



Promoting and creating innovation in education

Five years of the Future Classroom
Ambassadors Network

10 September 2020

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INTRODUCTION

The creation of the FCL Ambassador network was part of the sustainability programme following the closure of the European Commission-funded [iTEC project](#) (2010-2014) coordinated by European Schoolnet (EUN). In this project, educational scenarios were piloted in over 2,500 classrooms across 20 European countries, with the goal of providing a sustainable model for fundamentally redesigning teaching and learning.

Future Classroom Lab

Inspired by the iTEC learning scenarios, in 2012 EUN created an innovative space called the **Future Classroom Lab** (FCL) at its premises in Brussels. The FCL is an inspirational learning environment, offering a platform where teachers, school leaders, teacher educators, policymakers and other stakeholders can rethink learning space design, innovative pedagogy and the use of ICT. At the heart of the FCL concept are the learning zones that reflect and demonstrate different approaches in teaching and learning. The six learning zones of the original FCL are Investigate, Create, Present, Interact, Exchange and Develop.

The FCL contains equipment provided by its partners, companies that provide either technological solutions or furniture or other elements for innovative learning spaces. The FCL is used as a space for professional development for teachers who get to explore innovative technologies and practices, as well as it is a meeting place for educational stakeholders.



Photo: Future Classroom Lab by European Schoolnet, Brussels

Network of Lead Ambassadors

The work of the Future Classroom Lead Ambassadors is to **promote and help mainstream the results of European Schoolnet's projects and the concept of the [Future Classroom Lab](#)**, and to support educational innovation in local networks of teachers. The FCL Ambassador network is formed by **Lead Ambassadors** nominated by the Ministries of Education and European Schoolnet (EUN), which centrally coordinates pan-European activities and supports the work of the Lead Ambassadors by organising online meetings throughout the year, and onsite meetings/workshops which usually take place twice a year.

The network was launched at the end of 2014 with 12 countries taking part. In the following years more countries joined, and some countries left the network. At this moment, the network of FCL Ambassadors has 15 members: Belgium (Flanders), Czech Republic, Denmark, Estonia, Finland, France, Hungary, Israel, Malta, Norway, Portugal, Slovakia, Spain and Turkey.



The Lead Ambassadors are **networked professionals who address local audiences of teachers and their task is to support innovation and professional development** in the area of 21st century pedagogies, new learning environments and use of ICT. They are appointed by the national Ministry of Education (or an agency working on its behalf). The suggested tasks and activities are planned in dialogue and collaboration with Ministries of Education, depending on their priorities. When the programme was

presented to the Ministries, a profile of a networked teacher was suggested for the role as FCL Ambassador, who would devote 20% of their time to the task.

Currently the group of 15 Ambassadors includes three secondary-school teachers (Belgium, Czech Republic, France) and one school head (Italy). The Lead Ambassador in Israel has a limited part-time teaching job. The others belong to organisations related to national support of teachers and the role as Lead Ambassador is incorporated in their professional activities. Over the years, the Lead Ambassador has changed in some countries. Furthermore, in four countries, the official Lead Ambassador is assisted by a co-lead to share the work (in Denmark, Italy, Norway and Slovakia).

During the iTEC project, participating countries had built networks for teachers and it was one of the objectives of the FCL Ambassadors' network not to lose this momentum. In some countries the Lead Ambassador built on the teacher networks created during the iTEC project, and in others new initiatives have been taken to set up stable **networks of teachers and of Local Ambassadors**. In other countries the approach to reaching out to teachers is more ad hoc.

The **aim of this report** is to celebrate the five-year long journey of the FCL Ambassador network and the Ambassadors' efforts throughout this time, not forgetting those Ministries of Education who have trusted and invested in this initiative. We would also like to **show the wide range of activities** which can inspire all countries to organise similar things. Above all, we would like to **encourage other countries to join** the network and discover its benefits for themselves.

Structure of the report

The next chapters offer an overview on the **activities and achievements of the FCL Ambassador network in six following areas** during the past five years:

Each chapter includes an **introduction** summarising the main points, **country spotlights** offering examples from different countries, and **other activities implemented mainly by European Schoolnet** with and for the ambassadors.

While the report is not exhaustive, it presents an overview of different activities carried out in the countries of the network. To know even more concerning what kind of activities have taken place at country level, we invite you to browse the [FCL Ambassador Activity Digest](#) (available online).

Happy reading!



MEET THE FCL LEAD AMBASSADORS

Ben Bastiaensen – Flanders, Belgium



Ben Bastiaensen is a teacher and international coordinator at Talentenschool Turnhout and an Initial Teacher Training lecturer at Horito CVO. His main tasks as the Flemish FCL Ambassador include disseminating EUN project results on social media, giving presentations at conferences, and raising awareness of the Future Classroom Lab and coding in particular. → Future Classroom Lab Vlaanderen: [Facebook](#) & [Twitter](#)

Petra Bohackova – Czech Republic



Petra Bohackova is the Deputy Head Teacher of the ZS Dr. E. Benese Elementary School, located in Prague, close to the Czech FCL. She works part-time as an eTwinning Ambassador and an FCL Lead Ambassador at the Czech National Agency for International Education (DZS). As an FCL Lead Ambassador, Petra participates in conferences, runs educational workshops on the use of ICT in education, and actively disseminates the FCL concept. She spreads the word about EUN projects and maintains constructive relationships with foreign FCL partners.

Lasse Remmer & Martin Thun Klausen – Denmark



The Danish FCL Ambassadorship is hosted by the Centre for Educational Resources (CFU), which is part of IDD, University College Copenhagen. Denmark has two FCL Lead Ambassadors, Lasse Remmer and Martin Thun Klausen, who were appointed by the Danish Ministry of Education. Lasse and Martin allocate an equal amount of their working time to Future Classroom Lab activities. They lead the development of the Danish FCL in the Carlsberg Campus in Copenhagen, where they organise workshops and professional development events, host tours for inspiration, and engage students and teachers in innovative classroom activities, among other things. → Future Classroom Lab DK: <http://www.futureclassroomlab.dk/>

Aivar Hiio – Estonia



Aivar Hiio is a Project Manager at the Innovation and Collaboration Centre, Education and Youth Authority (until 1 August 2020 Innovation Centre at HITSA). Its mission is to help schools in their development of ICT competences and infrastructure. Aivar's role is monitoring, analysing and adapting new technology trends to implement best ICT practices in Estonian schools. Providing schools with training on the smart use of ICT remains one of the priorities of the Lead Ambassador. → Öpilood: <https://oppevara.hitsa.ee/opilood/>

Sampo Forsström – Finland



Sampo Forsström is a project manager and lecturer at the Teacher Training School of the University of Eastern Finland. He transitioned from the role of FCL Local Ambassador to Lead Ambassador in 2019. His tasks include coordinating the Finnish Learning Labs (located within Teacher Training Schools). Sampo's team supports the Finnish FCL network by organising training, hosting workshops, enabling research projects at universities, and collaborating with industry partners and other FCL Ambassadors. His main goal is to create new ways of learning enhanced by the use of educational technology. →

FCLab Finland: <https://fclab.fi/home-en>

Xavier Garnier – France¹



Xavier Garnier is a Mathematics and Maths-in-English Teacher at the Lycée Pilote Innovant International (LP2I). His Lead Ambassador duties consist in leading a team of 22 FCL teachers, who regularly work together to support FCL initiatives like workshops on Future Classroom Scenarios or creating new learning labs. Xavier's team aims to shift mindsets in the French education system by spreading the FCL concept. → Future Classroom Lab en France: <http://blogpeda.ac-poitiers.fr/fclf/>

Boglárka Tóth – Hungary



Boglárka Tóth is an educational adviser of Sulinet Department at the Educational Authority, which represents EUN and coordinates its projects in Hungary. The department has a lead educational website called [Sulinet](http://sulinet.hu), where many educational resources and articles are published to help both teachers and students. Boglárka has been the Hungarian Lead Ambassador for two and a half years now. During this time she has participated in FCL meetings, published articles about FCL

¹ French Lead Ambassador until 1 September 2020

events and Labs in Europe, and given presentations and workshops about the FCL Toolkit. The goal of her team is to provide teachers with information about new pedagogical trends in Europe, sharing activities of EUN (e.g. MOOCs, project results) and improving teachers' skills by introducing new teaching methods. → Sulinet: <https://hirmagazin.sulinet.hu/hu>

Karina Batat – Israel



Karina Batat is a teacher and ICT Instructor and the Head of Beta School, which is the Israeli FCL of the district of Tel Aviv (Ministry of Education), located in the city of Petah Tikva. Promoting new practices involving technological innovation among educators and students is at the heart of the Beta School. As an FCL Lead Ambassador, Karina is part of the District Innovation Committee where she deals with a variety of innovation-related matters as a consultant. Karina also receives counselling requests at national level and can rely on support from various sectors. → Beta School: betaschoolil.wixsite.com/betaschool

Alessandra Rucci & Michele Gabbanelli – Italy



Alessandra Rucci is Head Teacher at [IIS Savoia-Benincasa](https://www.iis-savoia-benincasa.it), an upper secondary school in Ancona and one of the 22 founding schools of the Avanguardia Educative (Educational Avant-garde) movement of INDIRE. A former teacher of Italian, she is a certified trainer and plays a major role in the Italian world of innovation, with a particular focus on digital education, new learning environments and active learning. As an FCL Lead Ambassador, she has been supporting the dissemination of the FCL concept across Italy, along with having inaugurated a Future Lab in her own school (2019).

Michele Gabbanelli is an English teacher, Head of Department and co-responsible for educational innovation at IIS Savoia-Benincasa. A certified trainer, he has worked in multiple research projects with INDIRE and EUN in the fields of digital citizenship, learning design and active learning strategies.

Antonella Giles – Malta



Antonella Giles is the Head of Department of Digital Literacy, a teacher trainer, and an eTwinning Ambassador in Malta. Antonella became the first Lead Ambassador in Malta two years ago. Before Antonella started introducing Maltese educators to the FCL concept herself, she participated in international meetings with the European FCL network and attended the online course "Future Classroom Scenarios" at the European Schoolnet Academy. Some of her current activities include giving presentations, organising workshops with head teachers, and training school staff on adopting FCL pedagogy

in the classroom. → Facebook: <https://www.facebook.com/DigitalEducMalta/>

Kristine Sevik & Vibeke Guttormsgaard – Norway



Kristine Sevik is a Senior Adviser at the Norwegian Directorate for Education and Training, which hosts Udir Betalab – the Norwegian hub of FCLs. Kristine works with eight Norwegian Future Classroom Labs located in Norwegian schools and Initial Teacher Training institutions. Kristine and her team present the benefits of using digital technologies for pedagogical purposes during workshops and talks. The main aim is to involve more schools in FCL by inspiring teachers to build their own labs and explore coding, 3D-printing, drones, computer games, Virtual Reality or Augmented Reality in teaching their subjects. → Udir Betalab:

<https://www.facebook.com/groups/udirbetalab/>

Maria Teresa Nazaré Godinho – Portugal



Maria Teresa Godinho is the leader of the Educational Resources and Technologies team at the Portuguese Ministry of Education. Since 2015, she has coordinated the activities of local ambassadors as a Lead Ambassador. Maria Teresa organises annual or biannual coordination and planning meetings and speaks to her team online every week. The fact that most of her team members have been part of the team since the beginning of the FCL initiative in Portugal enables

them to operate throughout the country in an autonomous and efficient way. → Laboratórios de aprendizagem: facebook.com/lab.aprendizagem

Darina Výbohová & Eva Polláková – Slovakia



Darina Výbohová is the Director of Continuing Education and Professional Development in Slovakia as well as a teacher trainer for science and technology at Metodicko-pedagogické centrum (MPC). Darina and her FCL Ambassador network organise workshops informing teachers about the benefits of participating in EUN projects and sharing project outcomes. Darina promotes the FCL concept during seminars for STEM teachers. → MPC: <https://mpc-edu.sk/>

Eva Polláková is the Head Teacher of the Bilingual English/Slovak Primary and Secondary School BESST. As an FCL Ambassador, Eva leads training events and webinars aimed at innovations in pedagogical strategies and concepts with focus on FCL principles, ICT usage and active learning. She cooperates closely with the MPC as an external lecturer. She supports eTwinning activities at BESST school and participates in the training events for student teachers of Trnava University, Faculty of Education, since the BESST school is a training school for this faculty.

Ignacio Casado Alda – Spain



Ignacio Casado Alda works as a Technical Pedagogical Advisor at the Department of European Projects within the ICT unit of the Spanish Ministry of Education (INTEF) in Madrid. As the Lead Ambassador, Ignacio contributes to INTEF's mission of integrating ICT and teacher training at non-university levels. While the national project "Aula del Futuro" (Future Classroom Lab) is coordinated by the division of Experimentation Projects in INTEF, Ignacio has a coordination role within the European FCL Ambassador network. He disseminates information about FCL, organises training, and supports schools in their digital transformation through active pedagogies and ICT. → Aula del Futuro: <http://fcl.intef.es/>

Sumeyye Hatice Eral – Turkey



Sumeyye Hatice Eral has been the National Education Expert at the Turkish Ministry of National Education for seven years. Sumeyye is a Policy Officer within the Ministry and considers integrating ICT in education her top priority in terms of education policy. Her role involves developing and implementing European projects related to digital skills, STEM, and ICT. She currently spends almost half of her working time on Lead Ambassador duties. Her team guides PhD students and teachers designing Future Classrooms, organises workshops, and analyses learning environments in Turkey. Meeting the demand for graduates capable of using technology by integrating innovative technology in teaching is Sumeyye's key objective as the Lead Ambassador. → FCL Turkiye: <http://fclturkiye.eba.gov.tr/>



FCL Ambassador Activity Digest

The FCL Ambassadors' Activity Digests are regularly published bulletins which summarise the recent activities of Lead and Local Ambassadors in each country. They include outcomes of and updates on past/present/upcoming activities, events and projects. The key purpose of the digest is to share inspiration within the FCL community across Europe.

To find out exactly what activities have been organised by FCL Ambassadors in recent years, we invite you to read the FCL Activity Digest publications available here: <https://fcl.eun.org/fcl-ambassadors>.

1. TEACHERS AND NETWORKS

The primary role of the FCL Ambassadors is **to promote innovative pedagogical practices and to support teachers in their country**. The Ambassadors have built both ad hoc networks and others that are more formalised and sustained long term.

The Ambassadors promote initiatives of local Ministries of Education and contribute to strategies of upscaling innovation in education in their country. The FCL Ambassadors also connect local educators to the European scene of educational innovation. They actively promote and support European initiatives for teachers, in particular projects in which EUN is a lead or a partner.

The types of activities the FCL Ambassadors carry out to support teacher communities are varied but have a common goal of **supporting teachers' professional growth and bringing teaching practices to a higher level**. Local ministries have their own priorities, but they also contribute to developing a common European agenda through their membership with EUN.

From the very start of the network, the [Future Classroom Toolkit](#) has been an important instrument for the FCL Ambassadors and in some cases a framework to organise training for audiences of teachers. The toolkit, which is presented more in detail in the next subchapter, was one of the outcomes of the iTEC project (2010-2014) and contains guidance as well as a range of practical tools to mainstream innovation in schools.

The FCL Ambassadors promote the **FCL concept for classroom and school design**. Giving advice and support to the creation and, more importantly, to the use of flexible learning spaces has become very important over the years in the work of FCL Ambassadors. To this end, also the different [guidelines](#) created by EUN have been useful (see more information about the guideline publications in the chapter on local learning labs).

The FCL Ambassadors organise **onsite and online workshops and courses**, and speak at conferences and webinars. They introduce innovative pedagogies and emerging technologies. Many onsite training offers take place in local learning Labs which have been inspired by the original Future Classroom Lab. The learning labs are important educational hubs in many countries of the network.

The FCL Ambassadors are messengers and share relevant information and events. They use a range of channels to reach out to the audience of teachers. Most of them use social media and newsletters and many have their own websites, blogs or webpages.

On an international level, the FCL Ambassadors have been active in several *hackathons* both as promoters and as team leaders (see the related subchapter below).



FUTURE CLASSROOM TOOLKIT

The Future Classroom Toolkit is an instrument to mainstream innovation in schools. It offers guidance, resources and tools to build a strategy for a holistic approach, involving all stakeholders of a school community. It helps school teams to establish a path through the process of innovation by focusing on advanced approaches to learning and teaching and the adoption of 21st-century skills.

Future Classroom
Toolkit

Schools using the FCL Toolkit are encouraged and supported to:

- create an ambitious but realistically achievable educational vision
- involve all key stakeholders in the process of innovation
- design engaging learning activities that bring innovation through the use of digital technologies to support learner acquisition of 21st-century skills
- pilot and evaluate innovative classroom practices.

The core part is the co-creation of pedagogical scenarios. The toolkit consists of five toolsets which guide the user through the steps for creating a scenario with the final aim of bringing innovation into the classroom.

The first version of the toolkit was published at the end of the ITEC project in August 2014 as one of the project outcomes. In 2017-2018 the **FCL toolkit was updated with the assistance of the FCL Ambassadors** and published on the website. The toolkit is now available in eight languages (EN, DE, ES, FR, HU, IT, PT, TR) thanks to the FCL Lead Ambassadors who provided the translations.

The toolkit plays a very prominent role in the training initiatives for teachers delivered by the FCL Ambassadors. In countries like Hungary, Finland, France and Portugal, the toolkit has been the main framework for workshops, courses and development of training materials. In other countries the FCL Ambassadors organise shorter introduction sessions and workshops to explain and promote the FCL Toolkit. More info: fcl.eun.org/toolkit



COUNTRY SPOTLIGHTS

WORKSHOPS AND MOOCs FOR TEACHERS – PORTUGAL

The Portuguese Lead Ambassador, Maria Teresa Godinho, is supported by ten Local Ambassadors, who are all STEM teachers at elementary or secondary schools. Below are a few examples of the MOOCs and training programmes they have developed:

- Six different training courses targeting teacher training – making use of the FCL Toolkit (Future Classroom Learning Scenarios (Toolset 3) in particular), and other FCL resources
- Five different workshops (3-6 hours each). Every workshop focused on a different set of tools of the FCL Toolkit
- Three editions of the MOOC 'Learning Labs: Scenarios and Learning Histories' was promoting the FCL Toolkit, among other resources, to support teachers creating FC Learning Scenarios
- Four national meetings for Local Ambassadors on the following topics: Rethinking Learning Scenarios; (Re)thinking the Teacher's Role; (Re)thinking the Student's Role in a Game-changing Setting; and Curricular Autonomy and Flexibility: Using ICT as a Transversal Part of the Curriculum
- Promoting the FCL Toolkit with posters
- Video conferences disseminating innovative teaching and learning practices, developed within projects endorsed by ERTE/DGE
- Online webinars/training for specific groups of teachers: Implementing the Use of Tablets in the Classroom; How to Use the FCL Toolkit for Training (Local Activity implemented by FCL Ambassadors); Active Learning Methodologies; and Digital Apps in the Maths Classroom: GeoGebra and Sketchup.

USING THE FCL TOOLKIT – HUNGARY

In Hungary, the FCL Lead Ambassador Boglárka Tóth and her colleagues from Sulinet coordinate the FCL project. The FCL activities focus on demonstrating the innovative FCL concept and disseminating the FCL Toolkit among teachers. The two topics have different online sites ([FCL](#); [FCL Toolkit](#)) where teachers can find relevant information, articles and useful resources about innovative methods.

More innovative educational projects were based on the use of FCL Toolkit. In 2018, 200 teachers attended the programme called *Planning Thematic Weeks and Days in School* and used the Toolkit for planning their lessons and creating new learning activities. A publication about the pilot is [available here](#).

The FCL Lead Ambassador gives presentations at conferences and holds workshops about the FCL Toolkit. A 30-hour accredited course was developed based on the updated toolkit. The aim of the course is to teach educators how to use the FCL Toolkit and help them renew their teaching practices by writing interesting scenarios and creating student-centred learning activities.

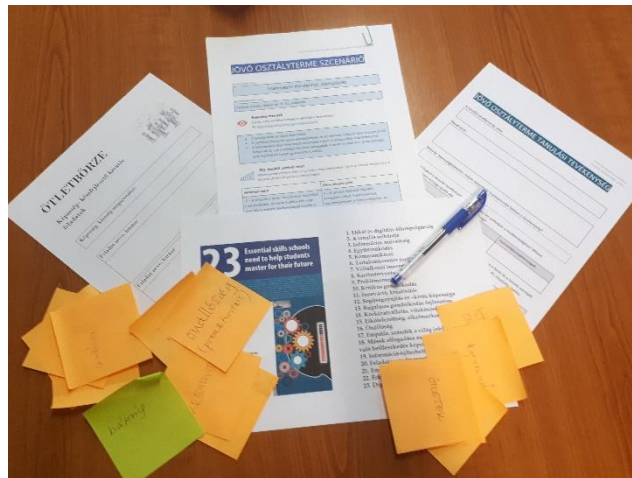


Photo: Future Classroom Toolkit training, Hungary

EMERGING TECHNOLOGY WORKSHOPS – NORWAY, BELGIUM & CZECH REPUBLIC

The European FCL Ambassador network inspires teachers to go beyond traditional teaching pedagogies and explore new possibilities offered by new and emerging technologies. The activities carried out in recent years by the FCL Ambassadors illustrate the role they can play in the digital transformation of schools. Some examples:

Norway

In March 2018, teachers from five European countries including Norway were recruited via EUN to be part of a validation study on game-based learning funded by Triseum, a US provider of game-based learning solutions. The recruited teachers participated in an educational games workshop where they tested the educational games at [Udir Betalab](#) – Norway's mobile FCL. In June 2018, EUN organised a study visit on computational thinking gathering 25 participants from different European countries in Oslo and Stockholm. This was a chance for the wider FCL network to visit Udir Betalab and discover its connection with programming, maker-pedagogy and computational thinking.

Every year in May thousands of teachers, school heads, policy-makers, ICT vendors, researchers and other stakeholders working in the public sector attend the [NKUL conference](#) in Trondheim – Norway's biggest conference on ICT and learning. In 2018, Udir Betalab was transported to the conference to host workshops on programming, digital games, and maker-pedagogy. In 2019, the Norwegian FCL created a large Makerspace at the same conference, in collaboration with the Association of Norwegian Science Centres. Within this space, attendees participated in technology workshops on 3D-printing and design, programming, digital fabrication and Virtual Reality.

The FCL at Rothaugen Middle School in Bergen opened in spring 2019 after the school's largest classroom was rebuilt as a Future Learning Lab. One special feature of this lab is its focus on gaming and learning, Virtual Reality (VR) and media production. The teachers working at Rothaugen have already received several awards for their work with digital learning.

During its opening event in October 2019, the FCL in Odda, called "Teknologirommet", organised eight different emerging technology workshops. On this occasion, primary and secondary school pupils got to see how 3D-printing, vinyl cutting, robotics, programming with Spheros and VR could be used in schools.

Læringsverksted Drammen is another Norwegian FCL opened in 2019, which is located within a teacher training institution. It offers workshops and courses on topics such as innovation camps/entrepreneurship. Teachers and teacher students can experiment with iPads, programming, and VR in this venue and borrow equipment to use it in their classrooms.

Photo: Odda learning lab, Norway



Belgium

The second edition of CodeFestival in Ghent took place in October 2017. This was an opportunity for Flemish educators to attend keynotes and workshops on coding in the classroom. Robotics, Girls in Coding, and Unplugged Coding were among the main themes of the event. The book "Zo denkt een computer", filled with interesting lesson materials, was also officially presented during the festival.

Over the years several training courses for Flemish educators and school managers have been organised at the original Future Classroom Lab in Brussels. The courses covered topics like coding, the FCL Toolkit, active learning, innovative learning spaces, etc. Every year the FCL Ambassador hosts an Open Day at the Future Classroom Lab in Brussels. During this day, visitors get acquainted with the Future Classroom concept. For many visitors the Open Day is the start of a journey to rethink learning spaces in their schools.

Czech Republic

Teachers who had previously visited the FCL of EUN participated in an event in Prague in May 2018. They discussed what they had learnt in Brussels and what changes they had implemented in their respective schools since the event. The attendees also participated in a workshop on micro:bit held at the Czech FCL.

In March 2019, educators from all regions of the Czech Republic met at the FCL at ZS Dr. E. Benese in Prague to share best technology practices. Teachers worked with programmable sensors from Sam Labs, created their own Augmented Reality, and reflected on what their dream FCL would look like.

Conclusion

The activities organised by the FCLs in Norway, Belgium and the Czech Republic, in particular, show the value of experimentation with modern educational technology. Although only three FCL countries are mentioned in this section, all European FCLs express interest in the use of Innovative technologies for the classroom. Since sharing and exchanging practice is at the core of the Future Classroom concept, the FCLs which had already experienced the benefits of using emerging technologies in their labs organised online webinars to exchange best practices. During [these webinars](#), presenters discussed VR in the classroom, gaming in education, and enriched schoolbooks, among many other topics. To find out what activities have been organised by FCLs in the recent years, we invite you to read the [FCL Ambassadors Activity Digest publications](#).

SPECIAL ACTIVITIES DURING THE COVID-19 OUTBREAK – MALTA AND SLOVAKIA

During the COVID-19 outbreak, all FCL Ambassadors were mobilised to support emergency remote teaching. As examples we mention Slovakia and Malta.

In **Slovakia**, the FCL Ambassadors supported teachers by organising a number of webinars and online training events related to the coronavirus crisis. The transition to online education was very challenging for many schools and teachers. FCL Local Ambassador Eva Polláková collaborated with eTwinning Slovakia to support teachers and school leaders on online teaching and set up online meetings.

After the interruption of the onsite training programme due to the extraordinary situation at the time of COVID-19, the Methodological and Pedagogical Centre (MPC) very

promptly moved to online educational and supporting activities. MPC created new opportunities for online education and counselling in the form of webinars, teacher forums and consultations for all pedagogical staff.

The webinars focused mainly on current topics of how to educate with closed schools, digital support of teaching in the home environment, the issues of evaluation of pupils at a distance, and assessment of pupils with special educational needs. MPC also helped schools with challenges related to the education of students who do not have access to the Internet and well as issues such as cooperative learning and active student learning, professional development of teachers, students portfolios, etc.

MPC provided consultations for individuals and groups on current topics provided by teacher trainers. MPC shared freely accessible methodological materials, teaching resources and methodological inspirations for use in pedagogical practice. FCL Ambassador Darina Výboňová and her colleagues activated access to the experience of colleagues in the international context by following FCL representatives through regular webinars and publishing the presented translations of FCL Talks outputs on the [MPC website](#).

MPC regularly published on its website up-to-date information on possible solutions for teaching students remotely. MPC does so in parallel with other platforms covering the current situation in the environment of Slovak regional education. In the translations of webinars into Slovak, it offers a view of a possible adequate response to the equally experienced challenging educational reality from a broader, European, context.

Observations, comments and translations of individual webinars as well as relevant initiatives by EUN, have been added to the website. [More information here](#)

In **Malta**, the Directorate for Digital Literacy and Transversal Skills together with the FCL Ambassadors supported all educators and education leaders across all public and private schools throughout the country. Part of this support consisted of online training on the platforms mainly used in schools and how to set up virtual classes for remote teaching and learning. Different platforms were explored according to the schools' requests. Educators were also supported and guided during the first online sessions done with their students.



Photo: Workshop for students, Slovakia



INTERNATIONAL HACKATHONS

FCL Ambassadors want to promote innovative changes to teaching practices and education in general. One of the ways to instigate the *spirit of innovation* are hackathons. Hackathons are one-day events where participants get together in teams to generate creative ideas and to come up with an innovative solution for a specific issue.

Over recent years the FCL Ambassadors have taken part themselves or promoted participation in several pedagogical hackathons.

Examples

- Hackathon pédagogique (2015) – Université de Poitiers
- Hands on Hack (2016) – European Coding Initiative
- DigiEduHack (2019, 2020) – European Union

More information

fclhack.wordpress.com/

digieduhack.com/



Photo: Teacher training workshop 2018, Estonia

2. LOCAL AMBASSADORS

FCL Lead Ambassadors reach out to teachers in their country by organising workshops, courses and events. In some cases, the Lead Ambassador has created **a network of Local Ambassadors**, to assist with the work. In other countries the local networks are more loose and ad hoc. In many cases Local Ambassadors also operate in a specific region of their country.

In some countries the Lead Ambassador has built on the teacher networks created during the iTEC project, to conserve the momentum created during the project and to continue or re-start local professional teacher communities.

In other countries new initiatives have been taken since the launch of the network of FCL Ambassadors in 2014. Worth mentioning is also that in quite a few countries eTwinning Ambassadors² have taken on the role of FCL Local Ambassadors.

In 2018 the official title “FCL Local Ambassador” was coined and is now operational in about **ten countries with about 100 members** in total. As an induction, the Local Ambassadors have received training on the Future Classroom Lab concept and the Future Classroom Toolkit.

On the European level, the Local Ambassadors receive regular updates on relevant initiatives, projects and events. Quite a few Local Ambassadors have been speakers at European webinars. On a country level the Local Ambassadors assist the Lead Ambassador in events, run workshops, find audiences, do promotion, etc. In some cases, they give advice on redesigning schools and classrooms. In Finland the Local Ambassadors also take part in validation projects in collaboration with industry.

In general, the Local Ambassadors contribute for free. Exceptionally there is a small financial reward. In some cases, they benefit from some incentives such as participation in events and courses. The main incentive for them is partnership in a community of like-minded educators and access to high-level information. The team of Portuguese Local Ambassadors, however, are supported by the MoE and they can devote 50% of their teaching time to the FCL project.



COUNTRY SPOTLIGHTS

The Future Classroom Lab network of learning labs spans many European countries of different cultures, educational systems and varying levels of resources. This explains why the role and job scope of Local Ambassadors are understood and structured differently from one country to another. Currently we calculate that approximately 250 schools and teacher education institutions have been inspired by or used elements of the FCL approach to set up their own learning lab or to bring innovation into their learning environments.

As examples, we have a closer look at the position of Local Ambassadors in France, Spain and Portugal – all countries where Local Ambassadors have a great impact.

² <https://www.etwinning.net/en/pub/community/ambassadors.htm>

LOCAL AMBASSADORS IN FRANCE

France has more than 20 Local Ambassadors most of whom are teachers but there are also some teacher educators, one is a school inspector and one a head teacher, and they were recruited in different ways. Some were chosen following a MOOC organised by Xavier Garnier, the French Lead Ambassador, in 2015. Others joined later as their expertise was suitable for the task. Newly recruited Ambassadors were introduced to the key elements of the FCL concept via a series of webinars published by EUN.

The Local Ambassadors perform tasks which are most relevant to them and their context. They aim to:

- Promote and support the construction of Future Classroom Labs
- Lead co-design workshops inspired by the [FCL Toolkit](#)
- Organise and participate in online webinars to connect practice with research
- Participate in [EducaTec-EducaTice](#) – a national exhibition for education in Paris
- Receive feedback and discuss best practices with the network
- Participate in local, national and international discussions on 21st-century schools
- Provide the French Ministry of National Education with takeaways from discussions



Photo: Workshop in France

Most communication between the French Lead Ambassador and Local Ambassadors is done online. Local Ambassadors update the rest of the network on their FCL activities during online meetings, and FCL visitors often share their experience with the network during these meetings. Local Ambassadors also share research input, discuss collaborative work and announce general news about their respective FCL. Co-preparing and leading national events is also part of the agenda.

Local Ambassadors in France have varying levels of impact on their local communities. Some focus primarily on networking with schools in their area. Others are part of the [Réseau Canopé](#) network and expand their connections with other local institutions. Two Local Ambassadors are connected to innovative labs and MoE representatives on a regional level ([Academy of Rennes](#) and [Academy of Nancy-Metz](#)).

One of the priorities of the Lead Ambassador is to obtain more recognition for Local Ambassadors from the French Ministry of National Education. Future plans of the French

FCL network include obtaining more financial support for local projects, training, and Future Classroom Lab construction as well as organising face-to-face meetings with all the Local Ambassadors.

THE AULA DEL FUTURO PROJECT – SPAIN

Aula del Futuro (AdF) is a project that was directly inspired by the Future Classroom Lab in Brussels. In 2015, the AdF was created with the aim of having a greater impact on the educational community in Spain. The project is coordinated by INTEF (National Agency for Educational Technology and Teacher Development) in collaboration with the autonomous communities.

AdF focuses its attention on the methodological approach to promote active methodologies, a change in the role of the teacher and the student, and a better learning experience with the help of ICT. This general idea was adapted to comply with the trends and interests of the educational administrations, both national and regional, through specific training and resources.

On the *national* level INTEF provides teacher training options:

- *Blended training* on different topics related to active methodologies and digital competences.
- *Online training* to promote the project and the implementation of activities based on active methodologies.

On the *regional* level AdF works with a network of Local Ambassadors. The Spanish AdF Ambassadors have developed different training initiatives to disseminate the concept of flexible learning spaces, but also to provide teachers with knowledge of active methodologies with ICT and a methodological change at schools.

The Spanish AdF's Ambassadors network was created in 2015 in collaboration with the regional educational administrations. All the activities of the Ambassadors are shared on the Aula del Futuro website. The website offers teachers inspiring examples.

More info: <https://intef.es/tecnologia-educativa/aula-de-futuro>

HALF-TIME LOCAL AMBASSADORS – PORTUGAL

The Portuguese FCL Ambassador, Maria Teresa Nazaré Godinho, leads a team of ten Local Ambassadors, who are all teachers in primary or secondary schools.

The Portuguese Local Ambassadors organise workshops and training for teachers and participate in educational events for large audiences. The resources created by Portuguese Local Ambassadors promote the FCL Toolkit and are adapted to the teaching context of Portugal (see Chapter 1).

Training courses and workshops are published by Teacher Training Centres.

It is noteworthy that Portuguese Local Ambassadors are supported by the Portuguese Ministry of Education and can devote as much as half of their teaching time to the FCL project. Thanks to this allocated time, Local Ambassadors meet online on a weekly basis and regularly upload documents to share. What is more, face-to-face meetings among Portuguese Local Ambassadors take place at the beginning and end of every school year during which the Ambassadors agree on an action plan and strategies necessary to meet specific goals throughout the school year.

The Portuguese Lead Ambassador points out that Local Ambassadors contribute greatly to the success of the FCL project:

"We believe that the impact of the Local Ambassadors' network has been substantial as far as the dissemination of innovative methodologies for the integration of ICT in the curriculum and the setting out of Learning Scenarios in Portuguese schools are concerned. Overall, a growing interest among teachers regarding participation in the various events implemented by the Local Ambassadors has been observed."

The Portuguese FCL Ambassadorship will continue with the successful approach and activities which it has been carrying out over the last five years.

LOCAL AMBASSADORS WITH FCL – FINLAND

Some countries have chosen to have a loose network of Local Ambassadors with a membership of volunteers. In Portugal, but also in Finland, the Local Ambassadors have, just like the Lead Ambassador, an official and recognised role.

The Finnish Local Ambassadors belong to the network of Finnish Future Classroom Labs. These labs are located in three cities ([Tampere](#), [Oulu](#), and [Joensuu](#)) in three different regions and are recognised for their contribution to transforming Finnish education. Coordinating and developing the Finnish FCLs is becoming increasingly complex as the network expands. This is where the Local Ambassadors step in.

Finnish Lead Ambassador Sampo Forsström can rely on the support of four Local Ambassadors in the dissemination of the FCL concept. The Local Ambassadors work at the University of Oulu and the University of Tampere. Each one of them represents the whole Finnish FCL network during local workshops and training sessions for teachers.

The main tasks of the Local Ambassadors include developing FCL activities and disseminating FCL practices on a local, regional, national and international level. In practice, Local Ambassadors implement FCL pedagogies into teacher training curricula at their respective universities. They train teachers but they also create networks with schools, industry partners and other educational networks. As of January 2020, their network of industry partners comprised almost 30 Finnish and foreign enterprises interested in providing schools with digital products and services in return for feedback on their usability.

Local Ambassadors stay in touch with the Lead Ambassador using various channels and have weekly online meetings and monthly face-to-face meetings. Since all Local Ambassadors in Finland work in schools and have other duties apart from the FCL project, their involvement in FCL varies according to their role and contribution.

"Each of the three labs has its own development goals, but we also have a number of common goals that we pursue as a group", says Sampo Forsström.

The FCLab at [Tampere](#), also known as KAKS10, is a flexible learning space open to about 50 students and two teachers, with a main focus on learning zones, educational technologies and adaptability. This venue is used both as a classroom for two classes and as a training space for workshops outside of school hours. The lab aims to develop innovative maker-pedagogies, to innovate the learning process, and to promote pair teaching as well as cooperation among children from different age groups.

One of the main aims of the Future Classroom Lab at [Oulu](#) is to help children highly sensitive to stimuli perform well at school. The Lab develops exploratory learning

practices based on self-regulation of learning, as well as learning through practice and discussions. Co-teaching, innovative presentation techniques, improved acoustics, ergonomics and the general comfort of classrooms are key topics explored at the Lab. The FCLab of Oulu covers most of the school's classes and spaces.

The goal of the Lab in [Joensuu](#) is to turn the entire physical space of the school into an FCL facility. One open learning environment with FCL-inspired zones is currently available to a class of about 70 students and a team of teachers who work in the innovative learning spaces.



Photo: Co-planning activity, Finland

FCL TALKS

Organised by EUN, the FCL Talks are a **series of live webinars** during which presenters share valuable non-commercial content in the field of innovative education. The topics covered by FCL Talks range from projects, classroom ideas, initiatives and educational events to space design and EdTech. Lead and Local Ambassadors often take on the role of lead presenters of FCL Talks. This is an opportunity for them to exchange best practices implemented in their respective countries with the rest of the network.

The contributions of FCL Ambassadors who shared information, stories, tips, and action plans on the topic of remote teaching and learning have proved particularly useful in times of the COVID-19 crisis.

What is more, FCL Talks are often given by speakers connected with FCL industry partners who develop technology useful in the classroom context; for example a recent FCL Talk explaining how online tools such as Microsoft Teams can be used for distant teaching to increase the engagement of students.

FCL Talks allow FCL Ambassadors to have an online space for sharing best practices and to fulfil mutual goals by supporting each other. All the recordings and presentations from the webinars can be accessed here: <https://fcl.eun.org/fcltalks>.

3. INDUSTRY

FCL Ambassadors promote the pedagogical value of innovative learning spaces. The FCL concept aims in the first place at a change of the mindset of the teacher who wants to organise *active learning*. The design of the space as well as investments in technology can support the idea of active learning.

Reshaping non-traditional places for learning goes hand in hand with connecting to industry partners providing new **space infrastructure and furniture**, as well as **technology**. The relationship between industry and education has always been a bit complex. Teachers and schools generally want to be independent and technologically neutral. It is one of the achievements of the Future Classroom Lab concept to build relationships between education and industry with mutual understanding.

At the beginning of the Future Classroom Lab, EUN developed a *code of conduct* to collaborate with industry partners and enable them to engage with the core stakeholders that include both schools and education ministries. Over the years, EUN has conducted [several validation projects](#) and has set up collaboration between schools and teachers on the one hand, and FCL industry partners on the other.

FCL Ambassadors can play a role in **mediating between schools and industry**. We see that the reluctance of some schools to have direct contact with industry is gradually diminishing and. Industry partners seem to increasingly realise that a too-strong commercial approach does not work and they need to respect the maturity of the pedagogical judgement of schools.

A limited number of FCL Ambassadors have direct contacts with industry partners as part of their work. Some FCL Lead Ambassadors, however, have also developed a solid relationship with industry partners. The FCL DK, for instance, has approximately 30 commercial partners. In the FCL DK industry partners get feedback on the technological solutions they donate. The Finnish FCL project set up a successful large-scale collaboration with industry partners and education.

In some cases, the FCL Ambassador or his/her organisation liaised between the public and private sector, for instance in Estonia (HITSA) and Spain (AdF).

Worth mentioning is the case of Israel where the Beta, the FCL of Israel, was created by a partnership between the local government and Microsoft.



COUNTRY SPOTLIGHTS

WORKING WITH INDUSTRY PARTNERS – DENMARK

Over the last few years, the Danish FCL has been successful in building mutually beneficial relationships with commercial partners of various sizes and areas of expertise.

The Danish FCL is hosted by a CFU (“Centre for Educational Resources”) and collaborates closely with the Danish Ministry of Education. As a CFU, the Lab must be impartial and consider collaboration with every interested company relevant in the educational sector. The Danish FCL has formal partnerships with approximately 30 commercial partners including: Acer, Microsoft, Google, LEGO Education, Hippomini,

Steel Series, Holmris Flexform, SIS, I3, Dell, HP, Lenovo, 3D printhuset, Universal Lasers, SG Ecophon AB and SONY.

Formal partnerships are based on a letter of intent which describes the level of engagement of both parties and is relatively easy to exit. The aim of this collaboration is to not involve any money in the process, but to exchange experiences and share mutual benefits. Industrial partners organise workshops at the Danish FCL where they introduce their products. The FCL organises talks, interviews and publishes white papers on partners' products. Industry partners also get feedback on the technological solutions they donate.

The Danish FCL aims to further develop and strengthen its commercial partnerships. For example, the FCL network in Denmark organises annual and biannual events for industry partners, during which it discusses trends and areas of focus in the Danish education system. They also visit partners at the well-known, annual BETT education fair London and remain in continuous contact with industry partners through various channels.

More info: <https://fcl.eun.org/future-classroom-lab-dk>

CREATING NEW RELATIONSHIPS WITH INDUSTRY – ESTONIA

Providing citizens with necessary digital skills and awareness at all levels of education is crucial in a country like Estonia, with one of the most digitised societies in the world. The fact that various public services are currently available to citizens online has placed new demands on the Estonian educational system. As a result, new relationships between the education sector and industry partners have been built thanks to HITSA and the Estonian FCL Ambassador's network, among others.

HITSA supports schools in the development of their ICT competences and infrastructures. It represents Estonia in international projects and initiatives regarding information technology and education. *Aivar Hiio*, the Estonian Lead Ambassador from the Innovation Centre of HITSA, plays an active intermediary role between the public and private sectors, with the aim of strengthening and enabling cooperation. Training teachers has always been a priority for the Lead Ambassador, which is why HITSA now provides thousands of teachers with training on the smart use of ICT every year.

Since 2018, the foundation has been running a technology pilot with industry partners. HITSA started a co-creation programme in 2020 and succeeded in setting up an education data exchange layer between public and private platforms. It organises procurement of services to set up local networks in schools and ICT equipment like tablets or computers for schools. To make informed decisions during the procurement process, the Estonian FCL actively seeks opportunities to exchange with industry partners. The Lead Ambassador stays in touch with various companies active in the field of ICT and education to guide innovation and to ensure a skilful implementation of ICT in Estonian schools.

SCHOOL-COMPANY COOPERATION SCHEMES – FINLAND

The outstanding performance of Finnish students in the [PISA](#) education survey, among other factors, sparked commercial interest in Finland's teaching expertise. Extensive cooperation agreements that followed resulted in mutual benefits for Finnish schools, the local FCL network, and official industry partners. However, this has not always been the case. Finnish schools have managed to set aside reservations and develop mutual

understanding with industry partners and the FCL network has played a role in this success.

At first, cooperating with industry partners was no easy task for Finnish schools. On the one hand, teachers have great pedagogical autonomy in Finland and they decide themselves how to achieve the national curriculum goals. On the other hand, IT companies offer comprehensive and wide-ranging IT solutions, which could potentially affect the functioning of an education system, if implemented in schools.

Finland eventually found a middle ground – a win-win situation for both educators and industry partners, with the aim of improving the learning and teaching experience in schools. [6Aika](#) is a great example. The project unites six of the biggest Finnish cities in their efforts to improve business opportunities for companies. 6Aika helps businesses develop user-oriented services, products and technology relevant in learning environments. A major factor in finding the right partners and establishing a well-balanced model of cooperation throughout the project was networking. This is where the FCL network has played an important role..

The Finnish FCL network has formal cooperation agreements with official industry partners beneficial for both parties. The Labs get to use top-notch technology. This allows them to offer new opportunities to teachers, who can develop new curricula around entrepreneurship education, but also to students, who learn to solve technology-related problems in groups. In this model, teachers and students have an impact on decisions. They participate in discussions and suggest improvements on the usability of their products in the educational sector. Industry partners benefit from this constructive feedback and from the fact that the FCL network promotes its technology during its workshops. Networking is seen as key in the process of building and strengthening relationships with commercial partners:

“You never know where the best cooperation will be composed. It is a combination of supply and demand, the right people meeting each other in the right moment, and it has something to do with coincidence. The importance of networks is emphasised” (Sampo Forsström).

The Finnish FCL is often approached by industry partners seeking collaboration at national education events, during which it promotes the FCL network. The Finnish FCL also sees great value in engaging with EUN's FCL. For example, during the [School Innovation Forum organised by the FCL in Brussels](#), the Finnish FCL Ambassadors were introduced to international commercial partners. The Finnish FCL Ambassadors also introduced commercial partners interested in working with the whole European FCL Ambassador network. Sometimes it is all about meeting the right people at the right time.

Finland is an example of a country which has managed to set its initial reservations aside concerning commercial partnerships to develop a functioning model of cooperation, beneficial for both schools and industry partners. Networking was a crucial element in this process, which highlights the important role of the Finnish FCL network as well as its connections with the European network.

SETTING UP A FUTURE CLASSROOM LAB WITH INDUSTRY PARTNERS – ISRAEL

The Israeli FCL known as [Beta School](#) is a great example of collaborating with the private sector. The lab was founded in 2015, but had started partnerships with the private sector

already in 2012. That year, Karina Batat, the Israeli FCL Ambassador and Head of Beta School, participated in two workshops held at the FCL in Brussels as part of the [iTEC](#) project. Karina suggested opening a similar lab to the one in Brussels to the Tel Aviv District Manager, having realised the added value of such an innovative space for the professional development of teachers. The Ministry of Education of the Tel Aviv District provided a suitable location for the lab in the city of Petah Tikva where Karina works as an ICT teacher.

After this they started finding suitable industry partners. The Community Teacher Manager recruited the VP Public Sector at Microsoft Israel, who performed market studies on the feasibility of the project and decided to invest in the lab. This partnership allowed Beta School to use Microsoft platforms, without limiting the use of tools from other technology providers.

Today, Beta School continues its partnerships with Microsoft and other technology companies. It promotes disruptive, 21st-century pedagogies through interactive workshops, which showcase Microsoft technologies in a dynamic learning space. The participants can bring their own devices to the workshops and all platforms are welcome. Every year Beta School launches several teacher training courses, recognised by the Israeli Ministry of Education, such as *Cloud Collaborative Learning* and *Minecraft in the Classroom*, created in collaboration with Microsoft and TopEdu. The courses focus on redesigning teaching and learning and assessment processes. Recently Beta School collaborated with the Petah Tikva Centre of professional development and launched the course *Redesigning the learning experience: the New Normal*.

In addition, Beta School leads the *Global Goals for Schools Programme*, in collaboration with a team of Microsoft expert teachers, to raise awareness of global goals and motivate action. It also works with Intel on developing a programme promoting active citizenship, where it shares short techno-pedagogy tips on engaging learners with digital tools.



Photo: Beta Lab, Israel



FUTURE CLASSROOM VALIDATION SERVICE

Introducing modern educational technology in the classroom disrupts traditional ways of teaching. EUN knows well that testing new educational ideas and technology is often not an easy task. One of the key challenges of ICT companies is finding schools willing to participate in school pilots and fitting these pilots into the busy schedules of school staff.

To this end, EUN created the [Future Classroom Validation Service](#) to help schools and industry partners develop a code of conduct or serve as a basis for mutual understanding of their interactions. The service supports ICT companies, start-ups and research projects who are keen on **testing their products and services in a school context**. The Validation Service is based on EUN's extensive expertise in running school pilots in numerous EC-funded projects as well as on specific research within the [Living Schools Lab](#) project (2012-2014).

Essentially, the FCL Validation Service consists of a free, comprehensive **Validation Manual** (including the validation methodology, operational process, validation scenarios to help consider different types of validations), and it can be complemented by **bespoke consultancy services** from the EUN validation experts and **access to the network of validation schools**.

To date, EUN has carried out five school pilot programmes with various industry partners: Texas Instruments DLP®, Acer (Chromebooks, Netbooks, Tablets), Google, Samsung and Triseum.

More detailed information about EUN's Validation Manuals and past validation pilots can be found on our website <https://fcl.eun.org/validation-service>.

VALIDATION PROJECT EXAMPLE: LEGO EDUCATION SOLUTIONS

An example of a specific cooperation with industry partners engaging the FCL Ambassador network is the collaboration around solutions by the LEGO Education.

Earlier this year EUN started to organise a new pilot project to explore how to engage part of the FCL Ambassador network and community to experiment with and explore the effective pedagogical use of LEGO Education solutions.

Five of the Lead Ambassadors (Belgium, Denmark, Finland, France and Italy) have been selected to carry out a one-year collaboration between EUN and a local learning lab. The local lab will receive LEGO Education equipment and its trainers will receive corresponding training. In return the FCL Ambassadors and the local labs will provide feedback from the experiences of the workshops that will take place in the countries.

4. LOCAL LEARNING LABS

Initially the FCL Ambassador's mission was to support networks of teachers in their country as well as disseminate EUN projects and project outcomes. It quickly became clear, however, that FCL Ambassadors could also play an important role in supporting the **creation of local learning labs** that teachers across Europe have set up themselves with minimal top-down assistance. Many of these learning labs have been directly inspired by the FCL and have chosen to completely adopt the FCL model of learning zones and even some of the FCL furniture, branding and visual identity while others have emerged as part of a growing trend to remodel schools and classroom environments.

Currently, therefore, the FCL Ambassadors' profile is identified with the strong brand of the FCL concept. In most countries schools and institutes are now taking initiatives to create non-traditional learning spaces and, in some cases, FCL Ambassadors play a coordinating role. In most cases they focus on training practitioners, but also on using Future Classrooms as hubs to bring together stakeholders.

Increasingly, many local initiatives to create "Innovative Learning Spaces" have been taken outside the network of the FCL Ambassadors. As an ongoing exercise the FCL Ambassadors collect the data of learning labs in their country and promote membership of the *Future Classroom Lab Network of Innovative Learning Labs and Spaces*.

Although there is not yet enough data to present the scale of its impact on countries where FCL networks are active, evidence shows that things are headed in the right direction. Ministries of Education interested in FCL have increased their support for alternative learning spaces in recent years, which resulted in the creation of numerous innovative learning labs outside of Belgium. Up to date, it seems that at least 250 local FCLs in Europe were inspired by the original FCL by EUN, according to the Lead Ambassadors.

Schools are inspired by the original FCL in different ways. For instance, at least two schools in the Spanish cities of Ceuta and Madrid are known to have used the FCL Toolkit to reproduce the learning zones promoted by FCL. The Finnish FCL Ambassador states that Finnish schools also take the FCL zones into account in their construction and design projects. The Lead Ambassador of Belgium, on the other hand, admits that the pedagogical aspect of the FCL is often more important than the infrastructure or technology used in Belgian schools.

Over the years, EUN and the Future Classroom Lab have [produced materials](#) to support teachers and schools with setting up flexible learning spaces as well as with pedagogical advice.



COUNTRY SPOTLIGHTS

ARCHICL@SSE – FRANCE

The French FCL network continues to strengthen its connections with the Archicl@sse project launched by the French Ministry of National Education in 2018. The Archicl@sse platform gains valuable knowledge and guidance from the European FCL network's expertise in designing Future Classrooms. At the same time, the Archicl@sse platform

provides the French FCL with a large online dissemination space for the FCL concept and the French FCL Ambassador's network.

Archicl@sse is an online platform which enables and supports educators in defining future schools. The project's website connects local communities with school staff and technical teams in their efforts to construct and renovate schools which meet the needs of teachers and students. The platform provides tips for teachers who wish to modify their classrooms following guidelines on new learning environments and active pedagogy. Training courses plus factsheets on a variety of topics, like furniture provide advice to those designing an innovative classroom. Educators can also use Archilab – an online tool resembling a board game which helps schools reflect on their learning environments.

More information about the Archicl@sse project can be found here: <https://archiclasse.education.fr>.

DESIGNING FUTURE CLASSROOMS – TURKEY

The Turkish Ministry of National Education and Hacettepe University signed a collaboration protocol with the aim of designing both school-based and professional FCL models for teachers. Interior design architects from Hacettepe Universities developed and designed 25 FCL models. The designs were assessed by a professional jury composed of academicians, interior design architects, policy-makers, and faculty deans. Eventually five of the designs were selected and put into practice.

Those designs aroused the interest of teachers as a starting point to rethink their learning spaces. The designs also have been presented on television and other media channels.

More info: <http://fclturkiye.eba.gov.tr/2019/06/13/odullu-gelecegin-sinifi-tasarimlari>



Photo: Opening of a new learning lab in 2018, Turkey



FCL NETWORK OF INNOVATIVE LEARNING LABS AND SPACES

FCL has inspired many teachers, schools and organisations to create their own innovative learning spaces. Various independent initiatives have also shown interest in networking with the FCL community to develop their concept and exchange ideas. To this end, EUN set up the network that would bring together all different learning labs across Europe and even beyond. The expansion of the network has been strongly supported by the FCL Ambassadors.

Innovative Learning Labs and Spaces are independent initiatives, adapted to the local context in which they were created to meet local needs. All learning labs tend to be different, but the main FCL concepts are present in most cases. The key principles of learning labs can be expressed through these criteria:

- **Flexible learning space:** allowing for easy reconfiguration depending on the learning activity, and repositioning of learners and teachers when needed.
- **Hosting innovative learning:** its learning activities incorporate new visions of pedagogy, development of key competences, and technology-enhanced learning.
- **Hosting a variety of activities:** a place for learning activities and training (practice), but also for meetings and discussions about education (reflection).
- **Connection with different stakeholders:** dialogue between teachers, school leaders, policy-makers, commercial partners, students, parents, etc.
- **Open culture:** encouraging lesson observing and mentoring, or using it for European projects like eTwinning.
- **Communication:** engaging the stakeholders and informing the outside world about the activities, being an inspirational lighthouse locally.

It is also possible to identify main types of learning labs based on their purpose and main target audience: **professional learning labs** usually have an extended target audience, strong management (including clear vision and organisation support), and a strong connection with commercial partners (for example Mustikas, created by HITSA, Estonia); and **school-based learning labs** that are embedded in K12 schools, which have a limited target audience (e.g. students and teachers) and usually fewer commercial partners. In addition, there are innovative learning spaces created by teacher training institutes (universities) and commercial entities (e.g. EdTech showrooms).

[The map of learning labs](#) shows how widespread the network currently is. New labs can directly contact EUN while FCL Ambassadors also identify new learning spaces and encourage them to join the network. The network members are granted a special logo. There is no fee to be part of the network. [Read more here](#) or [register a new learning lab/space here](#).

HOW TO BUILD A LEARNING LAB?

As mentioned above, over the years, we have seen in all countries a growing trend to remodel schools and classroom environments. To support schools and local authorities to do this, EUN has issued **two publications** aimed at schools interested in adapting their learning spaces:

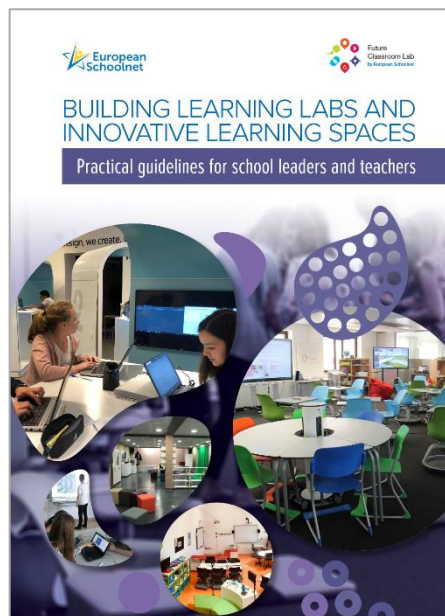
- **Guidelines on Exploring and Adapting Learning Spaces in Schools** (2017): in collaboration with eight Ministries of Education and sponsored by Steelcase and Microsoft. It includes practical advice on how schools can integrate ICT and collaborative approaches in teaching and learning. Explaining how even small changes in organising existing classrooms could significantly improve active learning among students was the key aim of the publication.
- **Building learning labs and innovative learning spaces: Practical guidelines for school leaders and teachers** (2019): aimed at school leaders and teachers who wish to create their own innovative labs. The guidelines are based on EUN's past research and tools as well as data gathered at local learning labs in six European countries.

Detailed case studies from these analysed labs are part of the guide.

In addition, EUN organised in 2017 a **series of webinars** where several learning labs (some of them represented by the Lead Ambassador) shared their experiences and told the story of how they had come about building their lab.

Every school is unique and derives inspiration in different ways. The FCL team in Brussels, as well as the FCL Ambassadors are pleased to know that they have encouraged so many schools to reflect on the role of pedagogy, technology, and design in their classrooms and they will continue to support schools in their transformation.

More info: <https://fcl.eun.org/guidelines>



5. RESEARCH

After its launch, the FCL concept was replicated by many schools and organisations in Europe and beyond. In parallel with this evolution, a number of initiatives were taken to carry out academic **research on flexible learning spaces**. In some cases, the FCL Ambassadors contribute to the research on innovative learning spaces, on both a national and European level.

The FCL labs in Finland and Denmark are part of a university (college). This means that they are naturally involved in research-based education. In Finland they also set up research programmes themselves. Currently they use sensor technology to explore the characteristics of the learning environment. The Danish FCL took part in a research programme on the relation between the FCL and teachers' practices. One of the Italian Lead Ambassadors is part of a research group within INDIRE.

Many FCL Ambassadors are authors or co-authors of books and articles on the FCL concept and other related matters. The Lead Ambassador of Israel has been involved in a study on educational games. The Lead Ambassador of Norway will be a co-author of a book on video games and learning.

Some Lead Ambassadors are partners in two Erasmus+-funded Strategic Partnership projects that have recently started. The projects, Novigado and Design-FILS, focus on innovative learning spaces and include desk research. EUN and the Turkish Lead Ambassador are taking part in both projects, supported by the Czech Lead Ambassador in Design-FILS and the French Lead Ambassador in Novigado.

Currently EUN is preparing a research project on flexible learning spaces that will involve the FCL Ambassadors.



COUNTRY SPOTLIGHTS

INDIRE – ITALY

The work of the Italian FCL Ambassador is part of the work of INDIRE, the National Institute for Documentation, Innovation and Educational Research, a research organisation that belongs to the Italian Ministry of Education.

Alessandra Rucci, the Italian Lead Ambassador, is part of the [INDIRE Learning Spaces](#) research group. As part of her own initiative but also often as part of the initiatives of INDIRE she has taken many opportunities to disseminate the FCL concept and to organise training for teachers and other stakeholders. In addition, she has been mainstreaming new educational approaches through training events all over Italy together with the innovation team of her school (IIS Savoia-Benincasa, Ancona), i.e. a group of teachers with a certification in one or multiple innovative teaching strategies.

During the lockdown caused by the COVID-19 outbreak, the Ambassador launched on a national level a series of online training events meant for principals and educators, named “Educate for future and life – Smart Learning for an active learning in blended mode”.

RESEARCH ON MINECRAFT EDU – ISRAEL

The Israeli FCL, Beta School, took part in a research programme on the educational use of Minecraft. For this, a Minecraft game was created in collaboration with researchers from the USA. The results were presented in December 2019 during the [SIGed Conference](#) (Munich, Germany) by researchers from Israel and the USA using the Minecraft game for educational purposes. The research findings were published in the article “[Educational Gamification Using Minecraft: A Case of Learning the History of an Israel City](#)”. Karina Batat, the Head of the Beta School, was one of the co-authors.

RESEARCH IN TEACHER TRAINING SCHOOLS – FINLAND

FCLab Finland as a project is working in the teacher training schools that are part of Finnish universities. It means that the lab is naturally involved in research-based education. FCLab Finland does small-scale research itself and has participated in a few postgraduate theses. An exciting study is now underway to explore the characteristics of the learning environment and the factors that promote or hinder learning through sensor technology. The research takes place in the Joensuu open learning environment.

Another study currently being conducted is about what secondary school students think of when we are talking about learning spaces or learning landscapes. This research is being done in collaboration with the School of Applied Educational Science and Teacher Education of the University of Eastern Finland.

Another example is the research from the Tampere FCLab. The lab has sensor technology in the class and the researchers are using this technology to investigate aspects of flexible learning spaces. Read more here: <https://www.uef.fi/en/research>



FCL RESEARCH PROGRAMME

Developing a solid FCL research programme is one of the key objectives of the FCL team in 2019-2020. To this end, with the help of several FCL Ambassadors EUN collected in 2019 available evidence from research that helps to define the conceptual framework for the programme. Teacher practice and the space will form the backbone of the research approach. Evidence from research indeed suggests that efforts to understand the impact of physical space on teaching and learning should systematically take into account teachers' competence in using the space to best support specific practices.

At the current stage, it has been decided to investigate more closely three aspects: FCL concept for (Initial) teacher training, at classroom level and as whole-school approach.

In each of the three aspects, one FCL Lead Ambassador will play a prominent role. Moreover, all the FCL Lead Ambassadors will be invited to contribute to the research programme e.g. through setting research questions.

Read more here: <https://fcl.eun.org/research>



NOVIGADO PROJECT ON ACTIVE LEARNING

Novigado is a KA2 Strategic Partnership project that started in autumn 2019. The project focuses on innovative learning spaces and will involve some of the FCL Ambassadors either as partners or as contributors to the open activities.

The objective of the project is to support schools and related stakeholders in the transition from a conventional and teacher-centred classroom into teaching practices that promote active learning with the support of innovative learning environments and use of relevant ICT.

The project aims to create an active online community of educators engaged with innovating their teaching. The project will produce an Active Learning Reference Framework, a training handbook on active learning, guidelines on innovative learning environments, and recommendations for schools and policy-makers. Novigado will also create an online scenario tool that can be integrated in the FCL Toolkit.

More info: <https://fcl.eun.org/novigado>



PUBLICATIONS BY FCL AMBASSADORS

Many Lead and Local Ambassadors are involved in publications that give guidance and support to teachers in their country. They are either authors or co-authors of a wide range of books and articles or they were being interviewed for a case study. Some examples are provided here:

Belgium

- *Zo denkt een computer* – Ben Bastiaensen and Jan De Craemer [About coding in education]
- Effects of learning in a Future Classroom by Artevelde Hogeschool
- +School. Haal meer uit je school. Nieuwe competenties. Nieuwe fysieke leeromgevingen. Inspiratiegids [Guide to new learning spaces] VUB.

Czech Republic

- [Třída budoucnosti](#) – a brochure about FCL principles plus a set of lessons carried in different zones.
- Case study example in the [Guidelines on Exploring and Adapting Learning Spaces in Schools](#)

Denmark

- Møller, Schrøder, Rehder (2019): Lærerfaglig teknologiforståelse – digitale teknologiers rekonfiguration fra uddannelse til praksis.
- Contributions to the official Danish magazine for teachers in primary and lower secondary school (Folkeskolen.dk)
 - www.folkeskolen.dk/639186/det-er-fedt-at-laere-af-hinanden-med-microbit-i-paedagogisk-praksis
 - www.folkeskolen.dk/648988/digital-kreativitet-naar-elever-laerer-af-hinanden
 - www.folkeskolen.dk/659546/um-og-teknologier-i-eksperimenterende-praksisser
- “Young Pedagogues” Special issue on Technology comprehension: Unge Pædagoger nr.1 2020 (<https://u-p.dk/vare/2020-nr-1/>)

Finland

- Article about [Transformation teacher training schools](#)
- Article FCL Ambassadors of Tampere in magazine of the Finnish Teacher Training Network (eNorssi) The magazine is called Sirius and it can be found here: issuu.com/enorssi/docs/sirius4_2019 (pages 54-58)
- Article FCLab.fi: enorssi.fi/julkaisut/oppimisymparistojulkaisu2/mobile/index.html (pages 3-41)
- Article from the Ambassadors of Oulu in magazine of the Finnish Teacher Training Network (eNorssi): issuu.com/enorssi/docs/sirius010202 (pages 36-45)
- Article from the Ambassadors of Joensuu in magazine of the Finnish Teacher Training Network (eNorssi): issuu.com/enorssi/docs/sirius0202 (pages 80-89)

France

- Les Cahiers Pédagogiques (Des collectifs enseignants connectés CP n°548) – article about connected teachers' communities
- Les Cahiers Pédagogiques (Espaces et Architecture Scolaire) – article about schools, spaces and Architecture
- Journal *Diversité* (*Le Projet Future Classroom Lab, Pour une réussite de l'Ecole*, D n°185): – article about Future Classroom Lab, a project for successful schools
- OCEAN Think Tank. Recommandations pour l'utilisation des Objets Connectés et des Espaces d'Apprentissage Nouveaux – article about Internet of Things and New Learning Spaces Guidelines

Hungary

- Many articles about the FCL concept, innovative methods and Labs in Europe: hirmagazin.sulinet.hu/hu/s/jovoosztalyterme
- Educational materials about Learning Activities: <https://hirmagazin.sulinet.hu/hu/s/tevekenysegi-alapu-tervezes>
- Publication about Planning Thematic Weeks and Days in School: hirmagazin.sulinet.hu/hu/s/tematikus-napok-hetek

Israel

- Contributions to <https://innovationlabschools.com>
- Contributions to [Climate Action Project](#)

Turkey

- Future Classrooms and Schools: Teachers' Perceptions – article about designing Future Classrooms in Turkey <http://ijcer.net/en/pub/issue/54696/638110>

6. INITIAL TEACHER EDUCATION

Initial Teacher Education (ITE) was not part of the initial remit of the FCL Ambassadors' scheme. Recently, however, a number of ITE institutions have been involved in EUN projects (ITELab and TeachUP) as a result of which more collaboration between the FCL Ambassadors and teacher training institutes has taken place. Some FCL Ambassadors have helped teacher training institutes with the creation of a learning lab or organised training events for the staff of Teacher Training Institutes.

Two of the FCL Ambassadors are part of an institute for ITE. The University of Copenhagen, for example, has a state-of-the-art Future Classroom and uses this venue to train pre-service teachers and offers a special study track called The Future Classroom Teacher. Finland has set up a network of five government-funded Future Classroom Labs located in ITE institutes and led by the FCL Lead Ambassadors. Here too, the FCL is integrated in teacher training. Both also reach out to other Teacher Training Institutes in their countries and beyond.



COUNTRY SPOTLIGHTS

The FCL Ambassadors of Finland and Denmark both belong to a teacher training institute. The concept of the Future Classroom as well as the pedagogical approach of teaching in flexible learning spaces is part of the ITE programme.

FCL IN TEACHER TRAINING SCHOOLS – FINLAND

Finland has set up a network of five government-funded FCL Labs, which are all part of ITE institutes. *Sampo Forsström*, the Finnish FCL Lead Ambassador, works as a lecturer at the University of Eastern Finland and strives to strengthen the integration of FCL in teacher training. *"The current model works quite well and aims to get more teacher training units involved in FCL. The aim is for all units to be involved in the next four years"*, says Sampo Forsström.

To achieve this goal, the FCL Lead Ambassador and his team have been organising various activities and events in the past few years, targeting national and international audiences. For instance, all ten Finnish ITE institutes can gather for a biannual seminar to participate in training and workshops. During such events, the principals of these institutes become familiar with FCL concepts as well as the FCL network.

Moreover, Finnish FCLs are visited by hundreds of students every year, who learn about the importance of developing digital pedagogical competences in their future careers. Many stay and work in the Labs during their training.

THE FUTURE CLASSROOM TEACHER PROGRAMME – DENMARK

Denmark's FCL Lead Ambassadors, Lasse Remmer and Martin Thun Klausen, consider ITE a core element of the Danish FCL. The Danish FCL is an incubator for a new learning experiences, incorporating technology.

The University of Copenhagen hosts a state-of-the-art Future Classroom Lab, not only used by pre-service teachers but also by local K12-schools. This dynamic learning space plays an important role in developing the national curriculum for Technology

Comprehension in teacher education. It also offers a special training event called *The Future Classroom Teacher*, where 30 students every year learn how to teach using the five learning zones of the lab. The Danish FCL network perceives the Future Classroom Teacher lab as a reciprocal and valuable exchange platform. The programme provides the Future Classroom Teacher with a meaningful, dynamic and ever-changing environment. At the same time the Future Classroom Teacher also provides the FCL with valuable feedback on the use of the space. Denmark's FCL accepts international visitors from various ITE institutions monthly to share best practices and to inspire those who are still in the planning stages of building their FCLs.

HYPERAULA – SPAIN

Hyperaula is a project launched in 2019 by the Universidad Complutense de Madrid with the support of HP, within its project *Campus of the Future*. The main goal of Hyperaula is to train pre-service teachers in the fundamentals of teaching in flexible learning spaces, making use of new methodologies and learning scenarios.

The university has created different learning areas to support innovative pedagogies and competencies. The Hyperspacios are wide, open and flexible areas that can be adapted depending on the tasks to be done either individually or in teams. The furniture and equipment are flexible, and the space facilitates movement and easy layout change. These areas allow diversity and adaptation to different rhythms of learning.

Next to the areas of the Hyperaula there are also two dedicated spaces for specific activities: *Hypermedia*, a space with access to different tools (audio, video, image, text) for face-to-face and blended learning; and *Hyperreality* that uses Augmented Reality, Virtual Reality and 3D simulations to get an immersive learning process.



Photo: FCL Lead Ambassadors' meeting in Madrid 2019



ITELAB PROJECT

An important factor that enabled closer cooperation between the FCL Ambassadors and ITE institutions was the EU-funded ITELab project (2017-2019) led by EUN. ITELab was a Knowledge Alliance project between higher education institutions and industry to foster innovation and knowledge exchange in initial/pre-service teacher education. The project included six universities providing teacher education and four companies that offer ICT solutions and professional development for teachers.



The project provided data and case studies that highlighted new approaches to **integrating ICT within ITE courses** and the challenges that still need to be addressed to boost innovation in higher education. ITELab project results included new course modules and a MOOC for student teachers that were piloted with students in the six universities. The MOOC *The Networked Teacher – Teaching in the 21st Century* was run twice during the project and reached over 6,000 pre- and in-service teachers across Europe and beyond.

The project also put in place an ITE University-ICT industry Forum and worked with a wider group of stakeholders online. EUN and its supporting ministries now see collaboration with ITE organisations as a strategic next step in the development of the FCL.

The ITELab project particularly engaged the network of FCL Ambassadors to support the promotion and moderation of the ITELab MOOC and Modules. During some face-to-face events ITELab project partners and FCL Ambassadors also discussed common issues also developed closer working relationships.

After the end of the ITELab project a number of initiatives have been taken to sustain the relationships between the extended ITELab project partners and the FCL Ambassadors. Alongside regular online meetings, there is the initiative of the [FCL Talks](https://fcltalks.org/), a series of educational webinars covering topics concerning both networks. More info: <http://itelab.eun.org/>

CONCLUSION

During the past five years **the FCL Ambassadors** have had a strategic role 1) in **promoting innovative pedagogical practice** emerging from EUN projects within national teacher networks; 2) and also in **enabling the growing European network** of innovative schools, learning labs and replica FCLs to share experiences related to the implementation of cutting edge educational technologies, flexible learning spaces and the design and delivery of education. Increasingly, many FCL Ambassadors are also actively involved in developing closer links with Initial Teacher Educators so that newly qualified teachers are better prepared to exploit the technological solutions that are now on offer in virtually all classrooms.

Of course, there remain several **challenges** related to successfully running the network even given the existing level of coordination provided by EUN. For example, it is important that there is sufficient **flexibility within the FCL model** so that it can be easily adapted to local conditions and aligned to meet K12 pedagogical and curriculum priorities in different countries. As the role of FCL Ambassadors has evolved in many countries over the last six years, there is also a need to regularly **monitor the priorities** being set by education ministries in order to maintain the cohesiveness of the network.

Given these challenges, discussion within the Steering Committee to reinforce the commitment of the Ministries regarding the role of the FCL Ambassadors, (support and recognition) is very much welcome. A **joint, revised description of the role** of FCL Ambassadors, for example, could perhaps be prepared in order to streamline but still conserve the flexibility concerning how each Lead Ambassador operates at national level.

It is hoped that this report itself can be an important step in ensuring that the valuable work of the FCL Ambassadors is given **greater visibility** and we would encourage existing ministries to share any ideas and suggestions that this report may generate regarding how to develop the network further. More can undoubtedly be done, for example, in terms of raising the profile of Local Ambassadors or connecting more to existing initiatives such as existing learning labs in each country.

Finally, it is clear that FCL Ambassadors continue to have an important role to play in inspiring teachers, providing them with support and professional development opportunities, and enabling them to rethink their existing pedagogical approaches within active teacher communities. Having teaching experience themselves allows the Ambassadors to provide high level guidance to their peers in many different situations and particularly so in the context of the current Covid-19 pandemic when there is an added urgency for all schools to reconfigure learning spaces and maximize the potential of online learning.



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