schools. The integration of digital technologies has been a very positive experience for most schools and the strategy has promoted self-awareness in both the teaching and student body.

It was pointed out that the strategy has "facilitated the recognition of the essential nature of digital technology in learning contexts and the embedding of digital technologies as a methodology, tool, subject and skill across primary and post-primary sectors. It enabled teachers to incorporate technologies into their teaching, irrespective of subject, it facilitated students to acquire digital media literacy in their formal education contexts. It offered a framework against which schools could develop their own digital environments, within their own particular contexts, as well as recognising that digital technology is not simply an extra, but an essential element in all contemporary classrooms".

Some submissions referenced the fact that the success of the strategy lies in the fact that it was backed by significant investment. This allowed schools boost their digital capability by investing in core infrastructure including WIFI, digital devices etc. Indeed, it was pointed out that many invested with long term objectives in mind.

The Schools Excellence Fund Digital/Stem was praised. It was considered that it provided schools with the space and support to collaboratively develop achievable visions for Digital Learning use, along with timeframes for implementation. Learnings from the projects undertaken under these initiatives should be disseminated to other schools.

Overall, as referenced by industry, the Digital Strategy provides a relatively thorough overview of what schools around the country need to do in order to introduce 21st Century learning to Irish classrooms. It has also facilitated a more accessible, inclusive learning environment, which has motivated students to become more engaged by giving a clear vision of what embedding digital technologies in schools should look like.

3. Funding

A large majority of the submissions welcomed the funding provided under the current Digital Strategy for Schools and the fact that schools had autonomy and flexibility in how they invested. This was seen as key in supporting implementation of their Digital Learning Plans (DLP).

However, they also felt that the overall level funding provided was insufficient with many schools still required to fundraise to bridge the gap and that insufficient funding was provided to realise the full potential and expectations as set out in the existing Digital Strategy for Schools. Significant additional funding was called for in order to allow schools upgrade existing devices as and when required and to acquire local IT technical support and that this should not be coming from current school budgets. Technology and devices should not be seen as additional resources but as a normal everyday element of school life.

There was repeated calls for a commitment by the Department of Education for multi-annual investment to ensure all schools have a minimum level of ICT infrastructure that can be maintained and to ensure all teachers and students have access to the required digital technologies. A multi annual budget which provides a regular, predictable source of funding would continue to facilitate schools to plan more effectively and continue to implement their DLP's. Where schools feel they do not have sufficient funding or a clear commitment, they are not progressing with their DLP.

Submissions also expressed the desire for more targeted funding to help address the digital divide, in particular for DEIS schools. By committing to an increasing multiannual investment, the digital divide between schools and students will be closed. There was also suggestions that there should be an increase in IT grants for schools below a certain size and the fact that primary schools receive a lesser amount than post primary schools was raised as an ongoing concern. It is felt that this is an anomaly that should be addressed given that the cost of digital technologies is the same, regardless of school type.

Some submissions referenced special schools and their need for an enhanced grant as they feel they are at a disadvantage given their lower enrolments and the greater need of their student cohort for access to digital technologies. It was also pointed out that assistive technologies are very expensive and that the process for attaining assistive technologies needs to be streamlined to ensure all students who could benefit from digital technologies can get them.

In terms of calls for additional funding under the new strategy, the following points were made:

- funding to be made available for the updating and maintenance of devices

- all students and teachers should have appropriate digital devices to ensure the objective for technology to enhance teaching, learning and assessment is realised.
- more effective public procurement model needed.
- teachers should not have to use their own personal devices and funding needs to be increased to ensure all teachers have devices.
- level of funding provided has created inequalities in access to technology for low-income students in “tech-led” schools (for example where schools request that parents supply tablets for their children, this leads to significant financial hardship for low-income families. The issue of parents having to provide devices for students should be addressed in the new strategy).
- the new strategy needs to be funded continuously and become a core part of funding for schools. This includes the regular updating of devices and equipment, provision of bespoke and context relevant training for teachers and the provision of a 1:1 device for all teachers and students.

4. ICT infrastructure and technical support

The topic of digital technologies infrastructure including broadband access, the provision of sufficient devices and the associated necessary technical support were raised consistently across the submissions as key issues that need to be addressed in the new Digital Strategy. The main points raised in relation to ICT infrastructure, technical support and procurement are set out below with a view that continued investment in the ICT infrastructure in schools is required with a particular focus on addressing the digital divide.

4.1. Broadband/Connectivity

This was set out as a key concern in many of the submissions, with calls in particular for high speed connectivity as standard for primary schools, and continuing provision or further upgrading for post-primary schools. This was aligned closely with wireless networking, while some of the submissions did not specifically mention Wi-Fi, a number did state that high speed connectivity would be necessary to enable the use of digital technologies and digital learning throughout the school.

It was pointed out that the quality of connectivity and speed of broadband varies across schools, which inevitably leads to an inconsistency in the use of digital technology and that a consistent level of connectivity across all geographical areas is essential. In terms of connectivity, an Internet Connectivity School Broadband Speed data report published in 2019[1] showed massive regional variations and of 427 respondent schools, almost 50% considered their internet provision to be inadequate to meet their educational needs. Where teachers experience delays in uploading content or sharing material with students, teacher unions' pointed out that this impacts classroom management and is another time pressure for teachers and that a reliable service would lead to a higher usage of technology in the classroom. Educators cannot be expected to effectively utilise new technologies if they do not have access to basic infrastructure.

Teacher unions also feel that it is "grossly inequitable that schools and students in some parts of the country cannot access reasonably priced, reliable broadband services. Provision of such requires a State-owned broadband provider". Industry representatives suggested that a reconstituted taskforce be established to help push engagement with local authorities to simplify and streamline the administrative requirements they place on network operators and that this should speed deployment. There was also a suggestion

[1] https://www.irishtimes.com/news/education/broadband-speeds-too-low-in-most-primary-schools-1.4065186

that those schools with inadequate broadband provision should be identified and targeted as a matter of urgency to accelerate the provision of high speed broadband.

Some submissions referred to the fact that there can be a lack of knowledge around how to get adequate broadband speed into schools and a lack of technical knowledge in ensuring appropriate broadband speed is distributed to all classrooms in a school. Industry pointed out good advice is critical for schools at the initial stages of selecting infrastructure and hardware when installing Wi-Fi and they felt that the current advice available is not adequate or readily available. A non-governmental organisation (NGO) suggested that an enterprise-level service level agreement (SLA) is needed so that if connectivity gets interrupted, it can be fixed quickly. Once connectivity is delivered to school premises, it must be made available to all learning areas with investment and expert advice needed to deploy wireless networks into schools, particularly at primary level

It was considered in many submissions that wireless systems will be critical to enabling the effective integration of digital technologies in teaching and learning across the curriculum, as well as promoting the use of flexible learning hubs or space and group-based activity. Cloud computing was frequently noted as a key enabler for the use of digital technologies and also to support school administration with sufficient broadband required to underpin this.

Many of the submissions also noted unequal access to home broadband, for both socio-economic and geographical reasons and that access was a requirement for remote learning, and to do homework. Some noted communication between home and school also in this context.

4.2. Digital devices

A demand for sufficient devices, in particular the requirement for all teachers to be provided with a device, was one of the strongest messages coming across from the vast majority of the submissions. Many also called for a device per learner. This is closely aligned to the digital divide theme, which is gone into in more detail later in this report. While a number of the submissions did not use the wording ‘digital divide’, they noted that all learners, regardless of socio-economic factors, should be provided with a device. It was pointed out that the lack of access to digital devices is a barrier to digital learning and indeed to pupil engagement. Another suggestion was appropriate device ratios for students and teachers to ensure both have access to all the digital resources they need. Either way, teachers and students need to have access to high quality equipment and infrastructure with the necessary training to ensure the use of digital technologies is embedded across teaching, learning and assessment with a call for the new strategy to

set out the appropriate amount of devices a school should have in place, for example, the ratio of devices:students

Teacher unions referenced research during the pandemic, which repeatedly highlighted the lack of suitable devices for learning across large sections of the student population and that teachers should not be required to depend on personal digital devices for their daily work. In a survey conducted by the ASTI in May 2020, just 61% of teachers had been provided with a school laptop.

The approach in other jurisdictions in implementing a device per learner policy was frequently referenced by industry in particular (Scotland, Austria and Germany). These examples seem to refer to post-primary level in the main. In a number of submissions, the requirement to have a device seemed aligned to use for homework, but also for blended learning, as well as online activities during class time.

4.3. Technical support

As referred to in some of the submissions, the Digital Education at School in Europe report[2] highlights that a lack of technical support is one of the greatest obstacles faced by teachers in the use of digital technologies (Chapter 4.2.3.). Schools require technical support to enhance teaching, learning and assessment as well as the school's administration and planning systems. However, the issue of technical support is multi-faceted with different issues being raised in submissions along with various proposed solutions and recommendations.

One common theme across the submissions is that technical support is an issue that needs to be addressed and that it can be both time-consuming and costly at school level to deal with and is not dealt with on a consistent basis. The fact that teachers are having to spend their time dealing with technical support issues was raised consistently and that this time would be better focused on teaching and learning. Also it was felt that it is not acceptable to rely on the teacher who is "good" with technology and that teachers are not trained IT technicians.

In terms of what type of technical support should be provided, the following were the key messages received in the submissions:

- Should be responsive and timely

[2] https://eacea.ec.europa.eu/national-policies/eurydice/content/digital-education-school-europe_en

- Access to appropriate experts and specialists
- Blend of on-line and face-to-face support
- Additional funding made available to schools to meet technical support costs

Some submissions called for a centralised high quality technical support and maintenance resource which would help schools deal with ICT infrastructural problems. The Education Network structure in Northern Ireland, which provides a centralised service for schools around ICT technical issues was referred to in some of the submissions as something that should be considered and that this could take the form of a clustered or regional support model with a particular catchment area. Other submissions believe that local business should be utilised to provide required technical support to schools.

Management bodies pointed out that a business with 1,000 people would have an entire IT Department, which schools do not have and that if a school has a digital co-ordinator in place, that person should have a substantially reduced timetable and be provided with ongoing training and professional development.

Other suggestions around the provision of technical support in schools included:

- Department of Education to establish a panel of technicians to serve clusters of schools.

- In the Action Plan for Apprenticeships 2021-2025 [3], the Government committed to setting targets for the public sector to take on apprentices and to create cross-sector apprentices. Therefore, the creation of an apprenticeship programme to provide technical support capacity for schools would satisfy both the Government commitment and the needs of the schools for reliable technical support. It was suggested that an in-school or shared technical support person could be recruited through an apprenticeship scheme to support schools, which would provide local level technical support as required.

- A standard operational mechanism for technical support needs to be developed as it is no longer acceptable that students, dependent upon technology for access to the curriculum, experience long delays due to lack of information on how / where to source a solution. This needs to be an internal department function of a formal outsourced arrangement

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- Consideration should be given to the deployment of a digital technician to support clusters of small schools in addition to the digital leader.

[3] https://www.gov.ie/en/publication/0879f-action-plan-for-apprenticeship-2021-2025/

4.4. Procurement and frameworks

It was considered across a large number of the submission that schools need guidance when it comes to making the right choices in relation to the purchase of technology products. It was pointed out that procurement and maintenance of digital technologies can lead to unnecessary challenges due to a lack of knowledge and experience. Some submissions referred to the fact that sometimes digital technologies can be purchased without the requisite planning or knowledge and with little consideration for the cost of ongoing maintenance and technical support. This can ultimately result in the digital resources and equipment purchased not being used effectively or in some cases, not being used at all. In this type of situation school leaders would benefit from being able to consult impartial experts, such as an advisory service (similar to the Professional Development Service for Teachers[4]) to assist schools in making the most of their funding. It is in answering the questions of what it is that you want to achieve by using digital technologies and how you intend to do it, that leads to identifying the appropriate tool.

However, many schools for a myriad of reasons, have not paused to consider these questions and have invested in digital technologies due to an immediate need for hardware without full consideration of the bigger picture. Industry representatives also called for enhanced guidance on the best configuration of technologies to meet a schools needs given the variety available and the pace of development.

While there are a lot of procurement frameworks already in place, there were calls for further external support and guidance for schools on managing procurement, tenders, installation etc. Frameworks to cover more hardware and software (in particular cloud computing software) and to a lesser extent, for technical support were requested. Also there was a call for the frameworks to be simpler for schools to access and use and that there should be single provider arrangements with standard specifications available. Current procurement frameworks are sometimes seen as unwieldy and time consuming. One management body called for a review of the current procurement arrangements with a view to creating a more user-friendly framework for schools.

Another management body suggested a system whereby the Department of Education could bulk buy devices direct from manufacturers and schools could then order directly from the Department, which they felt would result in a much more cost-effective process. In terms of knowing what technology a school should buy, the development of a service catalogue, or similar was suggested. This would provide schools with options and resources that best meet their digital needs and contain solutions and services to uplift the digital maturity of the school, which would be pre-approved, compliant with standards and policies etc.

[4] https://www.pdst.ie/

It was also pointed out that an emphasis on best value in terms of price is not always the most effective, as how teaching practice and educational outcomes are affected should also be taken into consideration. By focusing purely on cost, some schools have ended up having mixed suites of equipment, products not designed for use in the classroom and an increased need for training in multiple platforms.

Some submissions called for a central platform for education which would allow schools access to vital learning resources as well as support teachers skills development, knowledge sharing and streamlined administration. It was felt that a public strategy is needed in the interest of equity. Currently schools have adopted a wide variety of tools and learning platforms which can complicate training for staff.

Other recommendations in terms of guidance, frameworks and procurement made in the submissions included:

- pre-approved list of suppliers for each type of technology.
- hardware and software guidelines to cover minimum specification and areas to consider for principals.
- hardware and software frameworks should include training as a requirement, and also maintenance and support.
- coordinators from the Department should go into schools and speak to staff about what each school requires.
- national purchasing frameworks, offering schools the freedom to choose different technology platforms, while taking advantage of larger scale purchasing and support options should be made available.

4.5. Data protection

This was mentioned by management bodies, industry, and parents as being a concern. The expanded use of digital technologies raises concerns as to both the security of personal data that schools may hold, as well as the appropriate use of personal data (in particular in the context of social media). A parent also noted that in using cloud computing, personal data may be held by commercial entities and as such consideration is needed to ensure appropriate data protection provisions are in place.

There was a call for the new strategy to include a suite of template policies and resources for schools to assist in the safeguarding of data storage and processing and in responding to data breaches, all of which would be compliant with current Data Protection legislation.

It was also recommended that a central State system be provided, or recommended options agreed, which respond to the needs of schools to host and to use protected

cloud computing. File servers protected from cyber-attack, or malicious software, including the hosting of school sites should be made available.

Overall there was a view that increasing security awareness in schools is needed especially around network security, Wi-Fi networks, ransomware avoidance and mobile device management. Security needs to be a priority when you enable digital classrooms and hybrid learning. Schools are required by law to protect student personal data and information, so it is essential to insulate against potential ransom payments caused by security breaches. Schools must be in a position to detect network traffic concerns and malicious behaviour from encrypted transmissions without compromising security

4.6. Further proposals

In terms of further recommendations around ICT infrastructure, procurement and frameworks not already referenced, the following were noted in submissions:

- A nationally set up virtual desktop infrastructure (VDI) that can be easily adapted and administered by each school should be established.
- Commission an in-depth study on the use of digital technologies by teachers, including technology adopted during the Covid-19 crisis, to map best practice and identify any unmet needs to best tailor future training and supports.
- Implementation of a ‘cloud-based’ approach for central ICT systems, applications, services, and infrastructure, including human resource management, case management and finance systems. Maximising cloud usage will deliver technological and cost benefits for schools, as well as ensuring pupils can benefit from new cloud-based educational programmes.
- A central platform for education would support teacher skill development, knowledge sharing, and streamlined administration, enabling teachers to focus on teaching and reducing administrative bureaucracy.
- Provision of non-device-dependent cloud-based software solution for use centrally in all schools in Ireland, would help reduce costs for schools and make access to the software more accessible
- Develop the strategy with cloud-based, software as a service (SAAS) model at its core. This will enable a consolidated platform for digital learning where teachers, students, and schools can learn, irrespective of device and location. It will also allow greater collaboration between teachers and if appropriate between schools, so that at a minimum, a common baseline of learning material can be shared. Adoption of a SAAS approach will be further empowered by the national broadband plan. The new strategy should ensure all schools and learners are empowered to use the technologies irrespective of the device they are using or their location.

5. Digital Divide

Technology has the power to close the digital divide if addressed properly. While the principles of equity in the current digital strategy are strong, it was felt that they need to be supplemented by the principle of "no one left behind", which is central to Sustainable Development Goal 4[5] and requires consideration of equity to be paramount for all levels of education policy and practice.

It was clear from the submissions that while there was an awareness in the system of a digital divide pre-Covid-19, the experience of remote learning very much highlighted this as a serious concern, particularly for students but also among teachers and schools. In order for digital technologies to be successfully embedded, the belief is that all students and teachers must have access to the necessary devices and it was felt by many that measures to address the digital divide and equality of access need to be central to the development of the new strategy with the overall objective of no one being left behind.

Not all students and teachers had the same experience of remote learning with the lack of suitable broadband infrastructure and access to digital devices becoming apparent. Some students were unable to do homework and access remote teaching due to lack of devices, while others lacked sufficient broadband and connectivity. Schools in areas with low broadband connectivity and lower than average household incomes as well as DEIS schools were more negatively impacted by the move to remote learning than their counterparts. Whereas it was reported that schools that had well-established practices and had developed whole-school approaches to digital technologies found the transition to be comparatively easier. This is evidenced in various research carried out including by the Department's own Inspectorate[6].

Even before school closures, evidence shows that almost one third of the world's young people were already digitally excluded (UNESCO, 2020)[7]. While there is a gap between educational outcomes and retention between DEIS and non-DEIS schools, there is some evidence to suggest that this gap has widened due to the impact of school closures and lack of devices. The digital divide can not only mirror but can exacerbate existing socio-economic gaps.

In order to address this, teacher unions' among others stated that all schools should have a minimum level of ICT infrastructure to ensure all schools and students have equity of access to digital technologies regardless of geographical location, socio-

[5] https://sdgs.un.org/goals/goal4
[6] https://www.gov.ie/en/publication/c0053-digital-learning-2020-reporting-on-practice-in-early-learning-and-care-primary-and-post-primary-contexts/
[7] https://en.unesco.org/gem-report/report/2020/inclusion

economic background or other characteristics. There was support for the provision of digital devices for all teachers and all students and that teachers should not have to rely on their own personal devices. If blended learning or remote learning needs to be utilised going forward, it is vital that all of those involved have access to the required devices. All schools and teachers should be on an equal playing field.

In terms of allocation of funding, there was a call for DEIS schools to continue to be prioritised with some calling for a greater differentiation than that which already exists. Schools with a high concentration of disadvantage were less likely to have the equipment to live-stream classes and students in these schools were less likely to have devices, access to broadband or have quiet study spaces.

It is worth noting that the term digital divide does not just refer to access to ICT infrastructure but can also refer to digital skills and content and its delivery. Also a digital divide between schools in terms of DEIS and non-DEIS and in terms of urban and rural was referred to. A management body referenced the fact that each individual school has had to create, implement and embed their own digital technology vision for their school and that this can lead to inequities given some schools have superior broadband provision or have in house technical expertise or support from local industry. This has meant the gap has widened between those who have and those who have not and the implementation of a positive bias in favour of supporting schools who have less was requested.

It was reported that a clear digital divide developed between those students with additional learning needs and/or disabilities and those who don't have any additional needs. Planned solutions are needed to allow these students become independent learners. There was a view that those students with special educational and additional needs were impacted disproportionately by school closures. There was a lack of availability of portable technology and difficulties for some leaners in accessing teaching resources through learning platforms. Support was requested to align assistive technology with learning platforms and further support for special education teachers in using these platforms.

Other general comments and observations made in relation to the digital divide include:

- Northern Ireland's policy of having an allocation of computers and equipment based on enrolment was referenced. Reference was also made to other countries providing a digital device per student (for example, Scotland and Austria).
- A sample survey in February 2021 among 200 SVP Conferences (local units)[8] found that 49% of the conferences had direct requests for help with digital devices since March 2020.

[8] https://www.svp.ie/about-us/structure-and-governance.aspx

- Joined-up Government initiatives to ensure low income households can avail of broadband. One NGO suggested data packages for low income households, people in direct provision and other marginalised people.
- ICT infrastructure needs to be significantly upgraded to reduce the digital divide.
- Schools should ensure their Digital Learning Plans are poverty proofed.
- Diversity and inclusion should be key to all elements of digital developments in schools.
- Innovative solutions to tackling the digital divide should be considered, with particular emphasis on initiatives to support and encourage minority groups typically underrepresented in the technology field including females.
- Supports required for those parents who need it, for example lower literacy or digital literacy skills, non-English speaking etc.
- The campaign Tech2Students, ran by Trinity Access and Camara Ireland (with the support of RTÉ and others) which repurposed laptops for students from disadvantaged groups including those in DEIS schools and direct provision, as well as adult learners in vulnerable groups, and in youth groups like Foróige and An Cosán was acknowledged.

6. Learnings from Covid-19/Remote Teaching Experience

While the move to remote teaching and learning in some cases highlighted the digital divide, there were other learnings from school closures and the impact of Covid-19 that were referenced in the submissions. Multiple submissions referred to the fact that the use of technology in education throughout the Covid-19 pandemic was at an unprecedented level and allowed teaching and learning to continue despite school closures. There was no doubt it accelerated the pace of using digital technologies and attention was drawn to the fact that huge expertise has been gained by both teachers and students with the way they adapted and the speed with which they moved to remote learning being praised.

The need for the new Digital Strategy to build on this increased engagement was also raised repeatedly and references were made to the fact that the various reports and research available on the learnings from Covid-19 in the school system should be taken on board in the new strategy.

It was felt that the pandemic forced the education system and individual schools and teachers to engage with digital technologies and while highlighting some gaps, it also showed what could be achieved. Schools had to adapt quickly to remote learning and the role of the PDST was complemented in supporting schools and teachers at this time. Access to continuous professional development (CPD), supports, resources and materials for teachers on digital learning, was critical to share best practice and provide guidance for teachers.

As referenced , one of the main issues that Covid-19 and the impact of school closures drew attention to was the impact of the digital divide across the country and the importance of all learners having access to the necessary broadband infrastructure and digital technologies to facilitate them to access education and online schooling. Many students struggled with no access to appropriate digital devices or having to share access with other family members or use mobile phones. The TUI carried out a survey of over one thousand of its second-level teacher members in April 2021, which found that 74% stated that some of their students were unable to engage with remote teaching and learning due to not having access to appropriate electronic devices. Other key findings included:

- 93% of respondents reported disengagement by students
- 76% of respondents believed that remote learning had a disproportionately negative effect on students from disadvantaged backgrounds
- 64% of respondents found that remote teaching and learning took much more time than face-to-face delivery

The response to Covid-19 also showed the disparity between schools with some struggling to get online and putting the necessary processes and infrastructure in place whereas those schools who had developed whole-school approaches to digital technologies pre-Covid-19 transitioning quicker. The enforced school closures cast a sharp and immediate focus on ICT in general and on the required skills for effective remote learning, in some cases creating an imbalance.

Particular comments in terms of maintaining and building on what has been achieved during the response to school closures included:

- Remote learning emphasised the need for all teachers and students to have access to appropriate digital devices.
- Online learning should not just be replicating what is happening in the classroom but introducing new pedagogical approaches.
- An online training day on an annual basis for all schools to maintain expertise of online schooling.
- Online learning should be used to supplement and complement existing methods of teaching and learning.
- Teacher unions' pointed to the fact that while significant learning has occurred, this is undermined by what they consider to be unaddressed systemic problems in the school system such as teacher workload, curriculum overload, unequal pay and lack of professional time.
- One of the management bodies considered that a blended learning model will be the future for education, with many benefits to this approach including offering a greater flexibility for both teachers and learners.
- Students and teachers and principals have learned new ways of communicating with each other and with parents.
- How technology can be integrated into the physical classroom should be reimagined.
- There is a perceived weariness with technology having been forced to use it throughout the school closures, which may pose a challenge for the new strategy.

7. Initial Teacher Education (ITE)

Céim: Standards for initial teacher education specifically[9] identifies 'digital skills' as one of the seven core elements for all initial teacher education programmes ('digital skills' is proposed to include digital literacy, the use of digital technologies for teaching, learning and assessment, and the integration of digital skills across the ITE programme, including opportunities for student-teachers to explore new and emerging technologies). The introduction of digital skills as a core element of initial teacher education was welcomed throughout the submissions. However, it was noted that it is still perceived as a separate subject in some of the relevant higher education institutions which implies it is being treated as separate to the curriculum. Digital learning tools and resources should also be a core element in initial teacher education and it was recommended that the significance of digital skills in ITE should be re-asserted as a core element of teacher training in the new strategy.

It was pointed out that the fact that an indicative accreditation plan which will require all ITE programmes to be accredited or reaccredited before 2023 and is aligned with Céim provides an opportunity to embed relevant actions from the new Digital Strategy for Schools in ITE and maximise integration.

It was considered that further collaboration is required between the Department of Education and ITE providers to ensure teachers are provided with the necessary skillsets required to use digital technologies effectively in teaching, learning and assessment. It was also suggested that consultation with school leaders on the pre-service digital learning course would help ensure it is relevant, current and practical.

It was suggested that there is a need for a specific digital competence framework for teachers which would include regulations and recommendations on how to structure digital competence programmes. Also for those teachers who have not undertaken digital skills training in ITE, the necessary opportunities need to be provided to ensure they can upskill in this vital area and that they can engage with CPD regularly given the evolving nature of digital technologies and their application. Both of these points are further expanded on later in this report. ITE is the first step in professional education of teachers with Droichead and Cosán also referenced.

[9] https://www.teachingcouncil.ie/en/news-events/latest-news/ceim-standards-for-initial-teacher-education.pdf

8. Continuous Professional Development (CPD)/Teacher Professional Learning(TPL)

The importance of CPD/TPL to facilitate and support the implementation of the new strategy was raised consistently throughout the submissions. There was a call for a national structured and standardised framework around CPD/TPL to ensure that the relevant supports and resources are available to all school leaders and teachers and that they are given the time and support to undertake the required training. It was felt that the new Digital Strategy will not be effectively implemented unless principals and teachers are provided with supports and resources and key to this is the necessary training and upskilling required in the constantly evolving area of digital technologies.

There is also a consistent call across the submissions for digital technology to be embedded throughout the entire curriculum and not seen as a stand-alone area. There is a belief that the current school curricula and timetables do not provide for this co-existence, treating the development of digital literacy as an 'add-on' and not giving it the priority that is requires.

8.1. Methods and standard of TPL

Ongoing teacher upskilling is vital, especially in the area of digital technologies and its further embedding across teaching, learning and assessment. Whether CPD in this area should be mandatory was raised, in particular for school leaders. Industry representatives believe that digital leadership and quality CPD are integral to the successful integration of digital teaching and learning tools.

Overall, it was felt that the training provided by PDST and their Technology in Education team was to a very high standard and was specifically praised for their swift response to support schools, school leaders and teachers throughout school closures and remote learning.

There was a call to ensure that there was a continuous element to training with sustained continuous training for teachers being key to the successful implementation of the Digital Strategy. Building competence and confidence in the use of technology across all disciplines should be a priority of the new strategy. Training needs to be accessible to all, with one option given for it to be delivered online at an individual pace. However, it was also felt that a blend of online and face-to-face is important. It was pointed out that where TPL has been provided within a school as part of a whole-staff training programme, this has often been done on a once-off basis or on an annual basis and that this results in a slower development of teachers skills in technology.

It was pointed out that the emphasis on a whole school approach to ICT has facilitated the engagement of more members of staff in digital technologies and ensured that this area is no longer just the remit of a few and the TPL provided thus far has supported this. Collaboration and peer-to-peer learning is key in this area and there was a request for the development of a community of practitioners supported by an online platform for the sharing of information, education material, best practice/approaches and other resources. It was referenced that research shows that teachers learn best when they have opportunities for both individual and collective learning and that the required time should be given to facilitate this.

Cross-sectoral collaboration between primary and post-primary and indeed with further and higher education and industry should also be encouraged more, as already happens in the School Excellence Fund – Digital/STEM. For those schools that are still at the very early stages of embedding digital technologies and require additional supports, consideration could be given to incentivise schools to create collaborative clusters with other schools where ICT is firmly embedded, thereby giving them an opportunity to see and learn from best practice.

The importance of teachers having the opportunity to provide feedback and evaluate the TPL they undertake was expressed, so that their comments can be taken on board to ensure their needs are being met. In general, CTPL needs to be responsive to ongoing developments in the system. There was a proposal that statutory providers such as the PDST could work collaboratively with non-profit, industry and community providers in co-designing and developing specific training modules.

Other proposals in terms of the delivery of TPL around digital technologies included:

- PDST Technology in Education to consider providing a new series of seminars for school leaders initially to share ideas on ICT integration and reflect on the learnings from the school closures.
- A mentoring programme for teachers to support those who have little experience/confidence should be established.
- An incentivised and/or subsidised ICT programme that teachers and school leaders could complete as part of their professional development which could support the Department's objective to ensure that the transition to digital is as smooth as possible.
- Some form of accreditation or recognition should be made available, for example, micro credentialing.
- DigCompEdu, the European Framework for the Digital Competence of Educators is a useful reference and support in the development of technology enhanced learning in Irish schools.
- The clustered model of TPL provision should be maintained and encouraged. One of the management bodies expressed a request for mandatory whole-

school training to staff using a cluster model with school closures, like the JCT Cluster days.
- A minimum level of courses, seminars, materials and equipment must be available, cost neutral, to individual teachers and schools.
- Occasions should be organised where principals can learn from specialists and particularly from other principals and have their questions answered.
- Off-site opportunities are important to encourage wider face-to face networking and exchange of practice and ideas. Education centres could be used to support this TPL and collaboration among schools.
- TPL should be more focused on strategic goals, and the teaching and learning agenda, e.g., flipped classroom, sharing learning intention, using success criteria, providing feedback and reporting to students and parents.
- For Irish-medium schools, teachers need to receive continuous training through Irish so that the will be able to deal with future technological and digital changes.
- All PDST resources need to be available in Irish.
- Inclusion of bespoke training packages from trusted suppliers in an educational technology framework would be useful. Although more schools are requesting training and the overall number of sessions has increased this does still not correlate with the amount of IT going into schools.

8.2. Scoilnet

The resources provided under Scoilnet were referenced and praised throughout the submissions with it being seen as an invaluable resource. Some suggestions were made in terms of enhancing it to make it more effective and these included:

- redesign as a one-stop-shop cloud-based repository with resources and digital teaching and learning software.
- allow access to up-to-date research on the inclusion of technology in teaching and learning internationally to assist schools to make fully informed decisions in relation to its integration.
- upgrade to provide digital resources for all subject areas.
- sharing of more resources for teaching, learning and assessment created with special classes, special school designations and L1LP, L2LP classes in mind with a dedicated section for use of assistive and augmentative technologies.
- all Scoilnet resources should be available through Irish.

8.3. Challenges associated with TPL

The success or failure of any initiative in a school hinges on teacher engagement and the main challenge raised repeatedly throughout the submissions was time and the lack of it. Allocating the necessary time for professional development and collaboration has always been a challenge to the integration of digital technologies in teaching, learning and assessment, with the OECD reporting that almost half of teachers in Ireland do not have sufficient time to prepare lessons integrating digital devices.

There was a call for scheduled training days for both teachers and students throughout the school year. Some felt that even though the relevant TPL is available, teachers can feel overwhelmed with the curriculum and changes to it with a general feeling of "initiative overload". Many teachers have engaged with TPL throughout school closures in their own time after school hours and there was a feeling that this cannot continue, with an expectation that TPL will "just happen" being unrealistic. It needs to be facilitated and supported.

While the quality of training provided by PDST Technology was felt to be excellent, there were difficulties around extracting teachers from class due to lack of substitution. Quite a few submissions called for enhanced substitution cover. It was pointed out that "teachers do not have spare time in their working day to engage in meaningful collaborative work with colleagues across the wide and constantly expanding range of national strategies and associated school policies, implementation and evaluation practices".

Some submissions referred to the fact that there is no set minimum standard of digital skills required for teachers and this was also mentioned in the context of professional development initiatives that focus on the pedagogy without first addressing inconsistencies in the digital skills levels of teaching professionals will not bring out any significant change. It was felt that relying on teachers to identify their own training needs and give their own free time to ICT training will delay the impact of the digital strategy. Locating information and resources was also considered quite time consuming by some schools.

In terms of training around digital technologies, it was suggested that a train-the-trainer model of providing TPL to principals to disseminate to their teachers doesn't work and should not be used for TPL in this area. It is a very specific knowledge and also requires a large amount of time that principals do not have.

8.4. Suggestions around TPL requirements going forward

Teachers need guidance and training on the creative use of digital technologies in the classroom to transform pedagogies and boost student engagement and performance in the broader education curriculum. To facilitate this TPL and other supports should be responsive and specific to the individual needs and approaches of schools and teachers. Teachers also need to be able to trust the resources they implement in class.

Among the submissions received there were calls for:

- The expansion of the PDST TiE team.
- Training on how to implement the use of technology effectively into subject specific areas, which is very important
- There was reference to the benefit of TPACK & SAMR models to help with effective TPL planning on the use of technology and that they could be integrated into the new strategy.
- A mix of basic and advanced courses
- A centralised hub supporting the development of policy and practice and monitoring the development of digital education in Europe to ensure that Irish primary school teachers' digital skillset is progressing in line with European counterparts.
- Specific training for teachers to create accessible content in terms of them having a role as content creators for digital learning.
- The Department of Education should introduce a free post-graduate programme for leading digital learning for teachers and principals.
- Availability of relevant digital content mapped to the Irish curriculum across all subjects, along with teacher toolkits to enable delivery of high quality constructive and inclusive learning (Wiggle)
- Strong communication process with schools and teachers, necessary to raise awareness and increase visibility of existing and future materials.
- Increased need for training in multiple platforms as the level of skills and knowledge of how to use IT platforms varies widely.
- Amplification of the work of the Computer Education Society of Ireland (CESI), which provides critical peer-led support for teachers of Leaving Certificate Computer Science under the Department of Education's TPN scheme.

The use of self-assessment tools was also raised with reference being made to the EU tool SELFIE[10] which allows a school to assess where it stands in terms of digital learning.

[10] https://education.ec.europa.eu/selfie

This has also been modified for use for teachers also and could prove a useful tool going forward.

9. Curriculum

A large proportion of the submissions considered that supporting curriculum needs should be at the heart of the new Digital Strategy with a need for the strategy to connect and link in with current and newly developing curriculum. There was repeated reference in the submissions to the fact that the overall aim of digital technology in education should be to ensure it becomes an integral part of teaching, learning and assessment in every classroom and be fully embedded across all areas of the curriculum. It was pointed out that there has been substantial progress in the integration of technology in teaching and learning throughout and since the lifetime of the Digital Strategy for Schools 2015-2020

9.1. Achievements to date

In terms of what has already been achieved to support this objective, the following areas were highlighted:

- The Draft Primary Curriculum Framework[11] identifies 'Being a digital learner' as one of the seven key competencies, which seeks to support children to become "curious, creative, confident and critical users of digital technology" (NCCA, 2020, p.8). Being a digital learner fosters children's ability to collaborate and thrive in a world increasingly immersed in technology. Elements such as critical thinking, problem-solving and communication need to be at the core of the revised primary curriculum with the ultimate objective being that pupils are equipped with the necessary skills to navigate a digital world. In order to support this objective, more guidance on integrating digital technology and teaching digital skills will be required. Another aspect that needs to be considered is the "digital transition" from primary to post primary.
- The fact that the existing strategy provided that "all future curricula will include clear statements that focus on the development of digital learning skills and the use of ICT as a resource in achieving specific outcomes across the curriculum" (DES, 2015, p. 14), was considered as having a positive impact with the statements providing clear examples as to how digital technologies could be embedded, always with a pedagogical focus.

[11] https://ncca.ie/media/4456/ncca-primary-curriculum-framework-2020.pdf

- The importance of having Computer Science as a subject for Senior Cycle is seen as a welcome achievement of the current strategy. There were calls for its expansion but it was also noted that schools have faced challenges in terms of teacher supply for this particular subject. It was suggested that in order to encourage uptake at senior cycle, there should be clear pathways from upper primary and junior cycle with the introduction of coding and further digital media short courses. Industry recommends the prioritisation of 'Whole School Adoption' of Computer Science and digital skills, as recommended by the UK's National Centre for Computing Education in their Impact Report[12] to assist this process. Industry representatives also suggested the introduction of a buddy system between industry and teachers as a means to provide any additional guidance new teachers may need on technical aspects of Leaving Cert Computer Science.
- Curriculum reform in the junior cycle supported by the Digital Strategy has created new ICT-related curriculum components in the form of junior cycle short courses. These include Coding and Digital Media Literacy at Level 3 and Enterprise in Animations at Level 2, but it is ultimately up to the school to introduce short courses. Schools may also design their own short courses in areas such as robotics. More generally reform in all of the junior cycle subjects includes a focus on developing digital skills and this has been supported by Junior Cycle for Teachers (JCT) and the PDST

9.2. Digital skills in the curriculum

There was a strong repeated call throughout various submissions for the development of a digital competency framework setting out defined key digital competencies required for students, which would ensure a uniform approach across the system. This would align with the EU Digital Education Action Plan[13], which places the development of digital skills and competences as one of its two strategic priorities Definitions for digital competence and digital literacy were also requested to be included in the new strategy..

Some of the submissions were of the opinion that digital literacy and digital skills should be given the same priority as literacy and numeracy with a digital competencies framework from primary, through post-primary and into further/higher education required with clear achievable milestones for teachers and students. Again, these competencies should be blended throughout the school curriculum.

[12] https://static.teachcomputing.org/NCCE_Impact_Report_Final.pdf) (p.g 5
[13] https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan_en

As noted above, “Being a Digital Learner” has been introduced as a key competency through the Draft Primary Curriculum Framework and it is felt that to ensure that this is achieved, enhanced guidance on integrating digital technology and teaching digital skills will be required in the roll-out of each curriculum area at primary level.

It is presumed that students are digital natives but this is often not the case and does not necessarily translate into being digitally literate with many needing educating in basic foundation ICT skills. Having a good foundation in basic digital literacy skills by following a structured programme would form a solid base to allow more advanced digital skills be developed and should be blended throughout the school curriculum. A good understanding of the digital world should form part of the overall education provided and there is a feeling that the current school curricula and timetable do not provide enough time for this, treating digital literacy as an add-on instead of being used across all subjects.

A standardisation of the delivery of this through various subjects needs to be considered so that the approach to digital teaching, learning and assessment is consistent across the school system. Standardisation of digital content also needs to be considered. In order to achieve this, teachers and schools would need guidance and time to reach such a standard. To support this, Ireland could consider adopting DigComp: The European Digital Competence Framework[14], which sets out the essential 21 digital competencies that people need over 5 key areas and would provide a strategic link to the EU framework on what it means to be digitally competent.

It was also pointed out that currently there is no minimum level of skills or basic requirements set out for teachers. It was considered that a structured professional development strategy for all teachers to ensure a baseline level of skill and digital teaching approaches/methodologies across all schools is essential.

It was suggested that a stated desire by the Department for all schools to achieve a recognised standard in digital skills was warranted along with the required space and time or schools to achieve this. Digital skills should be utilised to enhance learning, not just using a digital textbook.

The point was made that schools could benefit from a national model for professional learning which evidences the use of ICT in the classroom and promotes collaborative practices across schools with certain minimum standards required. Schools that need more targeted support should be identified and provided with this, whether it be in basic skills or for those who are at a higher level in terms of their use of digital technologies.

[14] https://ec.europa.eu/jrc/en/digcomp/digital-competence-framework

9.3. Other areas related to curriculum for consideration for inclusion in new strategy

Other areas relating to curriculum that came up in the submissions included:

- The production and dissemination of high-quality interactive digital content for all age groups and in every curriculum area, especially those areas unique to the Irish curriculum was recommended. The creation of a central repository of learning content and resources was suggested, for example within the National Digital Learning Repository and more connections with quality Irish materials online and links to cultural institutions.
- There was repeated calls for the integration of Coding and Computational Thinking into the primary curriculum (as recently recommended by the NCCA) with a call for a greater emphasis on these areas in the Digital Strategy with direct links to the 'STEM Education Policy Statement 2017-2026'[15].
- Further exploration of the school curriculum should include additional digital-based programmes for the forthcoming senior cycle review. It was pointed out that digital skills gained at junior cycle, are not built on with a shift to more traditional modes of teaching and learning for the senior cycle.
- It is also felt that there is an absence of clear digital learning objectives throughout the curriculum and to embed this is a challenge. Further clarity on this would greatly help teachers as well as providing the guidance necessary for publishers to ensure that the resources created meet these needs.
- While embedding digital literacy into the curriculum is further examined, there could be an opportunity to collaborate with Media Literacy Ireland, creators of the Be Media Smart campaign, or other agencies to develop a critical thinking course for transition year students.
- There was a call for the new strategy to touch on online safety issues across the curriculum at each opportunity whenever and wherever children are using technology. This is covered in more detail under section 15 on online safety.
- There should be a great focus on creativity and the creative arts using digital technologies in the curriculum, with investment in music, gaming and other technologies required. For example, the Fis Film Project was deemed a welcome initiative but other initiatives are needed.
- Teachers need guidance and training on the creative use of digital technologies in the classroom to transform pedagogies and boost student engagement and performance in the broader education curriculum.

[15] https://www.gov.ie/en/policy-information/4d40d5-stem-education-policy/#stem-education-policy-statement-2017-2026

- Examples given of the experience in other jurisdictions include the Norwegian approach to technology integration, which was to include technology in all subjects as a means of improving the teaching of that subject, and to open up new methods of teaching. In Finland, media and information literacy and the development of critical thinking skills have been embedded into the state secondary school curriculum.
- In terms of making sure students have the relevant skills for the workplace, industry suggested students build e-portfolios which will provide reference to project work when applying for apprenticeships, further education or graduate jobs and that this should be incorporated into the new strategy.
- Given there is an underrepresentation of women in STEM and ICT roles, early intervention should be undertaken to encourage girls to take up these subjects.
- The new strategy should have a module on being a good digital citizen with content ranging from digital etiquette, the appropriate use of technology, managing one's wellbeing while using technology, and appropriate creation or sharing of content.
- Using digital technologies to support Global Citizenship Education (GCE) for students to extend their participation beyond consuming media, to being producers of media and to determining, creating and sharing what stories need to be told. It has the potential to connect classrooms to the outside world and create a space for and experience in citizenship. It is recommended that the new Digital Strategy place greater emphasis on digital citizenship.
- In a survey of almost 3000 primary parents, 80% expressed a preference to seeing short courses in Coding and Digital Media Literacy offered in primary schools, as they are in post-primary schools

Some submissions raised particular challenges, which have not already been set out above, and these include:

- Curriculum overload. Concerns were expressed that there is not sufficient guidance or time given to allow changes in curriculum to be integrated. While significant learning has happened in the digital space, particularly due to remote learning, problems such as teacher workload, curriculum overload, unequal pay, insufficient leadership posts, innovation overload with curriculum change and lack of professional time and access to professional learning remain.
- One of the management bodies felt there is an "inherent mismatch between statements of effective/highly effective practice within the Framework, which are heavily influenced by teaching methods which do not align with the style of assessments put forward by the SEC for Junior Cycle and Senior Cycle".
- Irish educational publishers supply a large amount of carefully curated teaching and learning resources in both book and online format to meet curriculum requirements. There was a request for the Department to engage with publishers on further provision of content and services to support the curriculum.

10. Assessment

It was clear from some of the submissions that there is a need for a greater focus on using digital technologies to support assessment strategies. Technology is seen as having the power to transform assessment practices in school with the objective to "change the balance from assessment of learning to assessment for learning" and provide the opportunity for more immediate and specific feedback to students.

There was a general view that schools needs to move beyond the traditional modes of assessment and progress to multi modal forms of learning and assessment as outlined in the new junior cycle. One industry submission stated that "if learning is assessed traditionally, traditional teaching and learning will occur and corresponding content will be sought. To incentive the development of 21st century skills, as per the 2015-2020 strategy, recognition of these skills must be visibly awarded through appropriate assessment, ultimately in the Leaving Cert. Learning content and experiences will continue to be designed to meet the needs of teachers and learners….. Where the objective is to develop 21st century skills, adopt a mode of assessment which best measures the attainment, especially in the highly valued state exams".

It was also felt that modes of assessment dictate and set approaches to teaching and learning. Therefore, the new strategy should review current approaches to assessment aligning with senior cycle review and the inclusion of assessment of digital content created by learners for final exams should be considered.

In terms of assessment at primary level, in a survey of almost 3,000 primary parents, just over 20% stated that whey would not like technology to be used in assessing their child's learning.

E-portfolios, where students create and record their own work, were the most common assessment tool discussed. They were praised by both those in the education system and industry as being good for assessment and reflection and can be added to as the student progresses through the school and shared with parents to give them insight into their child's learning. They facilitate enhanced collaboration between teachers, pupils and parents. It was also felt that this method of assessment supports students with additional needs as it allows engagement in a more inclusive way and the use of e-portfolios should be promoted more.

There are a variety of assessment software programmes available to track student performance and give feedback as well as various digital tools which enable assessment for and of learning. Some submissions expressed the need for greater practical support on the different digital modes of assessment for teachers and that they should be used as more than just a tool for storing assessment information. The view was also expressed that there are inconsistencies in the use of technology in assessment.

11. School planning/communications

The existing Digital Strategy for Schools promotes effective action planning at a whole school level with the aim of embedding it into practice across the school. The strategy has provided a structure to schools' e-learning policy development and facilitated clarity around the concept of embedding digital technologies into teaching, learning and assessment.

Many schools have adapted their planning practice to capitalise on the benefit of using cloud-based platforms. These online facilities were instrumental in facilitating collaboration and communication between staff members and parents and students during recent periods of school closures. There was calls for further guidance on the use of virtual platforms in some of the submissions.

11.1. Planning

There were calls for a further guidance and support from the Department of Education for schools in terms of their planning and decision making around the optimum use of digital technologies in education. Enhanced collaboration between schools to allow them to learn from both their success and failures was also encouraged. By giving school leaders and teachers the necessary supports and time to examine and evaluate what technologies would best suit their school, this would allow for more effective planning.

The point was made that where teachers are involved in coming up with the solutions and adapting them for their own student cohort and school context, change will be lasting. The view was also expressed that where teachers help define the problems and assist in the development of solutions, “new frameworks, teaching methods, initiatives, technology, assessments, etc., are regarded not as mandates from outside or above but as resources that teachers can use, with help from each other and outsiders, to help students learn better”.

One submission suggested an approach similar to how the Inspectorate publishes SSE updates with case studies, could be taken with digital learning whereby case studies could be provided setting out how a school moved from their vision of digital learning, to creating their DLP and on to its integration and implementation.

There was a call for the development of simple self-assessment tools to allow schools self-evaluate their progress in implementing their Digital Leaning Plan, with recommendations on areas that need strengthening. With that in mind, schools may decide to focus on Digital Learning as part of the School Self-Evaluation (SSE) process

to enable a thorough review of their existing policies and to ensure a whole school approach.

References were made to the positive aspects of the EU SELFIE[16] (Self-reflection on Effective Learning by Fostering the use of Innovative Educational technologies) tool, which is a free tool designed to help schools embed digital technologies into teaching, learning and assessment and has a strong basis in research. It allows a school assess there they stand with learning in the digital age and generates a snapshot report on a schools strengths and weaknesses in their use of technology based on anonymised returns on short statements and questions put to teachers, students and school leaders.

In terms of planning in the longer term, it was pointed out that " cloud-based programmes can be incorporated into school planning by allowing teachers to store files, lesson plans and reports and collaborate on work." The use of these programmes also allows substitute teachers access to teachers' plans to assist with continuity of learning for pupils. There is the potential with greater use to transform how teachers plan and interact with each other. There is also potential to use online systems for e.g. to streamline documents to help alleviate some of the overall teacher workload. It was pointed out that the move to these cloud-based platforms has been made possible by investment from the Department of Education and that further funding is required to ensure it becomes a standard feature in all schools.

The Digital Schools of Distinction Programme was referenced as something which should be reactivated and rolled out on a more extensive basis. The fact that it is nationally accredited was praised and it was felt that it helps support schools develop into Digital Schools while recognising and validating the knowledge, skills and competences of teachers. It can give tangible information and data on how schools are performing on the digital agenda and is fully aligned with the SSE process, along with the current Digital Strategy, the DLF and all other Departmental issued guidance on digital learning.

In terms of planning from within the Department, it was also proposed that the Department of Education's building regulations and Technical Guidance Documents should be aligned with the development of learning spaces that meet the needs of learners with regard to digital technologies.

[16] https://ec.europa.eu/education/schools-go-digital_en

11.2. The Digital Learning Framework (DLF)

The Digital Learning Framework (DLF) was one of the key supports realised under the Digital Strategy for Schools 2015-2020 and provides schools and educators with a structure to support them in embedding digital technologies in teaching, learning and assessment and to develop a Digital Learning Plan (DLP) to best serve their schools' needs. While some submissions noted that it provides clear guidance and is a key support, with one stating that the "DLF has given schools and teachers a practical structure to identify where they are on the journey towards embedding digital technologies in teaching, learning and assessment, and, most importantly, has enabled them to progress in that journey", others raised some concerns around it in its current form.

While it was developed to align with the Looking at Our Schools Framework and the language used in that, some find that it is too vague. It was reported that many schools find that it is not user friendly and can be confusing to negotiate. While schools are given autonomy to develop their DLP to meet their needs, this can lead to inconsistency across the school system with varying degrees of integration and implementation and can result in some teachers and school leaders not knowing what to prioritise. It was reported that the implementation of a schools Digital Learning Plan can be dependent on particular interested members of staff, which is not ideal.

Some recommendations around the further development of the DLF contained in the submissions include:

- Reorganisation of the DLF to make it more accessible.
- Should be accompanied by a clear, tangible set of actions and approaches that schools could take once they have identified targets around statements of effective and highly effective practice.

The possibility of reporting on schools DLP's to ensure the impact of the DLF and the Digital Strategy are monitored and measured to help inform future policy was raised. This would also allow best practice to be identified, shared and supported. A baseline example of the application of digital technologies in a school setting could be illustrated by creating a rubrics using the Inspectorate's quality continuum, with examples of what "satisfactory", "good" and "very good" look like. Schools would then see a step by step pathway towards improvement.

11.3.Communication

It is clear that schools have made successful use of technology for communication and administration (e.g., Aladdin) with the vast majority of participants to an INTO survey in 2017 indicating that their school used “Text-aparent”, a school website and school administration software. It was felt that schools should be further encouraged to plan using technological tools to enhance administration tasks.

The point was made that when schools fail to plan appropriately or have weak communication around how digital technologies are going to be incorporated, this can lead to lack of buy in, including from parents.

12. Integration of digital technologies by principals and teachers

It should be understood that digital technologies are a means to enhance and support the student/teacher relationship as well as assist with collaboration and learning between peers. It was considered in some submissions that the 'pedagogy first, technology second' philosophy continue to be embedded within the new Digital Strategy for Schools, i.e. that technology must be in the service of teaching, learning and assessment, rather than the other way around.

12.1. Leadership/Posts of Responsibility

For all changes at school level, it was recognised that leadership is critical to drive and embed change. Principals have a vital role in creating a vision, setting objectives, developing DLPs and providing guidance and motivation for the school community. Given the current strategy supports a school-led approach, principals need to be able to lead on the embedding of digital technologies. In order to carry this out effectively, principals require the necessary information, resources, supports and training. There was calls for extra supports for principals and school leaders in this context.

There was a desire for increasing the number of leadership posts in schools with both quality and quantity of leadership posts necessary for the continued embedding of digital technologies across the school community. It is also pointed out that the DLF prioritises the centrality of school leadership to achieving the outcomes of the Digital Strategy. It was reported that schools are unable to fully deliver on core strategic objectives because of inadequate leadership capacity stating that "many teachers are not engaged in a meaningful way with the SSE process due to workload, time constraints and poor communication structure".

Insufficient leadership posts are seen as a barrier and challenge to the effective embedding of digital technologies. Quite a few of the submissions felt that schools need designated staff members to lead the ICT aspect of teaching and learning in schools. There was a sustained call for the position of an ICT Coordinator or Digital Leader in all schools as a middle management post of responsibility who is given sufficient time to undertake appropriate, specific training and carry out necessary duties.

It was felt that the immediacy that an ICT role necessitates due its unpredictability at times in supporting teachers ICT needs along with its complexity and workload, requires a coordinator to drive and sustain development and not a full time teacher who is assigned as a digital leader who may have to drop their responsibilities to respond to an immediate need of another teacher. An ICT coordinator could dedicate their time to support and build capacity of other teachers to allow for a sustainable development of

skills as well as supporting the general integration of digital technologies across the school. Some submissions perceived the ICT Coordinator as very much a pedagogical support for fostering digital teaching and learning rather than providing any kind of technical support with a focus on sustaining development, and bringing new ideas to staff.

It was also pointed out that "in half of the European education systems, there are policies to support the appointment of digital coordinators in schools (Digital Education at School in Europe report, Chapter 4.2.3.). Digital coordinators, known also as ICT coordinators, can be assigned different tasks and responsibilities, but these usually cover both technical and pedagogical aspects. The digital coordinator role is usually assigned to ICT teachers or teachers specialising in digital education."

The point was made that a business with 1000 people would have an entire IT department and that digital coordinators should be given substantially reduced timetables and be provided with the necessary training and ongoing professional development.

12.2. Effective use of digital technologies

It was pointed out that just because digital technologies are available, it does not mean that they are being used effectively. Teachers need both technical and pedagogical skills to apply technologies in a meaningful way to maximise the learning experience for students. According to the OECD, prior to Covid-19 less than half of students in Ireland attended a school where teachers have a sufficient level of digital skill[17]. This illustrates a clear need to ensure the necessary training and supports are available to teachers to prepare them for the future of learning in schools. As mentioned previously, the SELFIE tool which is being further developed for teachers was referred to as having potential for use in the Irish system.

In terms of the use of digital technologies by teachers, it was suggested that an in-depth study be commissioned to map best practice as well as identify any unmet needs or gaps to help identify training needs and supports. It was recommended to use data available from all stakeholders at school level more efficiently to support practices and decision making in relation to the learner experience and learner outcomes. However, it

[17] OECD (2020) 'PISA 2018 Results: Effective Policies, Successful Schools' https://www.oecd-ilibrary.org/docserver/ca768d40-en.pdf?expires=1621612931&id=id&accname=guest&checksum=AE96AFD39E6FE858B20E3EB9FF6829EE

was felt that accessing, and formulating this data to effect change at school level would require intensive training and TPL.

One submission defined a digitally enabled teacher as follows “A digitally enabled teacher is a confident user of the digital classroom – they leverage technology to enhance student engagement, streamline classroom management, and securely connect to students and colleagues. They understand how to access, use, and manage the technologies and tools that encompass the digital classroom”. The impact teachers can and do have on student outcomes while using technology was also referenced and the fact that it encourages creativity, better communication and problem solving along with improved engagement.

The continued integration of digital technologies into schools requires both leadership and teacher commitment, which includes knowledge, understanding and willingness. Hesitancy towards using digital technologies, while much improved, needs to be further addressed. The view was expressed that in some cases teacher reluctance has been compounded because of an increasing awareness of data protection and GDPR but that teacher reluctance in general could be addressed through the integration of digital technologies in the roll out of national Curriculum Frameworks at primary and post-primary level. Concerns were expressed over the disparity in the extent and quality of training, experience and know-how among the teaching community and that further resources should be provided to address this. A mentoring programme was proposed for teachers to support those with less experience or lack of confidence.

Reference was made to the amount of new strategies, frameworks and curriculum change over the past ten years and the fact that his has left principals and teachers with “initiative overload” with a fall in morale associated with this and other reasons such as cuts to salary and reduction in school leadership posts. There is a need for greater policy alignment and attention to system capacity in advance of any new national strategy. One of the more general requirements is ensuring that there are sufficient numbers of teachers to teach the curriculum. Also, teachers should be given the time and flexibility needed to implement new methodologies that enhance teaching and learning and expand their capacity. This will have the result of making the classroom a more accessible, inclusive environment for the student.

It was also pointed out that learning should be future proofed and reflect new technologies such as Artificial Intelligence and robotics and provide for the integration of Augmented Reality and Virtual Reality into education.

It was pointed out that we must strive for high-quality, inclusive, and accessible digital education in Ireland, in line with European Digital Education Action Plan 2021-2027. For this to be realised, a new Digital Strategy will require investment in infrastructure, intensive professional development and ongoing ICT support for schools, all of which have been discussed in the report. Many submissions called for the new Digital Strategy to be aligned with the EU Digital Education Plan 2020-2027 as well as with DigComp: The European Digital Competence Framework.

13. Inclusion – students with special educational needs

The point was made repeatedly that technology has the potential to promote inclusion and overcome barriers to learning and that appropriate supports should be offered to all schools to best meet the needs of their pupils as there is a clear digital divide when it comes to disability and those with additional needs. Digital technologies should support personalised learning and enable learning that is tailored to different learning needs and styles of individual pupils.

The new strategy should include active measures to ensure no one is left behind with a focus on the potential of digital technologies to support those with different learning needs and to ensure equity of opportunity in digital learning. It was felt that guidance is needed on selecting the most appropriate technology with the best accessibility features to meet students' needs and more generally, more guidance and advice to schools is required on the use of digital technologies for teaching, learning and assessment for learners with special educational needs.

The transformative role of assistive technology and its importance in supporting those students who need it was raised with a strong call for a new more streamlined application process. It is seen as a vital support for the inclusion of those with special educational needs and is a firmly held view that all students who would benefit from this support based on their individual needs should be allocated what they need. Assistive technology can be very expensive and it was reported that many schools have to rely on fundraising to provide for their students.

It was also felt that it was necessary to ensure that the 3 pillars of constructivism are embedded into digital technology practice to ensure inclusion, specifically that it is a requirement to have a social aspect to digital technologies, to have meaningful context for digital technologies and finally, that learners are learning at their own pace.

The collaboration between the PDST and the National Council for Special Education (NCSE) was seen as assisting teachers in special schools receiving tailored training and guidance on the DLF. It was also considered that the resources provided are inadequate to cater for learners with special educational needs and the further development and sharing of more resources on Scoilnet and Webwise for these specific learners would be beneficial (in particular those in special classes, special school designations and L1LP, l2LP classes). It was also suggested that good practice in special school settings should be shared either on the support services website and/or in TPL.

There are issues around those students who have a “low-incidence high-needs” disability and that the educational needs of students with a disability cannot be treated as a homogenous group. Particular concerns were raised around the access to learning for students with vision impairment, which they feel in many cases is “barely functional access as opposed to optimum access and usage”. There is a belief that there is an inconsistency at best in digital training skills in the special educational needs area and that specialised digital literacy programmes are required to meet individual needs of some students.

A further recommendation was for an immediate and standard technical support so that students who are dependent on technology to access the curriculum do not experience delays in finding a solution if their technology fails.

14. Irish and Gaeltacht schools

The fact that the existing Digital Strategy for Schools contains no reference to the requirements of Irish medium and Gaeltacht schools was seen as a failing and it was suggested that this needs to be taken into account in the new strategy. ICT has the potential to support all learners to create a more inclusive education system and this should be built on so that learners in all Irish and Gaeltacht schools have the same opportunities as those in English speaking schools.

There is a concern that the Irish language will be left behind in the development of digital technologies and to ensure this doesn't happen there should be a requirement for all educational materials to be available in Irish. This includes any new technological or digital developments and for online supports and resources to be made available simultaneously including an increased number of resources in Irish on Scoilnet. There is also a need for increased awareness and training in software available in Irish as well as a call for more staff with Irish to be employed in the support services.

ICT plays an important role in the Policy on Gaeltacht Education[18] and it was pointed out that Gaeltacht Island schools depend greatly on technology in order to teach various subjects. It was recommended that the provision of ICT be expanded through Gaeltacht schools, which will help support the concept of establishing hubs or e-schools with virtual classrooms and build on the pilot project of the Gaeltacht e-Hub in Physics. It was also suggested that the Schools Excellence Fund be extended to establish Gaeltacht digital clusters.

[18] https://www.gov.ie/en/policy-information/57458-policy-on-gaeltacht-education-2017-2022/

15. Industry and skills for future

The development of a knowledge-driven and digitally-enabled society is central to Ireland's economic and social progress and is an integral component to key national strategies such as Future Jobs Ireland[19]. The importance of digital skills not only for future employment and careers but also for general life skills was raised in multiple submissions with both digital skills and digital literacy being a key part and essential for dealing with all aspects of everyday life. It was expressed that the integration and embedding of digital technologies in the school setting is vital for preparing young people to thrive in society and the foundations should begin at an early age.

Industry representatives reported that while technology firms are among the fastest growing industries in Ireland, they are already encountering skills shortages with a statistic from Fit.ie stating that there are currently over 12,500 technology vacancies in Ireland. The EU reports that we are moving towards a future where 9 out of 20 jobs will require digital skills[20]. However, only 53% of Irish people have basic of above basic digital skills, falling below the EU average[21]. By ensuring learners are taught key foundational skills at a young age, this will provide them with the basis to continue to develop their skills in this area so that they will equipped for the jobs of the future. Areas such as cloud computing, machine learning and artificial intelligence should be addressed also.

The World Economic Forum[22] identifies the top ten skills which will be relevant for the future of work across industry areas as including: complex problem solving, critical thinking, creativity, people management, coordinating with others, emotional intelligence, judgement and decision making, service orientation, negotiation and cognitive flexibility. Being able to just use technology will not be sufficient with many roles being cross-functional for example requiring data analysis skills. It was pointed out that a holistic approach to the inclusion of digital technologies in how students engage with learning materials will support the development of these critical skills. Engaging

[19] Government of Ireland (2019) 'Future Jobs Ireland 2019' https://www.enterprise.gov.ie/en/Publications/Publication-files/Future-Jobs-Ireland-2019.pdf
[20] European Commission (2017) 'Factsheet: Digital Skills Gap in Europe' https://ec.europa.eu/digital-single-market/en/news/digital-skills-gap-europe
[21] European Commission (2020) 'Digital Economy and Society Index 2020' https://digitalhttps://digital-strategy.ec.europa.eu/en/policies/desi-irelandstrategy.ec.europa.eu/en/policies/desi-ireland [6] World Economic Forum (2016) 'The Future of Jobs: Employability, Skills and Workforce Strategy for the Fourth Industrial Revolution' http://www3.weforum.org/docs/WEF_Future_of_Jobs.pdf
[22] World Economic Forum (2016) 'The Future of Jobs: Employability, Skills and Workforce Strategy for the Fourth Industrial Revolution' http://www3.weforum.org/docs/WEF_Future_of_Jobs.pdf

and interactive learning environments that lead to collaborative approaches is crucial in this.

The Further Education sector noted that they have found that many of their learners on entering FET are “often passive users of ICT, adept at navigating social media, but struggling with collaborative applications and learning oriented ICT applications and uses.” While students are familiar with digital technologies for their personal use they lack basic skills required for education and work-oriented use. They considered that all learners entering FET should have basic functional knowledge in the Office suite as well as other IT basics such as file management, cloud computing, communications and an awareness of cyber security.

There was a feeling that there should be closer collaboration between schools, the Department and industry and that public/private partnerships should be looked at. The ‘Future FET: Transforming Learning the National Further Education and Training (FET) Strategy[23]’ identifies the need for partnerships within the Further Education sector and perhaps a similar model for primary and post-primary education should be explored. Industry representatives stated that its members are prepared to offer practical support in the form of teacher training, learning platforms and learning materials and that many of their members already have vast amounts of resources freely available to educational institutions and would like to work with the Department of Education to ensure that both the Department and schools are deriving the maximum benefit from these complimentary resources.

It was proposed that consideration should be given to recognising education technology developers as primary education stakeholders and as being instrumental in supporting the Digital Strategy for Schools implementation at school level. By including these industry representatives in focus groups or consultative groups, digital tools can be developed in a timely manner to support any Departmental initiatives as outlined in the new strategy.

Other considerations and recommendations raised in this area included:

- Career guidance counsellors in schools should be given additional support to gain a greater understanding of digital related career paths
- Additional opportunities should be provided in order to develop advanced digital skills in areas such as Computer Science.
- Needs to be better understanding in linking digital learning to future industry roles

[23] https://www.solas.ie/f/70398/x/64d0718c9e/solas_fet_strategy_web.pdf

- Increased integration in TY and senior cycle with industry partners and more opportunities for students to meet young technical professionals should be provided.
- There should be a focus on inclusions policies to encourage more girls, those with a disability, and other under-represented groups to consider a career in technology.

16. Online safety and ethics/data regulations

16.1. Online safety and ethics

The opportunities and benefits through the use of digital technologies in education have to be balanced against the safe and ethical use of these technologies with a consistent call throughout the submissions for a greater focus on online safety in the new strategy. The view was expressed that it is not sufficient to teach children how to use these technologies without having parallel conversations on how they ought to keep themselves safe online. One submission explained it using the following analogy "It is inconceivable that we would teach a person how to drive a car without requiring them to know the rules of the road; online safety must be viewed in the same light".

Potential issues highlighted in the submissions around the use of digital technologies included:

- Cyberbullying
- Awareness of appropriate use of social media
- Privacy (including data privacy)
- Issues that can arise when posting online
- Consequences of certain online behaviours
- Exposure to harmful content
- Excessive use
- Disinformation/false information and being able to separate out fact from opinion
- How personal data is used and stored (for example targeted advertising)
- Downloading certain apps/games

Overall it was felt that that students need to be taught how to engage effectively and safely with technology to allow them become responsible digital citizens. Online safety is seen as a critical component of digital literacy generally and should be embedded across the curriculum at an age appropriate level and as a key part of the curriculum. The fact that this education should be twofold was referred to, in that one element should be on the positive aspects of the internet whilst also alerting students to the potential dangers.

In terms of "fake news", findings from PISA 2018 were highlighted, which show "that when students undertook literacy tasks which required them to understand implicit cues pertaining to the content or source of the information, an average of just 9% of 15-year-old students in OECD countries were able to successfully distinguish facts from

opinions.[24] And while Irish 15-year olds scored above the OECD average in this and other tasks, there is no room for complacency given the knowledge we now have of the operation of digital platforms in political, social and cultural spaces"

There was a call for parents and guardians to be supported and regularly educated on online safety with the provision of relevant information and resources to ensure they are well informed of the potential risks since home plays a vital role in fostering safe online practices. One of the teacher unions stated that "When used appropriately, the cyber world can be an enriching and valuable tool for information, learning, and connection. Along with all these possibilities, there is also the potential for harm, but with the proper protection, it is possible for parents to ensure that their children learn to be safe."

Webwise was praised for the work they do on providing a focus on such an important topic. However, there were requests for the further development and promotion of Webwise and its youth advisory panel. It was also noted that the ISPCC launched its Digital Ready Hub to provide advice parents and caregivers to allow them support their children

Examples of supports in other jurisdictions in supporting students with regard to online safety included the South West Grid for Learning in the UK and The 4Cs: Classifying Online Risk to Children. The European framework for digital competence, also known as DigComp, was also referenced in some submissions. In terms of supporting students to becoming digital citizens with the necessary life skills required to live in a digital world, this framework sets out the key components of digital competence in 5 areas, with safety being one of those and encompassing protecting devices, protecting personal data and privacy, protecting health and well-being, and protecting the environment (Digital Education at School in Europe, Chapter 1.3.2.).

[24] OECD 2021 *21st Century Readers: Developing Literacy Skills in a digital world* - https://www.oecd-ilibrary.org/docserver/a83d84cb-en.pdf?expires=1622560265&id=id&accname=guest&checksum=A6F1DBD46DC44052B507A4E6DBC7AC0C

16.2. Data regulations

Some of the teacher unions and management bodies felt it would be beneficial for the Department of Education to develop official templates on some key areas such as Acceptable Usage Policies and compliance with GDPR in terms of safeguarding of data storage and data processing as well are more detailed guidance on the appropriate use of educational platforms. It was noted that the current strategy predates GDPR and that the new strategy will need to reflect this development.

There was reference to the fact that schools need support and advice around the use of copyright and copyright infringement. Support for teachers in recognising signs of impact of harmful online behaviour was raised with a suggestion that digital safety should be further incorporated into CPD training for teachers and schools leaders to educate them on the latest risks and threats posed to schools, students, and staff and how these might be mitigated against.

The fact that some schools have a “Bring Your Own Device” policy was raised with a general feeling that this should be minimised on both equity grounds as well as the fact that schools devices are safer due to necessary internet security software installed on the school devices.

Another recommendations sought better regulation of social media platforms with clear procedures to report, block and take down damaging content. It is important that children are aware what their options are should they need them.

17. Learners and parents/guardians

While there are references throughout this report as to how learners can benefit from the use of digital technologies in their education, other specific issues were also raised. The continued call for the student voice to be heard was made and for it to be at the heart of the new strategy. Inclusive education with different learning styles being supported and students facilitated in developing their skills for their future were deemed as key requirements.

It was put forward that the growing digital needs of students be assessed and that an encouraging and inclusive learning environment to allow them develop their knowledge and skills be provided. There is a need to ensure that learners use digital technologies actively and in collaboration with other learners across different contexts. It was pointed out schools now need to draw on active learning, collaborative learning, entrepreneurial learning and project or problem-based learning to help their students address real-world issues using skills such as critical thinking, problem solving and communication, to prepare them for the digital world

It was also suggested that students be encouraged to understand how they learn so that they can take control of their own learning, with government and schools providing the necessary resources and infrastructure while teachers facilitate through innovative workflows that leverage digital technologies.

The new strategy should provide guidance as to how schools and teachers can prepare young people to live and flourish in which almost all aspects of human life are impacted by digital technologies. These reports were referenced as being significant to the development of the new strategy: The 2020 OECD Report – *Educating 21st Century Children: Emotional Wellbeing in the Digital Age*[25] and PISA-based 2021 OECD Report - *21st-Century Readers: Developing Literacy Skills in a Digital World.*[26]

The role parents/guardians play in supporting the learning and educational attainment of their children must be recognized. Parents/guardians also need to have the necessary digital competencies to continue to help their children with their learning. One in two adults in Ireland struggle with digital skills[27] and it needs to acknowledged that some parents or guardians may have unmet literacy and digital literacy needs. To support

[25] https://www.oecd.org/digital/educating-21st-century-children-b7f33425-en.htm
[26] https://www.oecd.org/publications/21st-century-readers-a83d84cb-en.htm
[27] Department of Further and Higher Education, Research, Innovation and Science (2020) 'Press Release: Minister Launches Public Consultation on 10-year Literacy, Numeracy and Digital Literacy Strategy' https://www.gov.ie/en/press-release/9f05e-minister-harrishttps://www.gov.ie/en/press-release/9f05e-minister-harris-launches-public-consultation-on-10-year-literacy-numeracy-and-digital-literacy-strategy/launches-public-consultation-on-10-year-literacy-numeracy-and-digital-literacy-strategy/

parent engagement in digital learning, appropriate resources need to be made available and promoted.

Both the NPC Primary and Post Primary carried out detailed questionnaires among their parents' groups.

Based on the questionnaires submitted, almost 3/4 of the almost 2,800 primary parents reported that their child uses technology in school yet the same amount feel they do not have enough information on how digital technology is used in their child's education. Just over 60% of the parents did not see their own digital skills as a barrier in supporting their child's use of technology for education with just under 40% feeling they need some support to help their child. Almost 90% of primary parents who responded to the questionnaire want the new strategy to include ways that technology can be used to support partnerships between home and school. Almost 100% felt that "The skills and knowledge to use digital technologies and the internet in a safe an appropriate way" should be addressed in the new strategy.

In terms of the main findings from the post primary parents questionnaire which was completed by circa 500 parents, approximately 90% felt their child's level of proficiency in use of digital technology for school work/research/study was satisfactory to excellent. Most parents felt well equipped to assist their child in the use of digital technologies although some training was requested. Some (>15%) responded as being unfamiliar/having no understanding of digital technologies. To support families in the implementation of the digital strategy respondents felt there should be grants for devices/broadband cost, workshops for parents and students, teacher CPD and better coordination and communication between school and home.

It is worth noting that it is not intended that these findings are a representative sample but give an indication in terms of the views of the questionnaire returned.

18. Monitoring and evaluation

It was suggested that the new Digital Strategy should have a framework with clear metrics for measuring progress to allow it to be monitored. While this would be on an individual school basis, there would be potential to create a system-wide framework to monitor key indicators. There needs to be a means of measuring the progress of schools and this would assist in identifying gaps in terms of provision of training and supports.

It was proposed that research could be conducted with relevant education partners, software providers and 3rd level institutions, on the development of education data analytics to create Education Dashboards at national, school, class and learner levels to inform strategy, leadership, teaching and development of the individual learner.

Policy and practice at the national and school level need to be evidence informed. Research on the provision of digital content in Irish schools should be conducted. Such research will provide insights on the design, development, and learning experience with digital learning materials.

A further area for proposed research included an audit of the current Digital Strategy for Schools from a gender and diversity perspective, with an awareness of the ecological framework identified in the Review of Literature to Identify a Set of Effective Interventions for addressing Gender Balance in STEM in Early Years, Primary and Post-Primary Education Settings[28] (DoE, 2020, p. 4). Given the gender differences in experience of digital technologies, not least the underrepresentation of women in technology sector jobs such an audit would be essential to ensure that the new strategy reflects the lived experience of all learners and teachers. Role models are hugely beneficial to educators and pupils. The new strategy should consider making digital technologies more relatable to also help attract girls. Realising roles that potentially align with values could add to engagement with digital technologies in schools.

There was a suggestion for the appointment of a senior individual with responsibility for the digital development of education in Ireland to streamline the implementation of the digital strategy.

[28] https://www.ul.ie/research/review-literature-identify-set-effective-interventions-addressing-gender-balance-stem-early-years