Global Framework for Educational Competence in the Digital Age
In accordance with Article 14(11) of Organic Law 3/2007 of 22 March on effective gender equality, all nouns which, for the purposes of linguistic economy, are given in the male gender herein shall be understood as including both male and female genders.
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Introduction

The Global Framework for Educational Competence in the Digital Age (GFECDA) is an approach to educational complexity in an age heavily impacted by digital technology. Accordingly, it has been built on the analysis and mapping of a broad selection of international “frameworks”\(^1\) for both educational as well as digital competence and aspires to present an integrated vision of both these “competences” resulting in their amalgamation into “educational competence in the digital age”.

The following design criteria were used to create this GFECDA:

- the Framework aspires to be clear, simple, comprehensive, coherent, flexible, global and applicable to a wide range of situations;
- the Framework provides a cross-cutting vision of technology in the field of education;
- the Framework addresses an international vision and is aligned with the main reference frameworks while at the same time not forsaking originality and assuming a character of its own;
- the Framework is based on a complex, positive and dynamic vision of the teaching activity and the teaching profession; and
- the Framework aspires to be useful in the development, training and advising of teachers as well as in the design and analysis of tools and materials to undertake such tasks.

To sum up, this Framework can be considered as a comprehensive and flexible structure based on main competence frameworks developed by leading international institutions and recognised authors in the fields of education and educational technology.

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1/ The word “framework” is used generically here as not all approaches to the definition of an expert profile can be said to be perfectly catered for under the same.
Origin and development

This Framework was developed in four work phases. Firstly, the available international literature was reviewed (see the section on “Bibliography”) to learn, from a historical and critical perspective, the main approaches taken to teaching and digital competence. This review was conducted simultaneously albeit independently by two researchers, the contributions of whom were subsequently compared by the main researchers and the reviewers to draw up a global document containing all the approaches identified.

Based on the aforementioned document, the available frameworks were mapped out and the most relevant features drawn on to create this framework. Accordingly, elements of the ProFuturo Foundation action were also taken into account, particularly, its mission to “narrow the education gap in the world by providing quality digital education for children in vulnerable environments in Asia, Africa and Latin America” and its determination to establish a “competence framework understood as the competencies applied to teaching-learning processes”. This first selection of “descriptors” was arranged into a bank of 190 items.

Secondly, conceptual overlaps between these descriptors were studied and the resulting items combined to constitute a unified Global Framework for Educational Competence in The Digital Age. This unified design brought together 90 items prior to the validation process.

Thirdly, two frequent validation techniques were used: the Delphi method and the Expert Opinion technique. The latter technique was resorted to by way of a discussion group held in Madrid in July 2019 at which the Framework was analysed from a specific and global standpoint, assessing the appropriateness of the identities, functions and practices included in it. After its analysis and assessment, the Framework was subject to a first adjustment to accommodate the suggestions made by the experts.

Moreover, a Delphi panel was set up to assess the suitability of each item. This panel was called to intervene in two rounds and by means of an online questionnaire. The first round saw 205 experts participate, while 81 took part in the second round, all of whom pointed out those items they considered to be the most problematic. After this analysis the new Framework was reviewed to sort out the problems detected.

Thus, the comments and contributions made by the experts in the discussion group and the participants in the Delphi panel closed the design and validation process for the Global Framework for Educational Competence in the Digital Age.
GFECDA structure

The Framework is organised as follows: Educational Competence in the Digital Age is implemented through three identities. Each identity involves several roles pursuant to which various functions are undertaken, which consist of specific practices that are itemised in the Framework descriptors.

Overall, the starting point views educators as citizens (Citizen Identity) who have the capacity to generate learning experiences (Teacher Identity) in contact with other individuals and groups (Connector Identity), whether learners, other educators or other citizens.

Each identity plays a series of essential roles. Accordingly, the citizen identity is based on three commitments: first, the commitment to one’s own lifelong learning; second, the commitment to one’s own fundamental literacy on technology to develop in the digital age; third, the active commitment to society and the community, which entails understanding the social, political and economic factors that form the supporting framework for educational work and also the capacity to transform the environment to improve the conditions of one’s own well-being and that of the people with whom one lives without damaging the environment.
As far as the teacher identity is concerned, this is based on three interconnected roles: the design of memorable learning experiences, the facilitation task in order for all students to learn successfully and the assessment task to enable the regulation of learning and to improve teaching practices. In this sense, the teacher identity forms a virtuous circle of improvement (in which technology can impact positively) by pursuing these three roles, while it is also connected to the citizen and connector identities: the professional development of teachers empowers them as citizens, enabling them to transform realities while at the same time converting them into a positive influencing factor for those around them, which is the key feature of the connector identity.

Thirdly, educational competence is a competence linked to diverse educational stakeholders, including the students themselves: this is the connector identity of the educator, which is undertaken through three roles in accordance with three types of social relationship. Thus, educators are social and educational leaders in their environment when disseminating their practices and the reflections they make based on assessment; secondly, collaboration with other teachers (or groups and schools) enables the collective development of educational competence, including its capacity to transform through citizen identity; lastly, educational competence is also a commitment to students’ futures in terms of their personal development and also with respect to their professional possibilities.

To sum up, these identities and their roles have global value and meaning, but they surface as possibilities that are realised, more or less effectively, in the real context of each educator, depending on the circumstances: educational competence in the digital age represents a professional development path that each individual, school, community, society or country can articulate at different levels and in different ways.

To this end, it is useful to take that extra step and analyse the functions that are undertaken based on each role and the social-educational practices into which these functions materialise. This last phase of analysis aligns and assesses the content of the descriptors obtained when designing the framework, as indicated in the following table and in Appendix I, where each identity can be linked to the roles associated with it, the functions undertaken and the practices that can be observed in a particular situation.
<table>
<thead>
<tr>
<th>Identity</th>
<th>Roles</th>
<th>Functions</th>
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<tr>
<td><strong>Teacher identity</strong></td>
<td>Design</td>
<td>Designing experiences</td>
<td>Educators design memorable learning experiences.</td>
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<td></td>
<td></td>
<td>21st century learning</td>
<td>Educators promote learning to meet the challenges of the 21st century.</td>
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<tr>
<td>Facilitation</td>
<td></td>
<td>Knowing the student</td>
<td>Educators have a comprehensive knowledge of the student.</td>
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<td></td>
<td></td>
<td>Methodological and resource diversity</td>
<td>Educators use different methods and resources in teaching practice.</td>
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<td>Concept understanding</td>
<td>Educators promote students’ understanding of the educational content.</td>
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<td>Assessment</td>
<td></td>
<td>Regulation of learning</td>
<td>Educators conduct assessment activities to ensure learning and solve difficulties.</td>
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<tr>
<td></td>
<td></td>
<td>Information about the learning process</td>
<td>Educators provide students or their legal guardians with information.</td>
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<tr>
<td><strong>Citizen identity</strong></td>
<td>Basic technology literacy</td>
<td>Basic technology literacy</td>
<td>Educators possess sufficient technology literacy to use technology resources.</td>
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<td></td>
<td></td>
<td>Privacy and secure use of technology</td>
<td>Educators promote the secure use of technology and use it securely.</td>
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<td></td>
<td></td>
<td>Active citizenship</td>
<td>Educators put active citizenship into practice in their social and digital environment.</td>
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<td>Health and the environment</td>
<td>Educators promote health and environmental awareness, both their own and that of their milieu.</td>
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<td></td>
<td></td>
<td>Political and curricular framework</td>
<td>Educators are familiar with their political and curricular framework in which they immerse themselves and work to improve.</td>
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<td><strong>Lifelong learning</strong></td>
<td>Learning community</td>
<td>Learning community</td>
<td>Educators form an active part of a learning community.</td>
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<td></td>
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<td>Professional development</td>
<td>Educators pursue both their own professional development and that of those around them.</td>
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<td>Implementation of lifelong learning</td>
<td>Educators introduce what they have learned through their own professional development into their teaching practices.</td>
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<td><strong>Collaboration</strong></td>
<td>Student collaboration</td>
<td>Student collaboration</td>
<td>Educators promote safe and equality-based collaboration among and with their students.</td>
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<td></td>
<td></td>
<td>Collaboration with other professionals</td>
<td>Educators collaborate with other professionals in their lifelong learning and their teaching practices.</td>
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<td>Personal learning environment</td>
<td>Educators are aware of their personal learning environment and endeavour to enrich it.</td>
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<tr>
<td><strong>Connector identity</strong></td>
<td>Leadership</td>
<td>Pedagogical leadership</td>
<td>Educators exercise pedagogical leadership in their environment.</td>
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<td></td>
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<td>Empowering leadership</td>
<td>Educators use their pedagogical leadership to empower the whole education community.</td>
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<td></td>
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<td>Personal initiative</td>
<td>Educators promote personal initiative in their students.</td>
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<td></td>
<td></td>
<td>Connection with the environment</td>
<td>Educators link their students up with social agents, institutions, organisations and companies in their environment.</td>
</tr>
</tbody>
</table>

Table 1. GFECDA identities, roles, functions and practices.
• Advisory Committee on Teacher Education and Qualifications ACTEQ (2003). *Towards a Learning Profession. The Teacher Competencies Framework and The Continuing Professional Development of Teachers*. Hong Kong: ACTEQ.

• ARTEMIS Transition Partners (2016). *Competency Framework for Primary School Teachers in Kenya*.


Appendix I: Educational Competence in the Digital Age Descriptors
The details, roles and functions that characterise educational competence in the digital age are itemised below along with a key descriptor for each function.

1. Teacher identity

1.1. Design role

*Function: designing experiences*

1.1.1. Educators design memorable learning experiences.

*Function: 21st century learning*

1.1.2. Educators promote learning to meet the challenges of the 21st century.

1.2. Facilitation role

*Function: knowing the student*

1.2.1. Educators have a comprehensive knowledge of the student.

*Function: methodological and resource diversity*

1.2.2. Educators use different methods and resources in teaching practice.

*Function: concept understanding*

1.2.3. Educators promote students' understanding of the educational content.

1.3. Assessment role

*Function: learning regulation*

1.3.1. Educators conduct assessment activities to ensure learning and solve difficulties.

*Function: information about the learning process*

1.3.2. Educators provide students or their legal guardians with information.

2. Citizen identity

2.1. Basic technology literacy role

*Function: fundamental technological literacy*

2.1.1. Educators possess sufficient technological literacy to use technology resources.

*Function: guarantee of privacy and secure use of technology*

2.1.2. Educators promote the secure use of technology and use it securely.

2.2. Committed citizenship role

*Function: active citizenship*

2.2.1. Educators put active citizenship into practice in their social and digital environment.

*Function: promoting health and the environment*

2.2.2. Educators promote health and environmental awareness, both their own and that of their milieu.

*Function: knowledge of the political and curricular framework*

2.2.3. Educators are familiar with their political and curricular framework in which they immerse themselves and work to improve.

2.3. Lifelong learning role

*Function: learning community*

2.3.1. Educators form an active part of a learning community.

*Function: professional development*

2.3.2. Educators pursue both their own professional development and that of those around them.
Function: implementation of lifelong learning

2.3.3. Educators introduce what they have learned through their own professional development into their teaching practices.

Function: connection with the environment

3.2.4. Educators link their students up with social agents, institutions, organisations and companies in their environment.

The complete descriptors are itemised below for each function in the form of practices implemented by educators in the digital age.

1. Teacher identity

1.1. Design role

Function: designing experiences

1.1.1. Educators design learning experiences that enable their students to acquire knowledge and develop skills and competencies required by present-day society.

1.1.2. Educators take into account learning goals and the target students when designing and selecting content and teaching resources and when planning how to use them.

1.1.3. Educators motivate and stimulate the students to actively engage themselves in the learning experience.

1.1.4. Educators involve their students in inquiry and research projects and in creative problem-solving.

1.1.5. Educators facilitate their students’ connections with social agents, institutions, organisations and companies by designing learning experiences based on real situations.

3. Connector identity

3.1. Collaboration role

Function: student collaboration

3.1.1. Educators promote safe and equality-based collaboration among and with their students.

Function: collaboration with other professionals

3.1.2. Educators collaborate with other professionals in their lifelong learning and their teaching practices.

Function: personal learning environment

3.1.3. Educators are aware of their personal learning environment and endeavour to enrich it.

3.2. Leadership role

Function: pedagogical leadership

3.2.1. Educators exercise pedagogical leadership in their environment.

Function: empowering leadership

3.2.2. Educators use their pedagogical leadership to empower the whole education community.

3.3. Mentoring role

Function: personal initiative

3.2.3. Educators promote personal initiative in their students.
1.1.6. Educators help students to use technology to acquire skills to search, manage, analyse and evaluate information and to create content, communicate and collaborate.

1.1.7. Educators promote an integral and harmonious development of digital identity and competence.

**Function: 21st century learning**

1.1.8. Educators promote reflective and creative learning as well as the active and critical building of knowledge in their students.

1.1.9. Educators foster independence, self-management abilities, self-regulation and lifelong learning in their students.

1.1.10. Educators encourage their students to actively participate as citizens in the social life of their environment.

1.1.11. Educators encourage their students to express themselves and behave responsibly on social networks, platforms and digital spaces.

1.1.12. Educators promote co-education and full equality between women and men.

1.1.13. Educators advocate and organise teaching activities and projects to develop intercultural awareness and respect in their education community.

1.1.14. Educators stimulate creativity, teamwork, collaboration among their students and independence in their approach to learning.

1.2. **Facilitation role**

**Function: knowing the student**

1.2.1. Educators are familiar with the physical, cognitive, emotional and social development characteristics of their students.

1.2.2. Educators design teaching activities that effectively adapt and respond to diversity.

1.2.3. Educators personalise the learning opportunities for their students.

**Function: methodological and resource diversity**

1.2.4. Educators use different methodological strategies to facilitate learning by students.

1.2.5. Educators design, adapt and promote the use of open source educational resources and are aware of the appropriate use of the different types of possible licences.

1.2.6. Educators boost the meaningful learning of their students.

1.2.7. Educators use technology to search, manage and properly use information, content, materials and resources for learning.

1.2.8. Educators use different (textual, audiovisual, theatrical, musical, transmedia) communication and language strategies to design learning experiences.

1.2.9. Educators have various resources to respond effectively to the problems their students have in the learning process.

**Function: concept understanding**

1.2.10. Educators facilitate the understanding of their students with respect to key curricular concepts.

1.2.11. Educators promote the acquisition of skills and competencies that will help them to solve problems adapted to their level of development.
1.3. Assessment role

**Function: learning regulation**

1.3.1. Educators monitor their students’ progress to ensure they learn successfully and overcome any difficulties.

1.3.2. Educators use different assessment, self-assessment and peer assessment instruments and strategies.

1.3.3. Educators use continuous, formative and cumulative assessment strategies throughout the learning process.

1.3.4. Educators use digital technologies to optimise assessment processes.

1.3.5. Educators evaluate skills, knowledge and competencies in a coordinated manner with their educational organisation.

1.3.6. Educators analyse, interpret and critically evaluate the results of the student learning to propose improvements in the teaching process and in how the educational organisation itself works.

1.3.7. Educators guide students in the self-assessment of their learning.

**Function: information about the learning process**

1.3.8. Educators regularly provide personalised and significant information on the student learning process.

1.3.9. Educators help students and their legal guardians to make the most appropriate decisions for their integrated development based on informed data.

1.3.10. Educators use suitable technology resources to provide information about the learning process, always guaranteeing the privacy and security of student data.

2. Citizen identity

2.1. Fundamental Technological Literacy role

**Function: guarantee of privacy and secure use of technology**

2.1.1. Educators make sure to guarantee the privacy and secure and responsible use of student data.

2.1.2. Educators recognise and prevent hazards and threats in digital environments and promote the secure, critical and appropriate use of the technology.

2.1.3. Educators know how to protect devices, information, content and their own and students’ personal data.

2.1.4. Educators use educational digital technologies effectively, sustainably and securely.

2.1.5. Educators do everything in their power to overcome the possible gaps that may exist in the access to and use of technologies.

**Function: fundamental technological literacy**

2.1.6. Educators use a variety of technological tools appropriately in different teaching and learning situations.

2.1.7. Educators have a basic knowledge of hardware and software operations.

2.1.8. Educators are familiar with basic applications related to productivity, internet browsing, communications and management.
2.1.9. Educators identify and solve technical and security problems when working with digital devices and in digital environments.

2.2. Committed citizenship role

*Function: active citizenship*

2.2.1. Educators have an appropriate attitude, knowledge and abilities to participate in society as an active citizen.

2.2.2. Educators promote the achievement of Sustainable Development Goals in their environment, and contribute to arousing student awareness of their importance.

2.2.3. Educators are committed to defending Human Rights both by their actions and words.

2.2.4. Educators defend real equality between men and women in all areas of their lives.

2.2.5. Educators use the resources at their disposal to contribute to the inclusion and socio-emotional well-being of their students.

*Function: health and the environment*

2.2.6. Educators foster healthy living habits among their students and their education community, particularly as regards the use of technology.

2.2.7. Educators use sustainable tools.

2.2.8. Educators promote the transformation of learning spaces into ecological and environment-friendly spaces.

2.2.9. Educators know the environmental impact technology has and actively try to minimise its negative effects.

*Function: political and curricular framework*

2.2.10. Educators are familiar with the regulatory framework and the specific curriculum that define their teaching activity.

2.2.11. Educators interpret and give concrete form to the curriculum to adapt it to their context.

2.3. Lifelong learning role

*Function: learning community*

2.3.1. Educators interact with their students and their education community through different face-to-face and virtual collaboration initiatives.

2.3.2. Educators are capable of using technology to create, motivate and actively participate in learning communities.

2.3.3. Educators adopt communication and collaboration strategies for their professional development and for the development of their organisation and their education community.

2.3.4. Educators collaborate in publishing teaching resources and materials that they develop in collaboration with other educators.

*Function: professional development*

2.3.5. Educators understand their own professional development as a continuing process of change and improvement through practice, reflection and assessment.

2.3.6. Educators identify and make the most of development and lifelong learning opportunities in their environment.
2.3.7. Educators have an efficient professional development strategy for the teaching activity in which they are involved.

2.3.8. Educators specifically develop an efficient strategy to improve their digital competence.

2.3.9. Educators know and select those training experiences that best fit in with their personal development needs, their lifestyle and their timetable.

2.3.10. Educators are involved in innovative teaching activities.

**Function: implementation of lifelong learning**

2.3.11. Educators implement what they have learned in professional development initiatives, assessing their transformative impact on their working environment.

2.3.12. Educators are a model for their colleagues as regards identifying, exploring, evaluating, creating and adopting new resources (whether digital or not) and learning tools.

3. **Connector identity**

3.1. **Collaboration role**

**Function: student collaboration**

3.1.1. Educators create and promote spaces where students learn collaboratively with other learners and other agents present in their context or virtually.

3.1.2. Educators provide safe learning spaces where student confidence is fostered and where acts of discrimination and humiliation, or those fomenting inequality, are rejected and combated.

3.1.3. Educators facilitate inclusion and accessibility to learning experiences, resources and materials for all students, especially those with special educational needs.

3.1.4. Educators encourage students to use educational digital technologies creatively, strategically, securely and critically in their learning experiences.

3.1.5. Educators are capable of preventing, detecting and intervening in unjust situations and where there is social inequality.

3.1.6. Educators are capable of detecting and intervening in cases of bullying and violence in the education environment.

3.1.7. Educators guide their students in the handling and management of social and emotional skills for these to positively impact on their learning.

**Function: collaboration with other professionals**

3.1.8. Educators interchange resources, knowledge and opinions about teaching practice with other professionals and groups.

3.1.9. Educators collaborate with other members of the educational community to create shared learning situations between groups, levels or subjects.

3.1.10. Educators collaborate with other colleagues to improve their teaching practices.

3.1.11. Educators promote and actively participate in team meetings to improve the collective and personal educational project.
3.3. Mentoring role

Function: personal initiative

3.3.1. Educators foster a sense of initiative and entrepreneurship in their students.

Function: connection with the environment

3.3.2. Educators facilitate their students’ connections with institutions, social agents, organisations and companies by designing learning experiences based on real situations.

3.2. Leadership role

Function: pedagogical leadership

3.2.1. Educators contribute their vision when defining the educational project and the learning space.

3.2.2. Educators lead reflection and methodological innovation in their milieu.

3.2.3. Educators share educational responsibility with the management team of their institution.

Function: empowering leadership

3.2.4. Educators assume the pedagogical leadership to improve teaching and learning processes.

3.2.5. Educators facilitate collaboration and the active participation of all members of their education community.

Function: personal learning environment

3.1.12. Educators have a personal learning environment (people, services and resources) for lifelong professional development.

3.1.13. Educators have a critical attitude to materials and sources of information they consult for their professional development.

3.1.14. Educators collaborate with other educators in creating and managing libraries or shared resource repositories, preferably open source ones.

3.1.15. Educators select quality information for their students, their colleagues and their education community.

3.1.16. Educators actively participate in digital learning networks with other colleagues.
Quality digital education for all