<div style="text-align:center">

INTELLECTUAL OUTPUT-1 (IO1) REPORT
Review of Digital Learning and Climate Change Education

</div>

1.Purpose of the Research and Methodology

1.1 Purpose of the Research

The overall purpose of this project (*change the story*) is to empower young people to create compelling and inspiring stories related to climate change by using digital tools. This project includes three main dimensions which are climate change education, digital learning and citizenship (community engagement). Based on these main dimensions, the project learning activities focuses on four broad phases on learning:

- Understanding the past; collecting stories from elders in the community to understand how climate change have affected their communities.
- Exploring action today; meeting community member who take action today and collecting their stories.
- Creating stories for tomorrow; creating new compelling stories for addressing climate change by using digital technology and share these stories with partner countries
- Active citizenship; promoting and encouraging actions with the community to address climate change.

With regards to these learning phases, the purpose of the IO1 is to evaluate current situation of our pilot schools regarding digital learning, citizenship and climate change education and also determine characteristics of a successful change the story project. This output has two main tasks that need to be completed:

- Research into barriers and opportunities for change the story (creating dynamic learning agenda to determine challenges that project might face)
- Success criteria for change the story (Identifying key criteria for compelling climate change stories leading to action)

1.2 Methodology

In this project, a qualitative research methodology was adopted to evaluate current situation of the pilot schools. Each country decided to work three pilot schools. We prepared a guideline to conduct and complete research with pilot schools. This guideline is that:

- Organizing a meeting with at least three pilot schools in each country
- Conducting interviews with teachers in three pilot schools

- Reporting findings to AICU after translating them into English
- Data analysis
- Reporting and sharing the results
- Creating dynamic learning agenda based on the results
- Determining a list of success criteria
- Sharing and getting feedbacks on dynamic learning agenda and success criteria
- Revising dynamic learning agenda and success criteria
- Writing the report

In order to evaluate current situation in the pilot schools, an interview protocol was prepared (see Annex-1). Interview questions were developed based on the three dimensions which are digital learning, teaching climate change and citizenship. Interview questions were examined and reviewed by the project partners. Each partner country conducted interviews with teachers in their pilot schools. Hungary, Turkey and UK completed their research and sent their results to AICU. Italy and Austria will complete their research later.

Turkey and Hungary carried out interviews with three teachers in three schools and UK carried out interviews with four teachers in four pilot schools. Qualitative data collected by each country was sent to AICU (Turkey). We analysed each data to explore the current situation of the schools. Based on these results and comments of the partners, we created a draft dynamic learning agenda and success criteria. This draft dynamic learning agenda and success criteria will be reviewed and finalized through the project.

2. Results

Interview Results from Turkey

Three science teachers from three schools participated in the interviews in Turkey. Turkish teachers described which digital learning tools they have and use in their schools. Based on the responses, each school has computer, smart boards and printer and they also have internet connection that is medium or fast. None of the schools include video recording equipment, video camera and tablet. If they need camera equipment, they are using their cell phones. Teachers were asked which digital tools they are using and whether or not they feel confident in teaching with digital tools. Teachers mentioned that they mostly use youtube, email, Ms word and powerpoint in their courses. Except one teacher, two teachers described that they feel confident to use digital tools in their teaching. However, each teacher mentioned that they need more training to develop their digital learning and teaching skills.

In terms of climate change education, two teachers mentioned that they feel confident to teach climate change and they sometimes use digital tools in their climate change lessonz. One teacher described that she doesn't feel very much confident to teach climate change but, she is willing to learn to use digital tools in her lessons. Teachers also described that students have misconceptions about climate change as they live in one of the coldest cities of Turkey, they sometimes don't see climate change as a problem. Lastly, teachers were asked about the cooperation between their school and community. They mentioned that they don't have too much cooperation with the local community therefore, they need to develop this cooperation. Detailed results from Turkey is presented in Annex-2.

Interview Results from Hungary

In Hungary three teachers in three schools attended in the interviews. Teachers' majors were biology and geography. According to teachers' responses, each school has their own computer, smart board, tablet and printer. The schools' internet connect is between medium or fast. When teachers were asked which digital tools they are using in their teaching, they described that they mostly use social media, email, video, smart board, Ms word-excel-power point, graphics, animation and video editing. They all feel confident to use digital tools in their lessons.

With regards to climate change education, Hungarian teachers feel confident to teach climate change and they sometimes use digital tools in their climate change lessons such as videos, documentaries, powerpoint and pictures. Teachers also described that it is hard to understand impact of climate change for pupils. They told that pupils live difficulty to understand interconnections between climate change and the impact on their life. In terms of citizenship, teachers mentioned that they work with municipality and local environmental authority and they have several local environmental projects. Schools in Hungary take more actions to be a greener school. Data from Hungary is presented in Annex-2.

Interview Results from UK

In UK four teachers from four schools participated in the interviews. Teachers' major are global citizenship, head teacher, primary education specializing in math and geography/history. According to teachers' responses, each school has computers, tablets, smart boards, printer and projector. The schools' internet connection is medium or fast. Teachers from UK mentioned that they mostly use email, sharing video and files, smart board, Ms word-power point and sometimes video editing programs in their teaching. Two of them feel confident to use digital tools in their lessons but two of them don't feel confident. They are all willing to develop their digital learning and teaching skills.

In terms of climate change education, teachers described that they are interested but, they don't much feel confident in teaching climate change. They use real life examples and sometimes videos in their climate change lessons. Teachers also mentioned that schools involve in some small, local projects such as local village visits, field trips and recycling projects. Detailed information about UK data is presented in Annex-2.

General Outcomes

According to responses of teachers from three countries, below figures and tables show digital tools mostly used by teachers, confidence level of teachers in using digital tools, confidence level in teaching climate change and teaching strategies used by teachers in climate change lessons.
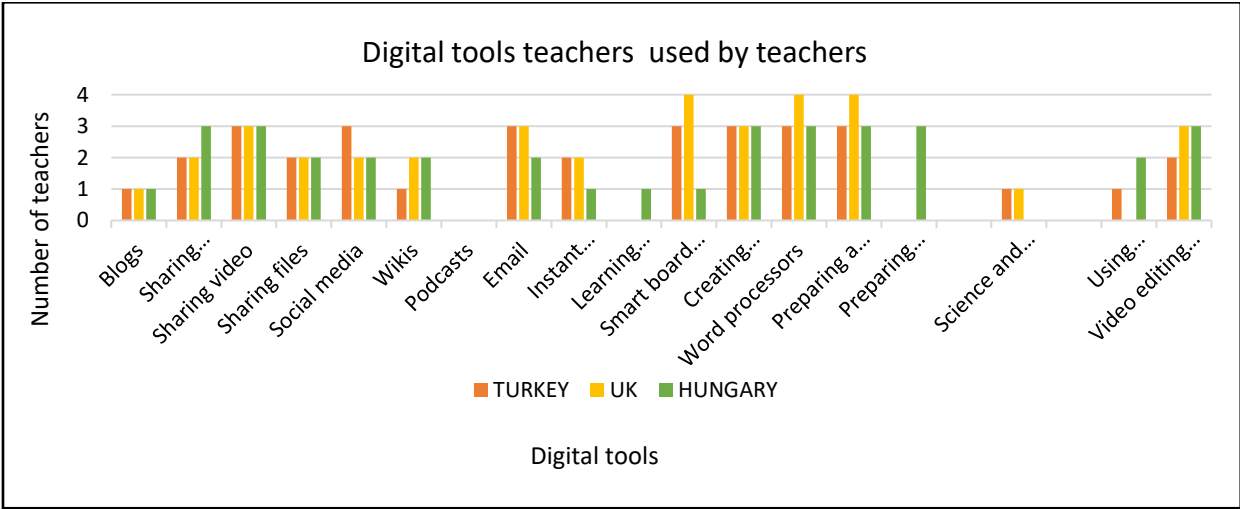

Figure-1. Digital tools used by teachers in three countries

Table-1. Digital tools frequently and infrequently used by teachers in three countries

| Frequently used digital tools	Infrequently used digital tools
Sharing Photos	Blogs
Sharing videos	Wikis
Sharing file	Podcasts
Social media	Instant messaging
E-mail	Learning management systems
MS Word, excel and powerpoint	Smart board
Video editing programs	Preparing graphics and animations
	Science and technology experiment simulation software
	Using technology to evaluate students
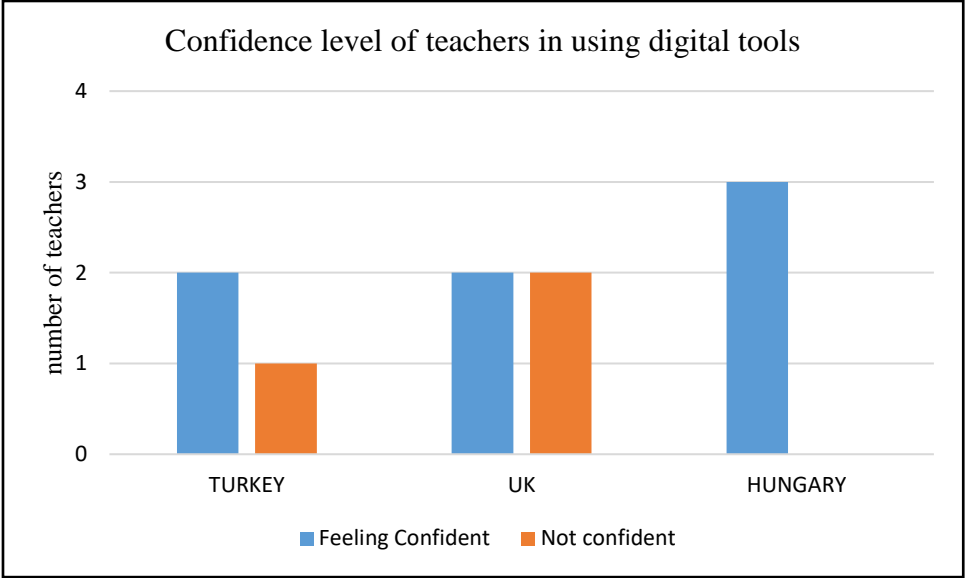
Figure-2. Confidence level of teachers in using digital tools in their lessons
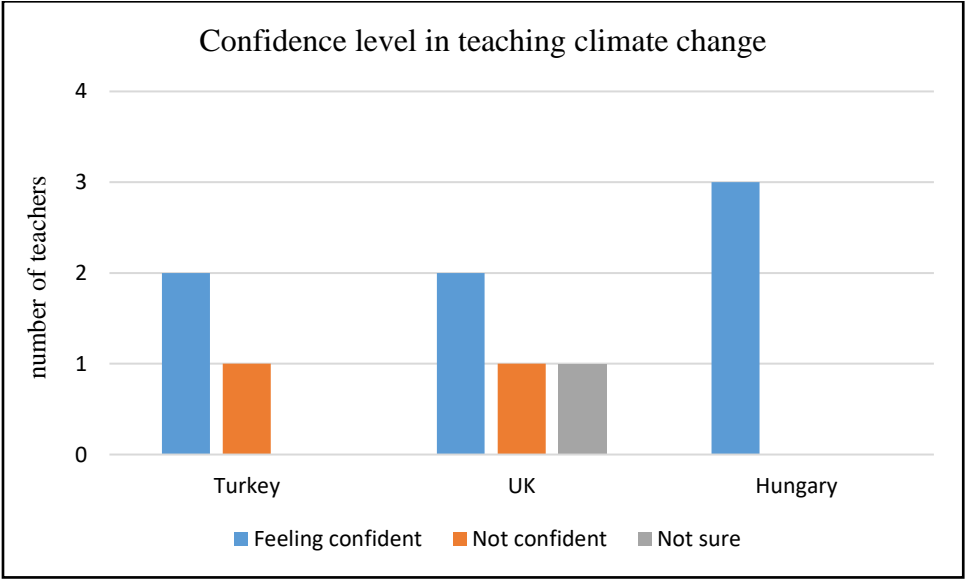

Figure-3. Confidence level of teachers in teaching climate change

Table-2. Teaching strategies used by teachers in their climate change lessons.

Teaching strategies	Turkey	UK	Hungary
	Direct teaching Discussion Videos and Documentaries	Videos Modelling and Questioning Experiments Real life examples	Group work Using digital tools Project based teaching Direct teaching Videos and documentaries

2.1 Dynamic Learning Agenda

The dynamic learning agenda is described as a tool which enables to formulate, record and keep track of the challenges. This tool is very useful to monitor the challenges in a project (Van Mierlo et al., 2010). A dynamic learning agenda is created to follow the current strengths and challenges of our project. It represents strengths and challenges arises in the project and enables keeping the record of them.

According to data we gathered from the schools in Turkey, England, and Hungary we identified the challenges and strengths. Then in our first partner meeting in Austria we revised our analysis based on the feedbacks and comments of the partners. We prepared a draft dynamic learning agenda presented in Table-3. We classified the strengths and weaknesses under three categories; (1) outside our control, (2) we can influence but not control and (3) within our control. The category of outside our control stands for strengths and challenges which are not under our control and we have not a control on. The second category of we can influence but not control refers to challenges and strengths that we can have some effect over the issue but we cannot control the issue. The last one is within our control which refers we have control over the issue. All these three categories cover challenges and strengths related to schools and learning resources, pupils and teachers. This agenda is dynamic because we will update all strengths and weaknesses throughout the project. There may arise new challenges and strengths or some of strengths and challenges may disappear later in the project. Therefore, we will keep the dynamic learning agenda updated and record the changes and developments.

Table-3. The challenges that project might face at a certain moment

OUTSIDE OUR CONTROL	WE CAN INFLUENCE BUT NOT CONTROL	WITHIN OUR CONTROL
Schools and Learning Resources: • Schools are closed due to COVID-19 • The schools are in town (Hu) • All schools have the needed technology (It) • The new national curriculum (Hu) • Some good resources already exist (UK) • Lack of digital tools (Hu) • Medium or slow internet connection in some schools (TR) • Lack of time to fit into curriculum (Hu) • Staff changes (UK)	**Schools and Learning Resources:** • Headteachers' attitudes toward climate change and digital teaching/learning can be getting more positive (e.g.,due to COVID-19, use of digital tools is an obligation nowadays) • Change at local government may have better contacts with them (Hu) • There is sensibility to the climate change issue (It) • How to integrate IT into teaching (It) • Climate change is theoretical – it's difficult to find local situations where to experience it (It) • Not enough best practices of interception between technology and content (It) • limited projects about CC (TR) • Climate change impacts are more visible (UK) • Increased media reporting (UK) • Lack of educational resources (It) • Crowded curriculum (UK) • Climate change is not an educational priority (UK • Schools say 'no' in the middle of the project (Hu) • limited cooperation between school and society (TR)	**Schools and Learning Resources:** • Are there easy/positive climate change stories to be told? (It) • Multi-subject support – not only science (UK)
	Pupils:	**Pupils:**

	• No interest in climate change from students (Hu) • Students might see climate change as a good thing for their environment (misbelief about CC) (TR)	• Improving students' local and global awareness about CC (TR) • Students can strengthen each other (Hu) • Teachers keen and supportive (UK)
Teachers • Teachers are very busy (UK)	**Teachers** • Support from head teachers (UK) • Diversity of teachers' profession and experience (TR) • Emerging teacher networks around climate change education (UK) • Traditional EE (UK) • Enthusiastic teachers (Hu) • Teachers want innovation (UK) • Teachers' willingness to learn and use more digital tools in their classes (TR) • Teachers' willingness to develop their abilities to teach CC (TR) • Teachers don't use advanced digital tools in their teaching	**Teachers:** • Improving teachers' abilities for using digital tools (TR) • Increasing teachers' understanding of CC and decreasing misbeliefs about CC (TR)
Global problems • Social collapse due to climate change (UK) • Political hostility to climate change (UK)		

2.2 Success Criteria

In order to deliver "Change the Story" project successfully, we need to identify success criteria. While deciding on the criteria, we focused on the main objectives and theoretical framework of the project. The main objective is to empower young people to develop compelling stories addressing climate change, using digital technologies to communicate their results and inspire others to take action. In order to accomplish this objective, as a theoretical framework, we use technological pedagogical content knowledge (TPACK) theory (Koehler & Mishra, 2007). All partners discussed the criteria in our first meeting in Austria. Then, we studied on the criteria and classified them as essential and desirable criteria. Essential criteria are the crucial ones which show the learning resources, digital tools and training we develop worked successfully. Our primary focus will be on essential criteria for the success of the project. Desirable criteria are our secondary focus, which are not fundamental but desirable to success. Finally, we created Table-4 which shows essential and desirable success criteria for "Change the Story" project. We will continue working on updating success criteria during the project.

Table-2. Success criteria that are essential and desirable in our project

ESSENTIAL CRITERIA	DESIRABLE CRITERIA
Teachers	**Teachers**
• Teachers are able to guide and support pupils to use appropriate digital tools. (TK)	• Teachers are able to transform teaching and learning a specific content about climate change (PCK)
• Teachers' technology knowledge (TK) should be developed (digital tools that can be used for digital storytelling)	• Teachers are able to select appropriate content for climate change at a certain level of class. (CK)
• Teachers' confidence in using digital tools should be increased.	• Teachers are able to use active learning strategies (real world context, hands on activities, inquiry based and problem solving strategies)
• Teachers are able to select appropriate pedagogical approaches for climate change teaching (PK)	

• Teachers are able to develop their competences to choose and use appropriate digital tool(s) that suit selected content of the climate change (TPCK)	
Pupils	**Pupils**
• Pupils' awareness about reasons and consequences of climate change should be increased	• Pupils should develop empathy for the environment through storytelling
• Pupils should be aware of the strategies for mitigating climate change	• Pupils should be encouraged to use digital tools safely and responsibly
• Pupils should be encouraged to work collaboratively by creating digital stories. (group work)	• Pupils are able to improve their actions decreasing the effects of climate change.
• Pupils are able to prepare digital content and express themselves through digital means	• Pupils should integrate scientific and other (e.g., indigenous) evidences into their climate change stories.
	• Pupils' confidence to take part in action should be increased.
	• Pupils' ability to communicate effectively with a range of target groups and communities should be developed
Stakeholders	**Stakeholders**
• Others from the community should be involved in the digital story telling activities	• The cooperation between school and society should be fostered
• Pupils' stories should inspire others through the local media, social media..	
Learning Resources	**Learning Resources**
• Learning activities should apply privacy and copyright rules	• Stories should tell about a change for mitigating and adapting to climate change
• The sharing of stories should encourage dialogue between pupils in different countries	• Some digital tools should be downloadable offline (as internet access is slow in some schools)
• Learning activities should lead to hope and encourage pupils to take action.	
• Stories should include cases from local to global	
• Learning activities has to increase pupils' and teachers' confidence in climate change and digital technology	
• Learning activities should welcome teachers from different expertise and content teaching – multidisciplinary	

Annex

1. **Interview Questions**

TEACHERS' VIEWS ON DIGITAL LEARNING, CLIMATE CHANGE AND CITIZENSHIP

This survey can be used in different ways:

1. You can send to teachers asking them to complete and return to you.
2. Meet with teachers individually and fill in the questionnaire on their behalf during your meeting.
3. Meet with a focus group of teachers and fill in the questionnaire on their behalf during your meeting.

You can also use secondary data to add value to the responses and provide additional data.

Dear Teacher
Thank you for accepting to cooperate with us in this project. The aim of this project is to empower young people to develop compelling stories addressing climate change, using digital technologies to communicate their results and inspire others to take action. These stories will be sourced from local communities about how the community has changed in ways that can contribute to climate change, stories of local projects which help mitigate and adap to climate change and critically new stories that are created by young people to explore desired futures and take action.

Now, we would like to ask your some questions in order to understand how how climate change is currently delivered and particular challenges teachers face, resources your school has for digital learning and good contacts with community groups and how easy it is for your school to work with the local community. We will be happy for your coopearation.

1. What is your major of teaching?............................
2. How long have you been teaching?........................
3. What is your level of education?............................
4. Name of the school you are working now (City and Country)........................

1. **Digital Learning**

a. The current situation in each pilot school regarding digital equipment and connectivity
(This part can be asked to the school principal not all teachers- You can ask this question here:
Do you permit pupils to bring their own mobile phones in to school and use within some lessons)

	Available (specify the approximate number)	Not available	Not sure
Laptop or desktop computers for pupil use			
Tablets			
Smart boards / Interactive White Boards			
Projectors			
Printers			
Video cameras			
Audio recording equipment			

Computer room			
Others (anything that can digitise information, i.e. digital microscope, video cameras, audio recorders, photo cameras…)			

b. Do teachers in your school have access to laptop/desktop computers for their own use?

c. How would you describe the speed of your internet access at your school (please circle one of the below and give any additional information you have):

Fast	Slow	Medium

Additional Information:

d.Please indicate how often you use the following digital tools in preparing for and during lessons.
If you are able to note the specific tools you use, please note them in the final column
(These questions are only about getting information whether teachers use any digital tools in their teaching. This part will be asked to the teachers during the face to face interview. While teacher is answering the questions, we can fill this table and ask additional questions if needed. We can ask teacher when she/he use these tools while preparing or during the class and we can take notes about this)

	Never	Rarely	Seldom	Frequently	Always	I don't know about this technology	Tools used (please write the name of the tools)
Blogs (e.g., Wordpress, Blogger)							
Sharing photographs (e.g., Flickr, Google Pictures).							
Sharing video (eg, Youtube)							
Sharing files (e.g., GoogleDrive, Dropbox)							
Social media (e.g., Twitter, Facebook).							
Wikis (e.g., wikipedia).							
Podcasts							
Email							
Instant messaging (e.g., WhatsApp, Snapchat)							

Learning management systems (e.g.Moodle, Edmodo)							
Smart board software							
Creating spreadsheets and using data (MS Excel etc.)							
Word processors (e.g., MS Word)							
Preparing a presentation (MS Powerpoint etc.)							
Preparing graphics and animations (Adobe Flash, Powtoon,etc.)							
Science and technology experiment simulation software							
Using technology to evaluate students (Socrative, Kahoot-it, etc.)							
Video editing programs (Windows Movie Maker, EDIUS, etc.)							

e. Using Digital Tools in Education
1. Do you feel confident for using digital tools in education? Why or why not? Which tools or programmes do you use?

2. Have you ever taken any pre-servie or in-service training / seminars on using digital tools in education? How did this training contribute to your teaching?

2.Teaching Climate Change Questions
(These questions are about understanding how teachers teach climate change, what challenges they face and which digital tools they use)
1. What are the topics of CC in the/your curriculum? (asking about the topics related to climate change in the curriculum). What are the objectives for CC?
2. Do you feel confident for teaching CC in your class? Why / Why not? Are there any areas in which you would like more support?

3. How do you teach CC in your class? What teaching strategies are you using? What is the best way for your students to learn about climate change?

4. What do you think are the barriers to effective teaching and learning about CC?

4. Do you use any digital tools (videos, power point presentations, website, games etc.) to teach about CC? How do you use these digital tools to teach about CC?

5. What kind of topics related to CC can be difficult to teach your students? Do you think that climate change topics involve some misconceptions? If so, what are they? How do you deal with them?

6. Do you feel worried about the consequences of climate change? Can you explain a bit your feelings about this topic?

2. Citizenship Questions
(These questions are about understanding the schools' contacts with the local community)
1. Does your school carry out any community focused projects if so, do they involve NGOs, ministry of national education, municipality, university, science centers or other stakeholders etc.? If not, what are the barriers/challenges for your school to involve community focused projects and activities?
2. If so, what kind of community projects is your school involved in?
3. Does your school engage in community based activities – if so what kind? (field trips, projects, exhibitions etc.) (you can ask community focused projects, activities related to CC, as well)
4. Do you find opportunities to connect your teaching of CC to local places ? If so, do you provide examples from the local environment in your class? (eg., natural characteristics of your city, cultural and socio-economic properties).
5. Do your school do any specific actions to be a greener school? Please explain

2. Tables

AĞRI/TURKEY	SCHOOL-1	SCHOOL-2	SCHOOL-3
DEMOGRAPHIC INFORMATION			
Major	Science Teacher	Science Teacher	Science Teacher
Working Years	6-10 years	11-15 years	1-5 years
Level of Education	Master of Science	PhD. on going	Bachelor
DIGITAL LEARNING RESOURCES			
Digital Tools in the Schools	Computer: 30 (computer class) Tablet: X Smartboards: 20 Projector: 1 Printer: 4 Video Camera: X Audio Recording Equipment: X Other tools: Microscope- 3 Computer for teachers use: 1 Internet Connection: Slow (no internet in the classes)	Computer: 30 (computer class) Tablet: X Smartboards: 23 Projector: X Printer: 4 Video Camera: X Audio Recording Equipment: X Other tools: Microscope Internet Connection: Medium Computer for teachers use: 1	Computer: 29 (computer class) Table: X Smartboards: 21 Printer: 5 Video Camera: X Audio Recording Equipment: X Computer for teachers use: 1 Internet: Fast
Digital Tools used by the teachers (only tools used by the teacher)	Sharing video (you tube) Social media Email Smartboards MS Word and powerpoint	Sharing video-photos (Google image, yandex, youtube) Social media Google drive MS word, powerpoint Kahoot DaVinci Resolve	Blog Sharing video-photo Google drive Social media Email, whatsup Smartboard Word, powerpoint
Using Digital Tools in Education	Not feel confident No training about digital learning	Feel confident Loving to use digital tools in the class and willing to learn new tools. training about photoshop program	Feel confident and use digital tools in the lessons (mostly used ppt, word, youtube, facebook, twitter, gmail, Google drive Not enough training about digital learning
CLIMATE CHANGE EDUCATION			
Climate Change in the Curriculum	8th grade- global warming unit in science curriculum 5,6,7th grades- there are some learning objetives in science curriculum	Similar answers (science education curriculum)	5th and 8th grade science lessons

Teaching Climate Change (Confidence level, tools, strategies used)	Not very much confident Direct teaching and discussion based strategies in the class Not using digital tools. Willing to learn to use technological tools to teach CC	Feel confident to teach CC Using videos to teach CC (short movies and documentaries)	Feel confident but want to learn more about CC Inquiry based learning she uses to teach CC Using videos, websites and movies to teach CC
Barriers to teach CC **Feeling about CC**	Local conditions of the city (weather, culture). Students dont see CC as a global problem as they dont live in a green city. Yes worried about the effect of CC in Turkey	Not support from the families Yes worried	Not enough time giving to CC topic. It should be taught in each grades Yes worried (students are not worried they think that this problem will not harm people)
CITIZENSHIP EDUCATION			
School and Society Cooperation	Not so much cooperation, only TUBITAK projects Not so much green school	Not too much cooperation with the society. There are financial problems Not specific projects related to CC There are some recycling bins and a school garden	A few activities AFAD (disaster and emergency management) visit school and give training Some field trips but not about the environment Not a green school
Using local environment	Try to give examples from local environment	Giving examples from the weather conditions in the city	Not too much

UK	SCHOOL-1	SCHOOL-2	SCHOOL-3	SCHOOL-4
DEMOGRAPHIC INFORMATION				
Major	1) Gobal citizenship lead, PHSE lead; (2) Part time PPA cover teacher, Eco Schools lead; (3) Headteacher	Primary education, specialising in Maths	Headteacher	Geography and History coordinator
Working Years	1)15 years 2) 26 years 3) 30 years	3 years	16 years	4 years
Level of Education	1) PGCE (Modern Foreign Languages); (2) B Ed (Hons); (3) PGCE / NPQH	Biology degree, then PGCE	BA, Geography and History. PGCE. NPQSL. NPQH (pending).	PGCE
DIGITAL LEARNING				
Digital Tools in the Schools	Computer: 30 Tablet: 15 Smartboards: 7 Projector: 1 Printer: 3	Tablet: One class set Smartboards: Every class Projector: Y	Tablets: 25 Smartboards: Every class Printer: 1	Computer: 30 Tablet: 7 (one per class) Smartboards: 1 in each class

	Video Camera: X Audio Recording Equipment: X Internet Connection: Fast Computer for teachers use: Yes they all	Printer: Y Video Camera: Y Audio Recording Equipment: Y Computer for teachers use: Yes they all Internet Connection: Fast	Computer room with old PCs. Computer for teachers use: Yes they all Internet connection: medium	Projector: 1 in most class Printers: 2 Computer for teachers use: Yes they all Internet: medium
Digital Tools used by the teachers (only tools used by the teacher)	Email Smartboard software MS Word and powerpoint Science&tech experiment simulation Video editing programs	Sharing video Sharing files Smartboard Word- Powerpoing Video editing	Blogs, Sharing video, photos Sharing files Social media (twitter, whatsup) Email Graphics, animation	Sharing photos, videos Social media (facebook, instagram) Email Smartboard software Word, powepoint Video editing (imovie maker)
Using Digital Tools in Education	Not feel confident (using interactive whiteboards, a fictional character uses twitter,whatsup to share photos) No training about digital learning	Feel ok and can learn. No training	Feel ok. Some training on smartboards, ipad and apple	Not too much some training on using purple mash.
CLIMATE CHANGE EDUCATION				
Climate Change in the Curriculum	Waste, energy, recycling topics Eco-school green flag	Not taught	Not obvious School walk days	Year 2 explore what's happening to the ice caps through science and Geography Year 5 look are global warming and the role of the oceans in the carbon cycle. Year 6 look at the role of the rainforest in global warming and consider the use of energy and its effect on climate change
Teaching Climate Change (Confidence level, tools, strategies used)	Not very much confident, learning Using British council, eco school resources, internet search, you tube clibs	interested in teaching CC	Yes Enquiry learning, modelling, questioning.	Confident but struggle with how to implement CC Practical experiments Real life examples

Barriers to teach CC Feeling about CC	Teachers' confidence and own knowledge and time (it is not always in the agenda) Yes worried but hopeful	NA It is important to teach CC	Fake news, testing information Feel disempowered-limitations about Professional role	Varying parental views Struggle to see relevant impact Yes worried
CITIZENSHIP EDUCATION				
School and Society Cooperation	Eco brick project, Tanzania visit, severn waste visits, local village visits	Not a lot Going to some historical sites, little field work	Project in a village, tree planting, outdoor learning activities SEND project investigating village, natural produce, art, sculpture	Not aware Regular local trips linked to Geography and History
Using local environment	Yes, Involving parents in the small projects Ecoschool works	Going to town, visiting park and river and doing some projects Recycling yes, not having an eco club	Ecoclub Forest school Recycling, reusing programmes	Ecoschool Recycling, composting, reducing water use facilities

HUNGARY	SCHOOL-1	SCHOOL-2	SCHOOL-3
DEMOGRAPHIC INFORMATION			
Major	Biology	geography, biology, nature studies	biology, geography, techniques
Working Years	13 years	32 years	25 years
Level of Education	College	College	University
DIGITAL LEARNING RESOURCES			
Digital Tools in the Schools	Computer: 50 (computer room: 1) Tablet: 25 Smartboards: 2 Projector: 15 Printer: 3 Other tools: Digital Microscope- 3 Internet Connection: Medium	Computer: 50 (computer room: 1) Tablet: 30 Smartboards: 1 Projector: 18 Printer: 8 Video Camera: 1 Other tools: Scanner-3, Camera Internet Connection: Medium (*80 Mbit – so the speed depends on how many people is connected.*)	Computer: 25 (computer room: 1) Tablet: NA Smartboards: NA Projector: 10 Printer: 3 Video Camera: 1 Other tools: NA Internet Connection: Fast

Digital Tools used by the teachers (only tools used by the teacher)	Sharing photographs Sharing video Social media Email Learning management systems Smartboards MS Excel, Word and powerpoint Preparing graphics and animations Using technology to evaluate students Video editing	Blog Sharing photographs Sharing video Sharing files Social media Wikis MS Excel, Word and powerpoint Preparing graphics and animations Using technology to evaluate students Video editing	Sharing photographs Sharing video Sharing files Wikis E-mail Instant messaging Learning management systems MS Excel, Word and powerpoint Preparing graphics and animations Video editing
Using Digital Tools in Education	feel confident took education/seminars	Feel confident took education/seminars	Feel confident Not taken any education/seminars
CLIMATE CHANGE EDUCATION			
Climate Change in the Curriculum	Biology 7th grade: pollution, acid rain, floods, polluting sees, greenhouse effect, global warming, overpopulation, lack of food, waste	7th grade – People and environment, 6th grade – Climate and its change	7th grade geography and biology curriculum In geography it is mostly about climate. In biology: a whole chapter is about climate change: ecological footprint, climate change itself, pollutions etc.
Teaching Climate Change (Confidence level, tools, strategies used)	Feeling confident and open to new methods and programs. Group working, using digital tools, project based (based on homeworks)	Feeling confident Making presentations by teacher,watching films(e.g Al Gore An Inconvenient Truth, films of Attenborough)	Feeling confident Using ppts, videos, pictures
Barriers to teach CC **Feeling about CC**	Counter effects from advertisements, family, consumer society. Hard to see the scale of CC problem. The pupils hardly see the interconnections. They often mix e.g. the greenhouse effect and global warming. not enough time to go outside within the lessons Worried for the future and health of my children.	CC is understated in the education and not handled in the right place. there are a lot of misbelief. Many people deny CC and keep it a natural effect. Worried for the children	there is no time for teaching interactive ways the pupils learn sustainability and about climate change as a subject, a "must", but they don't follow a sustainable lifestyle. The model they see at home and around themselves is much stronger. Students don't understand the interconnections (e.g., how CC affect our lifestyle) Students xix ozone hole and greenhouse effect Worried for trees in his/her garden

School and Society Cooperation	work together with the municipality and a forest education projects: selective waste collection, celebrating green world days, etc.	work together with local environmental authority projects: cleaning city parks, collecting waste in a hill nearby. taking part in sustainability project week	work together with the municipality and Magosfa Foundations projects: cleaning park, taking part in sustainability week programs, Forest school program, climate day, excursions, summer camps, health day, making product from garbage and exhibition of them, study circle. (However, the school changed its profile, have more emphasis on the music, so these programs getting more seldom.)
Using local environment	school excursions, exhibitions, day camps of the city, forest schools, different camps	school excursions (CC is not a highlighted topic of these excursions)	Going to floodplain of Danube take part in an initiative about surveying lichens and air quality
Actions to be a greener school	Planting flowers in spring time. The school has a garden part. The school has a "green approach "and has eco-school newsletter.	keeping writing grants, but so far we haven't win any projects in the topic.	taking part in trying out modules of Consumers' cure and Everyday sustainability book of Magosfa took part in waste projectorganised climate daysmaking reports with local producers in townook part in Hungaricum project of Magosfa took part in surveying purchasing habits connected to "buy nothing" day

References:

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers college record*, *108*(6), 1017-1054.

Van Mierlo, B. C., Regeer, B., van Amstel, M., Arkesteijn, M. C. M., Beekman, V., Bunders, J. F. G., & Leeuwis, C. (2010). *Reflexive monitoring in action. A guide for monitoring system innovation projects*. Communication and Innovation Studies, WUR; Athena Institute, VU.