Agenda

ESCUEL∧21

10' Welcome!

10' Digital transformation. Concept and frameworks

30' Important challenges about digital transformation

30' Actives methodologies and digital technologies

10' Metacognition

Why don't we know each other better?

- Our name

- Where do we work and what do we do there?
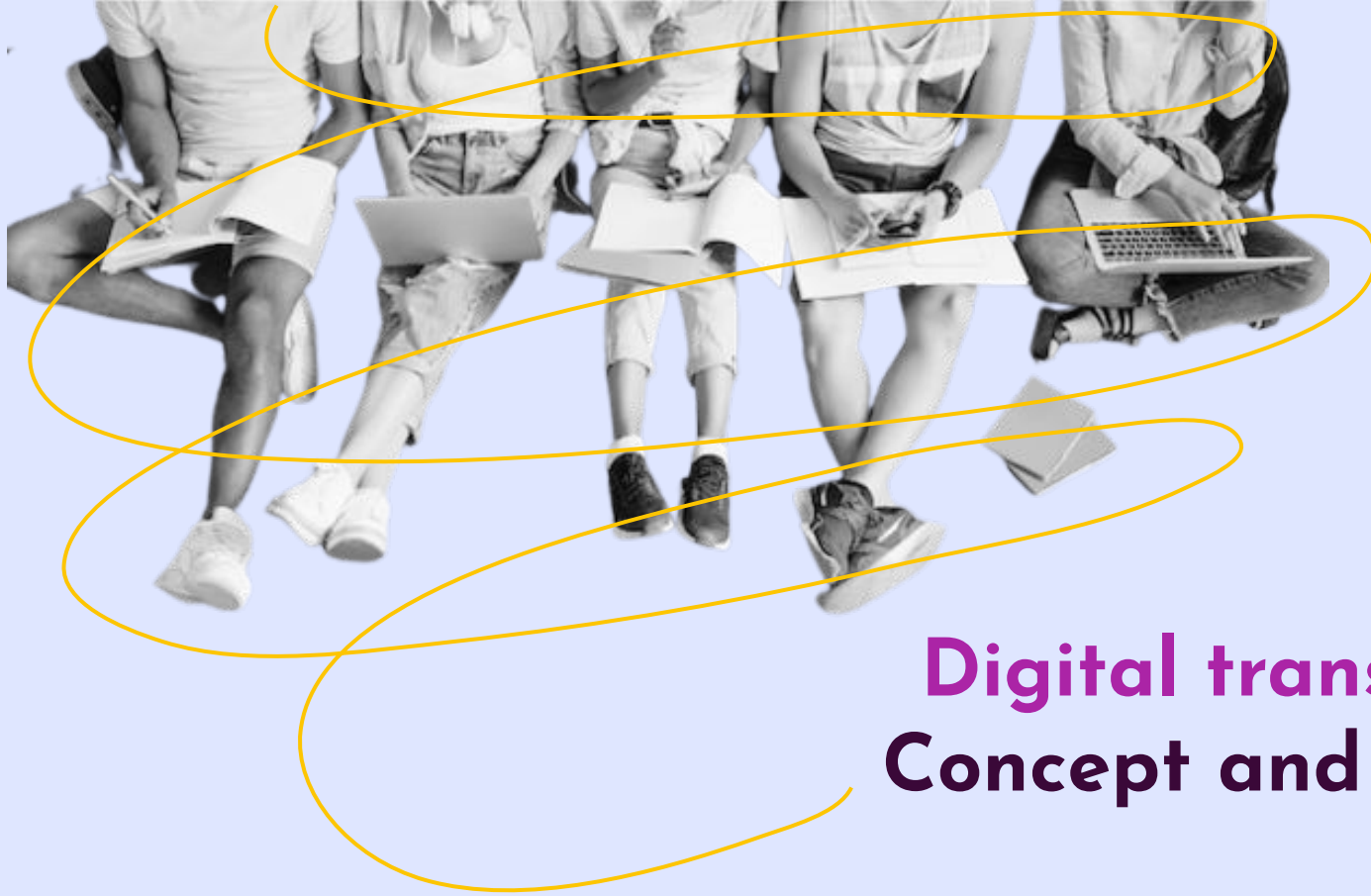
ESCUELA21

Foundations and companies

Governments and administrations

Schools and networks of education centres

Erasmus in Wien

Digital transformation.
Concept and frameworks

Digital transformation

The continuous process by which the integration of digital technologies in learning processes **creates opportunities for students to learn more and better**, contemplating inclusion, equity and personalization.

Digital competence

- **Digital competence** is both an obligation and a right
- There are **three frameworks** that guide us for its development:
 - **Schools**
  - **Citizens**
  - **Teachers**

ESCUELA21

Schools

DigCompOrg Framework

The DigCompOrg framework has **seven key elements** and **15 sub-elements** that are common to all education sectors. There is also scope for the addition of sector-specific elements and sub-elements.

For each of the elements and sub-elements of DigCompOrg, **a number of descriptors** were developed (74 in total). Diagrammatically, the elements, sub-elements and descriptors of DigCompOrg are presented as the segments of a circle, with an emphasis on their inter-relatedness and inter-dependence.

SELFIE is about **learning** for the digital age.

Is NOT about technology
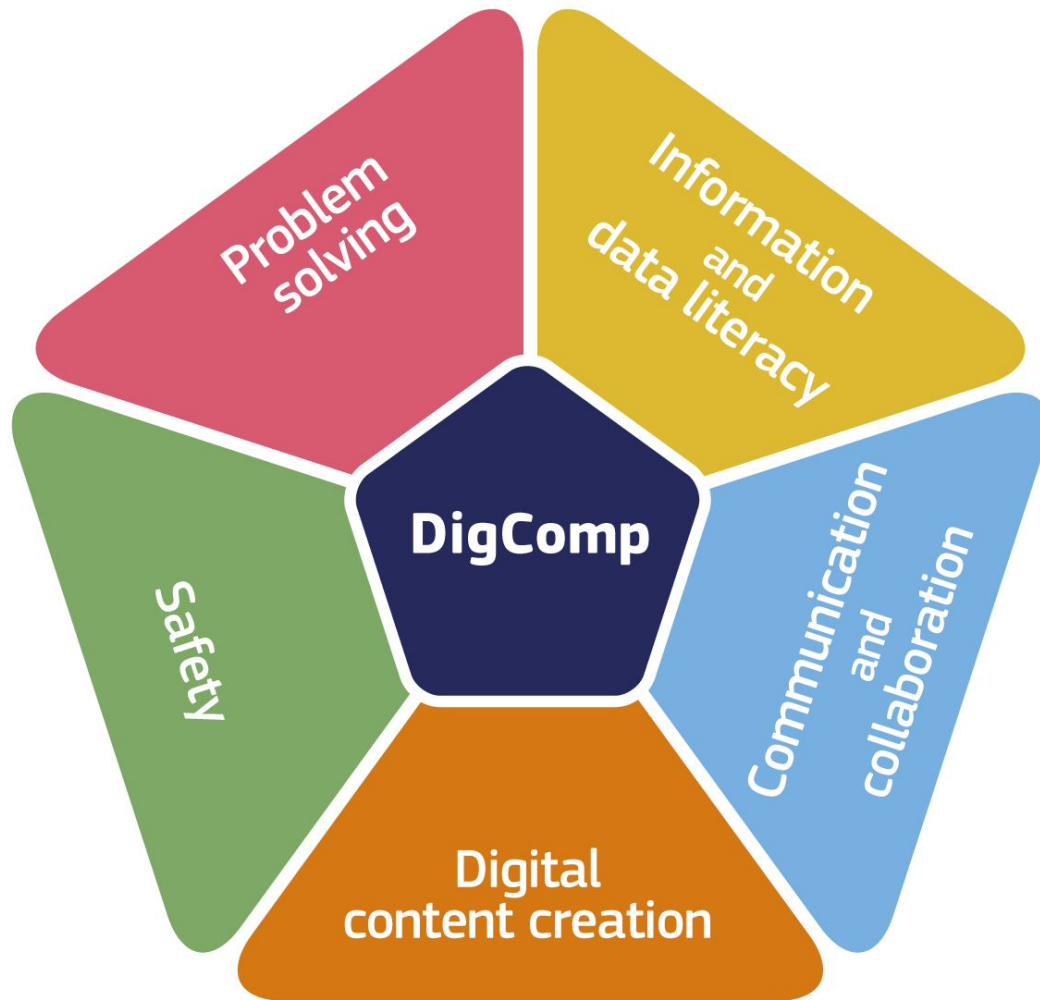
ESCUELA21
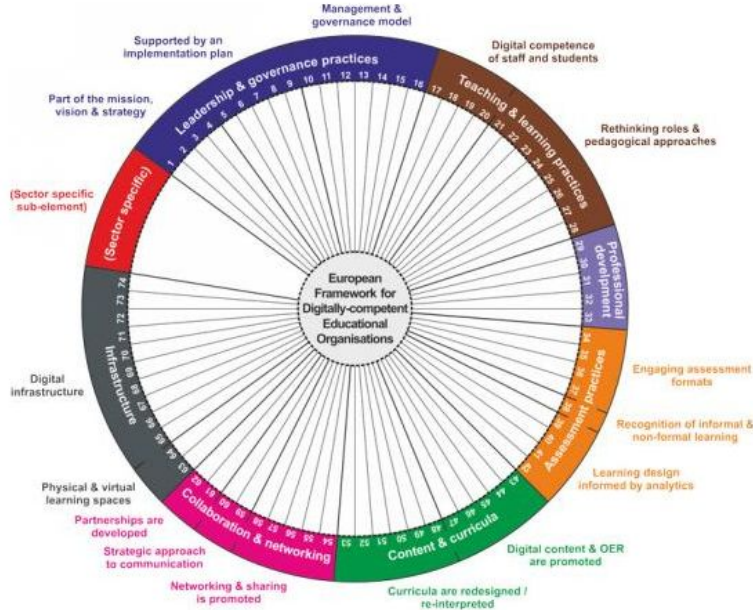
Citizens
(students)

DigComp 2.2

The Digital Competence Framework for Citizens

With new examples of knowledge, skills and attitudes

Riina Vuorikari
Stefano Kluzer
Yves Punie

Joint Research Centre

Information and data literacy

1.1. Browsing, searching and filtering data, information and digital content
1.2. Evaluating data, information and digital content
1.3. Managing data, information and digital content

Communication and collaboration

2.1. Interacting through digital technologies
2.2. Sharing information and content through digital technologies
2.3. Engaging in citizenship through digital technologies
2.4. Collaborating through digital technologies
2.5. Netiquette
2.6. Managing digital identity

Digital content creation

3.1. Developing digital content
3.2. Integrating and re-elaborating digital content
3.3. Copyright and licences
3.4. Programming

Safety

4.1. Protecting devices
4.2. Protecting personal data and privacy
4.3. Protecting health and well-being
4.4. Protecting the environment

Problem solving

5.1. Solving technical problems
5.2. Identifying needs and technological responses
5.3. Creatively using digital technologies
5.4. Identifying digital competence gaps

DIMENSION 1 • **COMPETENCE AREA**

1. INFORMATION AND DATA LITERACY

DIMENSION 2 • **COMPETENCE**

1.1 BROWSING, SEARCHING AND FILTERING DATA, INFORMATION AND DIGITAL CONTENT

To articulate information needs , to search for data, information and content in digital environments, to access them and to navigate between them. To create and update personal search strategies.

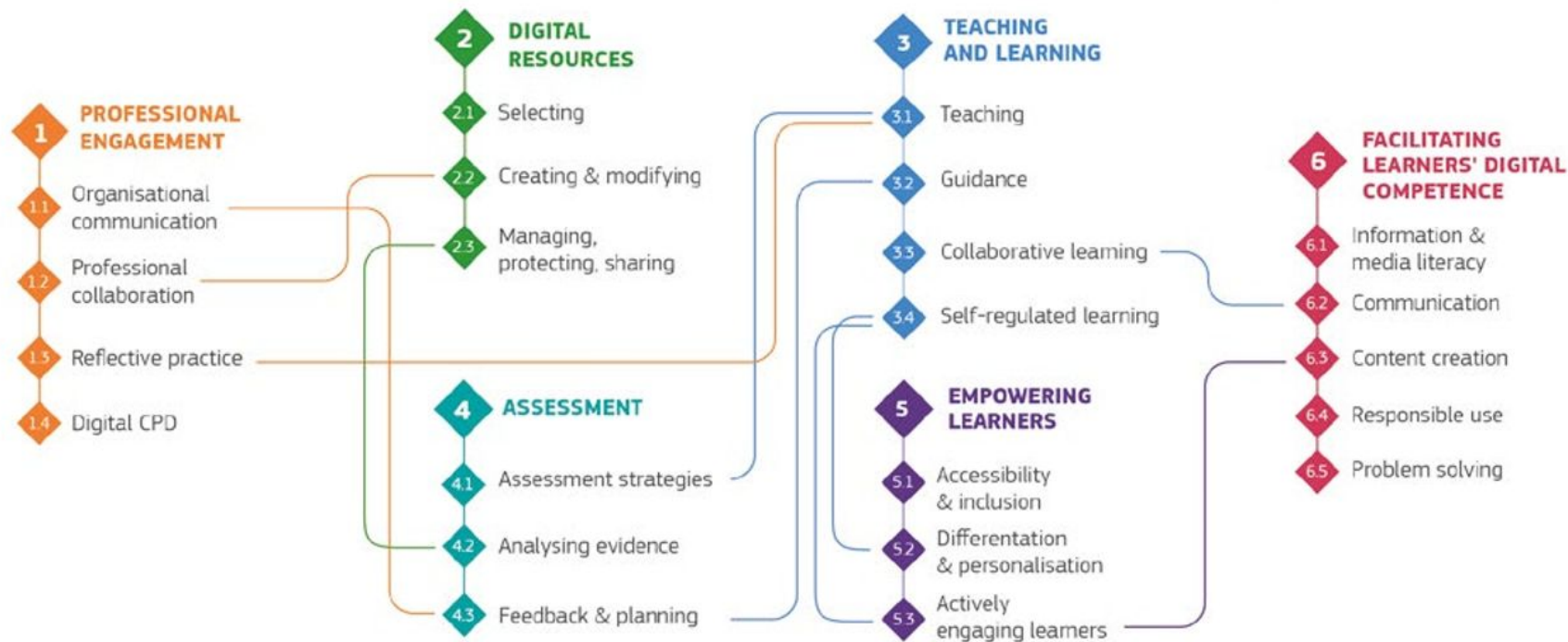|			
FOUNDATION	1	At basic level and with guidance, I can:	• **identify** my information needs, find data, information and content through a **simple** search in digital environments, • **find** how to access these data, information and content and navigate between them, • **identify simple** personal search strategies.
FOUNDATION	2	At basic level and with autonomy and appropriate guidance where needed, I can:	• **identify** my information needs, • **find** data, information and content through a **simple** search in digital environments, • **find** how to access these data, information and content and navigate between them. • **identify simple** personal search strategies.
INTERMEDIATE	3	On my own and solving straightforward problems, I can:	• **explain** my information needs, • **perform well-defined and routine** searches to find data, information and content in digital environments, • **explain** how to access them and navigate between them, • **explain well-defined and routine** personal search strategies.
INTERMEDIATE	4	Independently, according to my own needs, and solving well-defined and non-routine problems, I can:	• **illustrate** information needs, • **organise** the searches of data, information and content in digital environments, • **describe** how to access these data, information and content, and navigate between them, • **organise** personal search strategies.
ADVANCED	5	As well as guiding others, I can:	• **respond** to information needs, • **apply** searches to obtain data, information and content in digital environments, • **show** how to access these data, information and content and navigate between them. • **propose** personal search strategies.
ADVANCED	6	At advanced level, according to my own needs and those of others, and in complex contexts, I can:	• **assess** information needs, • **adapt** my searching strategy to find the **most appropriate** data, information and content in digital environments, • **explain** how to access these **most appropriate** data, information and content and navigate among them, • **vary** personal search strategies.
HIGHLY SPECIALISED	7	At highly specialised level, I can:	• **create solutions to complex problems with limited definition** that are related to browsing, searching and filtering of data, information and digital content, • **integrate** my knowledge **to contribute to professional practice and knowledge and guide others** in browsing, searching and filtering data, information and digital content.
HIGHLY SPECIALISED	8	At the most advanced and specialised level, I can:	• **create solutions to solve complex problems with many interacting factors** that are related to browsing, searching and filtering data, information and digital content. • **propose new** ideas and processes to the field.

Teachers

Educators' professional competences

Educators' pedagogic competences

Learners' competences

1 PROFESSIONAL ENGAGEMENT

1.1 Organisational communication

1.2 Professional collaboration

1.3 Reflective practice

1.4 Digital CPD

2 DIGITAL RESOURCES

2.1 Selecting

2.2 Creating & modifying

2.3 Managing, protecting, sharing

4 ASSESSMENT

4.1 Assessment strategies

4.2 Analysing evidence

4.3 Feedback & planning

3 TEACHING AND LEARNING

3.1 Teaching

3.2 Guidance

3.3 Collaborative learning

3.4 Self-regulated learning

5 EMPOWERING LEARNERS

5.1 Accessibility & inclusion

5.2 Differentation & personalisation

5.3 Actively engaging learners

6 FACILITATING LEARNERS' DIGITAL COMPETENCE

6.1 Information & media literacy

6.2 Communication

6.3 Content creation

6.4 Responsible use

6.5 Problem solving

AWARENESS   **EXPLORATION**   **INTEGRATION**   **EXPERTISE**   **LEADERSHIP**   **INNOVATION**

A1   A2   B1   B2   C1   C2

Curiosity, willingness

Meaningful use, variation

Strategy, diversification

Reflection, sharing

Critique, renewal

ESCUELA21
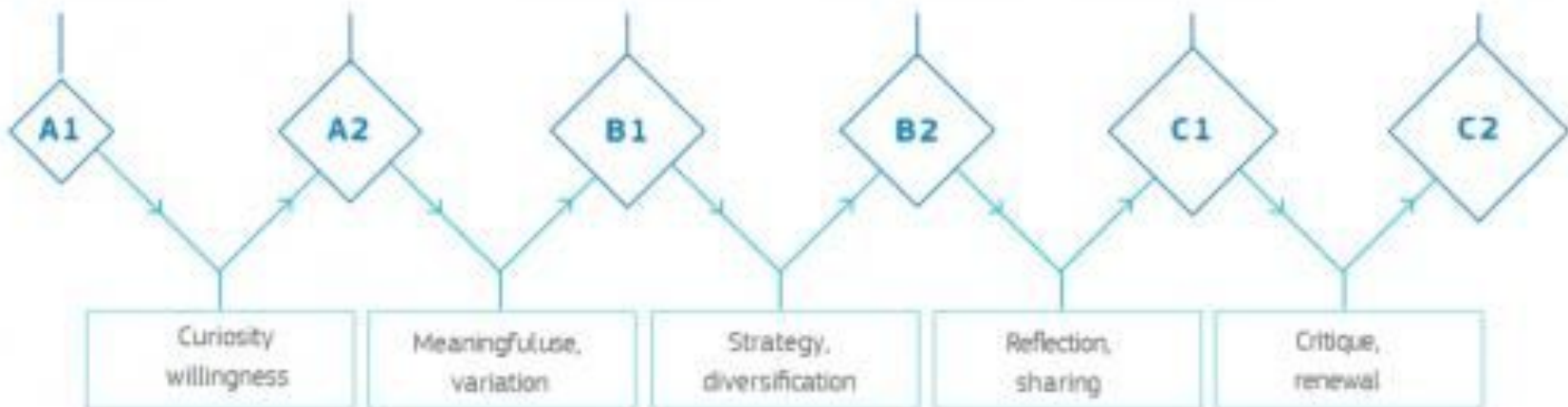
How is it developing in
Spain?

Spain proposal (2021/2024)

01

European Commission

Design the framework

02

Ministerio de Educación y Ciencia
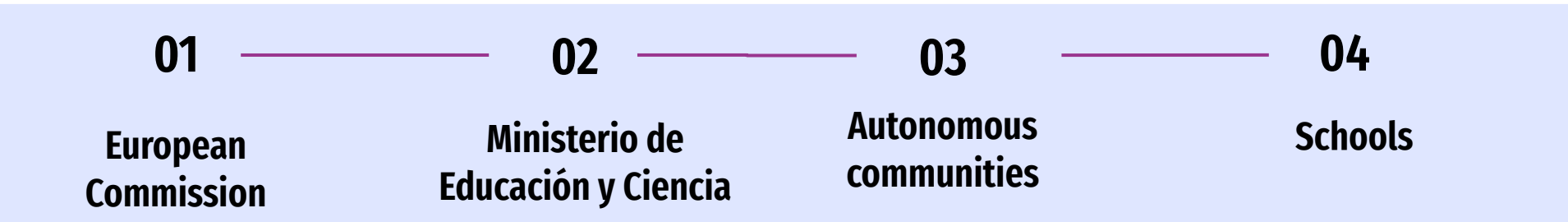
Specifies the framework for the Spanish educational context: MRCDD

80% of the teaching staff must accredit a level in digital competence and the centers have a PDC

03

Autonomous communities

Design training

04

Schools

Design its PDC

Teachers join training plans

MARCO DE REFERENCIA DE LA COMPETENCIA DIGITAL DOCENTE (MRCDD)

COMPETENCIA PROFESIONAL

ÁREA 1 — COMPROMISO PROFESIONAL

1.1. Comunicación organizativa
1.2. Participación, colaboración y coordinación profesional
1.3. Práctica reflexiva
1.4. Desarrollo profesional digital continuo (DPC)
1.5. Protección de datos personales, privacidad, seguridad y bienestar digital

COMPETENCIA PEDAGÓGICA

ÁREA 2 — CONTENIDOS DIGITALES

2.1. Búsqueda y selección de contenidos digitales
2.2. Creación y modificación de contenidos digitales
2.3. Protección, gestión y compartición de contenidos digitales

COMPETENCIA PEDAGÓGICA

ÁREA 3 — ENSEÑANZA Y APRENDIZAJE

3.1. Enseñanza
3.2. Orientación y apoyo en el aprendizaje
3.3. Aprendizaje entre iguales
3.4. Aprendizaje autorregulado

COMPETENCIA PEDAGÓGICA

ÁREA 4 — EVALUACIÓN Y RETROALIMENTACIÓN

4.1. Estrategias de evaluación
4.2. Analíticas y evidencias de aprendizaje
4.3. Retroalimentación y toma de decisiones

COMPETENCIA PEDAGÓGICA

ÁREA 5 — EMPODERAMIENTO DEL ALUMNADO

5.1. Accesibilidad e inclusión
5.2. Atención a las diferencias personales en el aprendizaje
5.3. Compromiso activo del alumnado con su propio aprendizaje

**COMPETENCIA PARA EL DESARROLLO DE LAS COMPETENCIAS DEL ALUMNADO**

ÁREA 6 — DESARROLLO DE LA COMPETENCIA DIGITAL DEL ALUMNADO

6.1. Alfabetización mediática y en tratamiento de la información y de los datos
6.2. Comunicación y colaboración digital
6.3. Creación de contenidos
6.4. Uso responsable y bienestar digital
6.5. Resolución de problemas

ETAPAS Y NIVELES

ACCESO	EXPERIENCIA	INNOVACIÓN
A1 - CONOCIMIENTO	B1 - ADOPCIÓN	C1 - LIDERAZGO
A2 - INICIACIÓN	B2 - ADAPTACIÓN	C2 - TRANSFORMACIÓN

A 21st century teacher must have...
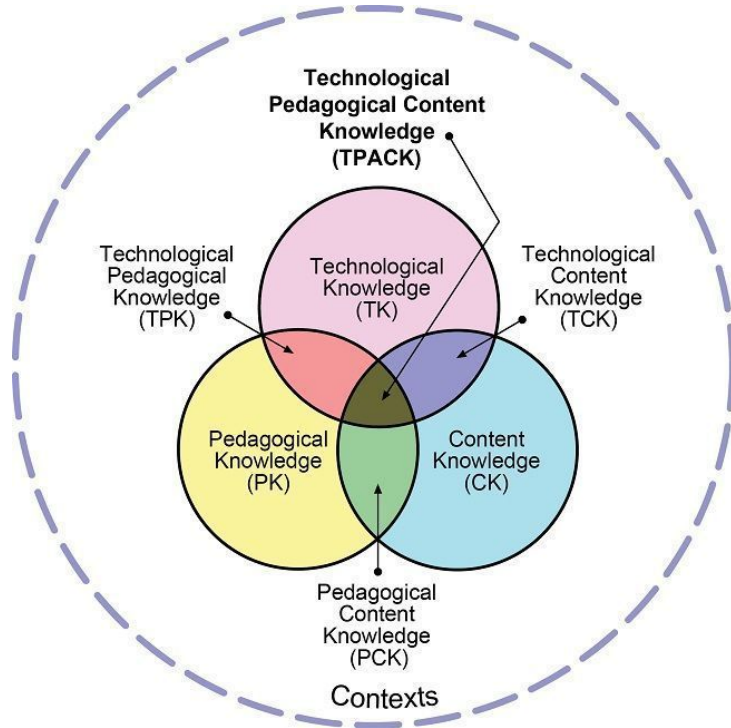
Mishra & Koehler, 2006

Content Knowledge

Pedagogical Knowledge

Technological Knowledge

ESCUELA21

Important challenges about digital transformation

FOAR Analysis... about the digital transformation in your country

Fortalezas/Strengths
in which aspects we excel?

Oportunidades/Opportunities
What are our possibilities in the short and medium term?

Aspiraciones/Aspirations
What do we want to do in the long term?

Resultados/Results
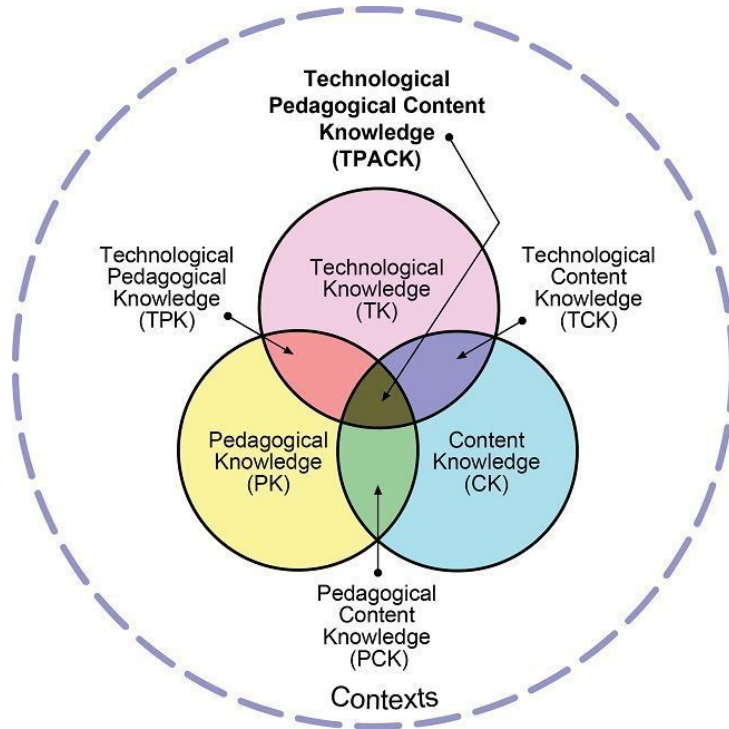How can we measure our progress?

ESCUELA21

What is the biggest challenge in your country regarding the digital transformation of education?

Name of the group here (country)

Your answer here...

ESCUELA21

A 21st century teacher must have...

Technological
Pedagogical Content
Knowledge
(TPACK)

Technological
Pedagogical
Knowledge
(TPK)

Technological
Knowledge
(TK)

Technological
Content
Knowledge
(TCK)

Pedagogical
Knowledge
(PK)

Content
Knowledge
(CK)

Pedagogical
Content
Knowledge
(PCK)

Contexts

Mishra & Koehler, 2006

ESCUELA21

Content Knowledge

Pedagogical Knowledge

Technological Knowledge

ESCUELA21

Active methodologies

Active methodologies:
key aspects
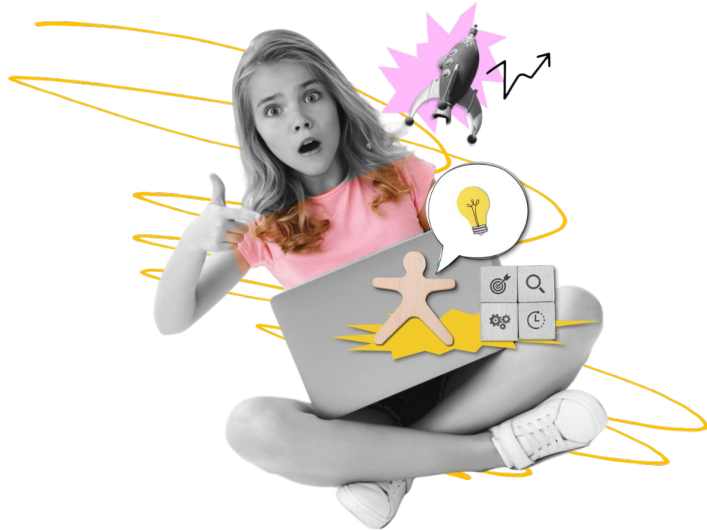
1. **Start from real challenges and powerful questions** (promoting student motivation).

2. **Promote personalized learning** (giving the learner a choice about what to learn, how to learn and when to learn).

3. **Encourage change in traditional roles** (teacher as a guide or facilitator. Students active in the search for solutions).

Change of perspective: from transmitter to facilitator

- **Design and accompany learning processes** that encourage everyone's participation.
- **Helping students** learn from each other.

Active methodologies: key aspects

4. Integrating evaluation as a learning tool along the process.

5. Promoting the culture of thinking.

6. Based on teamwork.

Active methodologies: *examples*

- **Flipped Classroom**
- **Project-based Learning**
- **Service-Learning**
- **Gamification**
- **...**

METODOLOGÍAS ACTIVAS

Ambientes y rincones

Aprendizaje basado en problemas/retos

Aprendizaje basado en Proyectos

Aprendizaje basado en Investigación

Aprendizaje colaborativo

Aprendizaje cooperativo

Aprendizaje y servicio

Comunidades de Aprendizaje

Design Thinking

Escuela de conocimiento KED/STEP

Flipped Classroom

Gamificación

Metacognición Aprendizaje basado en el pensamiento

Portfolio

Unidades integradas

Visual Thinking

Flipped classroom

"Pedagogical model that transfers some learning processes outside the classroom and uses class time to enhance and facilitate other processes of acquisition and practice in the classroom".

theflippedclassroom.es

The Flipped Classroom

DURING

Students practice applying key concepts with feedback

IN CLASS

······· **GOAL** ········· **GOAL** ········· **GOAL**

Students prepare to participate in class activities

BEFORE

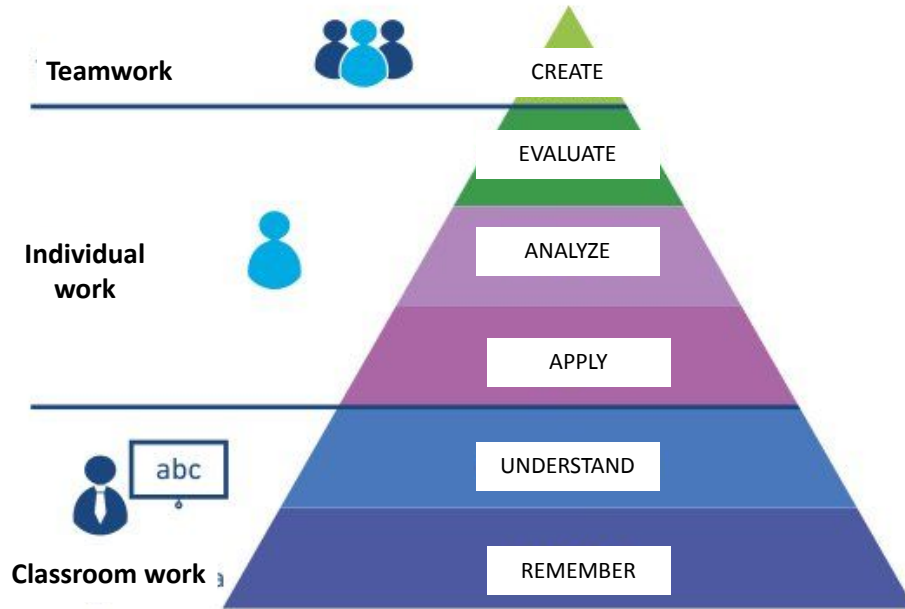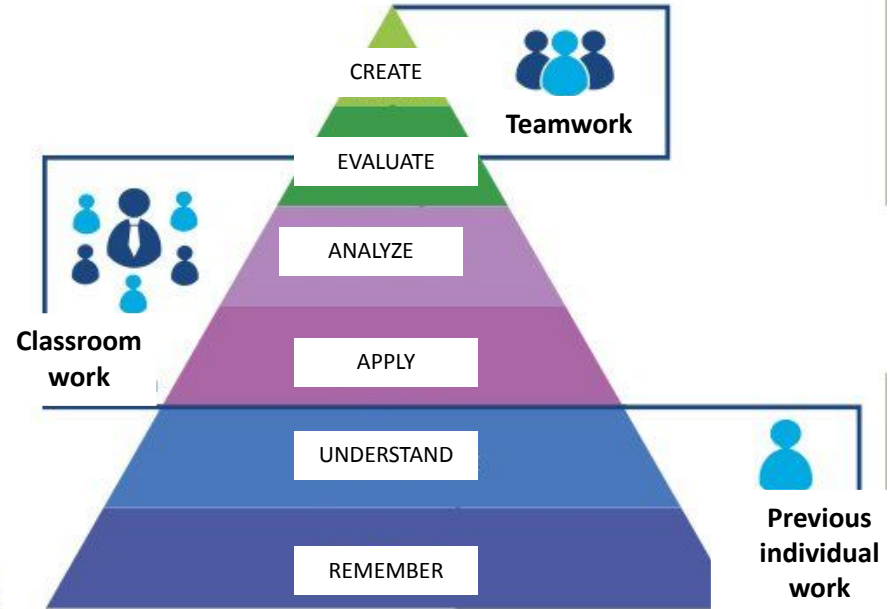Students check their understanding and extend their learning

AFTER

OUT OF CLASS

Fuente de la imagen: https://facultyinnovate.utexas.edu/flipped-classroom

Flipped classroom

Clase tradicional

Teamwork

Individual work

Classroom work

CREATE

EVALUATE

ANALYZE

APPLY

UNDERSTAND

REMEMBER

abc

Flipped classroom

Teamwork

Classroom work

Previous individual work

CREATE

EVALUATE

ANALYZE

APPLY

UNDERSTAND

REMEMBER

aulaplaneta

Flipped classroom: **pillars**

Flexible environment	Students choose where and when they learn
Learning culture	Students actively participate in the construction of knowledge
Targeted content	Teachers pay close attention to the selection and creation of content
Teacher as a facilitator	The teacher does not act as a transmitter of knowledge, but as a facilitator of learning. Designs educational processes and accompanies students in their development.

Flipped classroom: benefits

More time for diversity

It's an opportunity to share knowledge

Content always available

There is collaborative learning in the classroom

Engages family from the start

It's your turn

What active methodologies do you use?

ESCUELA21

www.escuela21.org

Azucena Vázquez

azucena.vazquez@escuela21.org