Innovation in Initial Teacher Education:

EVIDENCE FROM THE ITELab PROJECT

Co-funded by the Erasmus+ Programme of the European Union
ITELab Highlights:

• Results and recommendations from monitoring ITE policy, research, surveys (2017-2019).


• Networked Teacher MOOC (total) – 5,988 registered, 54% started/finished, 4.5 overall average rating (1-5 scale, Spring 2019).

• Three flexible, ITE course module frameworks (EN, IT, NO, PT) – uniquely co-designed by universities, industry and student teachers, reviewed by 53 universities, piloted and refined over 3 cycles.

• A network of 105 ITE stakeholders from across 30 countries, representing universities, industry, and policy, supported by an ITE Forum sharing knowledge supporting innovation in ITE.

• A ‘Student Voice Charter’ written by the ITELab student teacher ambassadors with 7 recommendations calling for action to address digital skills in the classroom.

• Recommendations and resources to support innovation within ITE, reflecting on the process and piloting of how ITE curricula can be improved to prepare new teachers.

See all publications and resources.

1. Background to ITELab

ITELab was born out of EUN’s earlier EC-funded iTEC project (Innovative Technologies for Engaging Classrooms, 2010-2014), involving education ministries, industry, research organisations and schools to test new learning approaches and resources in over 2,500 classrooms across 20 European countries. EUN’s independently funded FCL was set up to sustain iTEC actions and follow-through on recommendations linking to future projects.

One of iTEC’s recommendations highlighted that student teachers’ training on ICT is a key roadblock related to the mainstreaming of innovative pedagogical practice that involves ICT. There is also a ‘disconnect’ between ITE and continuing professional development (CPD) and, as a consequence, in-service training on the pedagogical use of ICT is increasingly required to equip teachers with the essential competences that they did not acquire during their initial training. OECD’s recent TALIS 2018 survey confirms this is still a serious and on-going gap, with only 43% of teachers feeling well or very well prepared to use ICT when they completed their initial education or training.

To continue work in this area, EUN submitted a Knowledge Alliance (KA) proposal with a focus on innovation within Initial Teacher Education under Erasmus+ Key Action 2: Co-operation for Innovation and Exchange of Good Practices between higher education and industry. ITELab with its focus on innovation through co-design and knowledge exchange across the wide field of initial teacher education (different phases and subjects) proved unique in the field of KA2 projects.
2. ITELab Activities

THERE WERE THREE MAIN STRANDS TO THE ACTIVITIES UNDER ITELAB:

i. Gathering evidence and case studies that highlight new approaches to integrating ICT within ITE courses;

ii. Creating innovative teaching module frameworks and content and a MOOC to develop the digital pedagogical skills of future teachers (primary and secondary);

iii. Building a network of all ITE stakeholders to participate in the pilots, evaluation and to share knowledge, ideas and resources through an animated ITE forum.

2.1 Evidence and Case studies

ITELab activities included continuous monitoring of key developments in ITE policy, practice and research related to the project themes, supplemented by annual surveys and case studies. The Final ITE Monitoring report (Nov 2019) summarises both the monitoring and the research carried out with partners to produce a series of 12 case studies featuring: national ITE frameworks; different approaches to sharing university-school-industry collaboration practices and ideas; the student teacher voice report; and the results of the most recent research into developing teacher educators’ competences. Selected findings from the final report are highlighted below.

Read the full report

Continuing Policy concerns that ITE could be improved to address teachers’ criticisms of their initial training: “Among the many findings is that only 56% of teachers reported that they had had training in ICT for teaching in ITE and that only 43% felt well or very well prepared to use ICT when they completed their initial education or training.” Teaching and Learning International Survey (TALIS). OECD, 2019

Teacher Educators’ Digital Pedagogical Competences: two case studies raising two important questions for universities to consider: 1. how this aligns with other demands teacher educators face in their academic field, and 2. how to ensure that the development of teacher educators’ pedagogical digital competence is made a priority.

Value of collaborations between universities and schools, and universities and industry, to address the issue of developing digital pedagogical competences of student and beginning teachers. For example, EU collaborative research and projects, sharing of best practices, benefitting from peer learning.

SMART Technology working with University College Dublin student teacher and FCL Ambassador Spain - EUN FCL School Innovation Forum, June 2019
2.1 Evidence and Case studies

Importance of national frameworks

The critical role of top-down, ‘joined up’ policy initiatives in sponsoring, validating and prioritising change. For example, the Norwegian Centre for ICT in Education’s Framework for Teachers’ Professional Digital Competence (PfDK) of May 2017, aims to embed a shared understanding of teachers’ professional digital competence across the university and all its initial teacher education programmes.

Innovative spaces to practice

One of the seven recommendations from the Student Teacher Charter which gives voice to their calls to improve their digital pedagogy skills as part of their teacher training. The case studies also highlighted the issue of the wide variety of school environments which make it difficult for student teachers to prioritise and practise digital pedagogy skills.

2.2 Innovative teaching module frameworks and content

The co-design and testing of innovative approaches and content to support the development of digital pedagogical competences of student teachers has involved close collaborative working between industry and university partners, associated university partners and also with student teachers.

Piloted and refined over three cycles of testing, it has resulted in three, flexible teaching module frameworks suitable for both primary and secondary initial teacher education, and an open, online practical course (MOOC) sharing the benefits with student and beginner teachers of building a professional learning network (PLN) to support on-going development of practice.

Key learning points from this iterative process of co-design and testing are:

1. Involve student teachers as part of the team in the co-design process. ITELab student teachers were initially involved as part of the evaluation activities of the early materials. The process was altered to involve them directly in iterative content development to align with their needs, working collaboratively with all partners;

2. Offer flexible frameworks and content options to enable integration within existing teaching, term dates and local assessment, overcoming the constraints of university new course quality accreditation approval (typically 18-24 months). The original assumption was to test complete, new ITELab teaching modules. The constraint however had a major impact. Faced with the constraint, teacher educators either offered the new ITELab modules and MOOC as non-accredited options (impacting uptake) and/or selected ‘parts’ of the modules or MOOC to incorporate within existing courses e.g. student teachers incorporated the MOOC digital badge as part of their e-portfolio assessment;

3. The importance of engaging ITELab materials and sharing approaches with peers involving student teachers who have experience gained from teaching practice, ideally with the opportunity to practice new approaches and content in a suitable learning environment within their university or in their teaching practice in schools with support from teacher mentors. The significant variation and impact of teaching practice experience between primary and secondary student teachers was not fully appreciated for students selected for the initial pilots (e.g. Secondary master’s conversion course with c50% on teaching placement; Primary undergraduate degree where teaching placements build in the final years of study);

4. Creating a collegiate style teaching staff hub to support the teacher educators. ITELab originally envisaged a student teacher hub, supporting exchange between student teachers engaged in the ITELab modules. In the event, this evolved into an ITE Staff Hub with the lead university partner University College Dublin (UCD) sharing how they were teaching the modules with UCD students, and supporting it with a series of webinars with partner universities and associate partner universities sharing experiences, supported by the industry partners. This helped build links with research interests, which were followed up in submission of conference papers, which in turn, helped engage more universities in ITELab.
THREE, FLEXIBLE IN-CLASS TEACHING MODULE FRAMEWORKS

Module handbooks (EN, IT, NO, PT) linking to DigCompEdu competences, designed to fit in local university settings and context, structured along ECTS credit lines.

Teaching, Learning & Professional Development for Beginning Teachers:
- introducing & developing understanding, confidence and good practice relating to digital, online resources and networks that connect to people and sources of pedagogical ideas / materials and personalised CPD. CEFR A2 Explorer Level. 5 ECTS.

Designing for Learning:
- developing understanding, confidence, and good practice among beginning teachers relating to designing and teaching digitally-enhanced classes. CEFR B2 Investigator Level. 3.5 ECTS.

Working with Learners:
- exploring principles and practical issues relating to working with learners; situational awareness in teaching and learning settings; reflection on, in and for classroom action. CEFR B2 Investigator Level. 3.5 ECTS.

A short ‘Networked Teacher’ online course (MOOC) providing an international peer learning experience with practical tools and advice on collaborative and active approaches, using both technology and space, in teaching and learning. Digital badge certificate, expert moderators, live events, free. Introductory level. See all the ITELab Content

Wider participation in ITELab was actively pursued by engaging with universities interested in participating in the cycle of pilots of new materials, and by inviting all stakeholder groups to join the ITE Forum discussions to share knowledge and resources on new approaches (e.g. NextLab), research and resources (e.g. DeIMP), as well as learning from the ITELab pilots and the views of the student teachers. It was the first time that knowledge related to ICT use in schools could be exchanged in field of initial teacher education across the relevant stakeholder groups. Forum events were promoted via EUN and partner channels, recorded and published online for asynchronous viewing.

Various methods and approaches were trialled to engage with universities in the pilots and with all stakeholders in the ITE Forum.

Key learning points are:

1. Engage ITE stakeholders by leveraging existing networks e.g. university partners linking to their research interests to share evidence at research conferences, encouraging other universities to participate; industry partners linking up with their school and teacher networks to contribute to the ITE Forum and disseminate ITELab to wider audiences; EUN’s FCL ambassador network appointed by MoE across 16 countries to disseminate and provide support link to universities and through the MOOC;

2. Support the teacher educators joining from other universities with a variety of webinars and supporting slide-decks, emphasising the different ways and flexibility of engagement, opportunities to network, and share experience with peers;

3. Develop and publish at the start of the year a set of over-arching themes (e.g. Hearing the Learner) which help align interests across universities, industry and policy. Invite stakeholders to present linked to the themes to allow the conversation to become more layered and sharper in focus. It also attracts the engagement with other stakeholder groups (e.g. Returns to Innovative Teaching: Schools).

4. Appoint a joint university and industry co-chair for the ITE Forum to encourage a more balanced representation of views. In ITELab, this encouraged both co-chairs to canvass views and opinions from across their own networks, in advance, contributing to ideas in the forum.

University College Dublin student teachers working on ITELab module C - Microsoft DreamSpace, May 2019
5. Publish and promote materials (e.g. video, resources) in advance to capture interest, as well as a question for reflection and to encourage input to the discussion. Following the forum, publish highlights in a short news story to encourage wider dissemination, with the slides and recording published for more detailed follow-up according to the different interests.

3. Recommendations

The following recommendations are structured by ITE key stakeholder group and arise from the work across the three strands of the ITELab project. They start with the overarching recommendation, then detail others arising from it. They focus on the core aim of the Call and the ITELab project: to bring about innovation in higher education institutions providing initial teacher education through knowledge alliances between HEIs and business. Other recommendations are developed in the two related final reports: ‘Final ITE Monitoring Report’; and, ‘Final Recommendations and Resources to support Innovation in ITE’.

3.1 Higher education institutions providing initial teacher education: Integrate the use of digital technologies in curricula

1. Appropriate and added-value uses of ICT should be embedded in courses, assessed and accredited. Such a move, supported by management and funding, is likely to be a catalyst for other innovations, such as changes in teaching approaches, supported by resources from projects and competence frameworks.

2. Create innovative learning environments (e.g. a Future Classroom Lab) within the ITE institutions, to encourage experimentation and opportunities to practise new digital pedagogical competences supporting both teacher educators and student teachers.

3. Develop fast-track quality assurance processes to recognise and accredit new learning approaches (e.g. MOOCs) and other institution ECTS credits for teaching modules.

4. Update the pedagogical digital competences of teacher educators, ensuring that student teachers’ experiences of digital technologies are consistent and not a lottery depending on their tutor, and enabling them better to take ICT into account in their research activities.

5. Define the core pedagogical digital competences of teacher educators, as part of the core skillset of the teacher educator, taking into account the extent to which their professional digital competences are the same as those of practising teachers and whether there are any that are specific to them. Including pedagogical digital competence in performance reviews of teacher educators can act as a stimulus for professional development.

6. Work closely with schools, industry and student teachers themselves to identify more precisely the nature and range of digital pedagogical usages that student teachers will require in their early years as teachers, and then work together to address these, using as a basis for discussions e.g. the ITELab student teacher
7. Intensify efforts to develop student teachers’ pedagogical digital competence, building closer links with local networks of innovative schools. TALIS 2018 found that only 43% of teachers felt well or very well prepared to use ICT after their initial education or training. While HEIs can provide education in valuable pedagogical guidance and mindset, it is when these are adequately and appropriately combined within the live context of a school that innovative practice can be embedded.

8. Encourage student teachers to engage in MOOCs by accrediting the award of digital badges in their e-portfolio assessments; MOOCs offer a practical way to engage in learning from subject experts and provide international peer exchange which enables student teachers to build a professional learning network that supports their lifelong learning.

3.2 Business: Develop strategic, long-term partnerships with universities

1. Collaborate with HEIs on joint projects, preferably international and supported by the European Commission, to give a purpose and value to working across different types of organisations. One of the most valuable insights emerging from the ITELab project is the range of ways in which industry partners can and are willing to contribute to the process of educating new student teachers. The three ITELab industry partners have provided access to resource bases, pathways to customised certification, and connections to their specific communities of teachers. The active collaboration builds trust across the partnership with universities.

2. Share best practice with other industry players to avoid common mistakes and misunderstandings about how education works; seek to understand the context, culture and needs of ITE tailored to each institution, rather than pushing a sales agenda; and aim to build trust so that both sides benefit from collaboration. There is a strong case for closer links between universities and suppliers, such a relationship having value for both sides: better understanding of product (by ITE, anxious to be vendor-neutral), customer (by industry, often focused on sales), the needs of the education system, and of developments in technology that are likely to impact significantly on education.

3. Extend school policy level dialogue to include initial teacher education, to help permeate existing ‘policy silos’: accelerate change in ITE and universities by demonstrating transferable approaches and learning from supporting transformation of education in schools.

4. Encourage industry-specific networks of schools and teachers to engage initial teacher education, linking with HEI. This has the potential to: support ‘bottom-up’ change by linking with teacher educators to engage them in opportunities for training and support; build awareness among new teachers entering schools (teaching practice) of the networks; provide training and resources to support student teachers with their specific technical situations on school placements.

3.3 European Commission: Continue to support HEI and industry collaboration

1. Ensure that future funding opportunities enable all stakeholders engaged in ITE to fully participate as project partners. It is important that such actions are continued, although more priority should be given to Knowledge Alliance projects where the focus is not only on university-industry cooperation but also on more direct involvement of other key education stakeholders.

2. Support projects to increase collaboration between ITE institutions and the growing networks of future classroom labs, learning labs, makerspaces and other innovative learning spaces, assessing for example how these spaces could be used in ITE.

3. Review the DigCompEdu Framework and provide guidance as it relates to teacher educators in universities and student teachers/newly qualified teachers entering the profession.

4. At the 2020 European University Business Forum create a strand dedicated to initial teacher education, promoting HEInnovate with links to schools’ SELFIE, and guidance specifically linked to change in initial teacher education.

5. Support an ITELab Learning Event in 2020 as part of the eTwinning – Teacher Training Initiative, to extend learning and resources across this network.

3.4 Ministries of Education: Provide a policy lead and support for ICT in ITE

1. Increase permeability between policy ‘silos’, engaging all stakeholders in, for example, organising national dialogue labs to develop joint HEI/ K-12 initiatives and programmes that prioritise and support change in initial teacher education.

2. Allocate funding to HEIs innovating their ITE curriculum, supported by the development of teacher educator competences.

3. Strengthen the continuum between schools and ITE offering joint training of teacher educators and teachers in national/local FCL type training centres linked to the continuing profession development of teachers.

4. Review national school competence frameworks (of both teachers and learners) including clear references to ITE.
3.5 Schools: Develop partnerships with ITE providers

1. **School leaders should make their voice heard**, to give their views on the key competences of new teachers entering the system and priorities for ITE curriculum change.

2. **Strengthen links with universities**: supporting HEI in the change of the ITE curriculum to include the development of digital pedagogical skills, offering digital teaching experts to support teacher educators, developing teachers as mentors to student teachers.

3. **Plan student teachers’ digital technology experience as part of their teaching placement in school**, to include opportunities for them to experiment with innovative and transformational ways in teaching and learning, supported by the advanced digital pedagogical expert teachers in the schools.

4. **Sustaining the Momentum**

After the formal end of the ITELab project in December 2019, the ITE community and some of the activities developed within ITELab will continue as part of EUN’s Future Classroom Lab initiative. The FCL opened in 2012 as a long-term, independently funded initiative supported by EUN’s education ministries and over 30 industry partners. It has gone on to inspire ministries in 16 countries to appoint FCL Lead Ambassadors who support the implementation of the FCL concept by providing training and advice to schools. As well as the expanding network of school-based Learning Labs, the FCL model has also been adapted and implemented by a growing number of ITE institutions and FCL industry partners including Campus Carlsberg (DK), University of Lisbon (PT), Acer / Ricoh (DE), and Microsoft’s EDULab (Spain).

The ITELab project’s co-design workshops took place in the FCL and this inspired ITE partners University of Agder (NO), University of Perugia (UoP) and Polytechnic of Santarém (PT) to support and create active learning zones within their own institutions. In June 2019 the ITELab partners shared a joint workshop with the FCL Lead Ambassadors exchanging knowledge and ideas for closer collaboration between schools and ITE. This was followed by EUN’s first Schools Innovation Forum, an interactive meeting to build a community across EUN’s key stakeholders in the field of educational innovation. In 2019, this community was expanded to include ITE institutions supporting thematic exchanges around ITE.

These links with the FCL will continue in 2020, with ITELab partners forming an ITE core group to build on and sustain activities that engage with and reach out to all ITE stakeholders. These activities include: collaborating on a university co-edited research paper as part of the FCL research agenda, to be presented at the June 2020 School Innovation Forum; offering FCL training workshops in spring 2020 for teacher educators aimed at supporting student teachers to become ‘future classroom ready’, learn about strategies, content, methods and tools; explore how to adapt and integrate ITELab’s in-class teaching modules and the MOOC for student teachers. The ‘Networked Teacher’ MOOC will be offered again to engage a new cohort of student teachers in an international peer learning experience in autumn 2020. The connection to the network of FCL Lead Ambassadors will be maintained, linking ITE institutions developing their own FCL concepts with local ambassadors, sharing knowledge through online webinars. Interested ITE institutions are invited to subscribe to the FCL newsletter and follow developments – and get involved – in this new FCL-ITE community.

University College Dublin student teachers working on the IRIS Connect video reflection unit in module C - Microsoft DreamSpace, May 2019
Monitoring 2020  
FCL-ITE Research Group collaborating with European Schoolnet-FCL School Innovation Forum Summer 2020

Co-design 2020  
Co-design inter-active workshop in FCL with Teacher Educators, student teachers  
Spring 2020  
Networked Teacher MOOC v Autumn 2020

Exchange 2020  
Link up with the FCL Ambassadors network  
Local ITE Ambassadors-National FCL Ambassadors  
Exchange ideas through FCL Forum

ITELab partners local sustainability initiatives include: presenting the ITELab concepts at conferences; incorporating the ITELab frameworks and MOOC into their teaching materials as well as sharing in learning events and projects (e.g., as part of the eTwinning, Teaching Training Initiative); extending the development of their FCL concepts to involve partner schools and align with local curriculum priorities.

Going forward, the learning from ITELab is being factored into a potential new project proposal focused on mainstreaming and accelerating innovation within ITE by leveraging the growing number of Future Classroom Labs within ITE and networking teacher educator communities locally, regionally and at the EU level.

Further details of the ITELab Exploitation and Sustainability Plan are available

Summary of ITELab key outputs

See the list of all ITELab outputs

Final Project Summary Report  
• Highlighting: evidence from ITELab, key activities, outputs and learning points, project final recommendations.

Final Sustainability Video

Final Summary Monitoring Report & Recommendations  
• summary of published research, surveys, case studies, student voice, challenges and recommendations.  
• series of 12 case studies highlighting: national frameworks for change; collaboration for change in ITE between universities- schools, industry-universities, universities – developing teacher education competences.  
• student teacher voice report and charter; giving voice to the concerns and requirements of student teachers and call to policymakers and institutions to be digital confident for C21st.

Final Recommendations and resources to support innovation within ITE  
• highlighting: the co-design concept and approach to developing the ITELab module frameworks; sharing learning points from piloting; final module framework outputs and recommendations.

Course ITEL Teaching Module Frameworks and MOOC  
• three, flexible, in-class teaching module frameworks to develop confidence and best practice relating to teaching in the digital world. (EN, IT, NO, PT).  
• short, practical, online course for student/teachers, “The Networked Teacher – teaching in the C21st”.  
• Module and MOOC evaluation reports

Final Exploitation and Sustainability Plan  
• highlighting: ongoing activities, following the end of ITELab, with ITE joining as a major new stakeholder group in EUN’s Future Classroom Lab initiative, linking to partners’ sustainability plans.
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**Pedagogical Advisory Board**

**Student Teacher Ambassadors**

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