Internal note FOR partners.

The following pages offer some ideas for teachers we work with about the *Change the Story* pedagogical framework. It gathers from the reflections made so far with some new developments.

The framework exists so that:

- the project essence and goals are clearly identifiable
- we can unpack teachers knowledge as we meet with them or have a conversation with them.
- we can have a conversation with teacher about their activities planning, making sure that the essence of the project is there (i.e. the project's purposes, the journey to empowers students to create stories, the kind of learning we are focusing on, the type of results we establish to achieve and that we are looking forward to assess and evaluate.
- And, finally, with the same lens to look at the processes, we can use a common language to share the details of the planned teaching activities in all participating countries (Austria, Hungary, Italy, Turkey and the UK).

We do not necessarily assume that these documents will be used by teachers in this precise form, though we may sometimes want to refer to them when reviewing work together. Indeed, we welcome teachers adapting them, for example through incorporating elements from this planning framework into their own planning structures but using existing teaching planners will be fine too.

Moreover, we foresee that the pedagogical framework will develop as the project progresses.

Version 1_15/05/2020

A framework for *Change the Story*.

Why a pedagogical framework

A pedagogical framework, which is intended to be an open document to allow integrations during the project implementation, is formulated to develop learning units that embrace the deep essence of the project.

The framework exists so that:

- The project essence and objectives are clearly identifiable.
- Teachers, educators, developers of curriculum can identify what they need in the project in terms of knowledge, skills, competences, tools and how they can contribute to it.
- Teachers, educators, developers of curriculum can unpack the complexity of the project and of their planning when they start to design the learning units they want to trial with students.
- Teachers, educators, developers of curriculum can have collaborative conversations on the project and can share findings between colleagues in all participating countries on a common based and shared starting point (Austria, Hungary, Italy, Turkey, United Kingdom).

The TPACK framework & the Change the story project

The *Change the Story* pedagogical framework gathers from the widely-used framework TPACK (Technology, Pedagogy and Content Knowledge).

The TPACK framework was introduced by Punya Mishra and Matthew J. Koehler of Michigan State University in 2006. With it, they identified three primary forms of knowledge teachers, educators and curriculum experts need to develop for successful edtech integration: Content Knowledge (CK), Pedagogical Knowledge (PK), and Technological Knowledge (TK).

The key points of the TPACK framework we have in mind.

The three primary forms of knowledge are not entirely separate. In fact, the intersections of each are critical because they represent deeper levels of understanding of how to teach.

The center of the diagram, otherwise known as TPACK, represents a full understanding of how to teach with technology, suggesting that this is not the same as having knowledge of each of the three primary concepts individually. Instead, the point of TPACK is to understand how to use technology to teach concepts in a way that enhances student learning experiences.

It implies that the thoughtful pedagogical uses of technology require the development of a complex form of knowledge which can't be the sum of some knowledge of a content, or of a pedagogy and of some nice digital tools we may like to use.

Effective technology integration for pedagogy around specific subject matter requires developing sensitivity to the dynamic relationship between these components of knowledge situated *in unique contexts.*

Individual teachers, grade-level, school-specific factors, demographics, culture, and other factors ensure that every situation is unique, and no single combination of content, technology, and pedagogy will apply for every teacher, every course, or every view of teaching

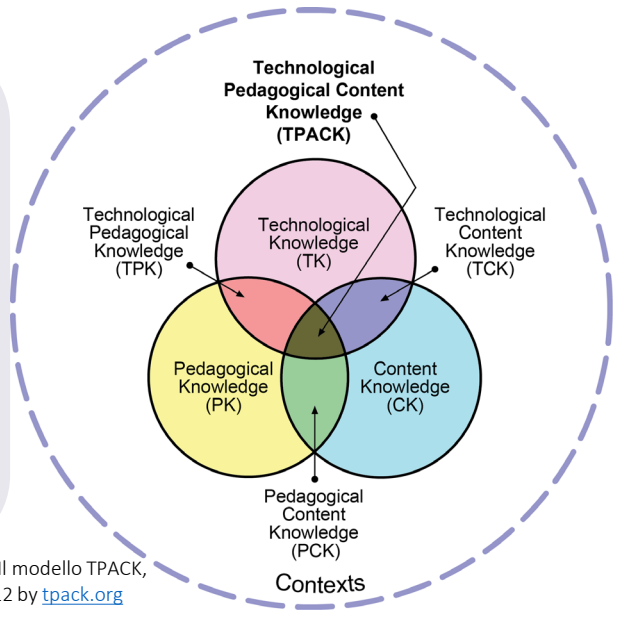

Fig 1. Il modello TPACK,
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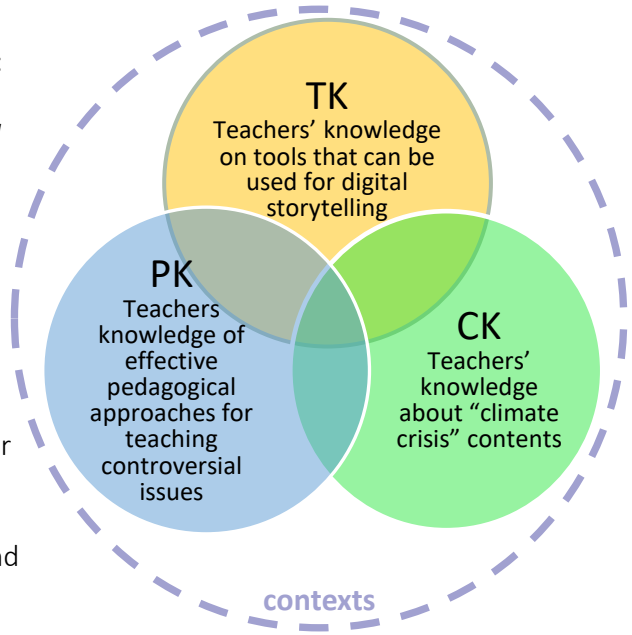
The CtS framework

The assumption we made is to work with the TPACK model to reflect on the competences (or the TPC knowledges) needed for a successful edtech integration in teaching in the particular case of the Change the story project and to apply it in a real case, to catalyse the decisions when designing. In other words, the adapted CtS framework makes a step forward and becomes an action tool to be used to understand how to proceed during the planning of a learning unit, to track the personal journey towards the central intersection. When planning in this such a way, teachers and educators will develop new knowledges and competences.

STEP 1:
The 3 Knowledges - My competencies and starting contexts

In Change the story the outcome is declared: "*to allow students in developing compelling stories addressing climate crisis, using digital technologies to communicate results and inspire others about desired future*".

The adapted CtS framework can help to unpack this outcome and to examine the starting situation in relation to the characteristics of this project, its content (climate crisis), the pedagogical approaches teachers have already experience of in similar context, the kind of (digital) tools they are used to work with, what they may need to understand better the project dimensions and to establish what they wish to develop.



Some guiding questions:

What do I know about the 3 different areas:
- Content: about climate crisis?
- Pedagogy: on teaching about controversial issues?
- Technology: about digital storytelling tools?

Where do I feel more well- versed? What are the areas where I have more experience?

What are the area where I need to deeper my knowledge on?

Which elements from my previous teaching experience I may take in this project for the 3 areas of content, pedagogy and digital tools?

For CONTEXT:

What are the context characteristics I need to consider?

Are there any possible local resources to work with?

Can I work in an interdisciplinary way with some colleagues?

Are there any local changes which have been influenced by the climate crisis I can consider?

Are there any local/global stories which can be examples of the mitigation of climate crisis impact?

What do I know about what my students think, fear, hope regarding the climate crisis?

Do I know what my students know and what are their misconceptions about climate crisis?

Do I know what my students wish to know better about climate crisis?

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STEP 2
Planning: looking for intersections – I develop new knowledges while planning

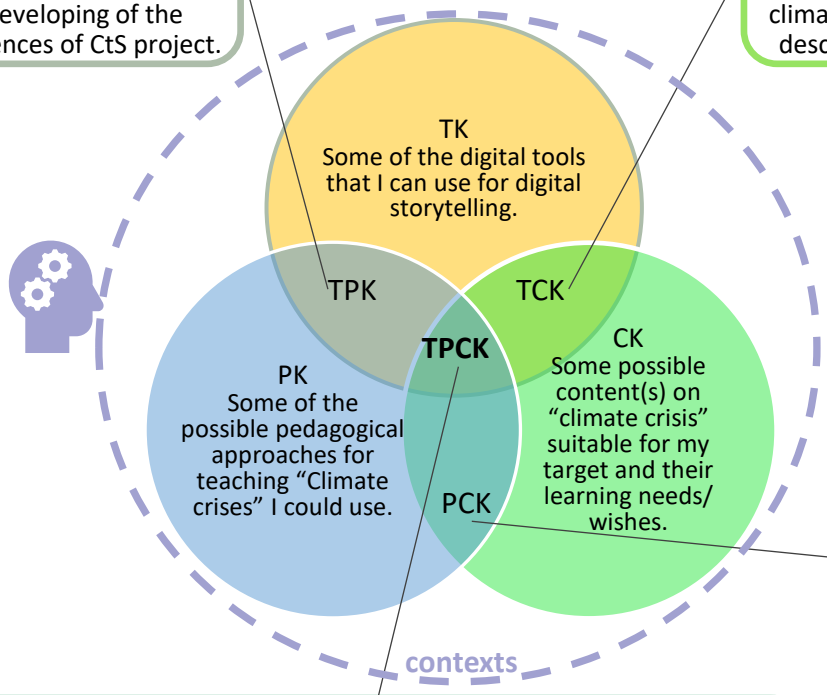
After the analysis of what are the resources and needs in terms of knowledge and context, teachers can move to understand how to design a CtS learning unit.

This means to work with this framework at a different level, using it to help to identify specific contents, digital tools and pedagogical approaches (for a learning unit or a single activity) that works in the intersections.

This framework allows to assist the designing from any of the 3 different area. It encourages to consider right the way the intersections, so to leave behind what was selected but that, in the light of intersection becomes unnecessary or incongruent. On the contrary it encourages to look for and progress with the elements of content, pedagogy, technology and context that suits and make together the difference. The mesh to look through the intersection are the specification and characteristic of the CtS project as described in the Essence of the CtS project.

TPK
I identify which specific digital tools to use to support the learning outcomes and the developing of the competences of CtS project.

TCK
I identify which specific digital tools to use to support the learning on climate crisis issues as it is described in CtS project.



PCK
I identify learning practices that suit my students to teach on complex issues such as the climate crisis which deals with complex socio-scientific, real-world problems.

TPCK
I design an activity (or a cycle of activities or a learning experience) where the digital tool(s) suit the selection of content(s) on climate crisis I want to explore with my students in a way that empowers them:

- connecting learning from different subject around the climate crisis issue;
- developing key competences (especially the digital competences as described in the European Key competences indications);
- developing specific competences declared in the CtS project such as to investigate and research the complex issues of climate crisis, to communicate digital messages to people from different countries and cultures on climate crisis about their findings to inspire others;
- increasing skills in listening and interviewing, researching information and finding out needs of others
- understanding responsibility each one has on complex issues.
- taking action to tackle the climate crisis

The essence of *Change the Story*.

The key purposes to have in mind.

The key purposes are:

1. to make climate crisis education relevant and meaningful;
2. To provide young people with meaningful ways to deal with complex problem solving within a social context, offering them the process to tackle complex, socio-scientific, real-world problems.

The goal: digital stories addressing climate crisis.

The project empowers young people to develop compelling stories addressing climate crisis using digital technologies to communicate the results and inspire others

How. By searching and creating.

Students produce stories addressing climate crisis:

1. sourcing them from local people or context about how the community has changed in ways that can be attributed to or which contribute to climate crisis;
2. sourcing them from local/global projects which help mitigate or adapt to climate crisis;
3. creating new ones to explore possible desired futures and take hopeful action.

Which learning to seek.

- Inquiry-based learning. Developing the competences to investigate and research complex issues.
- Interdisciplinary learning. Connecting learning from different subjects such as history, geography, science and language around a common theme (interdisciplinary learning).
- Empathetic learning. Increasing skills in listening and interviewing, researching information and finding out the needs of others
- Inter-cultural and digital learning. Communicating messages to people from different countries and cultures using digital technology.

Which results to look for, assess and hopefully to contribute to reach

1. Young people with enhanced understanding of how climate crisis affects their community and how they can actively influence it.
2. Young people becoming engaged citizens with an understanding of their roles and responsibilities, and empowered to act.
3. Young people able to understand and present complex narratives in succinct and accessible ways.
4. Young people with an enhanced sense of being a part of Europe and improved inter-cultural skills.
5. Schools with a better understanding of the potential of digital storytelling to address subject content and competences.
6. Improved digital competences of both teachers and pupils.

The planner

This allows teachers and project workers to drill down into the detail of what they are teaching and how, while relating it back to the essence of the CtS project as a whole.

It takes the six over-arching objectives from the project and reaffirms the over-all learning goal and the different type of learning outcomes.

Within this structure, teachers identify tasks that they will deliver against the objectives, how they will be delivered, when, how … and what the intended learning outcomes are. We imagine that elements of this part of the framework will be familiar to most teachers and will therefore be able to be incorporated into planning frameworks that they are already using.

Change the Story goal
Produce a digital story that can be shared with others (define who) and talk about your investigation about climate change

CtS learning objectives.

- Students connect learning from different subject around the climate crisis issue;
- Students develop key competences (especially the digital competences as described in the European Key competences indications);
- Students develop specific competences investigate and research the complex issues of climate crisis, to communicate digital messages to people from different countries and cultures on climate crisis about their findings to inspire others;
- Students develops skills in listening and interviewing, researching information and finding out needs of others
- Students understand responsibility each one has on complex issues.
- Students take action to tackle the climate crisis

Other learning objectives:

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CtS learning Outcomes (LO) definition:

Procedural Learning outcomes:

Societal Learning outcomes:

Conceptual Learning outcomes:

Technical Learning outcomes:

Micro-level Tasks (MLT)	**Necessary resources and tools including people**	**Skills/time required to complete task**	**Planned Activities**	**Intended Learning Outcomes (goals) and how to find out about if they have been reached**
MLT 1.1 *(the numbers refer here also to the meso-level task and micro level as a sub task)*				
MLT 1.2.				
MLT 2.1				
MLT 3.1				

When starting to plan with the planner

Learning outcomes

To define them, consider the different dimensions of climate crisis education and consider the different dimensions of the learning including:

- ***Conceptual learning.*** *This relates to the base concepts of the content such as understanding the difference between climate and weather, or climate crisis and air pollution.*
- ***Procedural learning*** *i.e. the learning of how to such as knowing how to interview other people and listen to their needs or the differences between collect, analyse and communicate information.*
- ***Societal learning*** *i.e. learning of social implication of the climate crisis in relation with the dimension of other people's lives such as considering environmental action that addresses climate crisis in the community or to know how to communicate with people from different countries and cultures.*
- ***Technical learning*** *i.e which technical skills will be developed in learning for example to have the skills to present a concise narrative or to have knowledge about different types of suitable tools.*

Competences

In CtS we are focusing on learning activities that enable pupils to develop competences to carry out research and to investigate issues and to communicate digital messages to people.

Are there any other competences you want to focus on?

The goal

In CtS we are focusing on empowering young people. We are interested to explore pupils' ideas on how they think they work on climate crisis and to give young people the opportunity to explore what they mean and want for mitigate the climate crisis.

In the end we want to listen the voice of pupils and their ideas of future in the story they will narrate

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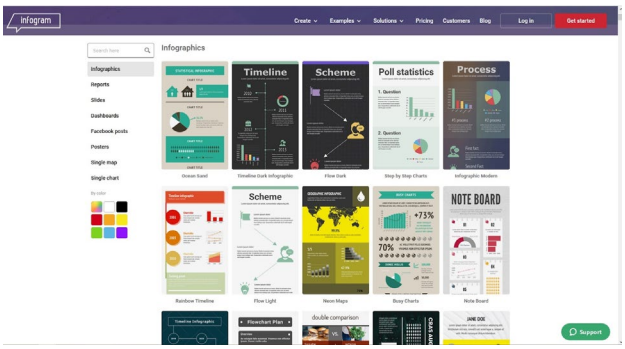
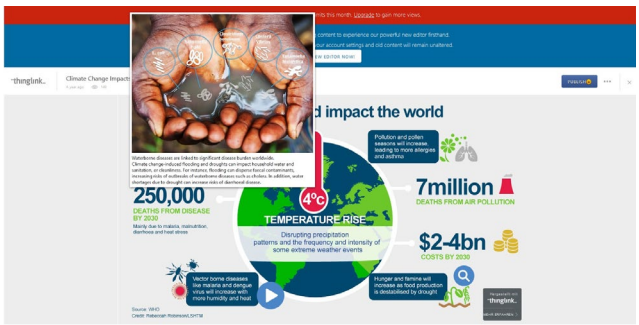
Illustrative examples of the different areas of TPCK specific to our project

Technological Knowledge - what (tools) you use to teach and/or your students can use to learn

- easel.ly or infogram.com → nice websites to produce infographics, timelines, statistics about climate change
- thinglink.com → create interactive pictures, using audio, video, maps or other links on a certain spot on the picture
- kahoot.it: very popular game-based learning platform with multiple-choice quizzes for browser and app. Big collection of open-source quizzes to use for free (climate topics). canvas - create a video quiz. The video stops at certain times to ask the audience questions (similar to kahoot but with video)
- sensory postcards: pictures with sounds, digital ethnographies, creating soundscapes
- flipsnack: convert your PDFs to a magazine, digital publishing platform (similar to issuu.com)
- mentimeter.com: interactive presentation platform; similar to kahoot but with more functions (e.g. wordcloud, scales, Q&A) in a business look





Content Knowledge - what you are teaching

•Why the climate is changing
•Why we are talking about it as “Climate Crisis”
•What is the Greenhouse Effect?
•How does climate change affect the earth?
•How does climate change affect humans?
•What does “Greenwashing” mean and how are companies involved?
•What is plastic pollution? How can we reduce it?
•What can be done to reduce our ecological footprint?
•What is renewable energy and why is it important?

Pedagogical Knowledge - *how you teach*

IBSE - inquiry based learning in science education - a pedagogical approach focusing on students identifying questions they find relevant to investigate

PBL - problem based learning - a pedagogical approach similar to IBSE but with a wider focus than only on solving science questions. In PBL students have to find answers to complex problems that include scientific, technical and societal aspects

Group/peer approaches, for example to discuss (agree/disagree with) statements such as:

- Climate change is affecting people right now.
- Everyone is equally responsible for the climate crisis.
- Everyone will be impacted by climate change in the same way.

Individual activities such as, reading stories about how climate change affects people

Role play to explore vulnerabilities (to find out who is affected the most, consider different parts of the world)

other ideas:

watch videos about climate change (e.g. from "Our Changing Climate" on Youtube)
discuss related topics, such as Greenwashing, plastic pollution, … in expert groups (show pictures, **read articles**, watch videos)
create posters for the school/draw paintings and **organize an exhibition**
do **classroom experiments** showing the Greenhouse Effect: https://blog.advancementcourses.com/classroom-activities/climate-change/
write an article for the local newspaper, write **letters** to businesses or local policy makers & **interview** them

Example of TPCK:

Create a climate crisis wristband see details in the link:

(ideas from Oxfam - Stories of Climate Change)
https://oxfamilibrary.openrepository.com/bitstream/handle/10546/620919/edu-stories-of-climate-change-02122019-en.pdf?sequence=1&isAllowed=y