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Report on the State and Needs of Education 2018-2020

Educating for a Digital World

Summary

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Québec 

“We live in a digital space. Digital technology is no longer a tool at the service of old practices, but an environment in which we are submersed, shaping our world and our culture.” (Vitali-Rosati, 2014, p.27 [Translation])

Digital technologies are no longer just tools: they have transformed many aspects of our daily lives and are reshaping the world in which we live. This is not without consequences.

To begin with, technologies have changed how we access information and knowledge, and their usage is increasingly required to access various services. The situation caused by the COVID-19 pandemic has clearly illustrated that not everyone is adequately equipped to manage this new reality. This raises concerns about the development of the competencies and attitudes needed for information literacy, exercising citizenship and lifelong learning.

At the same time, current digital technologies are radically more powerful than previous audio and visual technologies. Among others, artificial intelligence (AI) systems are not only creating high expectations for learning, they are also raising serious concerns. The discourse on digital technologies often oscillates between extreme positions, between enthusiasm and mistrust, as a result of differing opinions, values and beliefs. These differences must be taken into account if we are to understand the scope of the challenges facing the education system, and to put in place the conditions needed to implement the [Digital Action Plan for Education and Higher Education](#) (DAP) (Ministère de l'Éducation et de l'Enseignement supérieur, 2018).

Learning today

In the interest of fairness, the education system can no longer ignore this new reality: for anyone who has the appropriate tools and the required competencies, information is now accessed using digital technologies.

Given the speed at which technologies evolve, the education system cannot be content with **using** digital technology teaching or support for learning, which could remain a question of individual preference. Henceforth, schools have a **new responsibility**: to educate students **for** the digital world and make sure that everyone has, at some point in their lives, the possibility of developing the competencies they need to evolve in a changing world and to use these technologies in a responsible way. We have to move from being consumers of digital technologies to being informed users.

Thus, distance education has become an inescapable part of lifelong learning or higher education. This supposes a change in posture for teachers and students alike. However, many distance education courses are simply transposed versions of lessons that were designed to be given in a classroom. Moreover, the assessment of learning still tends to be limited to traditional exams and assignments, with increased risks of plagiarism. Yet, when properly used, technological tools can facilitate assessment by means of authentic and complex tasks. As for the students, they do not all have the interest, motivation, autonomy or equipment necessary to progress effectively in a distance education context.

Successful integration of distance education requires shifting from a paradigm of teaching to a paradigm of learning. Even though actual classroom use is still very far from what it could be, digital technologies in general and AI in particular are going to reinforce the necessity of **shifting from a teaching based on knowledge transmission to a pedagogical approach that guides students in their competency development**.

Among other things, education has a role to play in opening the black box that AI systems represent for the population. This will reduce the risks of citizens getting caught in **filter bubbles** and help them maintain control over how their personal information is used. Education also has a role to play in making sure that AI systems are developed in an ethical manner that respects human rights and diversity.

Ending digital inequality

Digital inequality no longer refers merely to inequalities in access to infrastructure; it also refer to the new aspects of literacy. Depending on their gender or background, not everyone has the same opportunities to develop **their capacity to go beyond recreational or consumer uses of digital technologies**.

Inequalities concerning access to devices and the Internet will likely be reduced in time, but they will remain an obstacle for the most vulnerable part of the population. In particular, we must recognize that **access to a quality Internet connection has become an educational necessity**, and we must ensure this need is met. Moreover, inequalities in use will persist if digital education is not given serious consideration by the school system. The level of inequality will depend on the extent to which a reflection on digital technology is carried out within educational projects: class time devoted to digital technologies must

be invested in a way that allows for in-depth learning rather than superficial uses. Simply substituting old methods with new ones—such as replacing paper workbooks with educational software—does not automatically bring about a change in practices or results.

The consultations and work carried out to produce this report show that advertising the [Digital Competency Framework](#) which describes the elements of digital competency (Ministère de l'Éducation et de l'Enseignement supérieur, 2019) is not enough to promote the optimal development of this competency. Without formal requirements, without being rooted in the curriculum, without the human, material and financial resources required to support its implementation in the programs, and without recognition within teaching duties of what this responsibility entails, application of this framework will be highly inconsistent and the inequalities will remain.

It is especially important to avoid giving the impression that introducing a computer, robotics or coding class—entrusted to a single person—is an adequate way of developing all the dimensions of digital competency. It is the design of all subjects that must be reviewed, a responsibility to be shared by teachers, the principal, techno-pedagogical advisors and other specialists such as librarians.

Competing values

The Conseil observes a significant gap between the digital discourse put forth in official documents and what stakeholders are saying in the field. The latter cite **very real and concrete obstacles that feed and justify the negative representations of digital technology in education**: lack of, or difficulties in obtaining, technical support; obsolescence or unreliability of the equipment available; insufficient mastery of computer tools, resulting in feelings of incompetence; lack of training or support to meet actual needs; etc. All this on top of an already heavy workload.

Moreover, a large number of teachers do not seem to subscribe to the DAP, which places heavy emphasis on efficiency, added value and innovation. While these three notions have their place in such a document, this emphasis on more commercial-sounding aspects can rub against those who uphold, first and foremost, a humanist vision of education. The measures intended to ensure the rapid acquisition of materials without calling for a reflection on pedagogical needs do not help in this regard.

How to transform pedagogical practices should be at the core of the reflection on digital technologies. At the same time, the technological needs of schools should be provided for in a way that enables teachers to develop their own feelings of digital competency.

Orientations

To achieve seamless use of digital technologies in education, certain administrative and material conditions must be put in place. It is also critical to align learning and assessment practices with programs that explicitly include the elements of the Digital Competency Framework. Finally, this paradigm shift requires that teacher training programs be updated to meet the continuous professional development needs of teachers.

1 Implement the necessary administrative and material conditions for a seamless use of digital technologies

First, it is important to **fulfill basic needs** so that a lack of electrical outlets, insufficient bandwidth or unreliable equipment do not become arguments to avoid using digital tools in the classroom. The infrastructures in place should guarantee a minimum of reliability and stability, so that teachers feel they can trust the equipment and are comfortable trying out and experimenting with the technologies they are expected to use.

The new responsibility incumbent on the education system requires **developing, within schools, a vision of digital technology's place in education** and making sure it is upheld by the school management and shared by all stakeholders. School success plans, educational projects and other official documents can be used to carry out this exercise, in which teaching should be viewed as a team responsibility.

It goes without saying that the information technology (IT) departments of educational institutions must ensure proper data security. However, this priority should not jeopardize pedagogical objectives, which are the underlying reason these services exist. Some existing models of governance show that **closer collaboration between IT services and educational services** can lead to a better balance between data security imperatives and pedagogical needs.

2 Align the curriculum, learning and assessment

Digital technology has become an integral part of our culture. We cannot prepare students for real life if we don't integrate digital technology into their learning and assessment. This requires that we develop certain guidelines (official targets, developmental scale, etc.) for what should be mastered at each level of education. The objective is for everyone to be able to use the tools seamlessly to learn, communicate and express themselves. In the Conseil's view, the **profile at the exit for compulsory education should correspond to a person who is suitably equipped to continue learning throughout their lifetime**, whether within or outside of traditional institutions.

Logically, technology that is normally used in everyday life and in workplaces—such as text editing software—should not only be permitted, but used to its fullest **to enable learners to develop competencies in learning situations and then demonstrate them in assessment situations**.

It is therefore important that the Québec Education Program (QEP) not only reflects the necessity of teaching by **making use of digital technologies**, but that it embodies the responsibility of **educating for the digital world**. Defined by competencies, the QEP already contains most of the cross-curricular competencies that have taken on renewed importance in the 21st century. It is therefore not a question of rethinking the entire program. However, the Conseil believes that **an updated version is essential**. This would allow for the inclusion of **the elements of digital competency**, making explicit connections with the cross-curricular competencies, so as to reflect the new aspects of literacy. This would also provide an opportunity to **eliminate obsolete terminology from the program** (diskette, VCR, etc.). In post-secondary education, the assessment, updating and periodic review of programs of study would provide an opportunity to include elements of digital competency as well.

3 Update teacher training programs and meet the needs of continuous professional development and support for teachers

Although literacy has become more complex in the digital context, teacher training programs still devote only marginal importance to digital technology, considering it one tool among others. It is true that universities are putting supports in place to foster this paradigm shift and that many courseware designers are taking into account the impact of digital technologies on their discipline. However, the situation varies greatly across the board, and there is nothing to ensure that teachers currently in training will have developed their own digital competency to a sufficiently high degree. To this end, we must start to **think of digital technology as an integral part of pedagogy and course design.**

The new competency framework for the teaching profession (measure 4 in the DAP) will provide an opportunity to review teacher training programs. Student teachers must be able to plan learning situations that mobilize technologies in the service of competency development, in all subject areas. **These programs must therefore be models themselves of how to integrate technologies into learning,** and include digital competency within the educational materials of all disciplines, which should be decompartmentalized according to a **collaborative approach.** This exercise will also require that the people teaching these programs be supported in their own professional development.

Continuous training and professional development should be considered over the long term. Support and co-development will better meet individual needs than periodic short training sessions. Pedagogical days, which are already very full (and not mandatory in post-secondary education), are not appropriate contexts for this kind of support. Autonomous, self-paced learning, as proposed in the DAP, will not meet all needs either. Finally, teaching should be viewed as a collaborative and team endeavour. In light of all these factors, **teaching duties should include time and space to participate in activities such as learning communities.**

Conclusion

With the onset of the COVID-19 pandemic, the DAP, produced in 2018, has been somewhat eclipsed by the need to manage this unprecedented crisis. Paradoxically, during this time, digital technology has been used more than ever, at all levels and in all sectors of education. Educational institutions were forced to adapt quickly, and these emergency adjustments will no doubt have lasting effects. Overnight, distance education—previously offered only at the post-secondary and adult education levels—became the primary method for continuing young people’s schooling. It has therefore become even more important to address the issues of quality and fairness highlighted in this report on the state and needs of education, in particular concerning teachers’ working conditions.

The Digital Competency Framework lays the foundation for a reflection on how to better align training programs, learning activities and their assessment. This framework is a first step on which to build education for the digital world, but its existence alone will not lead to the desired changes in the field. It is necessary to gain the support of all stakeholders concerned by taking into account their values and addressing their needs. Finally, to move beyond mere intentions, it is essential to include digital competency and its assessment in education and training programs.

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The full text of this report is available in French on the website of the Conseil supérieur de l'éducation (www.cse.gouv.qc.ca). A copy may also be requested by calling 418-643-3851.

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