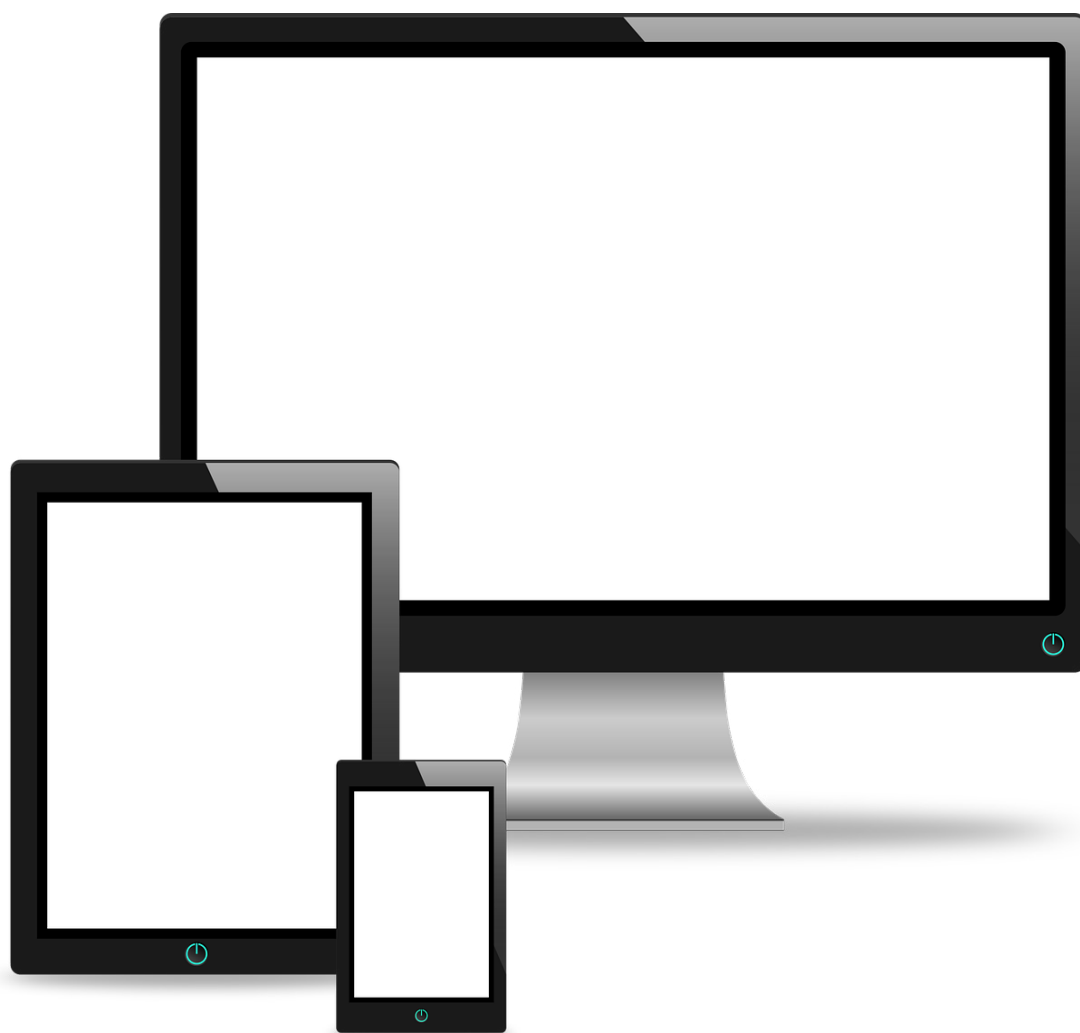


Teachers' Digital Competence in Catalonia



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Foreword

In November of 2013, the Department of Education of the Generalitat of Catalonia published documents in which the *Core competencies in the digital field*¹ were outlined and deployed for students in the compulsory stages of education. These competences were integrated into both the Primary and Secondary curriculum by means of the Decree 119/2015 and 187/2015.

In order to attain students' digital competence and promote the digital maturity process within the educational system, a framework to permit identification of teachers' digital competences was needed, as well as the possibility to obtain, master and accredit said competences. In order to carry out this task, the Government agreed on 25 of November 2014, to create the interdepartmental project for digital competences of educators (PICDD)².

This project involved three Departments of the Generalitat which were competent in this matter - General Direction of Telecommunications and Information Society from the Department of Business and Employment, Secretary of Universities and Research of the Department of Economy and Knowledge - and all the Catalan Universities, coordinated by the Department of Education, with the aim to identify the digital competences needed by educators, as well as to establish a framework and design the means by which the competences would be achieved and accredited.

In order to attain students' digital competence, a framework to identify teachers' digital competences was needed

The workgroup PICDD had regular meetings during the year 2015 and presented their conclusions to the government on 29 December, 2015, which approved the definition of the digital competences needed by educators in Catalonia. The results were published and made public by means of the resolution ENS/1356/2016³.

In order to disseminate the results to the entire educational community, the publication that you have in your hands has been updated with regards to documented references that have taken place since its approval.

1. *Competències bàsiques de l'àmbit digital. Identificació i desplegament a l'educació primària*. Barcelona: Generalitat de Catalunya. Departament d'Ensenyament, 2013

2. Acord de govern GOV/157/2014, de 27.11.2014, DOGC núm. 6759

3. Resolució ENS/1356/2016, de 23 de maig, DOGC núm. 7133 - 2.6.2016

1. Introduction

In today's XXI Century, no educational system from developed countries can deny the responsibility it has in making sure that current and future generations achieve the maximum possible level of digital competence. Aiming at this objective involves facing the digital gap and digital exclusion as factors of social exclusion and also contributes to build a society at the forefront in technological innovation. The final aim is to promote a more just and equitable society with better living conditions for its entire population.

Digital technologies in education are not only a resource for teachers or for managing formative activity, but also part of the curricular content in all stages of the educational system. Furthermore, these technologies are becoming a powerful means for autonomous learning for both formal and informal settings of all citizens.

Digital technologies have universalised verbal and audio-visual languages; they have composed a new multimedia language based on the user's interaction which facilitates non-linear reading processes; they have multiplied communication channels so that if one wishes, communication becomes immediate and permanent regardless of time and space. They have opened the door to such extent that any person can now become a universal communicator. This change in the way to express and access information requires the educational system to provide students with a solid background in new languages.

Digital technologies are part of the curricular content in all stages of the educational system

Programming languages and robotics, technologies that put computational thinking into practice in an interactive way (algorithmic thinking, creative thinking and problem-solving), become very relevant educational instruments in the learning of Science, Technology, Engineering and Mathematics (STEM). The incorporation of concepts and educational activities based on computer programming and on the building of robots, is one of the most important curricular changes in recent years. As a consequence, teachers need to know the key elements of computational thinking in order to put them into practice in the above-mentioned fields.

The benefits that digital technologies have on the students' learning processes are not a direct consequence of their inclusion in schools. The potential contribution implies a stage of transformational adoption of digital technologies from a methodological perspective. Digital technologies understood as 'technologies for learning' are a key element of change in the classrooms. They can lead to motivating, active, experiential, autonomous, social, personalised and self-controlled learning processes when students use them in a proper teacher-guided and supervised way and work either individually or collectively on tasks, projects or open activities which involve a motivating challenge or a personal learning incentive.

The recognition of Teachers' Digital Competence as a fundamental competence is the springboard for the Interdepartmental Project for Digital Competences of Educators

The recognition of the Educators' Digital Competence as a fundamental competence within the teachers' compulsory competences which determine the professional profile of teachers in the Catalan educational system is the springboard for the Interdepartmental Project for Digital Competences of Educators (PICDD), which should become the reference for accrediting the level of teachers' digital competence. It should also improve initial training of kindergarten, elementary and high school teachers as well as those studying other degrees or Masters and who would like to accredit their level of digital competence at the final stage of their studies. On a personal level, it is very useful as

each teacher can gauge his/her level of Educators' Digital Competence and become more aware of how to start initiatives which will help to increase this level.

The constant technological innovation that current society lives in, means a consistent revision of Educators' Digital Competence in order to keep up-to-date and to keep up with the incorporation of digital technologies that the school uses in its performance of tasks, professional teacher activities, etc.

2. Rationale

The article 53.1 of the Statute of Autonomy of Catalonia states that: "The public powers have to facilitate the knowledge for a society of information and have to strive for access to information technologies (ICT), in equal conditions, in all fields of social life, including that of labour. They have to make sure these technologies are available for serving its citizens and that they do not affect their rights negatively and they must guarantee that services are available for people by means of those technologies, in accordance with universal, continuous and updated principles".

The Recommendation 2006/962/CE of the European Parliament and of the Council, from December 18, 2006, on the key competences for lifelong learning, includes the digital competence as one of these key competences and indicates that it requires good comprehension and a wide knowledge of the nature, the function and the opportunities that digital technologies provide in daily situations, whether it be private, social and/or professional.

According to Ferrari (2012), Digital Competence is the set of knowledge, skills, attitudes (thus including abilities, strategies, values and awareness) that are required when using ICT and digital media to perform tasks; solve problems; communicate; manage information; collaborate; create and share content; and build knowledge effectively, efficiently, appropriately, critically, creatively, autonomously, flexibly, ethically, reflectively for work, leisure, participation, learning, socialising, consuming, and empowerment.

The Digital Agenda for Europe 2020 includes, amongst its aims, the improvement of digital competences, including the most basic ones (literacy and digital inclusion) and proposes the creation of indicators in order to measure these competences. It also proposes creating a framework that allows recognition of the competence in ICT terms.

The Digital Agenda for Catalonia 2020 (idigital) and, recently, also the Smart Strategy of Catalonia (smartCat) have brought these challenges together. Likewise, with the creation of the platform and the regulation of the Accreditation on Competence in Information and Communication Technologies (ACTIC), a good part of the above-mentioned aims have been achieved. ACTIC provides a standard for reference in assessing the level of ICT competences and at the same time, permits accreditation of these competences.

Thus, digital maturity becomes a defining element of the developmental growth of a country. In order to achieve this 'maturity' in addition to the deployment of advanced technological infrastructures, citizens must be digitally competent.

Law 12/2009 of Education, from 10 July, refers to the importance of preparing digitally competent citizens, since the basic principle of education, established in article 2, includes digital competence which must also be included in the curriculum at all educational stages.

The Law has also introduced a specific element by which elementary and high school teachers must prove their adequate skills to use ICT, which they 'have to know and master as a methodological tool' (art.104.2 j).

In order to carry out their tasks, teachers have to use ICT not only as an instrument but also as a methodological resource

In order to carry out their tasks, teachers have to use ICT not only as an instrument but also as a methodological resource. In other words, cross-curricular competences which use ICT in an instrumental way, must also add methodological uses of knowledge and learning technologies in order to comply with the digital competence for teachers.

In 2011, UNESCO outlined ICT Competency Framework for Teachers and indicated that it is not enough to have ICT competence and to teach this competence to students, but what is also needed is to master digital tools which will help students to acquire the necessary competences for becoming autonomous citizens, well integrated into today's society and capable of lifelong learning over the course of their lives.

3. Background

Some countries, concerned by the digital skills of their children and youth, have realised that the development of digital competence during important school-age years requires optimal preparation by teachers. For this reason, many have carried out initiatives to ensure that teachers have an adequate level of Digital Competence in order to guarantee the development of school-aged children's digital competence.

Many countries have been at the forefront with their initiatives. In 2003, Denmark established the *Pedagogical Computer Driver License (PCDL)*. Australia defined *A Proposal for the Development of an ICT Competency Framework for Teachers* in 2002 and the Ministry of Education in Quebec (Canada) incorporated the integration of ICT competence into their University programmes for early years, elementary and highschool teachers. Later, in 2006, the Ministry of Education of Chile established sixteen ICT standards for the initial training of teachers and in 2007 the United Kingdom incorporated specific standards linked to teachers' digital competence, whether they were already working in schools or at the initial training stages. More recently in France, (2011), the certificate *Informatique et Internet, Enseignant (C2i2e)* has been deployed for both teachers and trainers.



Teachers must have an adequate level of Digital Competence in order to guarantee the development of school-aged children's digital competence

In Spain, the Ministry of Education, Culture and Sport has elaborated a *Proposal for a common digital framework for teachers* (2014) in line with the proposal generated by the centre of investigation *Joint Research Centre*, from the European Commission which published in June 2016 the 2.0 version of the DigComp Project results, within the European framework on citizens' digital competence.

Some autonomous communities also work along this line and have elaborated their own proposals that are set as a framework or guide for the professional development of digital competences for their teachers. Examples include the Government of Extremadura, which in April 2015 announced the '*Portfolio of Teachers' Digital Competence in Extremadura*'.

Other professional associations and international organisms of prestige have also been following suit. The International Society for Technology in Education (ISTE) is worth mentioning. In 2000 they published their first version of national ICT standards for teachers. These standards were updated in 2008 and UNESCO also updated and later published their *ICT Competency Framework for Teachers* in 2011. The European Commission has backed the above-mentioned DigComp project and has continued further development of the project DigComEdu which is especially geared towards educators and published in 2017.

These initiatives have become a reference for the Interdepartmental project for digital competences of teachers in Catalonia which in addition to keeping up to the standards of other developed countries, has personalised and designed their own CDD and deployed them in the Catalan educational system. Among the initiatives we find the following:

- **Legislation on education in Catalonia.** The Law of Education of Catalonia (12/2009) establishes in article 2.2 the principle guidelines of the Educational System. Amongst them, (2.2.G) establishes the digital competence for the use of autonomy and creativity of digital systems and (2.2.i), on the competence for the analysis

and the contrast of all information, regardless of the means of transmission. Article 104 establishes that one of the teacher's functions is to know and use ICT as a methodological tool.

- **Core competences of students in the digital field.** Among the key competences that students must attain before the end of their compulsory studies, we find digital competence as a cross-curricular issue. From the year 2013, and instructed by the Department of Education, high schools have been deploying 10 competences in the digital field, grouped into 4 different dimensions. This forms part of the official curriculum from both primary and secondary compulsory education since 2015.
- **Initial Teacher Training regulations.** Orders from the Ministry establish the requirements for revising Primary Education degrees (Ministerial Order ECI/3857/2007), Early Childhood degrees (Ministerial Order ECI/3854/2007) and the Masters in teaching Secondary, Vocational Training and Language degrees (Ministerial Order ECI/3858/2007) which all hold elements of the digital competence amongst all the other competences that teachers must attain.

4. Definition of Teachers' Digital Competence

One of the most relevant concerns nowadays regarding teachers is their digital literacy. Teachers' competence determines, in good part, the quality of their professional performance in conjunction with other circumstances, such as socioeconomic surroundings, school profile, available resources, students' characteristics, etc. which will also condition that professional activity.

For the past three decades and specifically in the past 15 years, the concern and conception of a teaching digital competence has risen, in parallel to the expansion of ICT in society and in schools. This is what we refer to as Teachers' Digital Competence.

By Teachers' Digital Competence we refer to teachers' capacity to mobilise and transfer their knowledge, strategies, abilities and attitudes regarding ICT to real situations in their professional practice in order to:

- Facilitate students' learning and the acquisition of their digital competence.
- Carry out processes for improving and innovating teaching according to the needs of the digital era.
- Contribute to their professional development in accordance to the changes that take place in society and in schools.

The starting point for the definition of teachers' digital competence in Catalonia was the presentation of documents presented at the International Forum for Education and Technology (FIET)⁴ celebrated in Tarragona in June 2014 with the participation of University experts and the Department of Education of the Generalitat of Catalonia.

Teachers' Digital Competence, refers to both didactic and methodological skills (MDC), but additionally, ICT competence is also needed with reference to the instrumental use of technologies (IDC).

Teachers' Digital Competence, refers to both didactic and methodological skills (MDC), but additionally, ICT competence is also needed with reference to the instrumental use of technologies

$$\text{TDC} = \text{IDC} + \text{MDC}$$

Teachers' Digital Competence = Instrumental DC + Methodological DC

4. http://fiet2014.fietcat.com/?page_id=65

4.1. Instrumental Digital Competence

In Catalonia, the digital competence for citizenship is outlined in the contents of the Accreditation on Competence in Information and Communication Technologies (ACTIC) (Decree 89/2009, of 9 of June, for which the accreditation of ICT competences and other latter orders are regulated in three levels (ACTIC 1, 2 and 3)⁵.

The ACTIC is the Accreditation on Competence in Information and Communication Technologies, understood as the combination of knowledge, abilities and attitudes in the ICT field that people deploy in real-life situations in order to reach specific goals effectively and efficiently.

The PICDD workgroup agreed that the reference framework for the instrumental part of the IDC would be the contents of the competences of one of the ACTIC levels, to be established in accordance with the required teaching profiles.

In
Catalonia, the
digital competence
for citizenship is
outlined in the contents
of the Accreditation on
Competence in Information
and Communication
Technologies
(ACTIC)

4.2. Methodological Digital Competence

The aim of the workgroup PICDD was to focus on the definition of the methodological part of Teachers' Digital Competence. It was necessary to establish the dimensions of the MDC and their impact in teaching performance, as well as to define some clear descriptors and indicators of the levels of attainment.

The aim of
the workgroup
PICDD was to focus
on the definition of the
methodological part
of Teachers' Digital
Competence

Based on the valid legislation on educational issues in Catalonia, the document *Core competencies in the digital field* (2013) - for Primary and Secondary students, as well as on the analysis of a wide range of different international and national references, a structured proposal of Methodological Digital Competence was elaborated in which five dimensions and twenty-seven descriptors derived from the specific competencies in the educational field. In a second phase, a proposal of indicators of attainment was made.

5. http://actic.gencat.cat/ca/actic_monactic/actic_difusio/ma_englishdocs

5. Components of the Methodological Digital Competence (MDC)

5.1. Dimensions

In order to group the descriptors of the Methodological Digital Competence into categories, the five following dimensions have been defined:

- Design, planning and didactic implementation
- Organisation and management of School environment and educational resources
- Communication and collaboration
- Digital ethics and citizenship
- Professional development

In a teacher's daily lessons and activities, the MDC is integrated in such a way that these dimensions are integrated without differentiation

The dimensions of this categorisation are closely linked, even though they contain their own distinctive components. In a teacher's daily lessons and activities, the MDC is integrated in such a way that these dimensions are integrated without differentiation.

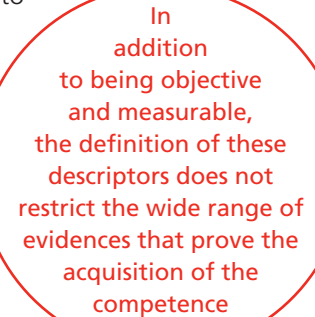
Dimension	Description
Design, planning and didactic implementation	Capacity of selection, use and evaluation of digital technologies as support in the definition and implementation of the teaching-learning process, both inside and outside the classroom, in order to optimise the planning and dynamic organisation of the experiences, the activities and the resources foreseen to guarantee the acquisition of learning and to facilitate the collaboration and deployment amongst the educational community.
Organisation and management of School environment and educational resources	Ability to organise and manage digital technologies responsibly and sustainably, in a way that they facilitate and/or improve working conditions, both in terms of educational management, as well as at a teaching level.
Communication and collaboration	Set of knowledge, skills, attitudes, strategies and awareness required when using digital technologies to communicate, collaborate, create and share content and build knowledge in the framework of the design, implementation or evaluation of an educational action between teachers and students.
Ethical and digital citizenship	Knowledge and acceptance of the implications arising from the use of digital technologies in the educational field with regards to the issues of legality, security and digital identity. Training of students on these issues so that they can make ethical and responsible use of these technologies.
Professional development	Reflective practice on teachers' professional activity in relation to the educational challenges posed by today's society. Involvement in virtual educational environments where their digital identity shows up, and where teacher provides and shares professional and educational resources on a permanent basis.

5.2. Descriptors for Methodological Digital Competence by dimensions

27 descriptors of Methodological Digital Competence have been distributed into the five dimensions. Each one of them reflects a performance or behaviour that is characteristic of the dimension to which it belongs. In addition to being objective and measurable, the definition of these descriptors does not restrict the wide range of evidences that prove the acquisition of the competence.

There are three fields in which teachers put the Educator's Digital Competence in their professional activities into use: The classroom, the school and the school environment. By school environment we refer to the real physical proximity as well as to a more global context, since digital technologies facilitate education without limits in space.

The performances that the descriptors of the Methodological Digital Competence carry out may take place in any of these three fields and in a simultaneous way. This would be the case of a teacher that schedules and implements an online collaborative project in his/her school with students, either synchronously or asynchronously by way of an online virtual platform with other students from schools near or far. This involves managing and organising the school's infrastructure and resources and at the same time also lets teachers access and increase their professional development by way of networking.



In addition to being objective and measurable, the definition of these descriptors does not restrict the wide range of evidences that prove the acquisition of the competence

Dimension	Descriptors
1. Design, planning and didactic implementation	<p>1.1. Use of digital technologies as a resource and strategy in teaching and learning processes</p> <p>1.2. Selection of digital resources for the design of activities and lesson plans</p> <p>1.3. Incorporation of digital technologies in coherence with the school's educational project and infrastructure</p> <p>1.4. Integration of students' digital competence in the lesson plans</p> <p>1.5. Use of digital technologies to attend to student diversity</p> <p>1.6. Use of digital technologies in the tracking and assessment of students</p> <p>1.7. Development of innovative methodologies with the use of digital technologies</p>
2. Organisation and management of School environment and digital resources	<p>2.1. Knowledge and compliance to the norms of use of the resources, infrastructures and digital platforms</p> <p>2.2. Knowledge and use of the general software applied in the school</p> <p>2.3. Organisation of the digital technologies taking into account the different learning spaces</p> <p>2.4. Involvement in school projects related to digital technologies</p>
3. Communication and collaboration	<p>3.1. Communication using digital technologies</p> <p>3.2. Active participation in educational networks and digital platforms</p> <p>3.3. Promotion of collaborative knowledge-building with digital resources</p>
4. Ethical and digital citizenship	<p>4.1. Protection of fundamental rights to personal privacy and online digital identity in the use of digital technologies</p> <p>4.2. Responsible, safe and healthy use of digital technologies</p> <p>4.3. Promotion of the access to resources while respecting intellectual property rights</p> <p>4.4. Promotion of digital inclusion</p> <p>4.5. Promotion of the creation of a suitable digital identity</p>
5. Professional development	<p>5.1. Configuration of one's own professional digital identity</p> <p>5.2. Reflective practice on professional activity related to digital technologies</p> <p>5.3. Incorporation of teacher innovations based on digital technologies</p> <p>5.4. Participation in educational research related to digital technologies</p> <p>5.5. Creation and dissemination of content and educational resources in digital format</p> <p>5.6. Participation in virtual learning communities for digital continuous professional development</p> <p>5.7. Participation in professional development activities in the field of digital competence</p>

5.3. Indicators for Methodological Digital Competence by levels

Three levels have been established (basic, intermediate and advanced) in order to differentiate the competence-based skills of teachers in each descriptor of the Methodological Digital Competence. The basic level requires a minimum skill, the intermediate denotes a greater degree of competence and the advanced implies a high level of competence.

Dimension 1. Design, planification and didactic implementation

Description

Capacity of selection, use and evaluation of digital technologies as support in the definition and implementation of the teaching-learning process, both inside and outside the classroom. Optimisation of the planning and dynamic organisation of the experiences, the activities and the resources foreseen to guarantee the acquisition of learning and to facilitate the collaboration and deployment amongst the educational community.

Descriptor 1.1. Use of digital technologies as a resource and strategy in teaching and learning processes

INDICATORS

Basic	Occasional use of digital technologies in teaching-learning activities
Intermediate	Integrated use of the digital technologies in teaching-learning activities
Advanced	Designs and develops activities and learning materials where students use digital technologies with methodologies that respond to the digital era

Descriptor 1.2. Selection of digital resources for the design of activities and lesson plans

INDICATORS

Basic	Selects and prioritises the resources and tools most suitable for different activities
Intermediate	Elaborates lesson plans based on previously selected digital resources
Advanced	Evaluates the quality and the adequacy of the digital resources selected for the teaching-learning situation

Descriptor 1.3. Incorporation of digital technologies in coherence with the school's educational project and infrastructure

INDICATORS

Basic	Knows the school spaces where digital technologies are available and how they function
Intermediate	Habitually uses the resources and spaces where digital technologies are available for teaching activities, with or without students
Advanced	Encourages all school teachers to use resources and areas where digital technologies are available in order to carry out their daily tasks

Descriptor 1.4. Integration of students' digital competence in the lesson plans	
INDICATORS	
Basic	Designs teaching-learning activities that take into account the use of digital technologies
Intermediate	Designs teaching-learning activities according to the document 'Core Competencies in the Digital Field'
Advanced	Coordinates the curricular deployment of the "Core Competencies in the Digital Field"

Descriptor 1.5. Use of digital technologies to attend to student diversity	
INDICATORS	
Basic	Uses digital technologies to increase motivation and facilitate learning of students with special needs
Intermediate	Collaborates in the school's planning of the use of digital technologies to respond to special needs
Advanced	Elaborates personalised material and self-created digital content to respond to special needs and to compensate the inequalities of access to technology

Descriptor 1.6. Use of digital technologies in the tracking and evaluation of students	
INDICATORS	
Basic	Individually uses digital resources for mentoring and for tracking students' progress (meetings, attendance, evaluation, personal files...)
Intermediate	Uses and shares with other teachers in the school, digital resources to carry out the evaluation and progress tracking of students
Advanced	Coordinates digital technologies in the school with regards to the tracking and evaluation of students and designs new performances in this field

Descriptor 1.7. Development of innovative methodologies in the use of digital technologies	
INDICATORS	
Basic	Knows the educational innovative initiatives in the school which are related to digital technologies and takes them into account in his/her lesson plans
Intermediate	Takes part in educational innovative projects where digital technologies have an important role
Advanced	Leads projects in which the incorporation of strategies and innovative methodologies in the use of the digital technologies are present

Dimension 2. Organisation and management of spaces and digital resources**Description**

Ability to organise and manage digital technologies responsibly and sustainably, in a way that they facilitate and/or improve working conditions, both in terms of educational management, as well as at a teaching level.

Descriptor 2.1. Knowledge and compliance to the norms of use of resources, infrastructures and digital platforms**INDICATORS**

Basic	Makes a responsible use of digital technologies by applying the rules of use of the resources, infrastructure and digital spaces in the school
Intermediate	Ensures students make a responsible use of digital technologies in the school and apply the rules of use
Advanced	Solves incidents of equipment for personal and classroom use independently and makes proposals for its use

Descriptor 2.2. Knowledge and use of the general software applied in the school**INDICATORS**

Basic	Knows and uses the schools's general software (administrative management, mentoring, etc.)
Intermediate	Proposes improvements on the school's software and/or proposes the incorporation of new software
Advanced	Manages the general software in the school and coordinates how it is used

Descriptor 2.3. Organisation of digital technologies, taking into account the different learning spaces**INDICATORS**

Basic	Uses digital technologies in the classroom: Interactive White boards, classroom hardware and mobile devices, etc., depending on each teaching-learning situation
Intermediate	Adapts teaching-learning activities to the spaces and to the digital technologies within the school
Advanced	Has the responsibility to modify the teaching and learning areas with digital technologies to improve and optimise the infrastructure available

Descriptor 2.4. Involvement in school projects related to digital technologies**INDICATORS**

Basic	Follows agreed-upon school guidelines, for participation in technology-related projects
Intermediate	Takes active part in the school teams and brings his/her experience and expertise in the implementation of projects related to digital technologies
Advanced	Drives and/or coordinates school projects related to digital technologies

Dimension 3. Communication and collaboration**Description**

Set of knowledge, skills, attitudes, strategies and awareness required when using digital technologies to communicate, collaborate, create and share content and build knowledge in the framework of the design, implementation or evaluation of an educational action between teachers and students.

Descriptor 3.1. Communication using digital technologies**INDICATORS**

Basic	Uses digital technologies to communicate with the students and to coordinate with other teachers
Intermediate	Uses digital resources to publish and share their teaching experiences
Advanced	Leads projects of the use of digital technologies to communicate and share experiences and knowledge among teachers

Descriptor 3.2. Active participation in educational networks in digital environments**INDICATORS**

Basic	Becomes a member of educational networks in digital environments
Intermediate	Collaborates actively in educational networks in digital environments
Advanced	Proposes and fosters projects in educational networks in digital environments

Descriptor 3.3. Promotion of collaborative knowledge-building with digital resources**INDICATORS**

Basic	Uses resources and digital media to work collaboratively with students and teachers
Intermediate	Promotes the active use of digital and media resources to carry out collaborative work between the different groups in the educational community
Advanced	Coordinates processes of collaborative work with and between the various groups in the community

Dimension 4. Ethical and digital citizenship**Description**

Knowledge and acceptance of the implications arising from the use of digital technologies in the educational field with regards to the issues of legality, security and digital identity. Training of students on these issues so that they can make ethical and responsible use of these technologies.

Descriptor 4.1. Protection of fundamental rights to personal privacy and online digital identity in the use of digital technologies**INDICATORS**

Basic	Carries out educational activities with students in order to promote respect, privacy and online digital identity in the use of digital technologies
Intermediate	Produces educational materials collaboratively to promote respect, privacy and online digital identity in the use of digital technologies
Advanced	Advises the educational community on measures to ensure the privacy of personal data in the use of digital technologies and to promote a responsible digital identity

Descriptor 4.2. Responsible, safe and healthy use of digital technologies**INDICATORS**

Basic	Carries out educational activities with students to promote healthy, safe and responsible use of digital technologies
Intermediate	Elaborates educational materials to promote the responsible, safe and healthy use of digital technologies
Advanced	Promotes responsible, safe and healthy initiatives of digital technologies in the school

Descriptor 4.3. Promotion of the access to resources while respecting intellectual property rights**INDICATORS**

Basic	Respects the copyright of teacher materials when using or re-creating them using digital technologies
Intermediate	Promotes respect for intellectual property in the use of digital technologies when doing activities with the students
Advanced	Advises other professionals about intellectual property in the use of digital technologies

Descriptor 4.4. Promotion of digital inclusion**INDICATORS**

Basic	Promotes access to and the use of digital technologies for all students with the intention of compensating differentiation
Intermediate	Participates in the organisation of school's attention to diversity by carrying out actions to compensate difficulties in the access and the use of digital technologies
Advanced	Leads initiatives for the use of digital technology resources and spaces in the school by the educational community, aimed at tackling digital inequalities and differentiation

Descriptor 4.5. Promotion of the creation of a suitable digital identity**INDICATORS**

Basic	Develops teaching-learning activities for the elaboration of a adequate digital identity for students
Intermediate	Incorporates the school's digital identity to documentary creations and virtual spaces
Advanced	Takes part in the improvement of the school's digital identity and reputation

Dimension 5. Professional development**Description**

Reflective practice on teachers' professional activity in relation to the educational challenges posed by today's society. Involvement in virtual educational environments where their digital identity shows up, and where teacher provides and shares professional and educational resources on a permanent basis.

Descriptor 5.1. Configuration of one's own professional digital identity**INDICATORS**

Basic	Uses professional digital identification in a usual way in his/her communications and in profile updates in the school's virtual platforms
Intermediate	Has a profile and a professional resume updated online
Advanced	Uses social and professional networks as a means of communication and professional interaction

Descriptor 5.2. Reflexive practice on professional activity related to digital technologies**INDICATORS**

Basic	Uses online platforms with the goal of sharing knowledge and experiences
Intermediate	Manages his/her own digital platform as a means to publish and disseminate his/her professional knowledge and engage the educational community
Advanced	Creates and manages virtual spaces to spread collective knowledge and to promote communication and interaction between the members of the educational community

Descriptor 5.3. Participation in educational research related to digital technologies**INDICATORS**

Basic	Is well informed about the progress of research on the educational impact of digital technologies
Intermediate	Participates in research on the educational uses of digital technologies
Advanced	Promotes research that analyses the educational effects of digital technologies

Descriptor 5.4. Participation in educational research related to digital technologies**INDICATORS**

Basic	Is informed on the progress of research on the educational impact of digital technologies
Intermediate	Takes part in research on the educational uses of digital technologies
Advanced	Promotes research that analyses the educational effects of digital technologies

Descriptor 5.5. Creation and dissemination of content and educational resources in digital format**INDICATORS**

Basic	Manages media information and its use in teaching-learning situations
Intermediate	Produces multimedia content for use in the classroom in different teaching-learning situations
Advanced	Creates and shares multimedia teaching materials in online repositories

Descriptor 5.6. Participation in virtual learning communities for digital continuous professional development**INDICATORS**

Basic	Uses teaching materials on shared networks for educational action in the classroom
Intermediate	Uses online learning as a means of lifelong learning
Advanced	Fosters learning in networks among members of the educational community, both from within and outside of the school

Descriptor 5.7. Participation in professional development activities in the field of digital competence**INDICATORS**

Basic	Participates in training activities related to digital technologies
Intermediate	Takes training on a permanent basis ("in any place and any time" mode) by means of activities related to digital technologies
Advanced	Transforms his/her teaching practice, by incorporating digital technologies learnt in permanent professional training activities

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7. Glossary of terms

Please, find below a list of descriptions of the acronyms used in this document.

- **ACTIC:** Accreditation on Competence in Information and Communication Technologies
- **IDC:** Instrumental Digital Competence
- **MDC:** Methodological Digital Competence
- **DOGC:** Official Publication of the Government of Catalonia
- **PICDD:** Interdepartamental Project for Digital Teaching Competence
- **TDC:** Teachers' Digital Competence

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