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HYBRID LEARNING COMMUNITIES
- Designing for learning in digital communities

The Hybrid Learning Community

HLC Guide

Erasmus+ project: 2020-1-DK01-KA226-SCH-094225

Kópavogsbær

OSNOVNA ŠOLA OLGE MEGLIČ P T U J

SOSU Østjylland

Esbjerg Realskole -bedre tid

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Hybrid Learning Communities. Designing for learning in digital communities

The COVID 19 crisis suddenly hit us, led to lockdown of entire communities for months, closed schools and excluded pupils from attending classes. This triggered a need for educational institutions and teachers to quickly develop and implement alternative forms of teaching throughout Europe and a key tool in the efforts to continue education activities became online-based education. The crisis ended up being a gigantic laboratory for testing and studying: 1) the technical capacity, readiness and competence of educational institutions to offer online education on a large scale and over a longer period 2) the teachers' readiness for and especially competencies in developing and designing educational material and longer educational courses, and offer these as online teaching. COVID 19 thus became a visualization and mapping of readiness and competence to an extent not many would probably never have been able to finance nor ready implement if it had not been for the unfortunate situation. The quick reaction from the EU Commission to allocate additional funds to strengthen digitalization in the education sector is an indication that schools and teachers around the EU countries were actually not ready. The teaching that many pupils and students were offered for weeks and months was of doubtful quality, and it was difficult to maintain both the level of learning and the motivation among pupils, students - and teachers. This was also the case for the partnership behind this project. It became obvious that online based teaching should not be that:

- teachers simply upload and give students access to the material they had prepared for class-based and face-to-face teaching and
- teachers communicate this material with the same pedagogical and didactic methods and approaches, they normally used in ordinary classroom settings.

However, there were also examples of innovative and rewarding teaching, showing that remediated and innovative digitally designed teaching material can not only increase the learning outcomes of the target group, but also provide an opportunity to plan the way of going to school differently.

The target group of the project are teachers, their pupils and their educational leaders and the aim is: Development, implementation and transfer of innovative practices, joint initiatives for collaboration, learning and developing digital technology in education. Professionalization and professional development in education. Developing teachers', learners and educational leaders' digital skills to enhance the quality of virtual learning activities in education. Strategic and professional use of ICT methodologies and virtual collaboration.

COVID 19 led to the closure of educational institutions across Europe and the consequences were common for all countries. Therefore, the best solutions must be found transnationally by making use of the best experiences across Europe when it comes to online based education during the crisis. When it came, there was no time for transnational cooperation as every country focused on solving its own problems. Now the time has come to learn from each other at European level - also in the field of online teaching and digital learning. Also, establishment of Hybrid Learning Communities and development of remediated and innovative digitally designed material have a big transnational potential. Material can be used immediately across borders, if designed for transnational use. More than 800 teachers and 6000 students across the partner organisations are expected to benefit indirectly from or were the target of the activities organized by the project.

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1 Curriculum - Executive summary

The Hybrid Learning Communities (HLC) Curriculum describes the framework for understanding the project's intended teaching results for the participating learners – primarily the professional teachers. It also represents a framework for the learning and experiences the students should gain by participating in courses designed by teachers in the HLC project.

The curriculum describes the development of HLC in both learning objectives and activities and their context of practical teaching experiences, primary theoretical and principled considerations regarding the selection, sequencing, and dissemination of the learning content.

It is the intention that the curriculum can be the starting point for a common understanding of the direction of development in hybrid learning communities and specific action instructions. However, those who wish to develop HLC inspired by this curriculum must always consider local experiences, contexts, and needs.

Lack of possibilities for physical meetings is a significant constraint on teachers' team collaboration. Thus, online collaboration has the potential to mediate parts of the need for collaboration and learning together among teachers.

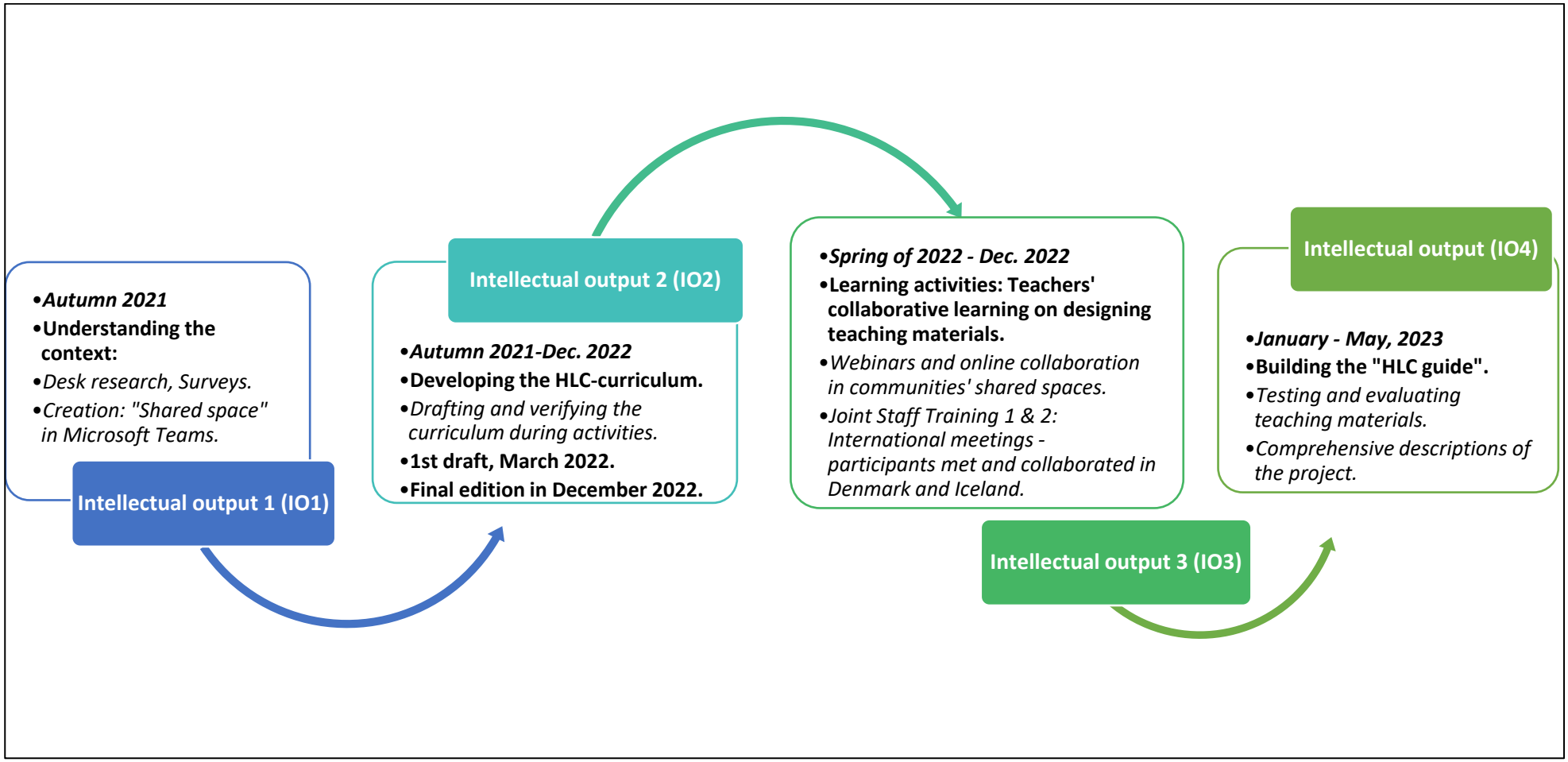
Based on the research and design principles from a master thesis (Master in ICT & Learning at Faculty of Humanities, University of Aalborg Denmark) by Erik Leschly, Thomas Kjelgaard & Anne Veiergang (2020), the HLC project generated a survey, and an analysis of participants' needs for digital competencies. On this basis, the HLC project developed a curriculum concerning teachers' competencies to collaborate in hybrid learning communities.

The learning activities were developed, targeting first the development of digital competencies among the participating teachers. The target group of the curriculum is educational professionals (participating teacher teaches students the age of 12 to 16 years).

The ideas and didactic designs of the curriculum are an extension of the concept of “teaching as a design science” (Laurillard, 2012), where didactics and teaching are considered as “malleable” areas rather than the science of humanities: Learning activities must be continuously designed and re-designed to fit the learners and their context.

To concretize design knowledge into functional theory, the curriculum is using "design principles" (Bell & Baumgartner, 2002 - "generalized frameworks for design") that can "inform and form the basis for design efforts.” This approach – formulating “design principles” is a *method* for driving the participant’s actions in a common direction, all the while the evaluation of learning experiences during the project’s activities changed, validated, and further developed the design principles – finishing the curriculum. A main result of the project activities are the different frameworks/ design principles in the appendixes of the curriculum presenting different steps and aspects concerning the development of hybrid learning communities.

Different concepts of activities are used, which might not be immediately familiar to the reader. The model on the following page is an overview of the most important concepts in their context.



Model: “Curriculum in context”.

The main goal of the project's learning activities is for the teachers to develop their individual and collaborative digital competencies to be leading participants in a hybrid learning community: They will (as a community/team) be able to cooperate and learn collaboratively in a shared virtual space[1] to develop and produce teaching courses for their students.

The competency descriptions and learning objectives of the curriculum are based on the "European Framework for the Digital Competence of Educators" (DigCompEdu) by Christine Redecker & Yves Punie (2017).

The framework distinguishes six areas in which educators' Digital Competences are expressed with 22 competencies.

In the project extra focus is given within the area of the teacher's "*professional engagement*": *"…educators' use of digital technologies in professional interactions with colleagues, learners, parents, and other interested parties, for their individual professional development and the collective good of the organization."* (Redecker & Punie, 2017).

The HLC-project activities focused on the following areas and competencies:

Key learning objectives in teacher's learning activities:

Area 1: Professional Engagement: "*Organizational communication", "Professional collaboration" and "Reflective practice"*

Area 2: Digital Resources: "*Selecting digital resources"*

Area 3: Teaching and Learning: "*Teaching" and "Collaborative learning"*

Primary focus in the HLC curriculum is first on the teachers' competences in using digital technologies for communication, collaboration, and professional development. The teachers thereby also develop their digital competencies in the classroom, even with possible common approaches that can support common practice.

Key learning objectives in student's learning activities:

Area 5: Empowering Learners: Using digital technologies to enhance learners' active engagement.

Area 6: Facilitating Learners' Digital Competence: Enabling learners to use digital technologies creatively and responsibly for information, communication, content creation, wellbeing, and problem-solving.

The curriculum presents basic pedagogical and didactic theories for the teachers to be applied in learning activities for students and participating teachers. Learning theory (e.g., Online Collaborative Learning) is applied to describe perspectives on digital technologies' role in learning.

The curriculum presents theoretical considerations concerning "Digital technologies in education": How the teacher's common use of few common technologies can constitute a "shared space" for collaboration (technologies as habitats for communities of practice rather than as tools). The project's perspectives on these issues however have important caveats: The project has been focusing on learning and organizing the collaborative learning of teachers and students. It has not dealt with many of extensive and complex tasks

[1] Using the features of the Microsoft Teams platform.

that would follow from implementing common principles of hybrid collaboration in an entire educational organization.

The curriculum defines terms of didactic design and presents common approaches and design principles to the participating teacher's didactic designs (based on Levinsen & Sørensen, 2014).

Link: https://hybridlearningcommunities.eu/project-results/curriculum/

2 Methodology Guidelines

2.1 Why hybrid learning communities?

The good digital teacher collaboration and knowledge sharing does not come by itself, no matter how smart tech-solutions teachers are served. Much focus on teachers' IT competences is about 1) the didactic application where the teacher is in relation to the students. Danish research implies that only to a lesser extent is competence development carried out for teachers with a focus on 2) the collaboration between the teachers. Teachers often spend much time planning and organizing teaching that will increase students' learning. Without guidelines, objectives and common focus, knowledge sharing and teacher collaboration can easily become a limited and random activity.
Creating online communities about learning is not in itself something new. Research has shifted between two poles:

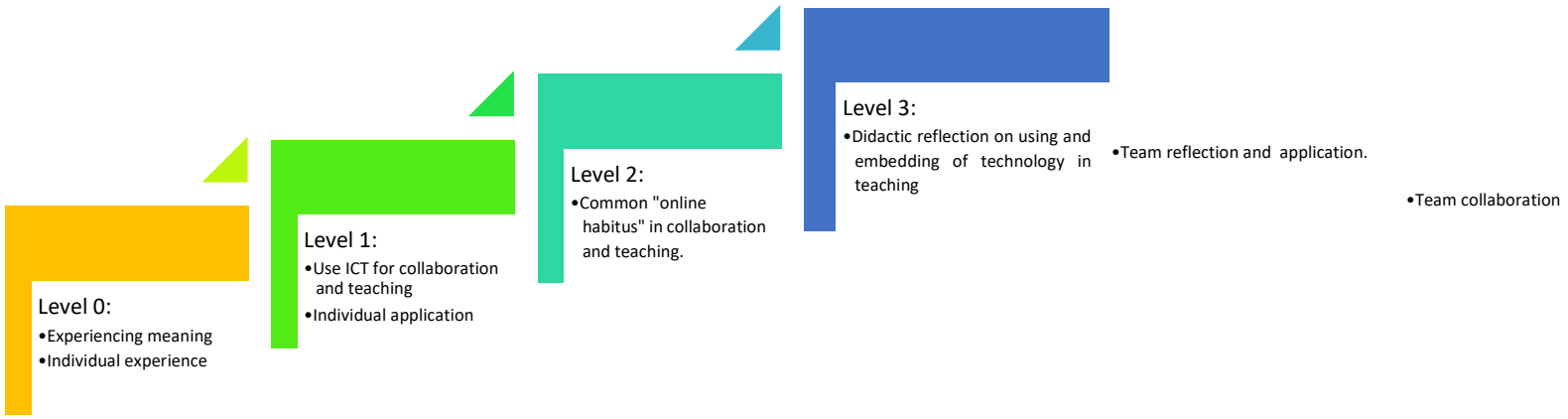
1. Digital technology as tools for dissemination and possession
2. Digital technology as a "habitat" for collaboration, which enables co-creation, collaboration, and knowledge sharing.

Our understanding of technology in this project leans most towards "habitat" thinking. Research tells us that it is essential to establish and maintain online learning communities. It takes time and space to develop and depends entirely on the school's own school context and often stakeholders taking responsibility of the development: Maintain functionality, facilitate, and maintain cultures, routines and progress in the community, challenge and support teachers' professional skills, motivation, values, beliefs, and goals.

Danish research also indicates that a strengthening of 2) teachers 'collaboration and knowledge sharing, which digital technologies could help to improve, is essential for strengthening 1) teachers' development of didactic IT competencies. These conditions actualize the development of IT-skills of teachers targeting digital collaboration, simply because these competencies enable the collaboration in today's school. The use of the digital technology to be used by teachers shaping their everyday lives is essential. Collaboration, practice, and professional relations must be designed with the participation of precisely these teachers. This is in practice is what the HLC project aims to do.

2.2 Joint development of teacher skills in steps

Technology must make sense to succeed, and hybrid learning communities must therefore be initiated through meaning-creating and identity-creating activities at different levels.
An essential element in the Master thesis project-background was understanding teachers' development of digital skills supporting hybrid learning communities at four levels:



2.3 Designing HLC - 3 levels of organizational development with use of ICT

In the project, the development of the teachers' competences is closely associated with the development of the school's ICT framework and the organizational learning. The project phases can be considered as a kind of "user experience design" (UX). UX is a design process in relation to ICT to promote and support user behavior, user-friendliness, usability, desirability, etc. in the interaction with ICT. Based on knowledge of the staff's and schools' needs and practices, common digital pedagogical / didactic targets, guidelines and “design principles” are developed for the school's pedagogical IT systems in accordance with the school's own context.

An important aspect is the continuously involvement of teachers and ICT staff in designing their common use of ICT for learning and collaboration and developing teachers' skills for joint use and collaboration. Through collaboration, the HLC project aims at developing teachers’ skills and shared knowledge about teachers'

hybrid collaboration, which can be converted into locally based solutions and be of benefit for the students.

The first step in this development process is to examine the contexts, skills and needs of the four partner schools. This is done by conducting desk research and two smaller surveys.

3 Guideline to desk research and surveys

3.1 Desk research

The purpose of the study is to gain knowledge about the priorities and use of digital technologies in education at school level both nationally and locally. The national and local conditions are compared to assess where the individual partner school is ranked. In the HLC project, there is a special focus on students aged 12-18 years, therefore the research content addresses this age group.
In addition, the purpose of the desk research is to investigate experiences from the partner schools of relevance to share in the HLC project, as well as what benefits the partner schools hope to achieve through the HLC project.
The target group for the desk research is 1-2 school leaders from each partner school.
The survey is presented in a word document, where school leaders must write their answers.

3.2 Surveys

There are two surveys - one for employees and one for students.

3.2.1 Surveys for teachers

The purpose of the survey is to gain knowledge of teachers' and ICT staff's digital collaboration and didactic / pedagogical use of digital technologies in the classroom. Including work experience and digital skills.
The target group is teachers and ICT staff as follows:
Sosu Østjylland: Two-three 10th grade teams with 6-8 teachers and 3-5 ICT staff.
Esbjerg Realskole: A 10th grade team with 5-6 teachers and 3-5 ICT ambassadors.
Kópavogsbær: At least one teaching team with 4-6 teachers and 3-5 ICT employees.
Osnovna sola Olge Meglic: At least one teaching team with 4-6 teachers and 3-5 ICT employees.

3.2.2 Surveys for students

The purpose is to gain knowledge of students' experiences with teachers' use of digital technologies in the classroom and students' own use of digital technologies for schoolwork.
Including what hardware and software technologies they use, as well as their digital skills.
The target group is students from 12-18 years:
Sosu Østjylland: 50-80 students
Esbjerg Realskole: 45-50 students

Kópavogsbær: At least one class.
Onovna sola Olge Meglic: At least one class.

3.3 Framework 1F: Questions for online survey (autumn 2021) - Uncovering the contexts of the participants

Inquiry in Microsoft Forms.
Questions 1-2 focus on the participant's experience and their teaching subjects.

- How long have the participant been working with teaching/learning?
- What subjects do the participant teach?

Questions 3-4 focus on the participant's digital skills.

- Microsoft Teams Collaboration: Participants mark statements corresponding to what they know and can use now.
- Digital technologies in the classroom: What digital technologies are used with students in the classroom?

Questions 5-10 focus on the participant's collaboration with colleagues.

- What technologies are used in communication and collaboration with closest colleagues?
- Ranking technologies according to which ones are most important in daily communication and collaboration with colleagues.
- The common use of technologies: To what extent do the participants find that they and their colleagues use the same programs/technologies in collaboration?

- Elaboration: What impact does it have on their collaboration with colleagues that use the same OR different digital technologies?
- The importance of team collaboration: To what extent does the participant prioritize team collaboration with other teachers in solving their learning tasks?
- Team collaboration option: To what extent can it be difficult for the participant to meet with the team/colleagues for various reasons?

Questions 11-13 focus on the evaluation of learning during the project.

- Evaluation - Collaboration in Microsoft Teams. Marking the statements that correspond to what they know and can use now.
- You and "digital literacy." Participants marked the statements corresponding to what they know and can use now.
- Readiness for digital technology: To what extent do the participant find it interesting to test new digital technologies in your classroom?

3.4 Outcome

In IO1, knowledge is gained about teachers' and students' experiences and needs in relation to using ICT for communication and collaboration, as well as knowledge about teachers', students' and leaders' digital skills and experiences with the use of digital technologies for collaboration and learning activities.
The surveys reveal individual needs and expectations locally and across organizations in relation to the use of ICT in education and collaboration.
The knowledge from IO1 will lay the foundation for use approaches to develop customized and attractive learning activities with greater efficiency in the rest of the HLC project. The final summary report based on desk research and the two surveys will form the basis for the work in IO2, where the curriculum for the project's learning activities is developed.

Link:

4 Participants in the project

Link: https://hybridlearningcommunities.eu/partners/

4.1 Esbjerg Realskole, Denmark

Esbjerg Realskole is the town of Esbjerg's oldest private school with proud traditions that go back more than 125 years. We have a curious outlook and strive to be at the forefront while at the same time valuing our traditions. We focus on education and community when, with the help of our values of well-being, professionalism, and dialogue.
We are a versatile and directed school with an optimistic culture and open environment that embraces all skills, different attitudes, and constructive input. We take care of each other and succeed together.

Our mission is to develop each child's potential and educate professionally strong, caring, and creative children. We put the children at the center and create a safe environment where education takes place through cooperation and developing dialogue. The children meet committed teachers and pedagogues - who take time for everyone.
Everything we do aims to create the best environment for the children. We bring our hearts to work every day and ensure our students thrive. At the same time, we equip them with the high level of professionalism that characterizes Esbjerg Realskole.

4.2 Osnovna šola Olge Meglič, Slovenia

Primary school OŠ Olge Meglič, which was founded in 1979, is located in the oldest Slovenian town, Ptuj. It is attended by almost 400 students in the age range of 6 to 15, and it employs around 40 teachers. Its formidable location in the old town centre, just below the castle, next to the town library and within a walking distance of the Ptuj City Theatre and Ptuj City Cinema, provides numerous educational opportunities. As the only school in the town centre, we closely cooperate with our local community.
OŠ Olge Meglič, which is known as "Olgica", is a modern school in which teachers strive to enable every pupil to develop their full potential. A lot of attention is paid to creating a positive classroom climate, which results in positive relationships and respectful

communication. We are continuously implementing modern teaching methods, which are more student-centred, and digital learning tools, which increase student engagement. We also put a special emphasis on formative assessment, the development of key competencies for lifelong learning and transversal skills.
After the lockdown in 2020, special attention is being paid to our students' mental health, their social and emotional development skills and solving their emotional distress. That is why we carry out various preventive activities that deal with the physical and mental health of our students.
Besides the basic school programme, we offer our students several extracurricular activities, non-compulsory optional subjects, and after-school classes.
Our school also takes part in numerous projects, such as Healthy School, Eco School, FIT Pedagogy, Sustainable Mobility, Startup Business Programme, Erasmus+ and many more.
Our willingness, drive, creativity and responsible professional work ensure quality implementation of the educational programme, which is tailored to the needs of our students and which prepares them for further life's challenges.
In Slovenia, primary and lower secondary education is organised in a single-structure nine-year basic school attended by students aged 6 to 15 years.

4.3 Kópavogsbær, Iceland

Kópavogsskóli is a district school in the center of Kópavogur and is located at Digranesvegur 15. In the school year 2021 – 2022, there are **375 students.** The school has become multinational because about 20% of students are foreigners.
There are **95 students** in grades **8th, 9th and 10th** who are taking place in the surveys. **Teachers** in these classes are **10** but in the whole school and the staff is about 80. The school has one computer supervisor and a teaching consultant (apart amployments). The municipality have three teaching consultants in iT for schools and one technical director. They work as a team and in good comminication with other teaching consultants and project managers in the municipality (Menntasvið Kópavogsbæjar).
In the year 2015 the politicians in the municipality decided to bring iPads in all the schools in the district for 5th to 10th class. This project took place 2016 – 2019 and now all the schools have 1:1 iPads for students in 3rd to 10th class. Next two years all students in the district will have 1:1 iPad. All teachers have an iPad to use at work and home. They also have either PC computer at their teachers desk or a laptop computer they can bring home for work. The teachers a happy with their iPad project and do not want to and back according to a survey conducted by the municipality.

There are projector in all classrooms. Kópavogsskóli owns a lot off stuff to use with the iPads such as Osmo learning tool, Bee-bots, Shero-robots, makey-makey and so on.
Kópavogsskóli has emphasized that teachers and students make use of IT in the school work for many years. Students in this survey have used iPad as a learning tool for their own use 1:1 for three to five years (They get iPad for own use in 5th class). Teachers and students have made to open up the possibilities that the internet offers. These include access to digital instruction through Google Classroom and access to the diverse possibilities offered by tablets and apps. In Kópavogsskóli is also a computer lab where the students learn information technology.
iPads have brought about significant changes in learning and teaching over the past 5-7 years as they have been introduced in the school. Research shows improved well-being at school, increased satisfaction and interest in learning, greater flexibility and individual focus on learning, and improved teachers' ability to meet the needs of each and every student (OECD). These are all changes that improve school work, but at the same time are hardly conducive to improving the results of measurements designed to evaluate traditional school work with its emphasis on reading, arithmetic and the ability to take standardized multiple-choice tests.
The changes in teaching in recent years in Kópavogsskóli are mainly to move away from teaching where the teacher is in the spotlight in the role of guide and administrator, where the teacher pays little attention to differences in the classroom. Students are now more active in their own studies and receive training in collaboration and independent work methods in project processing.

4.4 SOSU Østjylland, Denmark

SOSU Østjylland is a youth education provider in the VET sector. The school particularly offers VET educational programs targeting the health care sector in Denmark. Further more we develop and offer educational programs to pupils in age 15 and 16 based on the national curriculum for 10th class at primary school. This 10th class of primary education is profiled with a social and health approach – but the objectives are identical to basic primary school in Denmark. We provide different educational programs - as well as supplementary training of educated staff members - for social and health care institutions for elderly and disabled people and for hospitals and psychiatry. We continuously develop innovative pedagogical and didactic training material and organize work practice, and we work closely together with the employers in the field. We have more than 30 years' experience in training and further education of care staff. We have about 150 full time employed staff members and 20 external professionals connected to our daily praxis. In 2019 the college had

more than 800 full-time students, and about 2.000 professional caregivers participated in shorter or longer supplementary training courses. Our students are in the age of 15 to 60 years old, and have more than 50 different ethical and cultural backgrounds. We offer short introduction programs of 20 to 40 weeks – to prepare them for a start at the main educational programs of either: • 14 months (Social and Health Care Helper) • 32 months (Social and Health Care Assistant) • Pedagogical assistant 24 month. The COVID 19 crisis with all its challenges made it clear to us that we have to be able to combine physical learning environments with digital solutions and virtual teaching platforms. We are continuously involved in European projects and it is not difficult for us to ensure impact of project results, both inside and outside our organization. The results of our projects are directly integrated in the educations at SOSU Østjylland and as the graduates of the college are the future caregivers, they directly apply their new competences at their workplaces. Furthermore, SOSU is part of several national networks of Danish social and health care colleges, which also benefit from our project results. Besides, the college is a member of several international partnerships and networks with stakeholder in many European countries and we always try to give them the opportunity to exploit our result as well. In 1990, in total 33 social and health care colleges were established all over Denmark. In 2015, 2 of these colleges SOSU Aarhus and SOSU Silkeborg were merged and became SOSU Østjylland. Today the college is the third largest social and health care college in Denmark.

5 Project overview

IO1: Esbjerg Realskole
Methodology Guidelines. Establishing an online community for project partners and other stakeholders. Survey and comparative analysis on partner schools.

IO2: SOSU OSTJYLLAND
Developing and designing common curricula, courses and learning material.

IO3: Kópavogsbær
Train the Trainers. Development of remediated and innovative digitally designed material Course / curriculum.

IO4: Osnovna šola Olge Meglič
Testing, adjusting and refining the developed remediated and innovative digitally designed material. Development of the HLC Guide.

6 Synthesis report

This section summarizes the results and concludes. The first section addresses the national context and subsequently targets the national context.

Regarding the national context, the same picture shows across the partner schools. The focus on digitalization in schools and the development of students' and teachers' digital competencies often depends on the local context at the school level. There is a growing focus on digital technologies in the Danish context, both in research and politics. However, the degree of economic prioritization varies significantly from school to school.

Results from the local context to each partner school show big difference in how many technologies students and professionals have available at their school.

To a large extent, teachers/professionals already use digital technology for teaching and communicating with students. Many different digital technologies are used, but what is to be used together in this HLC-project must be available on a smartphone or tablet. In both Esbjerg Realskole and OŠ Olge Meglič, there is a high level of alignment of the use of digital technologies, where there are more divided views at SOSU and Kópavogsbær.

About digital skills, most students in all partner schools believe in the potential of using digital technology in learning processes. It shows the relevance of teachers incorporating digital technology into their teaching methods. Students across partner schools see themselves as good at using digital technology to communicate with friends and family. Students use digital technology for collaboration and communication for their schoolwork and learning activities. Students use digital technology to produce videos, presentations, photos, documents, etc.

Regarding professionals (Teachers), the majority see themselves as having good skills and prerequisites for digital literacy. We see a great interest and readiness in using new digital technologies in the classroom. To some extent, the student's response validates the teachers' digital literacy. Students rate their teachers' digital skills differently. In both Esbjerg Realskole and OŠ Olge Meglič, students highly value their teachers' digital technology use. Overall, it indicates the potential for using digital technology innovatively.

Teachers at Kópavogsbær use Google Workspace. Here is great potential in learning the benefits of using MS Teams for Team collaboration. Esbjerg Realskole, SOSU Østjylland, and OŠ Olge Meglič are familiar with using MS Teams. There is great potential in sharing experiences and knowledge in the three schools' use of MS Teams.

Regarding professional's team collaboration, over 90% of all teachers agree on the importance of collaboration in carrying out their work tasks. It emphasizes the importance of the HLC project purpose.

Most teachers find it challenging to meet. To the extent that it can be difficult for teachers to meet physically to collaborate, technology offers other great solutions for meeting synchronously by asynchronously regardless of time and place.

Some of the IT equipment at OŠ Olga Meglič is either outdated or insufficient. Generally, every student has either a smartphone or tablet available. In Esbjerg Realskole, SOSU Østjylland and Kópavogsskóli all students also have at computer available. Some students at OŠ Olga Meglič do not own a computer at home and have a terrible internet connection.
Despite the significant differences in available digital technologies, there are also overlaps in the technologies used, which enable collaboration between the schools. Both Esbjerg Realskole and OŠ Olge Meglič use MS Teams to collaborate with teachers and students. SOSU Østjylland is working the same way, and several teachers and students use MS Teams. Esbjerg Realskole also uses MS Teams for knowledge sharing.

All four partner schools have a high priority of developing digital skills for both teachers and students. However, the schools are in different places in this development. We see great potential in teachers exchanging experiences using digital technology in the classroom across partner schools. We see potential in building on the students' competencies and experiences and emphasize the relevance of incorporating digital technology into the student learning process. In fact, at a level that demands the student's digital skills because they are motivated, and it makes sense for them.
It is common for three partner schools to focus on MS Teams. We see great potential in designing learning activities in the HLC project suitable for MS Teams.
We see great strength and development potential in the great interest, readiness, and motivation for use from digital technologists, which leaders, students, and teachers show in the three studies.

Link: https://hybridlearningcommunities.eu/wp-content/uploads/2023/02/Synthesis-report.pdf

7 Process

7.1 Design theory & Didactic design principles - approach and method

“The ideas and didactic designs of the curriculum are an extension of the concept of “teaching as a design science” (Laurillard, 2012), where didactics and teaching are considered as “malleable” areas rather than the science of humanities: In this perspective, learning activities must be continuously designed and re-designed to fit the learners and their local context.

Organizing knowledge into learning processes is complicated, E.g., transferring knowledge from research into educational practice, where knowledge should be used in different contexts. Didactic designs must be enriched with experience, theory, and research knowledge. Also, design knowledge must be “served” in size and form that is understandable to the user/designer and meets the needs of learners. So, to concretize design knowledge into functional theory, the master thesis (Leschly, Kjelgaard & Veiergang, 2020) proposed using "design principles" (Bell & Baumgartner, 2002): Design principles are "generalized frameworks for design" that can "inform and form the basis for design efforts.” This application of design principles offers the advantage of being able to contain knowledge from very different perspectives, e.g.:

- Theory and knowledge from research in education and technology.
- The local understanding of the teacher's practice and perspective.
- Partners pragmatic knowledge of what is helpful in the classroom.
- How to adapt the didactic design to specific needs.

Design knowledge, then, is the understanding that can inform and contribute to the practice and processes of design. Design principles should offer recommended, helpful solutions to common problems but are not to be perceived as restrictive or prescriptive. This approach – formulating “design principles” was a method for driving the participant’s actions in a common direction, all the while the evaluation of learning experiences during the project’s activities changed, validated, and further developed the design principles – finishing the curriculum.”

In the project's curriculum, the following template is used as a framework for exploration, didactic designs and collaborative learning in the HLC.

7.1.1 Basic framework for preparing activities and developing HLC didactic design principle

Heading that describes which parts of HLC the design principles cover Summary and properties of the activities.	
Target group Characteristics of the learners? The learner's experience Needs of the schools and the learners.	Knowledge and principles about this are primarily generated in the project phase IO1
Model/principle: The principle relates to… Key learning objectives Topics Difficulty level	Knowledge and principles about this are primarily generated in the project phase IO2
Resources The time and resources needed The local classroom (context)	Knowledge and principles about this are primarily generated in the project phase IO3
When and how is the principle applied? *Pedagogy (teaching methods).* *Tasks: Type of tasks, (teaching-) techniques that support the tasks, tools/resources, interaction/ roles of those involved, etc.*	Knowledge and principles about this are primarily generated in the project phase IO3
How does the principle work best? Didactic structure: What to do before, during, and after the activities.	Knowledge and principles about this are primarily generated in the project phases IO3 + IO4

7.2 Interaction design - The digital technology as a shared space for hybrid collaboration

7.2.1 Considerations: Digital technologies in education

The common use of technology constitutes a shared space for collaboration

Lack of possibilities for physical meetings is a significant constraint on teachers' team collaboration. Thus, online collaboration has the potential to mediate parts of the need for collaboration and learning together among teachers.

In the HLC curriculum, the idea of the teachers' social learning and collaboration is based on the concept of "communities of practice" (Wenger, 1999) and "digital habitats" for learning communities (Wenger, White & Smith, 2009). Research into creating a framework for online communities on learning has historically moved between two "poles" (Wenger et al., 2009):

Before	Now
Technology as tool	*Technologies as habitats*
Digital technologies are seen as tools for information seeking, dissemination and acquisition.	Digital technologies are seen as unique habitats for the team, which enable co-creation, collaboration, and knowledge sharing.

The theoretical starting point of this curriculum is near the "habitat pole": The shared virtual space for a hybrid learning community (mediated by the functions of interactivity in, e.g., Microsoft Teams) should be considered and developed as a habitat rather than just a tool. Research shows that if a community is to emerge through digital technologies, it is vital that digital technology can constitute a "shared space" (Baym, 2015). Thus, if an online community is to emerge among teachers, they must use a few common technologies where the group of teachers can develop their community of practice with the qualities associated with an "online community" (Baym, 2015):

The HLC project's desk research and survey showed differences across schools in teachers' use of digital technology for collaboration. Across schools, however, it was seen that telephone calls and emails/file sharing were used to a great extent in teacher collaboration and knowledge sharing. These digital technologies, however, cannot adequately mediate a "shared space" for the teacher's learning. They simply do not support the teacher's (online) learning because their ongoing intellectual discourses are not maintained in a common space.

Research and experience indicated that part of the solution is to use a few common technologies in teacher collaboration.

Both the survey data and the HLC-project activities uncovered differences between the schools and the teachers in terms of their development in digitization. The same with teachers' knowledge of and attitude toward digital technologies. These differences are essential to discuss in the collaboration's start-up, as they impact the teacher's opportunities to enter collaboration in a hybrid space. On this basis,

design principles were developed, which must apply to, e.g., designing for a “shared space,” organizational communication, and the participating teachers' collaboration .

7.2.2 Technology's role in learning

There are many reasons teachers' professional digital competencies should be developed: Technology is increasingly driving societal development and changing how we live.
Thus, teachers must have opportunities and abilities to reflect together on technology development to learn and further develop new learning paradigms and contribute to the development of constructing and shaping communication technologies within teachers' practice (rather than simply applying technologies in the ways that the technologies afford). This occurs far too rarely (Harasim, 2017).
Learning theories help us understand how people learn. But theories also shape how we see the world and thereby shape it (Harasim, 2017).
Collective learning for a group of teachers is in focus when we deal with developing hybrid learning communities. When we develop learning communities in a hybrid framework, we should apply a learning theory that can help to mutually understand how learning processes take place and can be framed in the virtual space.
Linda Harasim (2017) described the theory of “Online Collaborative Learning” (OCL) as one of the essential perspectives on learning in the 21st century. In OCL, digital technology constitutes the "learning space" where the interaction between the learners (and their teacher) takes place. While physical learning spaces have different properties and affordances, the same applies to OCL environments. In OCL, the discussion forum is highlighted with important characteristics attributed to learning; The various forms of online discourse that enable asynchronous communication and, thus, cooperation and social construction independent of time and space. Hence, the focus is on the participating teachers' learning to collaborate online.
To implement principles of hybrid learning communities in a local school, the principles can also be applied to, e.g., departments at the individual school. However, precautions are essential here. Knowledge created during the HLC project primarily concerns groups of teachers' collaboration and their learning using, among other things, virtual collaboration in an IT platform. The organization of an entire educational institution's collaboration in an IT platform is a very complex challenge.

In the HLC project, participants from different countries and school cultures collaborated within a minimal and straightforward hierarchy with one type of staff - teachers. This could be equated to a "department" with 20 teachers. However, the HLC project has not dealt with essential tasks such as uniform user-friendly naming of (Microsoft Teams) sites, data synchronization, data security, IT support, and many other extensive and complex tasks that would follow from implementing common principles of hybrid collaboration in an entire organization.

7.2.3 Framework 1C: Basic principle for digital technology as a shared space: Collaborative learning in HLC using Microsoft Teams

The basic principle for digital technology as a shared space in an organization: Collaborative learning in HLC using Microsoft Teams The participants' virtual/ hybrid collaboration and knowledge sharing should occur in one “shared space” (the fewest possible common digital technologies). In the HLC project, the space for collaboration was a Microsoft Teams site organized with a space/ “channel” for each subject-specific community.	
Target group:	All participants in the HLC project are divided into smaller “learning communities” based on their teaching subjects. They are invited to the online platform, where each community is assigned a "shared space" (an online channel) for communication and collaboration.
Model/principle: The principle relates to…	Most teachers find it challenging to meet with their team through face-to-face collaboration. Face-to-face collaboration is perceived as essential, but virtual collaboration has the potential to mediate parts of the team collaboration regardless of time and place. Telephone calls, SMS, and emails/ file sharing are typically used to a great extent in teacher collaboration. However, these digital technologies cannot adequately mediate a “shared space” to support the teacher's common online learning processes; Ongoing discourses are not maintained in a common space. Research and experience indicate that part of the solution is to use a few common technologies in teacher collaboration. • Participants should use one digital technology for collaboration and professional knowledge sharing – Microsoft Teams. • All joint project activities are carried out within the framework of the joint Microsoft Teams site. • Participants apply the features of Microsoft Teams in their practice for professional communication and collaboration, video meetings, chat, file sharing, and joint construction to prepare, design / develop teaching courses.
Properties:	Microsoft Teams is a central and common tool licensed by all participants. The common project site is hosted by one partner (SOSU) with the participating teachers as “guests” (fewer user rights).
When and how is the principle applied?	These are guidelines that apply to the above target group: • When the common technology's functions and possibilities are used, the accessibility to each other is increased, and opportunities are created for digitally supported knowledge sharing and collaboration.

How does the principle work most effectively?	• Requirement rather than choice: It is considered a requirement that teachers use the functions of Microsoft Teams for their digital communication and storage of shared files rather than choosing external/ individual digital technological solutions. • Clear assignment of responsibility for functionality and support: When the school's IT staff (or super users) stay informed about possible errors in the technology, new opportunities in the technology, and new effective ways to use it.

7.2.4 Framework 1D: Didactic design principle: Basic organizational communication and collaboration using Microsoft Teams

Didactic design principle: Basic organizational communication and collaboration using Microsoft Teams Microsoft Teams is a central and common tool that all employees are licensed to get to know and use. All participants must learn to use the various interactivity options to support synchronous and asynchronous collaboration in Microsoft Teams.	
Target group Characteristics of the learners? The learner's experience Needs of the schools and the learners.	All participants in the HLC project. The participants are the teachers from each partner school. The target group of the curriculum is experienced and highly motivated teachers who teach students around the age of 8th-9th grade. The teachers are characterized by interest and readiness to use new digital technologies in the classroom with the potential to use digital technology innovatively. Most teachers find it challenging to meet and agree on the importance of collaboration in carrying out their teaching. Learning to take advantage of collaborative opportunities in technology like Microsoft Teams is relevant. Teachers at Kópavogsbær use Google Workspace daily. Esbjerg, SOSU, and Olge Meglic were more familiar with using MS Teams in organizational communication and teacher collaboration. This allowed sharing of experiences and knowledge in the three schools' use of Microsoft Teams.
Model/principle: The principle relates to… Key learning objectives Topics Difficulty level	Learning related to digital competencies: The primary objectives of learning activities are described (DigCompEdu) earlier: Area 1: Professional Engagement: Using digital technologies for communication, collaboration, and professional development. 1.1 Organizational communication: To use digital technologies to enhance organizational communication with learners, parents, and third parties. To contribute to collaboratively developing and improving organizational communication strategies. 1.2 Professional collaboration: To use digital technologies to engage in collaboration with other educators, sharing and exchanging knowledge and experiences and collaboratively innovating pedagogic practices.

	1.3 Reflective practice: To reflect individually and collectively, critically assess and actively develop one's digital pedagogical approach and that of one's educational community. The participants learning in these areas should evolve from "Explorer" (A2) toward "Integrator" (B1).
Resources The time and resources needed The local classroom (context)	Each partner school must prioritize time (and space) to support the development of the target group's basic competencies using Microsoft Teams. The participating teacher's basic competencies can be taught face-to-face training/ exercises. These processes can be supported by the many videos and materials provided by Microsoft: https://education.microsoft.com/en-us/learningPath/7795c940

When and how is the principle applied?
Pedagogy (teaching methods).
Tasks: Type of tasks, (teaching-) techniques that support the tasks, tools/resources, interaction/ roles of those involved, etc.
	• Early access and learning by doing: Before starting common learning activities, all participants should have Microsoft Teams installed on their digital devices. That way, participants can explore the platform and, at the same time, experience "learning by doing" while supporting future cooperation and communication.
	• Before they participate in the project's activities, the individual participants must develop basic skills in the common technology Microsoft Teams and have this installed on their device. Participants' learning can be organized in many ways. One can manage the knowledge individually using Microsoft's learning path, but many participants will be motivated by learning together through a joint introduction.
	• They should know of and be able to at least:
	  ○ 1) Setup/installation: Support in getting the program installed on different devices - iPad and laptop as well as learning how to access it.
	  ○ 2) Know the program's basic functions and dashboard, For example, chat, video meetings, notifications, and file-sharing structures.
	  ○ 3) Online socialization: Learn to use basic tools in "chat" and for collaboration on files in common documents, e.g., Navigate between feeds in different channels, "post" messages that can contain files, and use "@ mentions," e.g., to contact other participants.
	• Focus on both functions/ skills and virtual community culture: While getting introduced to the functions and possibilities of digital technology, it is vital to simultaneously facilitate that the participants learn/ agree on common uses/ concepts to collaboration/ communication, developing toward best practice/ common culture in the online community.

	• Both culture building and collaborative learning should be supported by common structures (e.g., common documents, models, or templates for tasks) built for and learned by the community; Shared structures (See frameworks) for collaboration can potentially achieve a function as emergent management; Promoting a common direction, shared purpose and content in common tasks.

How does the principle work best?
<u>Didactic structure:</u>
What to do before, during, and after the activities.
	• Media ideologies matter: It is an essential aspect of establishing the collaboration to recognize teachers' different competencies, understandings, and approaches to using digital technology in collaboration.
	• Building learning communities: The teachers learn in their social interaction (both when they are together and online synchronously and asynchronously) by preparing and developing teaching together - the epitome of being a hybrid learning community.
	• Start together face to face: Groups of participants/ teams develop common culture better by learning together. It is most effective to start up as a group together, e.g., learning common theories and methods in didactics/educational design; Participants find the common learning activities face to face and the dialogue in the group work most educational: By organizing and combining ideas for teaching courses by using the common structures/ forms for collaboration (online and face to face).
	• Early support to novices: When collaborating with external organizations from different countries, challenges can arise in collaboration on a platform such as Microsoft Teams. This is especially the case when the technology is new to participants who only have user rights as "guests," and you cannot be present to support those who are novices with no skills in using the technology. Frustrations in these cases highlight that one cannot rely solely on leaving the individual participant's development to their own "learning by doing."
	  ○ Participants must first learn the use of functions that support the opportunities for digital communication and mobility in Microsoft Teams to expand the target group's reach concerning communication, collaboration, and knowledge sharing.
	  ○ At first: focus on the simple functions and then on the more complex ones in the learning process. Also, focusing on the feature immediately interested the teachers after the introduction. Ensure that teachers understand when and how the program's features contribute positively to their collaboration. Be careful to ensure that teachers

	understand in which situations the program does not provide the best framework for contributing positively to their collaboration; Features for common construction in Office 365 (synchronous and asynchronous) are best supported on the teachers' laptops, as they have all the program's options available. Tablets/ mobile devices do not support all application capabilities. However, mobile devices support the team's professional communication by increasing the range and mobility synchronously and asynchronously. • Targeted competence development is necessary to develop basic competencies for the new technology. When considering this in an organizational framework, this (a focus on agreements on the culture of the shared space and competence development) should be included in the organizational management documents and development plans. • It is crucial to help participants to be able to control the technology's notifications so that participants are not unnecessarily disturbed by communications that do not concern them.

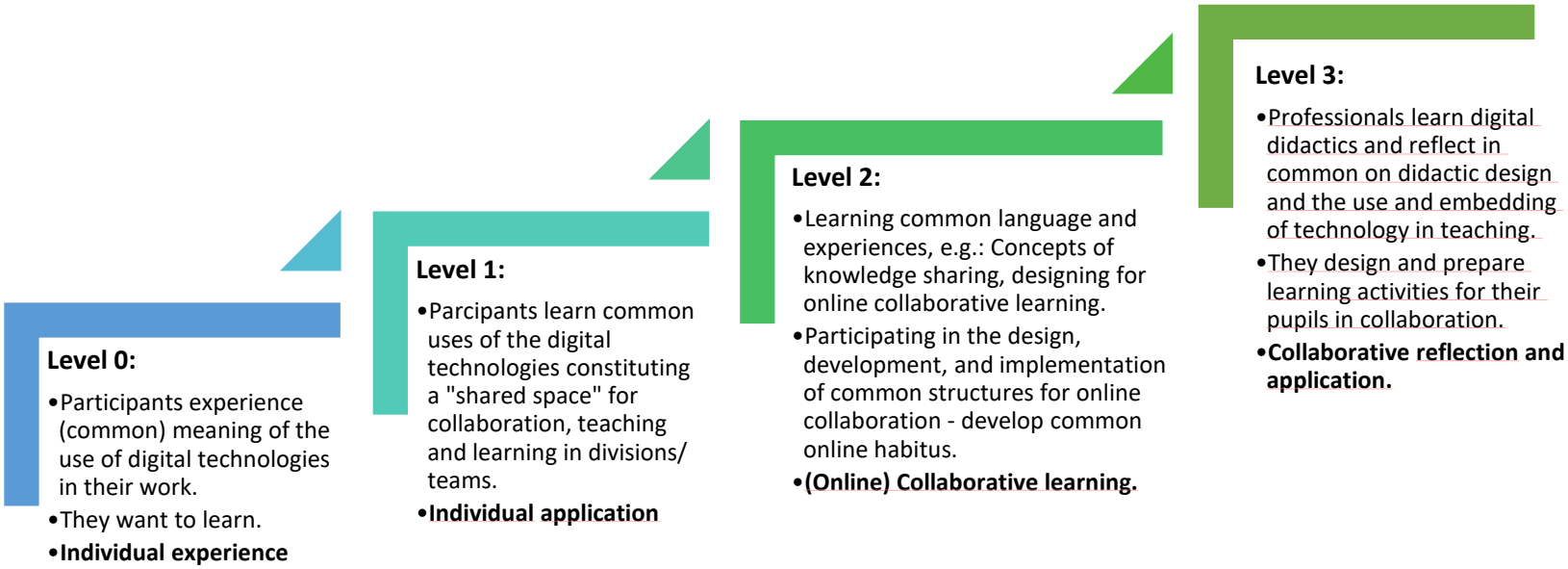
7.3 Outcome: What will learners be able to do?

After participating in the learning activities of the curriculum, teachers will have developed their individual and collaborative digital competencies to be leading participants in a hybrid learning community:

- They will (as a community/team) be able to cooperate and learn collaboratively in a shared virtual space[2] to develop and produce teaching courses for their students.
- They will be able to use ICT (technical, media, and online tools) in a much more comprehensive, targeted, and competent way to strengthen their students' learning with several topics and subjects.

We can understand teacher's development of competencies that supports a hybrid learning community in four steps/stages (see model below).

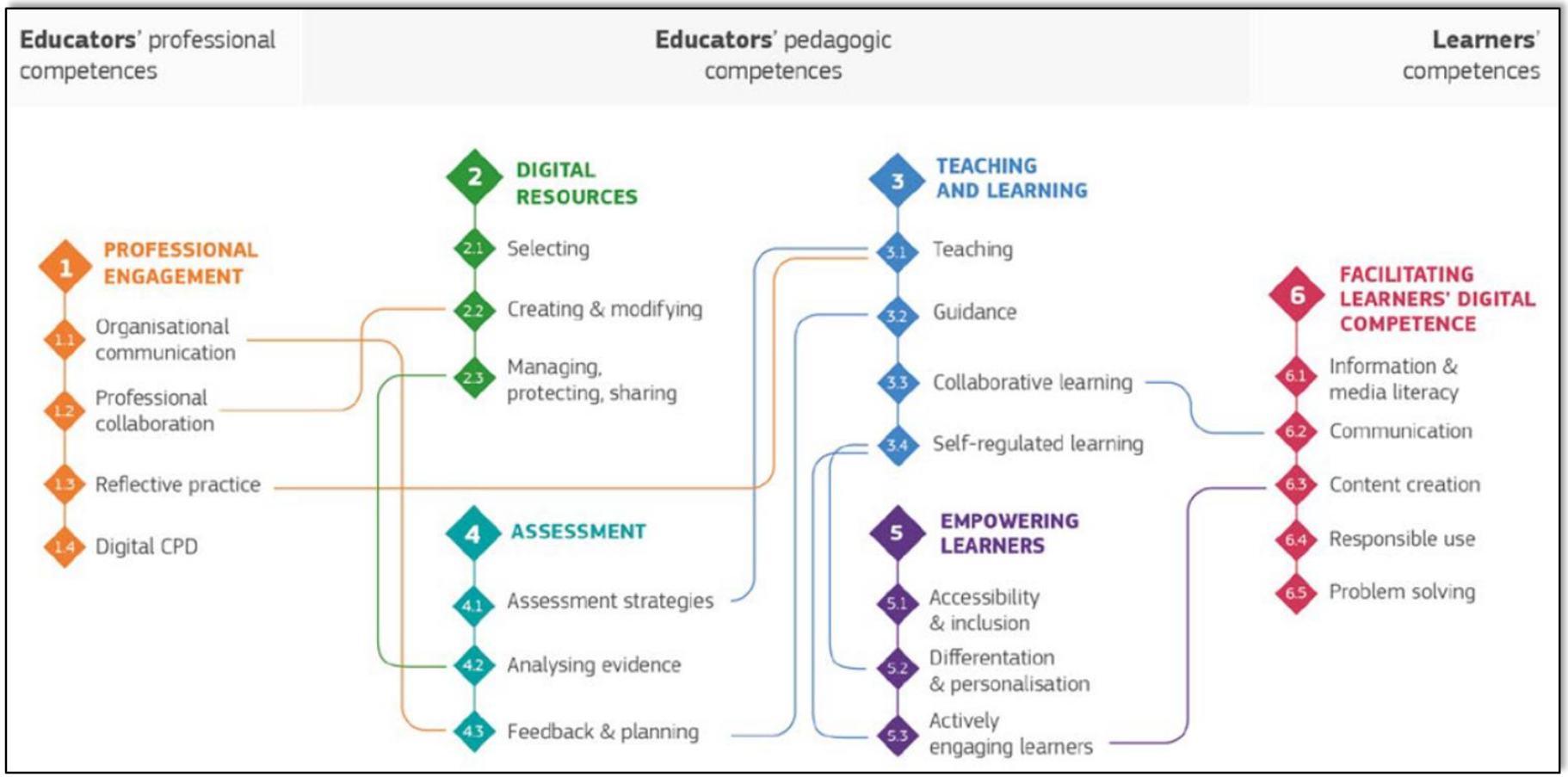
[2] Using the features of the Microsoft Teams platform.



"HLC–process": The development of digital competencies of the team/ learning community of teachers can be understood in steps/ stages.
Point of attention: The participating teachers in the HLC-project were characterized by already having some digital skills in education. However, these skills were linked to the use of different digital educational technologies. Thus, the teachers had differing starting points in learning with the technologies of the project.

7.4 Educational standards Alignment – The DigCompEdu Framework

Competency descriptions and learning objectives in the curriculum are based on the "European Framework for the Digital Competence of Educators" (DigCompEdu) by Christine Redecker & Yves Punie (2017).
The DigCompEdu framework distinguishes six different areas in which educators' Digital Competences are expressed with 22 competencies. The areas focus on various aspects of educators' professional activities:



The DigCompEdu Competencies and their connections (Redecker & Punie, 2017, p. 16).

In the HLC project, however, extra focus is given to the teachers' competence development within area 1 – the teacher's "*professional engagement*":

"Area 1 is directed at the broader professional environment, i.e., educators' use of digital technologies in professional interactions with colleagues, learners, parents, and other interested parties, for their individual professional development and the collective good of the organization." (Redecker & Punie, 2017).

When working with teachers' digital competencies in practice and educational research, it has often been focused on didactic training in the classroom and the teacher's use of digital technologies with the students. Danish research (e.g., Bundsgaard, Pettersson, & Puck, 2014) indicates that strengthening teachers' digital competencies to collaborate and share knowledge outside of teaching is a prerequisite for enhancing teachers' development of didactic competencies to use digital technology to promote students' learning in the classroom. Thus, a primary focus in the HLC curriculum is first on the teachers' competence in using digital technologies for communication, collaboration, and professional development. The teachers thereby also develop their digital competencies in the classroom, even with possible common approaches that can support common practice.

7.4.1 Chosen key learning objectives (DigCompEdu) for professionals

Between the 22 "DigCompEdu-competences," the HLC-project activities focused on the following areas and competencies:

Area 1: Professional Engagement:

1.1 Organizational communication: *To use digital technologies to enhance organizational communication with learners, parents, and third parties. To contribute to collaboratively developing and improving organizational communication strategies.*

1.2 Professional collaboration: *To use digital technologies to engage in collaboration with other educators, sharing and exchanging knowledge and experiences and collaboratively innovating pedagogic practices.*

1.3 Reflective practice: *To individually and collectively reflect on, critically assess and actively develop one's digital pedagogical approach and that of one's educational community.*

Area 2: Digital Resources:

2.1 Selecting digital resources: *To identify, assess and select digital resources for teaching and learning. To consider the specific learning objective, context, pedagogical approach, and learner group when choosing digital resources and planning their use.*

Area 3: Teaching and Learning:
3.1 Teaching*: To plan for and implement digital devices and resources in the teaching process to enhance the effectiveness of teaching interventions. To appropriately manage and orchestrate digital teaching interventions. To experiment with and develop new formats and pedagogical methods for instruction.*
3.3 Collaborative learning: *To use digital technologies to foster and enhance learner collaboration. To enable learners to use digital technologies as part of collaborative assignments to improve communication, collaboration, and knowledge creation.*

7.4.2 Chosen key learning objectives in student's learning activities

Area 5: Empowering Learners:
Using digital technologies to enhance learners' active engagement.

- *5.3 Actively engaging learners*

Area 6: Facilitating Learners' Digital Competence:
Enabling learners to use digital technologies creatively and responsibly for information, communication, content creation, wellbeing, and problem-solving.

- *6.1 Information and media literacy*
- *6.2 Digital communication & collaboration*
- *6.3 Digital content creation*

7.5 Learning prerequisites and progression (DigCompEdu)

Teachers' development of competencies is, of course, a very personal and subjective process. However, the curriculum must take a common approach to the level of competence that the learning activities should address; The DigCompEdu progression model (Redecker & Punie, 2017).
The teachers' progression can be considered differently within DigCompEdu's different areas. The learner's progression in DigCompEdu area 1 might not be similar to the progression in, e.g., area 3. However, in designing learning activities, we - the partners - generally perceived the participating teachers as "explorers" (level A2) at the start of the project:

- A2 Explorers *"are aware of the potential of digital technologies and are interested in exploring them to enhance pedagogical and professional practice. They have started using digital technologies in some areas of digital competence without, however, following a comprehensive or consistent approach. Explorers need encouragement, insight, and inspiration…."* (DigCompEdu, p.30).

Through their online interaction and collaboration in the project's learning activities, the participants should develop the competencies of an "integrator":

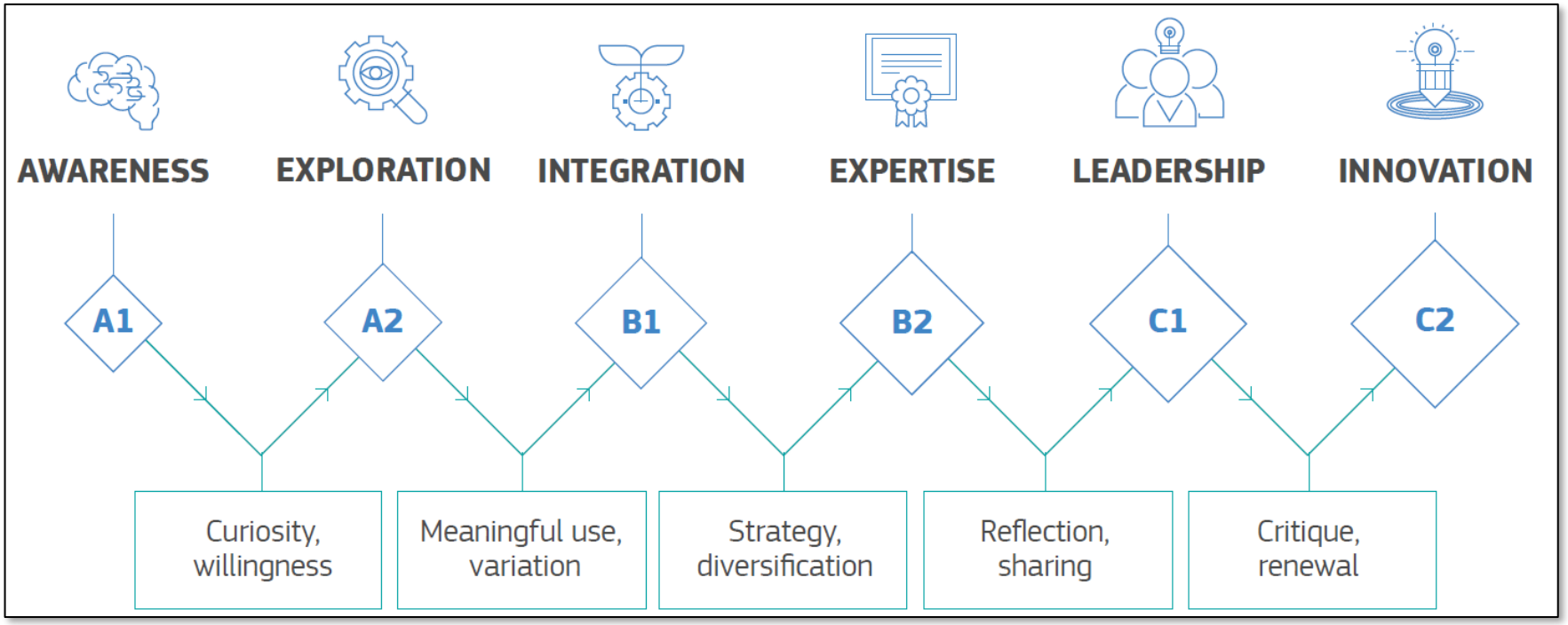
- B1 Integrators "*experiment with digital technologies in a variety of contexts and for a range of purposes, integrating them into many of their practices. They creatively use them to enhance diverse aspects of their professional engagement. They are eager to expand their repertoire of practices. They are, however, still working on understanding which tools work best in which situations and on fitting digital technologies to pedagogic strategies and methods. Integrators just need some more time for experimentation and reflection, complemented by collaborative encouragement and knowledge exchange to become Experts."* (DigCompEdu, p.30).

Some participants should even approach the level of "expert" (level B2), who passes on knowledge to other professionals:

- B2 Experts *"use a range of digital technologies confidently, creatively, and critically to enhance their professional activities. They purposefully select digital technologies for situations and try to understand the benefits and drawbacks of different digital strategies. They are curious and open to new ideas, knowing that there are many things they have not tried out yet. They use experimentation as a means of expanding, structuring, and consolidating their repertoire of strategies..."* (DigCompEdu, p.30).

7.6 Summarizing

1. Participants and educators assimilate new information in the first stages and develop essential digital competencies to communicate and collaborate.
    1.1. Webinar before “Joint Staff Training 1” (Workshops in Esbjerg).
    1.2. Collaboration in online communities on didactic designs before, during, and after Joint Staff Training 1.
    1.3. “Joint Staff Training 1” (5 days).
2. In the following stages, they apply, further expand and structure their digital practices
    2.1. Testing in the local classroom.
    2.2. Webinar 2 before Joint Staff Training 2.
    2.3. Collaboration in online communities on didactic designs before, during, and after “Joint Staff Training 2”.
3. At the final stage, they pass on knowledge and develop new practices.
    3.1. Testing in the local classroom and collaboration in online communities – finishing and publishing didactic designs.
    3.2. Webinar 3.
    3.3. Knowledge sharing with colleagues and “Multiplier events.”



The DigCompEdu progression model (Redecker & Punie, 2017, p. 29).

8 Results and methods for verification of participant's learning

8.1 Framework 1B: Basic didactic design principle: The common design of learning activities in the HLC project

Basic didactic design principle: The common design of learning activities in the HLC project Learning activities (during webinars and Joint Staff training) that are carried out to develop the competencies of the participating teachers must live up to the following requirements ...	
Target group Characteristics of the learners? The learner's experience Needs of the schools and the learners.	All participants. The participating teachers have extensive experience, with 69% having more than ten years of experience working with learning. Most teachers teach more than one subject.

Model/principle: The principle relates to… Key learning objectives Topics Difficulty level Key learning objectives	Collaborative activities where teachers design teaching materials in a hybrid community will develop 1) the teacher's competencies for online collaboration/ communication AND 2) understanding and competencies to use the pedagogical/didactic options and possibilities of the technical, electronic, and digital tools in the classroom. A strengthening of teachers' digital competencies to collaborate and share knowledge outside of teaching is a prerequisite for the teachers' development of didactic competencies to use digital technology to promote students' learning in the classroom. Thus, the project's learning activities focus first on developing the teachers' competence for digital collaboration. The HLC project key learning objectives for teachers (DigCompEdu) focus on the following areas described in the curriculum: **Area 1: Professional Engagement, Area 2: Digital Resources, Area 3: Teaching and Learning.** **Learning related to school subjects:** Teachers' collaborative design activities should focus on common subjects/ teaching domains OR designing for interdisciplinary projects between these subjects. In the HLC project, the communities form around 1) Language, 2) Science & Math, 3) Practical/ Musical subjects, and 4) Society/ citizenship/ technology. The use of digital technologies is an essential part of the student's way of working. **Learning related to digital competencies:** The primary focus of learning activities designed by the participating teachers for their students are following areas (described in the curriculum): **Area 5: Empowering Learners, Area 6: Facilitating Learners' Digital Competence.**
Resources The time and resources needed The local classroom (context)	Learning activities should be developed and organized so that the teachers collaborate for joint preparation and development of helpful teaching courses. Sufficient time must be used to support the development of teachers' competencies to collaborate. The teachers, however, work collaboratively to learn synchronously and asynchronously – thereby, the individual teachers organize parts of their learning. The context of learning is hybrid: The teachers thus learn in several contexts in parallel with each other - continuous individual reflection, their classroom, collaboration with colleagues in everyday life, and online collaboration with their learning community (synchronously and asynchronously).

When and how is the principle applied? *Pedagogy (teaching methods).* *Tasks: Type of tasks, (teaching-) techniques that support the tasks, tools/resources, interaction/ roles of those involved, etc.*	This principle should be implemented in all the project's learning activities. The section "Framework for common pedagogy and didactics" explains basic pedagogical and didactic theories that can be applied in the learning activities for students and participating professionals. Core design principles of OCL (Bates, 2019): The participants learning activities in the hybrid learning community (especially the webinars and asynchronous activities) could be designed using three key phases of knowledge construction through discourse: 1. Idea generating: To collect the divergent thinking within a group. (starts at the webinars) 2. idea organizing: To compare, analyze and categorize the different ideas generated through discussion and argument. 3. intellectual convergence: To reach a level of intellectual synthesis, understanding, and consensus (including agreeing to disagree) through the joint construction of educational materials. (Joint staff training)
How does the principle work best? Didactic structure: Most significant challenges and their solutions (Evaluation knowledge)	What to do before, during, and after the activities. The common structures (frameworks) for the didactic design of teaching materials and building a common culture in a digital space can be found in the appendix. It was a challenge to get all participants to understand the purpose, their roles, and their tasks. The participants worked with very complex tasks and knowledge with people they did not know. They had cultural differences in the group work, which had to be understood and solved in a second language using digital communication. Thus several teachers had difficulty understanding how to contribute in the beginning. -Cultural communication - misunderstandings can happen. -Differences in engagement and community work. -The differences in the participant's digital competencies challenge the communication/understanding and what can be expected from each other. However, the challenges are overcome for most teachers when meeting face-to-face in group work on the didactic design. Most of the teachers found this very engaging and memorable. Then realizing that the group had their ideas united and their ideas were growing, the different group members could relate, participate and add new perspectives and ideas for teaching that they individually would have never thought of. The community work was seen as very rewarding.

	An important note is that the teachers had their collaboration structured by the common frameworks of the project. The joint cooperation structures played a cameo role, which the teachers themselves also pointed out. Even then, teachers express a need for leadership in the individual communities – a supervisor or the like.

8.2 Professional's collaborative design for student learning

8.2.1 Professionals' didactic designs - Common approaches

References to research in the following section are based on Levinsen & Sørensen (2014)
The network society replaces the industrial community and requires that students develop additional competencies in school/ education besides basic competencies: reading, writing, and math. The fundamental competencies are supplemented by 3 new competencies

1. "Digital competencies": Information, media, and IT competencies.
2. Digital education - to be able to function and act in the 21st century "Digital Literacy" ("21st century skills")
3. The competence to take control in own competence development.

These competencies correspond to parts of DigCompEdu area 6.1: Facilitating Learners' Digital Competence; Information and media literacy. The student's development of these competencies (and other skills) is framed by the teacher's didactic design. So, what is didactic design?
Didactic design - a definition:
"The process where, based on theories and about practice in a specific context, goals, and content are determined, where plans, programs, concepts, organization and the arena for teaching and learning are designed, and where choices are made about modalities, media, learning resources, product form, presentation, and evaluation." (Levinsen & Sørensen, 2014 – own translation)
The realization of this is often a lot more complicated than the intention. Design is not just pre-planning and post-evaluation. The design process takes place in the learning process as an ongoing reflective interaction with the students in practice.

The idea that didactic design precedes students' learning processes in teaching is based on a (German-Nordic) understanding of didactics, where the doctrine of teaching AND learning is seen as a concept that deals with both PROCESS and a learner ACTING in the process. The didactic design thus contains intentionality:

- The teacher WANTS SOMETHING with the student's learning and their teaching.
- The student WANTS SOMETHING with their learning.

Research shows traditional didactic approaches are not immediately useful in an IT-integrating practice. This entails an increased need for teachers to learn new approaches to didactic design. Significant points of attention in this could be:

- Affordance concept: Affordance is the properties and functionalities of, e.g., technological objects that intuitively invite a particular action/ use. For example, a computer mouse demands (invites) that it be moved and that buttons are pressed. It is essential to explore the "affordances" associated with digital technologies.
- Web 3.0: Allows for new positions for student action. This ought to be a central focus for the school! Everyone can be senders, recipients, producers, participants, or partners.

The challenge: Teachers must collaborate to identify the properties/ functionalities of digital technologies in new ways. Teachers cannot "just" assimilate digital technologies into the school's usual teaching as before. This link between the possibilities of digital technology and teachers' practice in education has been the biggest challenge in education in recent years. Faster mobile internet and all that it entails of opportunities for communication and information retrieval are ubiquitous in everyone's lives in terms of smartphone technologies. Still, much practice in school and the role of the teacher is characterized by "printed media technologies" (the book) and the teacher as an expert who (cognitively) “transfers” knowledge to the learner. This "downloading strategy" focused on using and repeating experiences is the didactic of the past.

Digital media, unlike books/ writing, is multimodal: One can communicate using audio, text, photo, video, and link to other content on the web. It requires a new strategy, as well as giving up habits. The focus on the use of digital technologies in education has thus shifted:

Before	Now
Technology can increase student motivation, independence, knowledge sharing, collaboration, differentiation, and new teacher-student relationships.	*How can digital technologies facilitate learning processes and qualify learning outcomes in academic and interdisciplinary teaching?*

This focus appears different in the school's subjects. Subjects may use the same technologies differently, and different technologies are helpful in different subjects, examples:

- In project work, digital technology is an essential part of the student's *work*: The search for information, communication, collaboration, and presentation are increasingly IT-based.

Subjects and digital challenges:

- Language: Media and the expanded concept of text take up more and more space in teaching. Could online gaming be a new media genre? Social Media provides good opportunities to work with the language, e.g., through communication in other languages.
- Science and Mathematics: What might the content of these subjects be in the future when apps/programs today make(?) the learning of some skills needless in some students' mathematics practice?
- Music and creative subjects: Programs/apps provide new possibilities for recording, composition, and production. Focus on production instead of reproduction.

The didactics must allow the students to take control of their development (e.g., set goals for their learning).

The teachers must establish a framework that allows the students to take on new tasks and train themselves to collaborate. When the students recognize something new, they need to learn to honour goals for the learning processes. This is not a new way of acting for students - it works as in play processes. The challenge lies with the teacher to think this approach into the didactics/ framework design:

Develop IT-integrative designs that relate to how people play and relate to each other in a digitalized network society: Participation, sociality, networking, collaboration, production, publishing, multimodality, and globalization.

These competencies correspond to parts of DigCompEdu area 5: Empowering learners; Actively engaging learners.

Teacher and the student as didactic designers and learning through digital production (see the model in the appendix)

Danish research shows that students' digital production is a way of learning that qualifies the academic learning results when production is based on a teacher-made didactic framework design with clear goals and evaluations. Clear framing creates space for a process that supports students to organize and reorganize processes and negotiate meaning in a mutually exploratory dialogue and reflection that facilitates their learning.

These competencies correspond to parts of DigCompEdu area 6.3: Facilitating Learners' Digital Competence; Digital content creation.

When this happens, students produce to learn for themselves and for their productions to be used by other students to understand. This becomes a meaningful and engaging activity for the student. Thereby, it is not only the teachers who are didactic designers; the students also become didactic designers for their learning.

Basic design principles

- When the students "design," they work with: Choice of sub-goals, academic content, working methods, presentation, dissemination, and evaluation.
- The student MUST acquire project work as a form of work. Then the teacher can show confidence that the student can act based on the stipulated provisions.
- ALWAYS focus on evaluation competence; be able to give and receive criticism.
- Micro-management is meaningless in this approach to learning.
- REQUIREMENTS for students: They must WORK in a defined organizational framework.
- The main question the teacher must ask himself in the planning is: How do I set up a didactic framework design that allows students to develop their skills as didactic designers?

8.2.2 Framework 1E: Basic didactic design principles for the development of common teaching materials

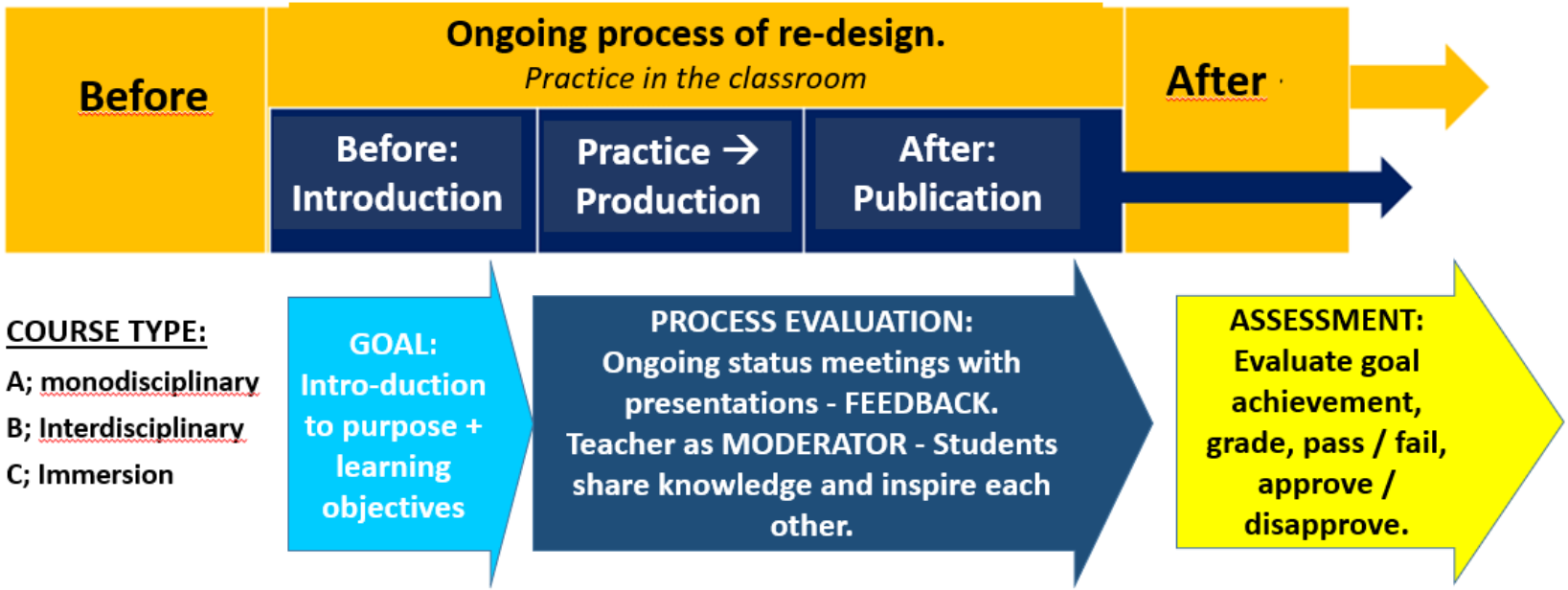
Basic didactic design principles for the development of common teaching materials The teaching courses that are developed for students in this project should be based on and follow this principle:	
Target group Characteristics of the learners? The learner's experience Needs of the schools and the learners.	All participating teachers must adopt these principles in their didactic designs. Most students are in the 8th-9th grade. Most students across all schools believe in the potential of using digital technology in learning processes. The students perceive themselves competent at using digital technology in their private communication.

Model/principle: The principle relates to…	The participating teachers will develop, plan, and produce educational material and thematic courses. This should create a better understanding and use of the pedagogical/didactic options and possibilities for the technical, electronic, and digital tools. The work through all work phases (webinars, Learning/Teaching/Training, and work in local and transnational Hybrid Learning Communities) will lead to materials and courses: 1) 2 x 4 items in 4 different subjects for students to be used and tested in all 4 partner organizations. 2) 2 x 4 thematic educational courses for students to be used and tested in all 4 partner organizations.
Resources The time and resources needed The local classroom (context)	Regarding digital resources – There are significant differences in digital technologies available to students in different countries. If digital technologies are required to participate, students must be able to participate using their smartphone and/or Ipad / tablet computer.
When and how is the principle applied? *Pedagogy (teaching methods).* *Tasks: Type of tasks, (teaching-) techniques that support the tasks, tools/resources, interaction/ roles of those involved, etc.*	**Basic design principles when working with student's digital competencies and/ or embedding digital technologies in teaching:** • Embed digital technologies to facilitate learning processes and qualify learning outcomes in academic and interdisciplinary teaching. Develop IT-integrative designs that relate to how people play and relate to each other in a digitalized network society: Participation, sociality, networking, collaboration, production, publishing, multimodality, and globalization. • Students' digital production qualifies the academic learning results when the production is based on a teacher-made didactic framework design with clear goals and evaluations. Students should produce to learn for themselves and for their productions to be used by other students to learn. • The main question the teacher must ask herself in the planning is: How do I set up a didactic framework design that allows students to develop their skills as didactic designers? When the students "design," they work with: Choice of sub-goals, academic content, working methods, presentation, dissemination, and evaluation. Micro-management is meaningless in this approach to learning. • When learning in project-oriented teaching: The student MUST acquire the understanding and skills of project work as a form of work before the teacher can show confidence that the student can act based on the stipulated provisions. • ALWAYS focus on evaluation competence; be able to give/receive constructive criticism.

	• REQUIREMENTS for students: They must WORK in a defined organizational framework.
How does the principle work best?	Teachers should incorporate digital technologies into the student's learning processes. Teaching: Design the teaching so that it demands the students to use digital technology to produce videos, presentations, photos, documents, etc. The students are motivated by using digital technology, and it makes sense for them. There is a potential in building on build on top of students' experience and digital skills; They use digital technologies for collaboration and communication for both schoolwork/ learning activities and private socializing with friends and family.

8.3 Framework 2: Theoretical model - Teacher and the student as didactic designers and learning through digital production

Teacher and students as didactic designers in 3 phases: BEFORE, PRACTICE, AFTER.
The teacher sets up a didactic framework - The students work independently in the framework.

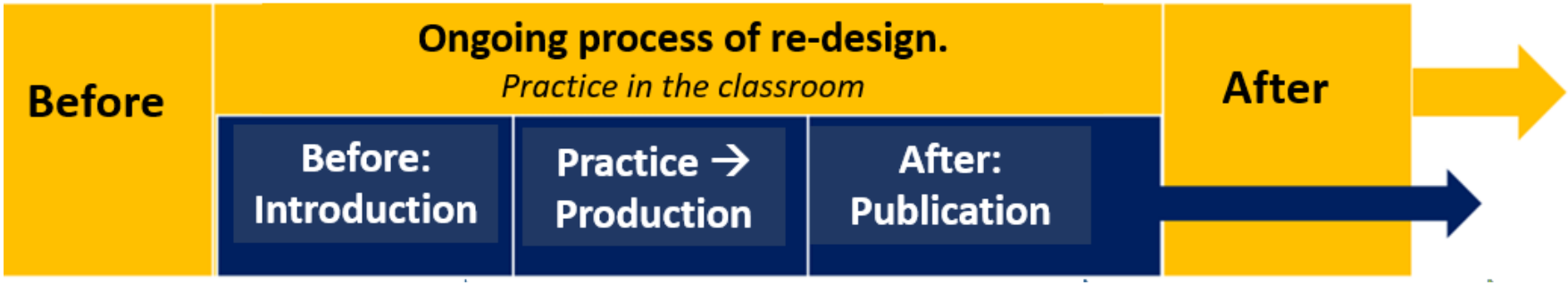


Models from: Levinsen & Sørensen (2014) - Edited by Leschly & Kjelgaard.

8.4 Framework 3: Framework for teacher's collaborative didactic design in HLC

8.4.1 Teacher and student as didactic designers in 3 phases

The figure illustrates the temporal connection between the teacher's and the student's work as didactic designers; The teacher sets up a didactic framework - The students work independently in the framework.



Model from: Levinsen & Sørensen (2014, p. 33) - Edited by Leschly & Kjelgaard

The relationship between the teacher and the student as a didactic designer

(Edited extract from Levinsen & Sørensen (2014))

When the students, based on the teacher's didactic framework design, make choices of goals, content, organization, and use of technology, the teacher's position is changed to be a leader who facilitates, supports, and challenges the students based on a theoretically grounded reflection in action.

When teachers and students are didactic designers, one can divide the process into three phases with focus. For the teacher, the three phases are:

1. **Before:** *Preparation.*
2. **During:** *Practice in class*

3. **After:** *Evaluation*

For the students' work, three similar phases are seen, which are embedded in the teacher's practice in the class:

1. **Before:** *Introduction and planning*
2. **Practice/production**
3. **After:** *Product/presentation.*

The teacher's frame of design also enables the students to sometimes have both preparation that lies before the work in the class and after the work in class with further work with their productions at home or in an after-school program.

8.4.2 Proposed framework for teacher's collaborative didactic design in HLC

(Explanations in the model are own edited translations from the description of the model in Levinsen & Sørensen (2014))

<table>
<tr><th colspan="2">The teacher's process</th><th colspan="2">The student's process</th></tr>
<tr><td>BEFORE</td><td>Here, the teacher plans the didactic framework design for the student's overall work and the teacher's role and activity in the practice phase.
In this phase, the teacher also works with the practical preparation of physical or digital spaces and any physical or digital materials that must be available to the students.</td><td></td><td></td></tr>
<tr><td rowspan="2">DURING PRACTICE</td><td>In the students' pre-phase, the students are introduced to and involved in the purpose via learning goals.</td><td>BEFORE</td><td>The teacher introduces the students. Maybe students have prepared via homework.</td></tr>
<tr><td>When the teacher reflects on his practice while the students work, it creates the opportunity for the teacher to modify his original design in the course itself and differentiate feedforward and feedback continuously, depending on the students' level.
The didactic framework design is thus dynamic, although it can generally be divided into phases delimited by deadlines. Both teachers and students,</td><td>PRACTICE/ PRODUCTION</td><td></td></tr>
</table>

	therefore, have the opportunity to re-design in the middle practice-oriented phase, where they can repeatedly and reflectively utilize experiences, qualified feedforward, and learning to change and modify their knowledge and choices.		
	In the students' after-phase, the teacher and student (s) make status and produce new agreements for student focus. The teacher thus sets the framework for his practice in the class and the overall course that the students must complete. The students 'overall course is embedded in the phase that, for the teacher, constitutes practice in the class, where the teacher acts as process leader and general project manager, and facilitator for the students' general course.	**AFTER**	
AFTER	In the "after-phase," the teacher evaluates and shares knowledge with colleagues for didactic development and design of future courses.		

8.5 Framework 4: Organizing ideas for the courses/ materials the community will create together

	Thematic course 1	Thematic course 2	"Monodisciplinary" item 1	"Monodisciplinary" item 2
Primary theme/name + Summary *("tweet size" 140 characters)*				
What is it we want our students to learn? *- key learning objectives or topics*				

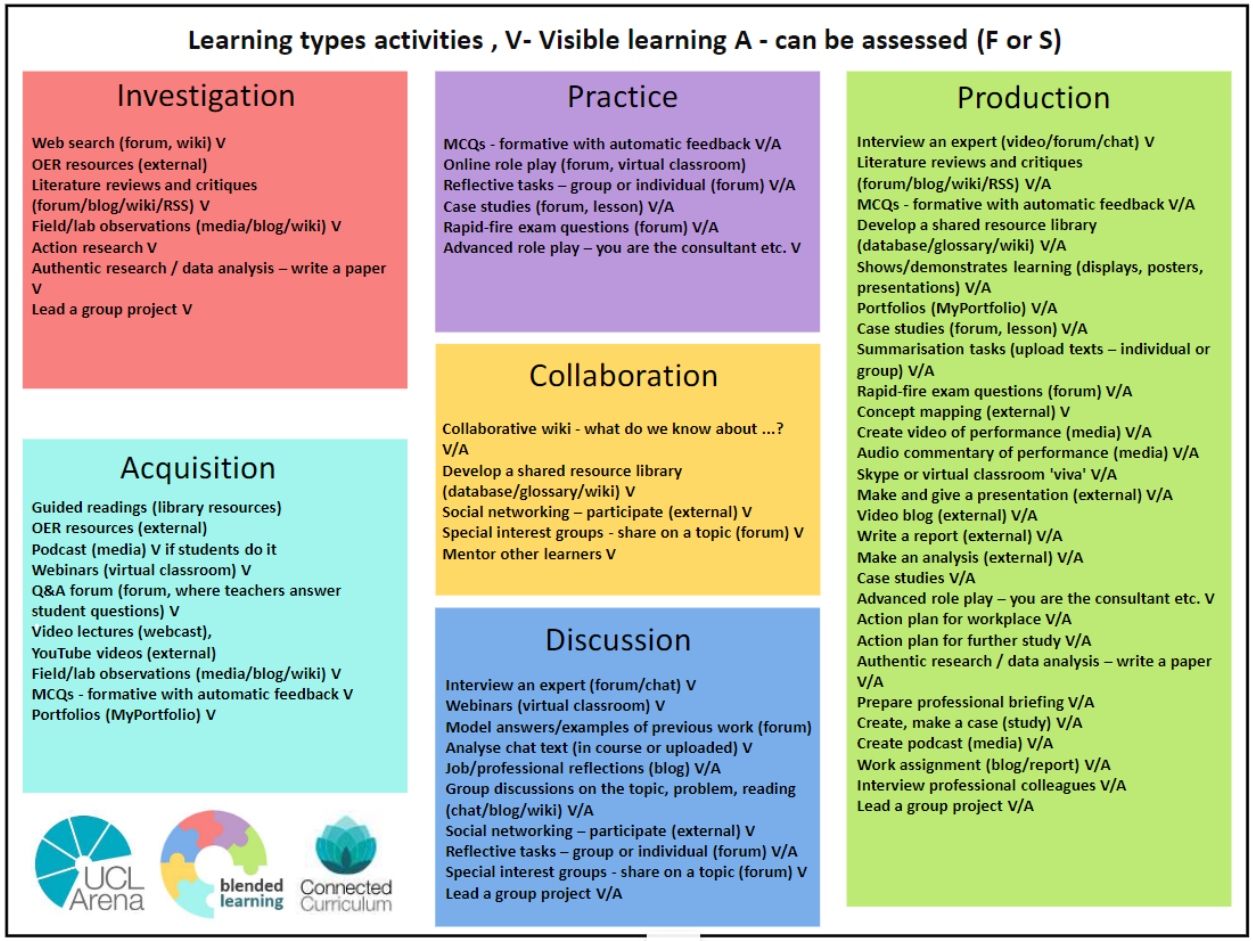
Resources *The time and resources are needed?* *The local classroom (context)?*				
Notes on tasks and learning types				
Student products				
Pedagogy (teaching methods) and points of attention.				
How can we know if our students learn anything? *How to support the academically weak and engage the strong?*				

8.6 Framework 5: Template for HLC- groupwork - Establishing a common culture for virtual cooperation in the HLC's shared space

	Questions for clarification/agreements	*Principles (Decisions/points of attention/notes)*
Goals & Tasks:	What do you need to do as individuals before you meet to continue your collaboration as a group?	• Common objectives/ Goals? • Individual tasks and responsibilities for the members?
Next meeting in your group:	1. Date and time - When is the group's next meeting? 2. How do we start the meeting/ who is responsible? 3. What is the key point(s) on the agenda?	**1. ..** **2. ..** **3. ..**

Realtime communication (video meetings in Microsoft Teams)	Future cooperation: For which processes do we use real-time communication (video), and how?How can we make our meetings via video as engaging and productive as possible? What do we do when we have technical difficulties?	*"Turn on your camera when we meet."* *"Sit in a quiet area, mute your sound if…."* *"Do not interrupt."* *…*
File sharing (Cloud)	Do we all agree on what materials/ files we should share and how we should organize our file sharing? How can we create joint working documents where everyone can contribute without becoming unmanageable? Should we establish any after today – e.g., The agenda for the next meeting?	• *Developing and organizing a common file-sharing structure in the channel + Naming (of folders) is a common concern…* • *Create common documents for the content of your meeting early and link to them in the feed to gather the team's input for meeting points.* • *Save documents from meetings in a common place.*
Asynchronous communication (Chat room/discussion forum)	Which symbols/emojis do we use - for what? How long post? How often? How can we have engaging online discussions without constantly disturbing each other with notifications? What tasks can we require that we complete learning processes in the team? Discuss your group's expectations for: - Response times? -Tone/attitude in the communication? -Activity level at different times of the day and weekdays?	Advice: • *Use channels/threads to cover different topics so that not everything is discussed in one long thread.* • *Start discussions/discussions of topics on the meeting agenda in the discussion forum in advance of the meeting to have plenty of time for important discussions and experience sharing/idea exchange/data collection.* • *Support for setting notifications according to needs and agreements.*
Organizing	How does it support maintaining appointments and follow-ups?	
Creative/visual production (online)	What does the group need? What common technologies could support this?	

8.7 Framework 6: The 6 learning types of Arena Based Curriculum Design



Source: University College London (2017): ABC (Arena Blended Connected) curriculum design (Web page with workshop materials). University College London; Digital Education Team Blog: https://blogs.ucl.ac.uk/digital-education/2015/04/09/abc-arena-blended-connected-curriculum-design/

9 Materials

9.1 What will learners do to prove their learning?

The learning processes are seen as hybrid in that they have taken place both in the individual teacher individually, socially through (online and offline) collaboration in the mediated shared space on the online platform, and not least through practice in the individual teacher's classroom. These collaborative (HLC) activities (webinars, Learning/Teaching/Training, and work in local and transnational Hybrid Learning Communities) are the primary indicators for the teachers' developed digital competencies.
Through the project's activities, the participating teachers collaborated on ideas for generating, developing, planning, and producing educational materials. Each of the project's 4 teacher learning communities collaboratively produced teaching materials: 2 "courses" and 2 "items."
The designed learning materials focused on 4 common subjects/ teaching domains OR interdisciplinary projects between these subjects:

- Language
- Science
- Practical/ Musical subjects
- Society/ citizenship/ technology.

The work in designing these activities should develop both the teachers:

1. Competencies for online collaboration/ communication *and*
2. Understanding and competencies to use the pedagogical/didactic options and possibilities for the technical, electronic, and digital tools in the classroom.

The materials and the teachers' statements about their own learning experiences are thus part of verifying the participating teachers' learning through the project activities.

9.2 How do we know that the teaching is effective?

General indicators of HLC-participants (the teachers) learning are:

- The participant's activities of virtual collaboration in their Microsoft Teams sites. From an OCL point of view, one would be able to observe indicators of learning in the activities in the online forum (The shared space):
    - Quantitative indicators: Observing increasing numbers of messages/replies and references to previous answers.
    - Qualitative indicators: Declaration of agreement/disagreement among participants. Improved in personal understanding. Shared understanding. Merging key ideas.
- Evaluation data: At the end of Joint staff training 2 (September 16th, 2022), an anonymous online evaluation was conducted. The 20 participants answered questions about their own experiences of learning. (Data available: "STJST2, Qualitative evaluation survey; participants' perceived learning in project activities").

Regarding the students' learning: The developed learning materials will be tested after completion of this curriculum, and the students will subsequently participate in the evaluation. Here, their perceived learning outcomes will be uncovered.

9.3 Language Group

9.3.1 Course 1

<u>Writing</u>

1. Teacher's preparation before the lesson:
    - Find an image or a number of images connected to the topic of the lesson.
    - Upload the image(s) into the "Image Reveal" app

(https://www.classtools.net/reveal/).

- Prepare some questions about the images.
- Prepare a Padlet (https://padlet.com/).
- *Optional: If you do not want to create your groups randomly, you can pair the students up, or make groups before the lesson.*

2. When the lesson starts, open the Image Reveal App and ask students to call out certain numbers to reveal the image. When the image is revealed, discuss the image with the students (use the questions prepared before the lesson). Ask the students what they know about the topic, what they want to know about the topic, why this topic is important and what they want to learn.
3. Introduce the Walk and Talk Activity with clear instructions:
    - Students walk in pairs or small groups in or outside the classroom for two minutes.
    - During the walk, they should discuss their ideas about the topic and talk about what they want to write.
    - After the walk, they write their ideas in the prepared Padlet.
4. If you haven't created groups before the lesson, do this now. *(Suggestion: Ask students to make a line according to their last name/their mum's name/their birthday etc.. Then assign a group number to each of them starting with the first student in the line. You can also use an app, such as https://www.randomlists.com/team*https://www.randomlists.com/team-generator*generator.)* Instruct students to do the Walk and Talk Activity in pairs/groups.
5. During the Walk and Talk Activity, share the Padlet link with the students. After the activity ask students to write their ideas in the Padlet. Display the Padlet on the board for everyone to see and moderate the discussion about the students' ideas.
6. Give clear instructions on writing:
    - Each pair/group has to write a text about the topic.
    - They can choose the kind of text they would like to write (an essay, a story, a poem, an article, a comic …).
    - They can use different sources to help them with their writing (books, articles, internet).
    - They should be CRITICAL when using internet sources.
    - Point out that their writing needs to be their own work.
    - They can write their text in a word processor or in MS Teams.

- They should be aware of their text's content, vocabulary, spelling, grammar, organization and cohesion, as their writing will be evaluated on those.

7. Students write their texts in pairs or groups.

8. The texts can be exchanged between groups for peer-to-peer assessment or assessed by the teacher, who also provides appropriate feedback.

Teacher and student as didactic designers in 3 phases in: Thematic course 1 - Writing

ıe teacher's process		The student's process	
BEFORE	- Find an image or a number of images that are connected to the topic and upload them in the "Image reveal" app (https://www.classtools.net/reveal/). - Prepare some questions about the images. - (If you do not want to create your groups randomly, you can pair the students up, or make groups). - Prepare a Padlet. Dashboard | Padlet		

DURING Practice	- Open the Image Reveal App and ask students to call out certain numbers to reveal the image. - When the image is revealed, ask the students to discuss the image. - Ask the students what they know about the topic, what they want to know about the topic, why this topic is important, what they want to learn. - Give clear instructions about the Walk and Talk Activity. - (Make random pairs or groups. Suggestion: Ask students to make a line according to their last name/their mum's name/their birthday etc.. Then assign a group number to each of them starting with the first student in the line. You can also use an app, such as https://www.randomlists.com/team-generator) - Share the Padlet link with the students.	BEFORE Introduction	- Call out certain numbers and try to guess the hidden image or images. - Talk about the image or images (their own ideas, answer the teacher's questions, talk about the aims). Walk and Talk Activity: - Students walk in pairs or small groups in or outside the classroom for two minutes. - During the walk they should discuss their ideas and talk about what they want to write. - After the walk, they write their ideas in the prepared Padlet.
	- Show the students what they have written in Padlet. - Moderates the discussion.		

	Give clear instructions on what to do next: ✦ Each pair/group has to write a text about the topic. ✦ They can choose the kind of text they would like to write (an essay, a story, a poem, an article, a comic …). ✦ They can use different sources to help them with their writing (books, articles, internet). ✦ They should be CRITICAL when it comes to the internet sources. ✦ Point out that their writing needs to be their own work. ✦ They can write their text in a word processor or in MS Teams. ✦ They should be aware of their text's content, vocabulary, spelling, grammar, organization, and cohesion, as their writing will be evaluated on those.		- Discuss everyone's ideas.
		PRACTICE Production	- Write the text in pairs or groups.
		AFTER Publication	- The texts can be exchanged between groups for a peer-to peer assessment.
AFTER	- Evaluate their work and provide each pair with feedback.		* This course can take several lessons to complete.

9.3.2 Course 2

Video-production (Speaking)

1. Class-introduction - After the clues and introducing to the topic. Divide in groups.

2. Preparation in the group:
   - Discuss the clues
   - Write down ideas on the topic
   - Choose one or more ideas and make a project-start ○ **What** is the story in the video? ○ **Who** is part of the story?
     - **Where** take the story place? Choose a location
   - Prepare a presentation on the idea (a dialogue, a script)

3. Class-discussion
   - Read/ hear the presentation, and write down questions for the other groups.
   - Give feedback for the other groups.

4. Back in the group:
   - Use the feedback and make your idea to a final script/ storyboard
   - Get the script approved by your teacher

5. Create a video:
   - Choose your roles in the making of the video. Who shall be:
     - Director ○ Camera-man/ -woman ○ Sound-man/ -woman

- Actors
- Choose the location and remember to have a permission. - And now shoot the video.

6. Edit the video
   - Talk while you look it through. - Is your video done?

7. Share the videos with the other groups.

Questions for the groups for peer-assessment:

- What is the story about? ○ How is the story presented? ○ How do they use the sounds? ○ How was the movie filmed and edited?
- How make it you feel?

Teacher and student as didactic designers in 3 phases in: Thematic course 2 - Speaking

The teacher's process		The student's process	
BEFORE	- Prepare a topic you want your students to investigate and make a video production in. - Prepare clues for speaking (e.g., text, video, game, picture). - Prepare some questions about the clues (e.g. What's in the picture? What's the theme of the video? Find other way to see this topic?) - Give clear instructions and criteria on the task (why we are doing that, what to do, how to do it, roles within the groups, length, speaking;		

	content, pronunciation, grammatical correctness).		
DURING Practice	- Present the clues. - Divide the class in pairs or small groups (You can focus on how good they are in working together. Do you want to challenge that or focus on the story making?) - Introduce video production: The story: ✦ Make a short plan for the story (start, middle, ending – narrator models) ✦ Write a script – who is going to say what? The pictures and sound: ✦ Make a story board - how to "shoot it" and which sounds/music to use. ✦ How do you want it to be edited?	BEFORE Introduction	- Are presented the clues (read, watch, play). - In the group: ✦ discuss the clues in pairs/groups ✦ write down ideas on the topic ✦ choose one or more ideas and make a project-start ✦ prepare a presentation on the topic (a dialogue, a script) - Class discussion (Prepare questions for other groups – feedback for the other groups). - In the groups: - Use the feedback and ... - Make a storyline/ script/ storyboard.

	- You can choose which of the parts of the story making and video production you want your students to use. - Approve the project and the student make the video.		
	- Monitor video making.	PRACTICE Production	- Creating a video: - Choose your roles: actor, camera, director. - Edit it – talk while you look it through. - Is your movie done?
	- Share the videos with other groups. - Questions for the groups for peer-assessment: ✦ What is the story about? ✦ How is the story presented? ✦ How do they use the sounds? ✦ How was the movie filmed and edited? ✦ How make it you feel?	AFTER Publication	- Let the student discuss each other's video productions (Peer-assessment of the products).
AFTER	- Evaluate the products according to pre-set criteria.		

9.3.3 Item 1

Reading

1. Teachers preparation before the lessons -Requires 4-5 lessons:
   - Find a text. Remember it must have a certain length (not too long) as it the process takes time.
   - Find a good spot for the Read'n'run. It can be in the classroom or outside.
   - Group-organisation:
     Random or pair the students up
   - Prepare a question with the theme or a word on a slide on www.mentimeter.com Remember to open for answers to the students.

2. First lesson: Students' knowledge on the subject/ the genre:
   - The students find the mind map on www.menti.com and insert the game pin given by you. - Brainstorming on genre or theme-understanding
     Ex.
     "*What comes in mind when you think of...?*"
   - They write their answers to the mind map on www.menti.com - Show the mind map and talk about it.

3. Second and third lesson: Read'n'Run
   - Supply the text for each group
   - Each group choose a reader, a writer and runners.
   - Place the reader in front of a line with runners. In the other end place a writer with a computer.
   - The reader reads a line from the text to a runner
   - The runner runs to the writer while memorizing the line
   - The runner tells the memorized line to the writer

- The writer writes (on tablet or in notebook)

After Read'n Run: "Awareness of the strategies"

- Read the text together and compare the writer's text with the original text - Talk about: ○The reader's strategy of reading to make the runners remember ○The runners' strategy to remember while moving ○The writer's strategy to listen and transform it to a written text.

4. Fourth lesson: The understanding part
   - Kahoot: Let the students create questions with answers for a Kahoot in smaller groups
   - Facilitate questions and discussion of what and how they succeed.

5. Fifth lesson
   - Preparation: ○ Facilitate questions and discussion of what and how they succeed.
     ○ Create a Kahoot on https://kahoot.com/ - save the pin.
   - Play the Kahoot on www.kahoot.com and enter the game pin given by teacher.
   - Evaluate in plenum: Put words on what they learned and what strategy they used to succeed

6. Evaluation:
   - Evaluate the report from Kahoot
   - Save the report for later evaluation.

Teacher and student as didactic designers in 3 phases in: "Monodisciplinary item 1" – Read'n'Run

The teacher's process		The student's process	
BEFORE	- Find a text (note the length (not too long) as the process takes time). - Group-organisation (random or pair the students up). - Prepare a question with the theme or a word on a slide on www.mentimeter.com (Preparation for teachers). Remember to open the answers for the students.		
DURING Practice	- Provide students with the Mentimeter PIN. - Brainstorming on genre or theme understanding (e.g. What comes to your mind when you think of...?)	BEFORE Introduction	- The students find the mind map on www.menti.com and insert the game pin given by you. Students' knowledge on the subject/ the genre - Students write their answers to the mind map on www.menti.com (+ game pin)

	Supply the text for each group. Find a good spot for the 'Read'n'run. It can be in the classroom and/or outside.	PRACTICE Production	- 'Read'n'run': ✦ Each group needs to choose: a reader, a writer and runners. ✦ Place the reader in front of a line with runners. On the other end place a writer with a computer. ✦ The reader reads a line from the text to a runner. ✦ The runner runs to the writer while memorizing the line. ✦ The runner tells the memorized line to the writer. ✦ The writer writes (on tablet or in notebook).
	- You can do your own Kahoot to emphasize the comprehension or you can check the students' questions and put them in a Kahoot (www.Kahoot.com; save the game pin).		- Awareness of the strategies: ✦ Read the text together and compare the writer's text with the original text. - Talk about: ✦ The reader's strategy of reading to make the runners remember. ✦ The runners' strategy to remember while moving. ✦ The writer's strategy to listen and transform it to a written text. - The understanding part: ✦ Kahoot: Let the students create questions for a Kahoot in smaller groups. ✦ Play the Kahoot.

	- Facilitate questions and discussion of what and how they succeed.	AFTER Publication	- Evaluation: - Play the Kahoot on www.kahoot.com and enter the game pin given by teacher. - Evaluate in plenum: Put words on what they learned and what strategy they used to succeed.
AFTER	- Evaluate the report from Kahoot - Save the report for later evaluation. - Look at what strategy they used to succeed.		

9.3.4 Item 2

Listening – Knee-to-Knee

1. Teacher's preparation before the lesson:
   - Prepare videos (find videos with lots of visual impressions). Suggested videos that can be used:
     - ✦ Kenzo World - YouTube
     - ✦ Toyota. Palli var einn í heiminum. on Vimeo
     - ✦ Lacoste - Timeless - YouTube
     - ✦ Snazilka - YouTube
     - ✦ Dansk busreklame storhitter - | TV2 Fyn - Make pairs.
2. When the lesson starts, give clear instructions on ***Knee-to-Knee Activity***:

- Student no. 1 sits on a chair with their back turned to the screen showing the video.
- Student no. 2 sits opposite them, facing the screen with their knees “almost touching” their peer’s knees.
- Teacher plays a muted video displaying it on the screen.
- Student no. 2 watches the muted video and describes everything they can see (trying to be as descriptive as they can be).
- Student no. 1 repeats everything they were told. Student no. 2 is not allowed to correct or interrupt student no. 1.

3. During the Knee-to-Knee Activity the teacher observes how the students are explaining and listening to each other.
4. After the activity, assess how the students liked the activity. Suggested questions: *How did you like the Knee-to-Knee activity? How active were you in the activity? How would you rate this lesson? What do you find important when you communicate? Which strategies did you use to explain what you saw?*
5. Evaluation with the students:
   - Watch the video together with sound and find out how good the students' descriptions were.
   - Talk about how sound and images in a multimodal video provide a better coherence in understanding.
   - Put words on what they learned and what strategy they used to succeed.
6. After the lesson, evaluate their work and provide each pair with feedback.

Teacher and student as didactic designers in 3 phases in: Item 2 – Knee to Knee

ıe teacher's process		The student's process	
BEFORE	- Prepare videos (find videos with lots of visual impressions). ✦ Suggested videos: Kenzo World - YouTube Toyota. Palli var einn í heiminum Lacoste - Timeless - YouTube Snazilka - YouTube Dansk busreklame storhitter | TV2 Fyn		
DURING Practice	- Make pairs.	BEFORE Introduction	
	- Observe how the students are explaining and listening to each other.	PRACTICE Production	- Student no.1 sits on a chair with their back turned to the screen where the video is. - Student no.2 sits opposite them, facing the screen with their knees "almost touching" their peer's knees. - Student no.2 watches the muted video and describes everything they can see (trying to be as descriptive they can be). - Student no.1 repeats everything they were told. (No. 2 are not allowed to correct or interrupt the repetition.)

	- Make an assessment to assess how the students liked the activity. (e.g. How did you like the Knee-to-Knee activity in the lesson? How active were you in the activity? How would you rate this lesson? What do you find important when you communicate? Which strategies did you use when you explained what you saw?)	AFTER Publication	- Evaluation. - Watch the video together with sound and find out how good the descriptions were from student no.2. - Talk about how sound and images in a multimodal film provide a better coherence in understanding. - Evaluate in plenum: Put words on what they learned and what strategy they used to succeed.
AFTER	- Evaluate their work and provide each pair with feedback.		

9.3.5 Summary

Organizing ideas for the courses/ materials the community will create together

	Thematic course 1	Thematic course 2	"Monodisciplinary item 1"	" Monodisciplinary" item2
Main theme/ name + Summary *("tweet size" 140 characters)*	Writing Write about a topic	Speaking Video production	Reading Read and run	Listening Knee to Knee
What is it we want our students to learn? *- key learning objectives or topics*	- to be able to talk and write about a certain topic - to be able to collaborate	- to speak and collaborate with the purpose to make a video production - to make a storyline – planning and coordinate a video production	- to be able to understand the text (reading, listening, writing, speaking) - to get to know more about a topic presented - to be able to put words (understand) how they learn	- to be able to describe in their own words what they see on a screen - to listen carefully and then be able to communicate what they have heard (listening and speaking comprehension)
Resources *The time and resources needed?* *The local classroom (context)?*	- space inside and/or outside - the activity requires several lessons to be completed - ICT (PC, laptops, or tablets)	- space inside and/or outside - the activity requires several lessons to be completed - Apps: Video Maker/ Capcut/Movie Maker	- space inside and/or outside - ICT (PC, laptops or tablets)	- space inside (chairs to sit on) - the activity requires several lessons to be completed - projector and screen

9.4 Group Science or Math

9.4.1 Course 1

Exercises in Microsoft Teams

1. Someone from the group writes a short message under "post" to the group. The rest responds to the message.
2. Someone else from the group creates and shares a Word document with the group. Name the document "Introductory exercises" The document is placed under "files."
    1. Everyone from the group must open the document so that everyone from the group can collaborate on the document.
    2. Together in the group, you will write a definition of general knowledge.
    3. Let me (the teacher) know via chat in Teams when you're done. Then I look at your document and comment.
    4. You need to qualify your definition based on my comment (the teacher) and respond to my comment (the teacher) when you're done

3. Video conferencing: Start a video conference with your group. Talk about how to do it. For example, you can do it under "posts" or "Schedule a meeting," which will be scheduled shortly. You must place yourself in different places in the school and start the meeting.
    1. Here you will try out different functions available in the "meeting room" – Raise your hand, chat, record, etc.
    2. When you have tried everything invite me (the teacher) to the meeting.

4. Digital literacy: How should we combine efforts in our team? Symbols and agreements.

- Agree with the group on how you use symbols. Agree with the group on how you show if the group has seen a message.
- Agree in the group on how often you should look at your team.
- Ensures that we understand each other.
- Avoid hurtful comments

Always agree after each meeting (both physics and online) • Who does what?

- When should it be finished?
- When will you meet again?
- Anything else that needs to be agreed upon?
    - ✦ Write down your agreements in a document that you call Team Rules. The document is placed under files.

Teacher and student as didactic designers in 3 phases in Thematic course 1 - "Establishing Hybrid Learning Communities in Microsoft Teams"

The teacher's process		The student's process	
BEFORE	Create an online community in M.S. Teams for the students. Make channels for each group. Get them to collaborate hybrid. Targets: • Students should become familiar with the technology and apply it in other situations. • Students learn the benefits of HLC. • Students gain insight into their learning process. Including gaining experience of entering a collaboration and its impact on their production/presentation and own learning process)		
DURING Practice	Small tasks showcase the different functions of Teams. Acquisition: The teacher tells them what to do and how to do it.	**BEFORE Introduction**	Microsoft Teams Online communication Symbols Express yourself online What does it mean? What do you write? Secure clear, decent, and kind communication.

	Building a joint digital output Collaboration: Small group project using hybrid learning forums.	**PRACTICE** **Production**	The students practice using the different functions in Teams that support and expand their learning. Learning by doing and reflecting together.

	Collaboration: When the teacher assigns homework, the students must communicate in teams to solve.	**PRACTICE Production**	Homework in the form of a math assignment where the students must use Teams to communicate to complete the task. Digital literacy: How should we (the students) join forces in our team? Symbols and agreements. - Agree with the group on how you use symbols. Agree with the group on how you show if the group has seen a message. - Agree in the group on how often you should look at your team. - Ensures that we understand each other. - Avoid hurtful comments Always agree after each meeting (both physics and online) - Who does what? - When should it be finished? - When will you meet again? - Anything else that needs to be agreed upon? Write down your agreements in a document that you call Team Rules. The document is placed under files in the HLC-Team.

	HLC evaluation: - How is the student's online communication in there HLC? - How is there use of symbols? - Do the students express themselves clear, decent, and kind? - Do they use HLC synchron and asynchron?	**AFTER Publication**	Community (HLC) Evaluation in MS Forms with the students. Student evaluation - Do I enjoy group work? - I was involved in the decision making when we started our work. - I listen carefully to others. - I took an active part in the conversation.
	- Are they respondent to each other's messages? - Can they collaborate in a document?		I did my job on the project. Make them rate themselves and their work.
AFTER	Guidance assessment / Teachers' evaluation • Interest/activity ▫ How much is the communicating on MS Teams? • Independence ▫ Focused ▫ Do I job without any support? • Initiative ▫ Are ready to take on new tasks ▫ Wants to improve • Communication ▫ Polite ▫ Responsible ▫ Want to help others		

9.4.2 Course 2

Volume and measurement - A design course

Part 1: Creating a box

1. Create a Brainstorm using PADLET for each group.
   What kind of box do the students want to create to use in the classroom?
   Sharing ideas from each group in Teams (the HLC method from course 1). Before starting, show pictures of different containers.
2. The teacher makes an introduction to the GeoGebra math program: How to draw a prism grid in GeoGebra: https://www.youtube.com/watch?v=Q4rKMO4sHoo
3. Draw one prism from the ideas from each group.
4. Draw a prism grid of their box on cardboard, cut it out, and make a box.
5. Calculate the area and volume of the box they made.

Part 2: Design a swimming pool

1. Design a swimming pool and a terrace for a family in the garden. The swimming pool needs at least 15.000 litres, and the depth needs a maximum of 1.7 meters. The terrace area needs to be a maximum of 30 m^2. Use GeoGebra to create a solution. Before starting the process, the teacher shows a different variation of swimming pools.

2. Make a brainstorm in the HLC Groups in an open Word document, and the teacher gives comments to ensure that the students are creative and search for better solutions.

3. Prepare an oral presentation that includes the results of the calculations and different drafts.

4. Make the presentation for the class.

5. Evaluation and feedback/feedforward in the HLC Groups. How can the students improve the design of the swimming pool and terrace?

Teacher and student as didactic designers in 3 phases in Thematic course 2 Volume and measurement – A design course.

The teacher's process		The student's process	
BEFORE	**Make groups** Divide the class into your chosen groups and establish online communities for their group work. Get them to work hybrid. Introduce the storyline. **Starter event/Icebreaker** Show the students a familiar object/canister like a bin already in the classroom. Q: How much water do you think we can fit in this bin? And then have a class discussion. Q: How can we calculate the volume? Students must investigate to find out how to calculate the volume. Q: What do we need to measure to calculate the volume using the formula you found? A triggering event that leads to exploration leads to the integration of the explored, leading to a decision. The teachers must support the groups.		
DURING Practice	Support them with physical and online feedback (teams) and by using the ABC learning types.	**BEFORE Introduction**	Brainstorming: The students will brainstorm in groups and use Padlet.

	An ongoing formative evaluation of the process. Evaluation of students' professional learning outcomes. Evaluation of their collaborative process and collaboration. Evaluation of the use of the technology -> HLC. Share and reflect with the team (teachers). *Diffusion of innovation* How do I feel along the way? What's it like to be a teacher in the process? Precisely share the dilemmas/insecurities that may arise in a new approach and unfamiliar teaching situation.	**PRACTICE Production**	Students must continuously evaluate their groups based on self-reflection and per-response with feedback and feedforward. In addition, the groups get teacher responses during the process and after submission, with feedback and feedforward. 1. Where am I going? (What are the goals?) 2. How am I going? (What progress is being made toward the goal?) 3. Where to next? (What activities need to be undertaken to make better progress?)
		AFTER Publication	
AFTER			

9.4.3 Item 1

Teacher and student as didactic designers in 3 phases in Item 1 “Describe an item”

The teacher's process		The student's process	
BEFORE	Make a schedule of when each student must do their presentation. Prepare a worksheet for the student to take home before their turn. Prepare your own presentation to demonstrate the game.		
DURING Practice	Showcase the game and as an introduction. Have a brainstorm in class where the students give ideas for descriptive sentences that can be used. Remind students when their turn is approaching and make sure that the worksheets are available. Be available for sparing and guidance.	**BEFORE Introduction**	The students try the game with the teacher as the lead. The students must think about what can be said to describe objects during the brainstorm. Then they participate in the game when their classmates are leading. When it is their turn, they are given a worksheet which explains the task.

	Initiate the game if necessary. Assist with keeping order during the game if necessary.	**PRACTICE Production**	At home: The student must find a container, decide how to describe it, and practice. The student can ask for help from the teacher in class.
	Be available for students who need help finding the right word etc.		
	Give and receive feedback and feedforward. If necessary, have a class evaluation. Remind and prepare the student who's up next.	**AFTER Publication**	The student brings the container to school and makes sure that it remains hidden from their classmates. The student stands in front of the classroom with their container hidden from view of the rest of the class. The student proceeds to describe one aspect of their container and let the class guess a few times. The student describes their container one aspect at a time, letting the class guess in between until the container is guessed. Feedback and evaluation as needed.
AFTER	Evaluate the process and your own level of guidance and involvement and adjust for next time.		

9.4.4 Item 2

Teacher and student as didactic designers in 3 phases in Item 2 - “Calculate the Volume”

The teacher's process		The student's process	
BEFORE	Prepare the worksheet for the task. The following preparations can be done through Course 1 “Establishing Hybrid Learning Communities in Microsoft Teams”. Divide the students into groups of two-four. Introduce the groups to Microsoft Teams and create channels for the groups. Make sure that you have access to all group channels.		

DURING Practice	Introduce the assignment. Be available to assist the groups with the tasks they must complete in school.	**BEFORE Introduction**	Listen to the introduction. Read the worksheet and complete the tasks that need to be done in class. At home: Find a suitable container, take a picture and upload it to teams.
	Monitor the groups. Make sure that they have a meeting scheduled and monitor their online communication.	**PRACTICE Production**	Team-meeting: calculate the volumes of each container. Upload your calculations and prepare a presentation in class.
	Conduct the group presentations. Conduct an evaluation in class. Make a formative assessment of each students' participation, understanding and intellectual output of the assignment.	**AFTER Publication**	Present your containers and calculations in class. Give and receive feedback and feedforward. Evaluate.
AFTER	Evaluate		

9.4.5 Summary

Results

The students experienced that the digital space and opportunities helped them. They could figure out how to use it quickly, and they thought it made sense to them. Mainly when they used it right. The students found the way of working exciting and wanted to use the digital space and possibilities more. The students liked open tasks, but we must encourage their creativity because they still tend to look for the most effortless ways to save a problem.

The hybrid - HLC method works. The student's learning expands, and the "space" merges and is not just analog or just digital. We experience great potential. The method provides a better opportunity for teacher feedback and feedforward. We see more qualified responses from students. The HLC method is also suitable for making differentiated learning activities.

Teachers' guidance

These guides are points of attention that the teacher should pay attention to when using the material. Points of attention support the material and should ensure the best possible learning for the students.

Starting exercises: Students must try the different functions and starting exercises. Team rules: Clear group rules and agreements must be established.

Online communication in the HLC groups works well when students are scaffolded and guided by the teacher.

The use of symbols works well if students are tasked with agreeing on rules and the use of symbols in their group.

Be aware that There's always someone in a group who doesn't do much, and not everyone is equally good at participating.

Get the students to be more creative by setting clear criteria so that it hampers the easy solution. Create assignments that force students to think outside the box. The teacher can inspire the students by showing other creative solutions through words, pictures, and videos.

Ongoing process: It is continuous work to maintain excellent group work. This requires guidance and process evaluation.

9.5 Practial and musical subject

9.5.1 Course 1

Physical education - "WHY do we do physical?"

The students make a short video in groups (3-4) about a sport and understand the purpose of some of the physical education they receive.
The video can be sent to other students from other countries, and they reply with respons and feedback.

Introducing the course for the students.
The schedule shows, that the students need to consider before filming the video.

pupils-checklist	- Why did you choose it? - How will you show it? - Background about the sport? - What are the physical benefits, and why is it importent for you/your body (depending on the classlevel of the student)? - What equipments do you need?

	- Are You talking in english or in your own langues? - Decide what digital editingtool you will use to edit.
Roles	- Videografer - Actor - Voiceover - Editor
Manuscriptmodel checklist	- **Introduction:** - An intro where you explaine the name of your sport - Tell the background of your sport - **Practical showing:** - Show the sport. How do you do it. - Benifits physological/anatomy - **Outtro:** - A statement to remember the video by

The students start filming the video and then editing.
Finaly the video must be uploaded in Teams, so students can see each other's videoes. You can see them all together or in groups, and then give feedback.

Teacher and student as didactic designers in 3 phases in: Thematic course 1

	about	The student's process	
BEFORE	The teacher needs to ajust the course to their studients age and the timescedule for the class. And the teacher can choose if it is sports in general or a specific sport f.x. football and then devide differents parts of football to the groups. Make groups at 3-4 students Create a presentation about the project including a presentationvideo, roles in teamwork (defining roles in teamwork) In the introduction the teacher can recomment differents apps f.x. Capcut and IMovie but the students are allowed to use other apps if they are more confient in using an other. Creating a hybrid space to communicate in for each group **Make scedule for pupils-checklist:** - Why did you choose it? - How will you show it? - Boackground about the sport? - What are the physical benifits and why is it importents for you/your body (depending on the classlevel of the student)?		

	- What equipments do you need? - Are You talking in english or in your own langues?		

	Roles: - Videografer - Actor - Voiceover - Editor **Manuscriptmodel checklist:** - **Introduction:** - An intro where you explaine the name of your sport - Tell the background of your sport - **Practical showing:** - Show the sport. How do you do it. - Benifits physological/anatomy - **Outtro:** - A statement to remember the video by		
DURING **Practice**	Guide the Brainstorming	**BEFORE** **Introduction**	Brainstorming on the subjetcs during the schoolyear

	Supervise the groupwork and give feedback in both the hybride room and in person Check the students maniscrips before filming	**PRACTICE** **Production**	Organize the groupwork and find out the roles Use the hybride room Fill out the maniscript model – students give feedback to each other. The feedback will be in the hybride room with comments. Make sure the teacher check the maniscript before continuing. Rehearsmanuscript Filming the video
			Decide what tool they will use to edit Editing the video Upload the film to Teams

	Upload the videos to other partners in HLC in MT. Organize videos from the other schools and give a video to your own school-studygroup. Find out how many groups can speak english because of the feedback translation. Before the evaluation with the student, we will introduce to civil communitation online and start a diskussion about the topic before they do the evaluation to each other. https://www.commonsense.org/education/uk/digital	**AFTER Publication**	Show the video to the class Give feedback on one video from an other school and send it to the teacher in Teams.
AFTER	Evaluate the project		

Pro's	**Con's**
You can fit different themes in this course	It takes a lot of time to do the whole course

	It's a very big course – maybe adjust to focus on small parts of the sports
	The evaluation across country will maybe not work when this course is put on the website?

9.5.2 Course2

GPS-run

To do this course you will need:
You and each group of the students will need a phone with a GPS app

Part 1: Before you start

1. Download a GPS app f.x. Turf Hunt, Find2Learn
2. Create posts in the app. Depending on the time available you can make a suitable number of posts. In this course we have made 10 examples, but it depends on your surroundings on your school facilities and your time available. The example is in a list below.

Part 2: Let's get started

1. Make sure the students download the app know how to use it. Make an introduction if needed
2. Divide the students into groups

3. The students start the run and the teacher monitor the students during the run
4. The students upload pictures, videos and other materials while they solve the posts

Part 3: After the run

1. Make sure all students have understood the questions in the end. Talk about the pictures, videos and other materials

The outcome of this course

This course can be used when your students want an active break from teaching and when the teacher want to check the student's outcome from the teaching.

Task suggestions

Task 1	What exercises could you do to build up muscles? Make a short video where you do the exercise	
Task 2	What exercise could you do to make your body relax? Make a small video of you doing it	
Task 3	Make this tabata-workout	Link to a tabata work out (4min): 4-Minute Fat Burning Workout | Tabata for Beginners - YouTube

Task 4	Take a picture of a place you find relaxing	
Task 5	You are having a heart attack, what can you do to calm down?	
Task 6	What exercises can you do to make the heart beating very fast? And why is it important to exercise your heart?	
Task 7	It is very important to thing about your mental health – a way of doing that is though mindfulness. Find a place where you can sit down and be quiet for 1 min.	
Task 8	Do 3 stretching exercises and take a photo of them	
Task 9	Why is it important to be physical active every day?	
Task 10	Get the ball in the basketball hoop 10 times. How long did it take for you?	

Teacher and student as didactic designers in 3 phases in: Thematic course 2

	The teacher's process	The student's process	
BEFORE	Download the app and put the tasks on the "map" Make sure that the students have the app and know how to use it Make groups (2&2) **Tasks suggestions:** - What exercises could you do to build up muscles? Make a short video where you do the exercise - What exercise could you do to make your body relax? Make a small video of you doing it - Make this tabata-workout		

	- Take a picture of a place you find relaxing - You are having a heart attack, what can you do to calm down? - What exercises can you do to make the heart beating very fast? And why is it important? - It is very important to thing about your mental health – you could do that though mindfulness. Find a place where you could sit down and be quit for 1 min.		
DURING **Practice**	Give the students an introduction to the app	**BEFORE Introduction**	Download the app (the country decides witch app)
	Monitor students in practice	**PRACTICE Production**	Do the gps-run and solve the tasks by videos or pictures
		AFTER Publication	Upload pictures/videos to Teams

AFTER	Talk about the questions, so everybody understands the questions. Talk about the student's pictures and videos.		

9.5.3 Item1

Physical education – "Video delay"

Program called "VLC media player" is free to use and has a good feature that is useful in P.E. class. It is time delay which provides students with instant visual feedback after an exercise.
Set up your laptop and external web camera and point it to an area were student are going to do an exercise.
Instructions on how to set up your laptop:

1. Get VLC media player application on your laptop
2. Open "Media"
3. Select "Capture device"
4. Select your preferred video capturing device that is connected to your laptop (for better angles use external camera)
5. Adjust "Caching" for video delay in ms (video delay time)
6. Select "Play"

This type of feedback is very beneficial for students because they can see their own movement from other perspective. They can adjust and correct on the next go. Verbal feedback is also very important but for student to see themselves performing is even more. Teacher can add verbal feedback after or during the video.
VLC media player is a good tool for this job because videos are not saved on computer. This saves computer storage, can work for a long time and there are no privacy issues. Teacher is just streaming content and not recording.

Teacher and student as didactic designers in 3 phases in: Item 1

The teacher's process		The student's process	
BEFORE	The teacher needs to know how to use the program VLC media player and the video-delay functions The camera, laptop needs to be prepared Choose the exercises for the students to record		
DURING **Practice**	Introduction to why the teacher are using the video delay – a feedback tool, the student are able to adjust the movement by seeing their own movement	**BEFORE** **Introduction**	
	Give feedback to the student	**PRACTICE** **Production**	Do an exercise Remember to go to the teacher to get the feedback
	Give feedback again This can continue until student and teacher agree to finish	**AFTER** **Publication**	Adjust the movement and try again
AFTER			

9.5.4 Item2

Gps-the run

With this GPS run you can bring interactivity, movement and learning together at the same time.
As a teacher you can define your own professional content and it can be used in all subjects. For using the GPS run you need to prepare the tasks or questions on your computer. You can do that in different ways, for instance as a multiple choice or as a free text.
You must place the different tasks on a map, point out where the start and finish line are. After that the run is ready.

Your students need to have:
- A mobile phone
- Data.
- An app.
- A time schedule for the run.

You can choose to do “the run” in groups or individual.

Teacher and student as didactic designers in 3 phases in: Item 2

'he teacher's process		The student's process	
BEFORE	Install the app f.x. Find2Learn, Turf Hunt, Teach OUT The teacher needs to know how to use the program. The teacher makes the posts. Be aware of time and distance.		
DURING Practice	Follow the groups process on the app if it's possible.	**BEFORE Introduction**	Install the app.
		PRACTICE Production	If the student finds a post which is too difficult to solve, they need to remember/write the post number down to the teacher, but continue to do the run.
		AFTER Publication	Follow-up with all the other students in the class and the teacher.

AFTER	Following up on wrong answer from the student. Or going through all the posts on the big screen in the classroom and get the students to answer again		

9.6 Society and citizenship

9.6.1 Course 1/Item 1

<u>"Who am I?"</u>

HLC-relevance (Student's learning):

- 1) Empowering Learners: Using digital technologies to enhance personalization and learners' active engagement.
- 2) Actively engaging learners.
- 3) Facilitating Learners' Digital Competence.
- 4) Digital content creation.

Focus:

- Student to investigate and describe their own identity. They produce an individual presentation using digital technologies. Contents are both written, visual, musical/ audio.

Background & purpose:

- People in Europe are exposed to extreme and polarizing ideas on the identity political agenda. By letting the students examine and uncover their own identity and discover others' identities, we want to prepare the students as democratic citizens; To take a position on an informed basis rather than running with false narratives or distorted political agendas.

Subjects and duration:

• Identity is developed over time and through very different experiences and ideas, the course could spread over a large numberof teaching subjects - thus potentially a long duration.

Item 1: We developed basic questions for the students in a "template".

• We wanted the students to…

1. Explore their background/ past (family/ ethnic/ cultural/ national) and share this → Role models
2. Reflect on their present (friends, interests) and future life (education, profession) → share their thoughts on their future plans
3. Reflect on the meaning of having a national and/ or European identity → share their thoughts on this.
4. Work creatively to visualize this knowledge → self portrait.

• To support the students understanding of the task, I filled some parts of the template myself to show the students how.

The teacher's process		The student's process	
BEFORE	1. step = How many hours? E.g. 8-10 lessons 2. step = What goals I want to achieve? The student must investigate their own identity and their way of learning – describe themselves and their prospects of their future. Students practice three language, the mother tongue, English and third language (german, spanish, french or other) 3. step = What goals students will achieve in the end of this course? To answer the questions in the project description and put it together in video (iMovie, Instagram, TikTok, Snapchat and other apps).		
DURING Practice	Let them think about what identity is. Put it in word cloud: https://wordart.com/ or in other ways. Let them brainstorm about themselves.	BEFORE Introduction	Students writes answers about what identity is and then they tell one another.

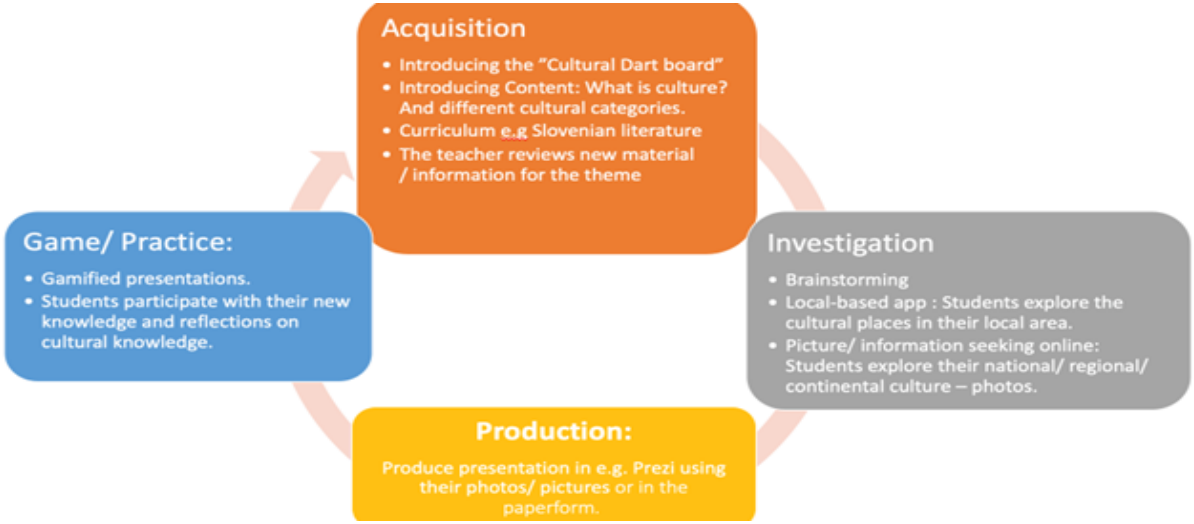
	To give them project description and tell them about all the steps. It is important that the teacher is participating as an explorer and not as an expert, that has all the answers. Supporting them in their development and reflection of their own self identity and to know and accept others.	PRACTICE Production	Students are answering the questions in the project descriptions and working on their project. They write down everything and they have to take a video or presentation on slides of their portrait.
	Listen to their presentation and give them feedback how it was.	AFTER Publication	Students show their video to others or their presentation and see the differences between one another and find out if there is something missing in their project. Extra tasks: write a letter to grandparents about themselves and the grandparents write back if they can.
AFTER	Think about how it went and did we achieve our goals. What do we want to do next with the students? Work further into understanding the self-identity in the next project.		

9.6.2 Course 2 and Item 2

Teacher and student as didactic designers in 3 phases - Course 2

Hybrid Learning Communities – Subjects: Society, citizenship & technology, Project description:
Project description: "What am I a part of?" (Understanding Culture)
Summary: Students explore culture; Their own and those of other people. Connected items are used for both individual and social learning processes. The teacher's approach to this theme is through a circular didactic; visualized in the model below. The process can be repeated multiple times. To get deep into the subject, students must be introduced to new perspectives/ content on each rotation. As we deal with cultural knowledge, the content very much depends on the teacher's local context. The purpose of the materials is to support the teacher and the students to categorize their investigation. The student's structure their cultural knowledge by putting it onto "the Cultural dartboard"

9.6.3 Circular didactic structure



PART 1 - ACQUISITION:

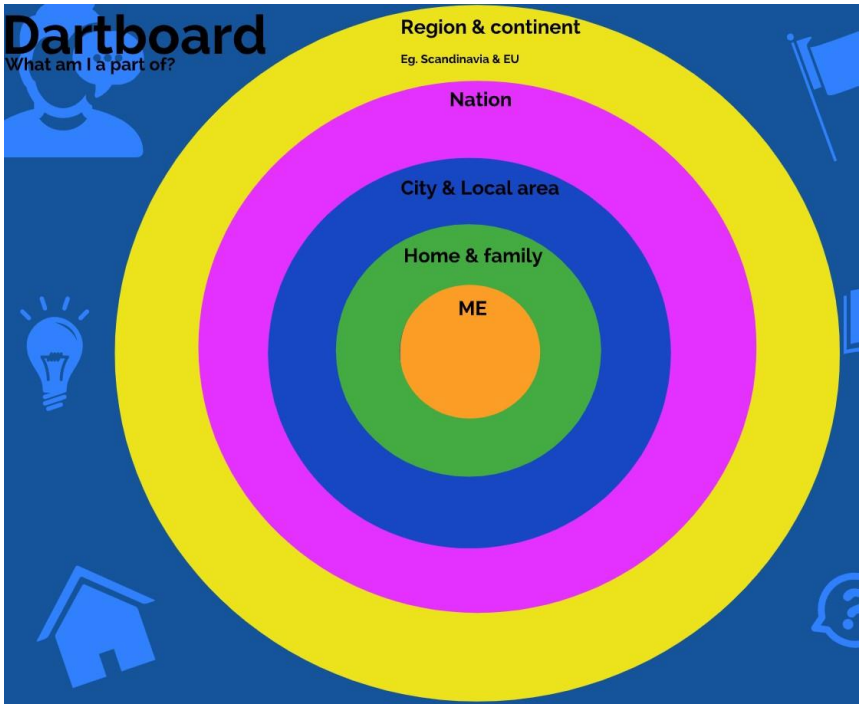
Using e.g. presentation slides and “the Cultural dart board”, the students are introduced to:

1) The different understandings of culture:

-Culture as values, norms, habits, rituals and knowledge that give a group a distinctive character and a collective identity.

- Culture as a process: Knowledge, meanings and values that people share and negotiate within social communities.
- Cultural activities meet people's needs: E.g. gastronomy - need for nutrition. Fashion - need for clothes. Architecture - need for housing. 2) The concepts that will help structure the investigative learning of the student’s culture:

The “layers” of culture	Cultural categories
• Individual layers: Me, my home and my • family. • Local City & Local area. • National/ Nation Regional & continental; E.g. Scandinavia & EU	Language & national culture. Nature forms a framework for people's living conditions and culture. Art in one form or another forms an essential element in all human cultures. Sports, play and physical activities/sports - important source of people's learning and development.


Dartboard
What am I a part of?
Region & continent
Eg. Scandinavia & EU
Nation
City & Local area
Home & family
ME

Dartboard
What am I a part of?
Me
• WHO AM I?
• Name
• Age
• Picture
• Favorite food
• Favorite things
• Interest/ hobby
• Taste in Music
Home and family
• Picture of your home
• Family members
• Common interests
• Music
• Interests
• Traditions
• holidays
• Food
• Song
• Dates
City and local areas
• School
• Sports clubs
• Buildings
• Surroundings
• Places
• Municipality
• Social organizations
• Politics
• History
Nation
• Flag
• Politics
• Common traditions
• Music
• Sports
• Food - drink
• History
• Anthem
• Religion
• You and your nation
• Language
• You and the nation
Region and Continent
• Conventions
• EU
• Nato
• Music
• Politics
• Combined nations
• History
• Type of Government

Part 2- INVESTIGATIVE ACTICITIES:

Brainstorm - What does the word culture mean to you?
Teacher info: Students have 5 minutes to write down what culture means to them.
After: Teacher and students reflect on the student's thoughts.
Student assignment: Write down everything that comes to mind about what culture is and what it means to you; On a piece of paper or in digital form.

Local based app
Teacher info: Use a location based learning app. E.g., Turfhunt, Find2learn, TeachOUT.
Plan the route and point out some places in your area/ city. This is an active way for the students to gain more local cultural knowledge.

- Example of a post in the activity could be: "You now stand in front of the city's football stadium, what does the city's football team mean to the city and to you?" … "Take a picture of yourselves at the stadium for your presentation later." Put the students into teams and let them answer and find new knowledge together.

Student assignment: Get the local based app downloaded on your phone. Take off with your group and respond to all stops on the tour.

Picture and information seeking online:
Teacher info: Students explore new information in the different cultural categories and thereby gain new knowledge. The info they find they "put into" their dartboard in the form of key words/ notes and pictures.
Student assignment: Explore new information and gain new knowledge about culture. Use the circles from the dartboard, and the helping word for inspiration. Put in key words from all the info you find info the dartboard.

Part 3 – PRODUCTION – Creating individual cultural dart boards **Dart board - Fill in your knowledge about culture.**

Teacher info: Students write in their mother tongue about their own culture and the culture around them. This can be writing in a digital version or paper version. The student's also use their dartboard to fill in key words from cultural knowledge. The same paper/ digital version must be used each time the student gain new knowledges.

Student assignment: Take the Dartboard and fill in all the knowledge you have now about your own culture and the culture around you. Every time you have gained new knowledge, it must be written in the dartboard.

Part 4 – GAMIFICATION – Sharing cultural knowledge

The end of the students' investigative learning process is a gamified activity, where the cultural dartboard is used by the students in interaction.

The activity can be carried out in class at the tables with small-sized "dartboards" or outdoors with larger "dartboards" drawn up in, for example, the school yard. In groups, students "play" where they take turns throwing an object onto the dartboard that will land on one of the board's tiers. The students then take turns exchanging individual cultural knowledge from this layer with each other. They engage in dialogue about cultural differences and similarities and reflect on their new knowledge together.

After the group activity, the groups' learning and reflections can be shared in plenary in the class.

Didactic process: Before, During and after.

The teacher's process		The student's process	
BEFORE	Find the learning objectives from the curriculum for the course that is meaningful for the class. Plan the introducing lesson. Prepare the posts/ tasks/ locations in the location based activity in a relevant app – TurfHunt/ Locatify, Find2Learn, TeachOUT or the like. Considerations: In choosing the content of the teaching, it is essential to consider which sub-areas of the relevant teaching subjects are included and the extent thereof; Which (e.g. local or national) content in which categories should be the subject of joint investigation and focus (e.g. in the location-based learning activity) before the students' individual investigations?		

DURING Practice	**1.** Introducing Content: What is culture and possibly the different cultural categories. **Brain storming**: Students have 5 minutes to write down what culture means to them. The teacher collects the slips of paper and writes all the words on the board. **Discussion**: The teacher guides the conversation by asking if all the associations are correct, what a particular one means, why that particular word is a cultural association, etc.	**BEFORE Introduc-tion and acquisition**	**Learning through Acquisition:** The students listen and observe. **Investigation:** Reflect/ brainstorm – what does culture mean (for me)? **Students think about what culture means to them and write all the associations on a piece of paper.** **Discussion:** Ask questions to understand. Students take part in the conversation, comment, identify mistakes, etc.

	2. ”Cultural Dart board” **Teacher**: Introducing the cultural layers and categories (slides/ poster/ dart board). Teacher gives students templates and introductions (what a particular colour or circle means). Make sure to ensure that the students understand the meaning of 1) the concept of culture and 2) the division into layers and categories used on the dartboard. **Discussion.** I had to guide the students through each circle and colour, explaining exactly what they needed to write in each circle. **Playing Cultural Dart board:** Together we set the rules of the game and then it was my role to guide, ask questions, listen and keep an eye on the time so we didn't run too long. **Because**: It is important that the teacher is supporting the students investigation and production by participating as an	**PRACTICE Investigation and Production**	**Student**: listen and observe, ask. **Discussion**: My students had a lot of questions and a hard time understanding what they had to write in each circle, how to even fill in each circle according to the instructions. **Homework**: Students then completed a dartboard at home, following the instructions, by making their own (drawing it, enlarging it, using a computer, etc.). **Playing:** This was not a classic game of darts. First we agreed how we were going to play. We used a paper ball. One student was assigned to come in front of the board. He put the dartboard on the floor and dropped the ball on the dartboard. On the circle where it was inserted, he said what he had written. The other students listened and compared with their own writing. Then we also compared out loud especially what is it that they have in

	explorer and not as an expert. Instead of having all the answers, the teacher should support the students in their investigation, reflection and development of their culturalidentity and to know and accept their classmates' cultures. ***Extra task:*** *Researching and learning about the birth of Slovenian language and literature* OUR GOAL: to connect the term culture in our research on the birth of e.g. Slovenian literature and language. **3. Location based activity** The teacher observes the students while they "play". They teacher must focus on observing signs of the interdisciplinary learning criteria and subject specific criteria. The teacher supports the student's dialogue by participating in the dialogue and giving feedback and feed forward. **Example for Slovenian Literature:** Through the TeachOUT app, students learn about medieval monuments and buildings, especially monasteries, their significance and what activities took place in them in the Middle Ages. They learn about and explore the importance of monasteries as centres of culture, education. They were health centres, where books were written or even printed,		common and what makes them different. Then another student came in, and so on, until we had looked at all the circles and compared them with each other. If it happened that the ball landed on the same circle as before, it was thrown again. **Students:** Researching and learning about the birth of Slovenian language and literature. And most importantly - with the birth of the Slovene language, we also get the beginning of Slovene literature. The credit for this goes to the priests and the monasteries. **Learning through investigation** Turf hunt/ **Teachout**/ photo tour: Students explore the cultural places in their local area. Students take photos to represent the cultural places/ concepts for their presentation. Picture/ information seeking online: Students explore their national/ regional/ continental culture – find photos to represent this for their presentation. **Learning through digital production** Produce a presentation using their photos and pictures in e.g. Prezi, Power Point, Google Slides or a video editor.

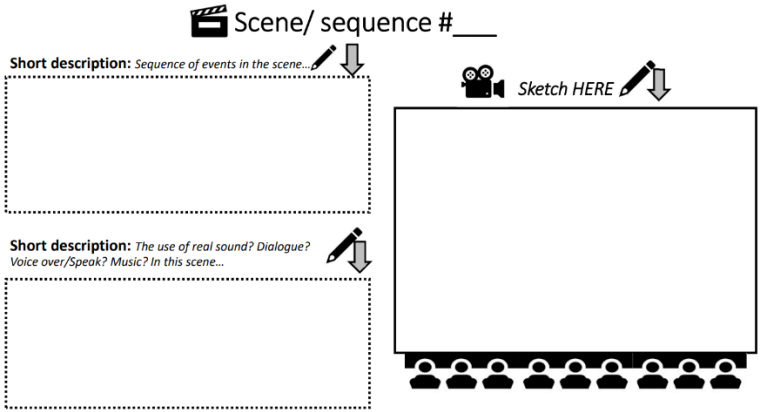
	where medicinal plants were cultivated, etc. Today, they are important because they house museums, libraries with the oldest books.		

		AFTER Reflection through gamified presentation.	**Learning through Practice:** Gamified presentations. Students participate with their new knowledge and reflections on cultural knowledge.
AFTER	Think about how it was and did we achieve our goals? What do we want to do next with the students? Apply knowledge about culture, the development of Slovenian language and literature, the game Teachout, and the broad meaning of the word culture in other areas.		

9.6.4 Item 1

Template: Storyboard for digital production
Task:
Describe your identity - video production
Erasmus+
HYBRID LEARNING COMMUNITIES
- Designing for learning in digital communities
>> 0 >> 1 >> 2 >> 3 >> 4 >>

Working questions #1
What do I Like?
My personal Identity
• Who are your role models/idols – and why are they important?
• What's your favorite song? And why?
>> 0 >> 1 >> 2 >> 3 >> 4 >>

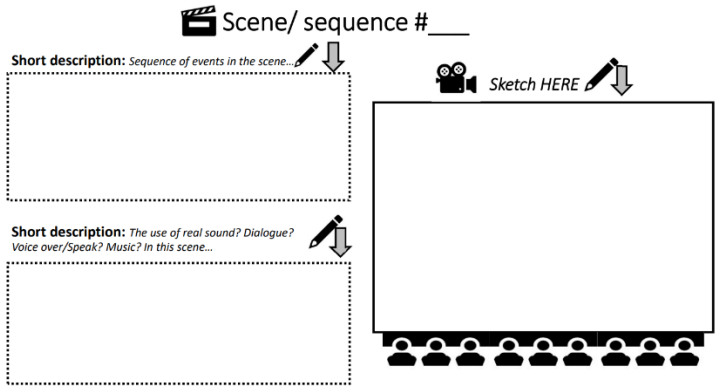

Scene/ sequence #___
Short description: Sequence of events in the scene...
Sketch HERE
Short description: The use of real sound? Dialogue? Voice over/Speak? Music? In this scene...

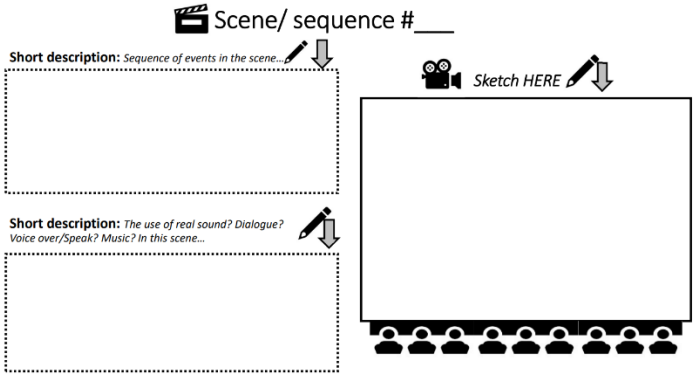
Working questions – #2
How others perceive me?
My Social Identity

- What do I like to do when with my family?
- What do I like to do when with my friends?

Working questions – #3
To what and to whom do I belong?
My collective Identity

- What does it mean to be [nationality] for me?
- What does it mean to be part of Europe for me?

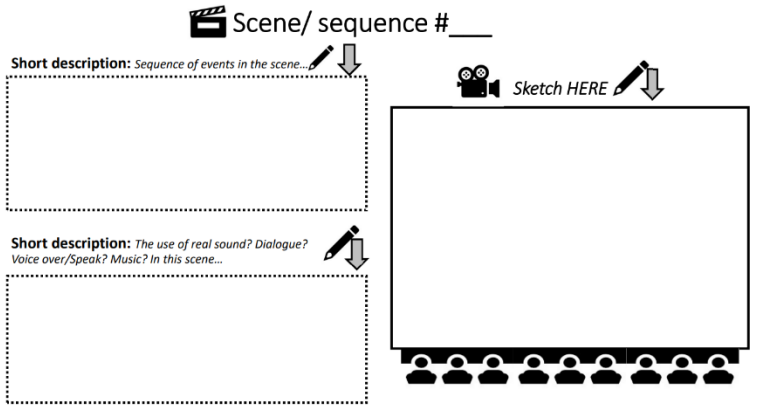




Working questions – #4
My personal identity and my future

- What is most the important (in life) according to me?
- What are my strengths?
- My future; Where do I want to go? E.g., future education? My dream job? Will I have a family? Kids? Where do I want to live?
- Make a self-portrait (show what you learned about yourself).

>> 0 >> 1 >> 2 >> 3 >> 4 >>



10 Evaluation report – Piloting Courses

Participating teachers tested two Courses in their classes. Piloting phase was in February and March 2023. Surveys were uploaded to MS Teams groups on the February 26th 2023 and were active till March 22nd 2023.
We gathered answers from 288 students and 15 teachers.

Results are for separate for each group and each Course. Raw data is available in MS Teams.
Evaluation was done by partners from OŠ Olge Meglič.

10.1 Evaluation report Language group

10.1.1 Course 1

Participants was given two different surveys. One for student and one for teachers. We gathered answers from 63 students in total: 29 from OŠ Olge Meglič, 18 from Esbjerg Realskole, 16 from SOSU Østjylland and 0 from Kópavogsbær. There were 4 answers from teachers.
Students liked Course 1. Average grade was 3,81 (1-not at all, 5-a lot). Students learnt something new but not a lot, averaging 3,33 (1-nothing, 5- a lot). 22% of students learnt nothing new or very little during Course 1.
66,7% of students said that they had encountered a similar teacher's approach during school lessons.

Students' favourite activity was "walk and talk" (41%), followed by "image reveal" (27%) and "writing tasks" (22%). The least favourite was "using Padlet" (10%).
Motivation for learning during Course 1 was good. Average student score was 3,81 (1-poor, 5-excellent).
Average score for student perception for learning outcome was 3,63.
14% of students felt poor or slightly above poor learning outcome.
Students recognize the importance of ICT in school. Average score was 3,83 (1-not at all, 5-a lot).

78% of students would not change anything about Course 1. 22% suggested:
“More physical activities when you learn something.”
“Do some things outside, or go outside together in pairs. Generally something outside.”
“More time, more structure, more info before writing.”
“Yes, it is fun to learn many different things.”
“More time for the task. - The structure was not particularly good, because we could have gained knowledge about the genre from, for example, an Indian website.”
“Do more of these classes”

10.1.2 Course 2

We gathered answers from 27 students in total: 26 from OŠ Olge Meglič, 1 from SOSU Østjylland 0 from Esbjerg Realskole and 0 from Kópavogsbær. There were 3 answers from teachers.
Students really liked Course 2. Average grade was 4,22 (1-not at all, 5-a lot).
Students learnt something new during Course 2, averaging 3,67 (1-nothing, 5- a lot). 22% of students learnt nothing new and 44% of student learnt a lot.
81% of students said that they had encountered a similar teacher’s approach during school lessons, others had not.
Students' favourite activity was “creating the video” (59%), followed by “video preparations” (30%). The least favourite activities were “editing the video” (7%) and “class discussion” (4%).
Motivation for learning during Course 1 was great. Average student score was 4,41 (1-poor, 5-excellent). 78% of students were highly motivated.
Average score for student perception for learning outcome was 3,89. 48% of students felt excellent learning outcome.
Students recognize the importance of ICT in school. Average score was 4,48 (1-not at all, 5-a lot).

70% of students would not change anything about Course 2. Other 30% had some suggestions:
“Everything”
“More cat pictures”

10.1.3 Teachers' feedback

Teachers describe their experience:
“Knee to Knee:
-The students found their own strategies for: communicating and listening comprehension
-the students found out that sound and images in a multimodal film provide a better coherence in understanding
-The students found it fun because the "game" is different than normal teaching.”
“It was easy to use digital devises in the classroom. It gave some new views on what is possible and how to integrate digital tools.”
“The courses were very detailed. Step by step instructions made piloting experience extremely easy for the teacher.”
“Excellent, educational and inspiring.”

What did the teacher learn during piloting:
“'-I walked around and listened while the students spoke. I learnt that students use different strategies in communicating in a second language.
-I learnt that visualization is important for many students and it requires concentration and vocabulary to explain it the small films”
“It is great to use digital tools as a way of making variation in the teaching/classroom.
The didactic tools are very useable in the classroom.”
“I was able to use some new apps that I have not used before.”
“Learned a lot of new methods and teaching.”

Problems:
“Only that 22 students speaking in the same room can make a lot of noise - if so, you can develop the students into groups.”
“In the planning we had focus on platforms and tools that all had access to in the home country. We had focus on the product. The experience had told me that focus in the planning and in collaborating digitally should be on how to communicate, how we develop hybrid and on the process.”
“None.”
“I found it very hard to make the material on my own. Found it difficult to learn to make the presentation and video.”

What would teachers change:
“I will not use it as one long lesson but break it up in small bits and use when it fits to the teaching.”
“No.”
“Nothing.”
“Have more teachers during the whole process. It was very challenging not to have other teachers in Esbjerg and during the whole week in Iceland.”

Recommendations to others:
“Not all students have the vocabulary to explain exactly what they see. You can give them a word bank (word list) to improve their vocabulary in their free speaking.”
“I recommend to try new things and new ways and have focus on what your organisation have selected to use as medias.
We try new things all the time, and using the didactic tools will help be clear in the classroom.”
“Before trying the courses in the class, read the instructions thoroughly and also get to know any new apps if you are not familiar with them yet.”
“Always say yes to a project like this. It was a fantastic and educational experience.”

10.2 Evaluation report Society, citizenship, technology group

10.2.1 Course 1

Participants were given two different surveys. One for students and one for teachers. We gathered answers from 20 students in total: all the answers came from OŠ Olge Meglič and none from SOSU Østjylland, Esbjerg Realskole and Kópavogsbær. There were 5 answers from teachers.
Students liked Course 1. Average grade was 4,05 (1-not at all, 5-a lot).

Students learnt something new, averaging 4,45 (1-nothing, 5- a lot). All the students marked answers from 3-5 meaning they all learnt something new, 55% learnt a lot.
85% of students said that they have encountered a similar teacher's approach during school lessons.
Students used different programs/applications for making videos. 45% used iMovie, 25% Cap Cut and 30% used some other programs/applications.

Motivation for learning during Course 1 was good. Average student score was 4,4 (1-poor, 5-excellent).
Average score for student perception for learning outcome was 4,2 (1-poor, 5-excellent). All students selected answers from 2 to 5, but none selected 1 (poor learning outcome).
Students recognize the importance of ICTs in school. Average score was 4,2 (1-not at all, 5-a lot).

74% of students would not change anything about Course 1. Other had some suggestions:
"more use of ICT"
"I didn't like making video about myself"
"I didn't like making video about myself"

10.2.2 Course 2

We gathered 36 answers from students participating in piloting phase. Answers were provided by 18 students from Esbjerg Realskole and 18 from OŠ Olge Meglič and none from SOSU Østjylland and Kópavogsbær.
Students liked Course 2 a little less than Course 1. Average score was 3,47 (1-not at all, 5-a lot).
Students did learn something new while on Course 2. Average score was 3,33 (1-nothing, 5-a lot).
55,6% of students had never encountered a similar teacher's approach during school lessons.

Students thought that including field work would benefit them in understanding a specific historic period instead of just lectures in the classroom. Average score was 3,67 (1-not at all, 5-a lot).
Motivation for learning was good, averaging 3,47 (1-poor, 5-excellent).
Their perception on learning outcome was good. Average score was 3,61 (1-poor, 5-excellent).
Students also recognised how meaningful use of ICT in schools is. Average score was 3,92 (1-not at all, 5-a lot).

94,4% of students would not change a thing regarding Course 2. Others had some ideas:
“more online education”
“more online quizzes (such as Kahoot…)”

10.2.3 Teachers' feedback

“I have learnt a lot from this project. Mostly in the area of integrating new (digital) forms of teaching. But I also gave them a lot of freedom to learn and create their own assignments, so I was just a guide.”
“A positive experience. Both I and the students enjoyed being part of the project. In this case, however, only a selection of the project.”
“The testing of the materials was a bit tame for me. Our basic education courses are short courses lasting approximately 5 months. I have not been scheduled to teach the relevant student group in February-March. Therefore, it has also not been possible to test and evaluate with the students during the period.”
“This experience was really good and interesting.”
“It went well and student participated good.”
Teachers learnt something new: “That students are capable of much more than I think.”
“Good talks about differences in class. Their approach to using digital means is strong and it is easy for them to access. It takes them no time to familiarize themselves with a new tool. It is important that they also take an active part in the process.”
“I learned how other countries do their job in school regarding to school assignment and rating their students.”
“I learned a lot about my students.”
Problems: “The biggest problem I had was motivating the students to make a video about themselves, because they don't want to film themselves and then show it to anyone.”
“No problems. It is important that you are proven that you spend time and engage in the debate about how culture can be understood, otherwise it will be challenging for the students to keep going. The time for the full course is long, but clearly that gives the most... but the challenge is to have the time for the whole course. It is therefore good that the tasks can be selected and the course can be adapted to one's own class”
“I have tested the materials in the autumn of 2022, but these groups of students have now moved on in their education. Therefore, I can’t evaluate with them.”

"I came into this late and it took time to set into the project. Also, there was hard year in teaching in the school with us so the time was really limited to do all the project, because of other problems. Also there have been a lot of staff problems and understaffing that set our plan out of the window."
One teacher would change: "The way the project was organized."
"I hope some of the other teachers have had a good experience piloting."
"Maybe focus more on teaching the students how to make a good video."
What would teachers recommend to others:
"Do the course over several days instead of cramming it into one day. Prioritize including the active part of the course. Due to time this was opted out." And "Be sure you have time for them to also have the opportunity to gain new knowledge via find2learn."
"Don't be afraid to give students difficult tasks they can do and to use digital technologies, which can often make lessons easier and more interesting."
"I recommend trying participating in Erasmus job. You will learn a lot."

10.3 Evaluation report Practical group

10.3.1 Course 1

Participants were given two different surveys. One for students and one for teachers. We gathered answers from 43 students in total: 26 from OŠ Olge Meglič, 15 from Esbjerg Realskole, 2 from SOSU Østjylland and 0 from Kópavogsbær. There were 2 answers from teachers.
Students liked Course 1. Average grade was 4,28 (1-not at all, 5-a lot).
Students learnt something new but not a lot, averaging 3,05 (1-nothing, 5- a lot). 23% of students learnt nothing or very little during Course 1.
58% of students said that they had never encountered a similar teacher's approach during school lessons. Not even while distance learning or online education during covid-19 lockdowns.
88% of student used Cap Cut app for making video, 9% used iMovie and one student used another app.

Motivation for learning during Course 1 was good. Average student score was 3,91 (1-poor, 5-excellent).
Average score for student perception for learning outcome was 3,53. Almost 21% of students felt poor or slightly above poor learning outcome. Maybe they are more used to different teaching strategies.

Students recognize the importance of ICT in school. Average score was 4,12 (1-not at all, 5-a lot).

88% of students would not change anything about Course 1. Other 12% had some suggestions:
“The other people didn't talk English.”
“We had very little time to do the project. I think our experience and project would have been better, if we hadn't been rushed so much.”
“Different team members”
“The video”
“We changed the context to be more about elderly people and activities to elder”

10.3.2 Course 2

We gathered 30 answers from students participating in piloting phase. All answers were provided by students from OŠ Olge Meglič.
Students liked Course 2 a little more than Course 1. Average score was 4,4 (1-not at all, 5-a lot).
Students did not learn anything new while on Course 2. Average score was 2,77 (1-nothing, 5-a lot).
63% of students had encountered a similar teacher’s approach during school lessons.
All of the students used Turf Hunt app fur this exercise.

Motivation for learning was good, averaging 4,17 (1-poor, 5-excellent).
While students answered they didn’t learn anything new, their perception on learning outcome was good. Average score was 3,67 (1-poor, 5-excellent). Because teachers used a familiar topic and tried to use a different teaching method.
Students also recognised how meaningful use of ICT in schools is. Average score was 4,33 (1-not at all, 5-a lot).

62,5% of students would not change a thing regarding Course 2. Other 37,5% of students had some ideas:

“More distance between points and more points.”
“Longer”
“More exercises”
“Longer distance between points”
“Water at the end”
“More points to visit”
“Different questions”
“That the app would work without any problems”

10.3.3 Teachers' feedback

“It was a little different than I am use to. Students usually don’t use phones during my P.E. classes. It was something new and exciting for both, my students and I. We must use learn how to use ICTs for our advantage as teachers. And students have to learn how to properly use their smartphones or tablets for educational purpose other than just gaming and scrolling through others social pages.”
“It was very good. It was easy to do it with the students and the students liked to use the technology”
Some teachers learnt something new: “Editing videos and how to motivate student with use of apps on their phones.”
Others learnt “nothing new”.
Problems:
“There were some usual technical difficulties with TurfHunt.”
“The problem was that a lot of the students concentrated on the video-making and not on the content and to learn about the subject. A lot of energy was on the video instead.”
Recommendations to other teachers:
“Don’t be afraid to use ICTs in your classes. Plan and try at home first but involve your students in first steps for feedback and “tech support”.”
“Make sure that all the students have something to do while the others edit the video to make sure that every body learn something.”

10.4 Evaluation report Science or Math group

10.4.1 Course 1

Participants were given two different surveys. One for students and one for teachers. We gathered answers from 20 students in total: all the answers came from Esbjerg Realskole and none from SOSU Østjylland, OŠ Olge Meglič and Kópavogsbær. There were 4 answers from teachers.
Students liked Course 1. Average grade was 3,55 (1-not at all, 5-a lot).
Students learnt something new but not a lot, averaging 2,65 (1-nothing, 5- a lot). 45% of students learnt nothing or very little during Course 1.
60% of students said that they had encountered a similar teacher's approach during school lessons.
Students think that it is useful to set some ground rules on online communities for everyone involved. Average score was 3,95 (1-not at all, 5-a lot). Not a single student thought, that it does not help to set some ground rules.
Motivation for learning during Course 1 was good. Average student score was 3,55 (1-poor, 5-excellent).
Average score for student perception for learning outcome was 3,25 (1-poor, 5-excellent). All students selected answers from 2 to 4, but none selected 1 or 5.
Students recognize the importance of ICT in school. Average score was 3,75 (1-not at all, 5-a lot).

90% of students would not change anything about Course 1. Other 10% had some suggestions:
"I just thought that it was boring and we didn't have enough time to get our task done and for that reason also I didn't like it. I also thought that it needed structure in a way of catching the attention especially for me because it just didn't get my attention because I was so bored and it seems like something I have learned in 2nd grade"
"if it was in a longer period because I think it was too little time to do all that"

10.4.2 Course 2

We gathered 49 answers from students participating in piloting phase. Answers were provided by 17 students from Esbjerg Realskole and 32 from OŠ Olge Meglič and none from SOSU Østjylland and Kópavogsbær.

Students liked Course 2 a little more than Course 1. Average score was 4,06 (1-not at all, 5-a lot).
Students learnt something new while on Course 2. Average score was 3,65 (1-nothing, 5-a lot).
73% of students have encountered a similar teacher's approach during school lessons.
Students thought that brainstorming in online HLC groups was helpful. Average score was 4,27 (1-not at all, 5-a lot).

Motivation for learning was good, averaging 3,96 (1-poor, 5-excellent).
Their perception on learning outcome was good. Average score was 3,86 (1-poor, 5-excellent).
Student also recognised how meaningful use of ICT in schools is. Average score was 4,14 (1-not at all, 5-a lot).

89,8% of students would not change a thing regarding Course 2. Other 10,2% of students had some ideas:
"In this course I needed something catching that could give me motivation for the course"
"maybe a little more explanation"
"Maybe that u can have a little group, not a big group but also not a little group because if the groups are too big, you can't figure it out, because maybe there are less tasks than participants in the group."
"more quizzes on phones"
"more accurate"

10.4.3 Teachers' feedback

"It was a really good experience, where I was confirmed that the approach to teaching using a hybrid approach is really good."
"It was very interesting, because it was different from the usual work."
"I came late into the project but everything felt very nicely organized."
"Interesting and fun."

Teachers learnt something new: “That you have to be patient until the students feel confident in the approach. But also how many options you have as a teacher with the hybrid approach. This applies to differentiation and levelling of tasks and group compositions. It also gives the teacher a really good and visible feel for the students' learning outcomes and provides good conditions for feedback and feedforward.”
“I learned that the students are very good at collaborating online.”
“New teaching tools that I will use in the future and different approach to Physics education in other countries.”
“To think out of the box and try new things.”
Teachers did not detect any problems.
“You learn something every time you test a course, and here it is important that the teacher reflects, evaluates and redesigns.”
“Maybe I would adapt the task a little, so that it would be more challenging for the students.”
“Hard for me to say since I joined in as a substitute, my experience was very good.”
What would teachers recommend to others:
“I would definitely recommend the hybrid approach to bringing technology into play in learning situations.”
“That they adapt the task to their own wishes, but still keep the part, where students collaborate in groups and online.”
“The teaching aids.”

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