ITELab case studies 2019

Preparing student teachers for the future classroom: industry - university collaboration

IRIS Connect
Microsoft Education
SMART Technologies
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1 INTRODUCTION

ITELab is a Knowledge Alliance project involving six initial teacher education (ITE) institutions and three EdTech industry partners working together to improve mutual understanding and boost innovation.

The industry partners involved in the project, Microsoft, IRIS and SMART Technologies, in cooperation with ITE institutions, have been co-designing and piloting innovative new training approaches and materials (notably three teaching modules and a massive open online course) to develop the digital pedagogical competences of future teachers. This work has also included joint workshops and online discussions (the ITE Forum), all aimed at supporting innovation in ITE. For both the industry and the university partners, this level of cooperation is unusual and, for many, a new experience. Universities tend to view their relationship with industry as suppliers, rather than partners, maintaining an arm’s length relationship with them, for reasons of commercial neutrality.

For industry partners, their education teams are traditionally more heavily involved with schools, rather than ITE institutions, supporting a range of products and services, which include professional development training programmes and communities for existing teachers. The level of interaction with universities, and specifically, directly with the field of initial teacher education is much more limited. Through the ITELab project, each industry partner has contributed their ideas, based on their knowledge and experience, to co-design new teaching materials. They have also contributed resources, where possible under Open Educational Resources terms. Consequently, the project has gained insights into the challenges and benefits of closer cooperation between ITE institutions and EdTech companies.

In order to present the results such collaborations can bring to ITE institutions, EdTech companies and student teachers, the three case studies in this report are devoted to the industry-university collaboration:

- Video-Based Reflection: IRIS Connect
- Long Term Partnerships Between Industry and Universities: Microsoft
- Designing Future Classrooms to Support Initial Teacher Education: SMART Technologies

The case studies identify how cooperation between industry and universities helps change the ITE curriculum, show innovative approaches and present examples of successful cooperation between ICT and ITE providers. The studies include examples of the use of products, services/solutions, programmes and teaching communities developed by the ICT providers in the ITE institutions, related challenges and the impact of the collaboration on the institutions, tutors and future teachers.

1 ITELab (2019) Available at: http://itelab.eun.org/about
By describing such examples and analysing the factors underpinning successful cooperation, the case studies aim to offer an insight into effective ways of working with ICT providers to support innovation in ITE and develop the pedagogical technology skills of future teachers. Similarly, the case studies also look at any obstacles and issues met in this process and the factors that contributed to overcoming them. The findings presented in this document will feed in the project’s final recommendations.
Two sources were used in the case studies: desk research and interviews with key personnel in the companies.

Desk research took place between April and August 2019 and aimed to collect information on the hardware, software and solutions the three EdTech companies offer and document examples of their cooperation with ITE institutions.

A senior representative of the three partner companies was interviewed in order to gain additional information and clarify the findings of the desk research. In total, three interviews were carried out in April and May 2019 with the following EdTech companies’ representatives, followed by subsequent input from their colleagues:

- Vesna Belogaska (IRIS Connect), interview carried out 3rd May 2019
- Richard Ryan (Microsoft Ireland), interview carried out on 15th May 2019
- Peter Claxton (SMART Technologies), interview carried out on 18th April 2019.

The three case studies comprise background information on products offered by the EdTech company, collaboration with educational and ITE institutions, the impact these collaborations have, challenges encountered in these collaborations and future plans in terms of expanding such collaboration. The case studies were written by European Schoolnet and the three companies were invited to correct any factual errors.
3 CASE STUDY 1: VIDEO-BASED REFLECTION USING IRIS CONNECT

3.1 BACKGROUND

IRIS Connect is one of the leading providers of teacher video professional development. The IRIS Connect product uses video-based reflection and collaboration technologies to improve learning outcomes through teacher professional development. This video-based professional development platform allows teachers to record lessons and upload them to the company’s cloud-based storage system. Recordings are accessible to other teachers through permission-based sharing, forming a community where they can view, reflect and analyse their own teaching practices, peer review, provide feedback and exchange ideas. The platform also provides teachers with theory, research, teaching techniques and strategies.

The development of the platform was a response to research which shows that traditional forms of teacher professional development have very limited impact on actual transfer of teachers’ acquired knowledge and skills into practice. Nowadays, teachers are expected to continuously develop and change how they deliver their classes. However, they may lack advice, resources or support to do so, according to the company.

The initial idea behind the solution came from the results of a research project carried out at the University of Sussex in 2006/07 to investigate how video can be used to enhance student teachers’ professional learning. The study concluded that video recording and observation of authentic classroom practice could make a significant contribution to early teacher development as a means of supporting self-reflection, mentoring and coaching. However, the use of traditional videos was identified as a shortcoming to which IRIS Connect found a solution in the form of a system design ensuring ease of use, good quality of audio and video, a secure way of recording practice and, crucially – each teacher being in full control of their own recordings. Since then, IRIS Connect has been actively involved in research projects with universities, aiming to improve existing solutions.

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2 IRIS Connect (2019) ‘What we do’ Available at: https://www.irisconnect.com/uk/what-we-do/teacher-professional-learning/

3 IRIS Connect (2019) ‘What does effective professional development look like?’ Available at: https://www.irisconnect.com/uk/impact/research/

4 IRIS Connect (2019) ‘Timeline’ Available at: https://www.irisconnect.com/uk/timeline/
Apart from providing a platform for video-based reflection and collaboration through communities of practice, IRIS Connect provides consultancy services to educational institutions on how to achieve better learning outcomes using technology. Additionally, IRIS Connect offers other products to educational institutions. These include; developing blended professional learning programmes based on content provided by specialists and the learning experiences delivered through the IRIS Connect platform. An example of this is the collaboration with the Chartered College of Teaching in the UK, where teachers working toward achieving Chartered Teacher status use IRIS Connect for refining their practice through video-based reflection and collaborative enquiry as part of the broader accreditation process. Another example is an online course currently being developed in cooperation with JAMK University of Applied Sciences in Finland. 

![Figure 1: IRIS Connect Video-based learning platform](image)

### 3.2 Collaboration with Educational Institutions

IRIS Connect currently works with more than 2,300 institutions in 27 countries, including 30 ITE institutions in five European countries: Denmark, Estonia, Finland, the Netherlands, United Kingdom and in the USA.

Five factors influence which institution the company establishes collaboration with:

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• National education system and institutional financial autonomy. The education system in the UK, for example, gives schools more autonomy and flexibility to spend their teacher education budget and to cooperate with private organisations. Moreover, the government has encouraged more school-centred initial teacher training in addition to the traditional routes provided by universities and higher education institutions. This coupled with the ITE universities’ complex funding makes collaboration with schools easier. Therefore IRIS Connect cooperates more with schools than ITE institutions in the UK.

• National policy context. Some countries’ national policies prevent teachers from using video-based learning in their classrooms. For example, in Germany, Bavarian teachers may record their classes only if recording is essential to improve pupils’ skills, such as during sport or recitation classes. Any other use of recordings is considered a breach of students’ privacy. Such policies restrict potential cooperation between educational institutions and IRIS Connect. However, the fact that full compliance with the General Data Protection Regulation (GDPR) and high levels of security and privacy are embedded in the design of IRIS Connect enables it to be increasingly approved within stringent national policies, as is the case in Denmark.

• Technical preparedness and digital competence. Technical readiness is an important factor when choosing an institution to cooperate with, as the schools and ITE institutions need to possess a certain minimum level of ICT skills and technical equipment. IRIS Connect provides training for using their system, adapted to the needs of the institution where it is being implemented.

• Motivation of the institution. In some countries cooperation with IRIS Connect is led by ITE institutions (universities) more than schools, such as in the Netherlands and Denmark. This arises from their desire to innovate and implement innovative solutions for teacher professional development and collaboration with schools. The ITE institutions in these two countries contacted IRIS Connect and proposed a potential cooperation which was then rolled out to partner schools.

• Leadership support and institutional culture. In general, educational institutions open to innovation and having the support of their leaders in fostering a trust-based and supportive culture are more suitable for cooperation and achieve better outcomes than others. This is the case across the IRIS Connect community, regardless of the stage of education offered.

Therefore, IRIS Connect’s approach when cooperating with institutions is not based solely on the type of institution or the country in which the institution is based, but on a range of factors. The company adapts different approaches depending on the educational system, technical preparedness as well as the culture at the local level. As a result, the same approach can be used in two different educational institutions in various countries and different approaches could be applied to the same type of institutions located in the same country.
3.3 Collaboration with ITE institutions

Collaborations between IRIS Connect and ITE institutions are long term; the longest – in the Netherlands and Denmark – began seven years ago. Two essential components lie behind such successful and enduring collaborations: having a common objective and a clear focus to achieve this objective. If both are present, it is easier to overcome any obstacles encountered during the cooperation.

In principle, both ITE institutions and IRIS Connect benefit from mutual collaboration. ITE institutions benefit from access to the video-based learning platform and other IRIS Connect products, such as the Film Club framework and a community of ITE institutions. Moreover, being involved in research into the impact of video-based learning, IRIS Connect provides ITE institutions with useful research outcomes and an evidence-led understanding of what really works in the classroom. On the other hand, IRIS Connect gains access to content and the ability to co-create it, and to validate its resources in terms of how teacher professional development is enhanced.

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**IRIS Connect’s Film Clubs**

The idea for Film Club was born out of the research project in cooperation with the Education Endowment Foundation in the UK.

IRIS Connect’s Film Club is a structured professional development programme involving a series of learning activities, which include: accessing theory and research; watching real classroom exemplars; reflecting on that practice through guided questions and then implementing it and reflecting on their own practice, individually and collectively, harnessing the power of video.

At the moment, teachers and student teachers can explore five episodes focused on instructional practices that have the greatest impact on student learning: classroom talk, effective questioning, group talk, feedback, and growth mindsets.


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Collaboration with each institution is adapted to the needs of each. For example, in some countries outside Europe, email is not the most preferred communication channel among teachers. Instead, some teachers and institutions prefer to use mobile applications, such as WhatsApp. Similarly, where there is no WiFi internet infrastructure, the IRIS Connect app is optimised to be used across the mobile network and less stable infrastructure, making it robust and suitable for use in that context. The process is also tailored to the local level of ICT literacy and culture. These circumstances are always taken into account and the approach adapted.

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3.4 IMPACT

The positive impact of collaboration between IRIS Connect and ITE institutions is most evident in enabling effective and cost-efficient support to student teachers to link the theory with practice and enabling integrated approach by the university lecturer and the school-based mentor. The student teachers have been able to use the system during their placements to record their own teaching and subsequently reflect on it; receive developmental feedback from mentors and peers and use it to refine practice through iterative cycles which would not be feasible with only in-person observations.

Interacting with the system is user friendly and intuitive, according to user feedback. It involves using multimedia, including the video capture app and web-based tools for reflection, analysis and sharing. The interaction on the online platform improves the ICT skills of both teachers and student teachers. The primary aim of the platform is to enhance pedagogy through technology, which, according to feedback received, it does.

As a result of IRIS Connect’s collaboration with ITE institutions, several have developed their curricula to include reflective and evidence-based learning and coaching facilitated by the IRIS Connect platform. VIA University College in Denmark rolled out collaborative video-based learning across all faculties, while JAMK in Finland designed blended courses to maximise impact of teaching. Several ITE institutions in the Netherlands established ongoing programmes of collaboration with partner schools, creating a community between the ITE institutions, schools and student teachers in a cost effective and sustainable way.

Furthermore, the platform provides an affordable and sustainable way of coaching, including live remote coaching that initial research indicates could be transformative for enhancing teaching practice.

These unique features of the platform have recently attracted the attention of the British Council, who have used IRIS Connect in international teacher development projects and are now interested in researching its impact at scale.

Evaluation undertaken at educational institutions show a high level of teacher satisfaction with the platform and a positive impact on their teaching as it provides greater insights for teachers into their own practices by using self and group reflection and collaborative learning.

The following case studies provide examples of the impact of collaboration with ITE providers in Finland, the Netherlands and Denmark.

3.4.1 Finland: School of Professional Teacher Education, JAMK University of Applied Sciences

The School of Professional Teacher Education at JAMK University of Applied Sciences in Finland requires student teachers to be observed and assessed by their assigned
teacher educator, tutor and peers. In the past, such observations could take up a whole day and could entail travelling around the country.

However, since the introduction of the IRIS Connect platform, student teachers have been able to record their practice sessions and share them with teacher educators, avoiding the necessary travel and saving their tutors time. On average, each teacher educator has saved between 20 and 40 travelling days by using the platform.

Moreover, by using the platform, student teachers have been supported in their self and peer assessment, reflection skills, soft skills, development and use of technology. Student teachers who have been using the IRIS Connect platform reported that the tools have had a significant impact on their professional identity development.

3.4.2 The Netherlands: University of Twente

Student teachers at the University of Twente in the Netherlands give three lessons to their peers as part of their training. These lessons are required to be videoed, but using manual cameras proved time-consuming and insecure.

In 2013 the University decided to start using IRIS Connect to film these lessons, as it is an easier, quicker and safer way to use and share recorded lessons and the opportunity to analyse them with their peers, mentors and the university tutors. As a result, the university saw an increase in student teachers’ willingness to record their lessons, with more than 90% of student teachers using the platform for this assignment (previously only approximately half of the students recorded their lessons).

3.4.3 Denmark: VIA University College

IRIS Connect collaborated with the VIA University College in a research project involving one third of Denmark’s trainee teachers, providing them with access to remote support from VIA University College tutors. The trainees were supported for two years to develop their practice through feedback and research.

Students used IRIS Connect during their six-week placements, where they recorded their lessons and were provided access to the tools within the IRIS Connect platform. Students then worked together in groups sharing and analyzing the videos amongst themselves.

The project helped students see aspects of their teaching they had not previously noticed. Moreover, the ability to analyse their own lessons, as well as those of their peers made them think more deeply about the practices they use and see how they

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7 IRIS Connect (2019) ‘Supporting Student Teachers’ Practical Expertise’ Available at: https://www.irisconnect.com/uk/impact/case-studies/support-student-teachers-practical-expertise/

8 IRIS Connect (2019) ‘Enhanced Teacher Training’ Available at: https://www.irisconnect.com/uk/impact/case-studies/enhanced-teacher-training/
can improve. As a result of this project, VIA University College now uses IRIS Connect across all eight campuses⁹.

### 3.5 Challenges

Challenges encountered during the collaboration with ITE institutions have mostly been systemic at the institutional organisation level: a lack of holistic approaches to make teacher professional training more effective, a need to streamline decision-making processes and become more agile in adopting innovation to be effective.

Many obstacles are country specific. Some countries in Europe, such as the Netherlands, are more innovative and innovation is widely supported through policy making. Other countries such as the UK apply different rules and accord different levels of autonomy to schools and ITE institutions.

To tackle these challenges, IRIS Connect makes sure its message is clear and the objectives are compatible with the educational institution with which it wishes to cooperate. Some institutions need reassurance about the evidence of positive impact, which IRIS Connect can provide.

In general, to counter any obstacles, there needs to be a transparent and joint way of looking at the issues, and shared objectives and how they can be achieved. Dialogue and a partnership approach are a necessity to a successful cooperation.

### 3.6 Future Plans

So far, collaboration between IRIS Connect and ITE institutions has been successful, bringing positive results and resulting in successful cooperation, effective teacher learning outcomes and innovative courses and teacher education programmes.

In the future, IRIS Connect hopes to expand this collaboration. There is still a demand to develop additional content, such as for teaching students with particular learning needs or at different levels. To develop such programmes, IRIS Connect is dependent on cooperation with educational institutions to provide educational content. In exchange, IRIS Connect provides these institutions with expertise in using video-based collaborative learning with positive results.

In addition to the content, there are plans for developing additional platform features in keeping with the principles of ease of use, such as an evidence-informed and teacher-led collaborative learning approach with a clear focus: enhance teaching and its impact on learning.

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4 CASE STUDY 2: LONG TERM PARTNERSHIPS BETWEEN INDUSTRY AND UNIVERSITIES: MICROSOFT

4.1 BACKGROUND

Microsoft is one of the most significant players in the education technology industry, offering both software and hardware solutions used at schools and ITE institutions. The Microsoft Educator Community provides online courses for educators and free tools such as Office 365, Teams, OneNote and Sway. Educators can use Skype in the Classroom service to organize talks with various speakers, classroom to classroom connections and live collaboration projects. Moreover, the community concentrates on providing environment for better learning outcomes, leadership and modern teaching.

In order to provide a coherent set of resources for ITE institutions, Microsoft developed the Student Teacher Education Programme (STEP). The programme provides student teachers with pedagogy-focused training on integrating technology into teaching. This training is delivered through online courses at the end of which each student teacher receives a STEP badge and digital proficiency certification. The programme can be either integrated into the ITE curriculum or be part of students' final assessment.

![Microsoft STEP Programme](https://education.microsoft.com/higher-education/programs/the-student-teacher-education-program)

Figure 2: Microsoft STEP Programme

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11 Microsoft (2019) ‘Microsoft Educator Centre’ Available at: https://education.microsoft.com/  

12 Microsoft (2019) ‘Student Teacher Education Programme’ Available at: https://education.microsoft.com/higher-education/programs/the-student-teacher-education-program
STEP currently partners with 20 institutions across the world. In Europe, these include ITE institutions in Germany, Norway, Portugal (Universidade de Lisboa) and the UK (universities of Leeds Beckett, Strathclyde and Bangor). Microsoft also cooperates with one of the ITELab university partners, the University College Dublin, on developing a one-year computational thinking course and developing more personalised approaches to portfolio work with UCD’s student teachers. In the future, Microsoft plans to expand the cooperation with more ITE institutions.

4.2 Collaboration with Educational Institutions in Ireland

Microsoft has been active on the European EdTech market longer than most technology companies. In Ireland alone, Microsoft has been active for over 30 years, establishing long lasting relations with educational institutions. Since launching its 2006 Partners in Learning Initiative, education has become a key focus, enabling it to understand the needs of the EdTech market and the added value it can bring to education.

Successful collaborations are based on a meaningful partnership and working together to achieve a common and meaningful output, while achieving results for both the ITE institution, such as positively impacting student teachers, and for Microsoft. Furthermore, all of the involved parties benefit from mutual cooperation. For example, Microsoft gains a reputation and visibility as a genuine and credible private sector partner, which opens up possibilities for future cooperation. ITE institutions gain a link to the changing technology landscape, which they might otherwise have. Working with an EdTech company, ITE institutions can ensure that the content and the programmes they integrate are up-to-date, credible to students and provide them with the skills that are needed and relevant. Finally, student teachers also get to know the technology and discover that there are many more tools which can be used in the classroom than they were used to. They also learn how to be more productive with the tools they use, learn different ways of using technology and gain confidence to test new things in their practices.

4.2.1 Collaboration with the University College Dublin

Microsoft and the University College Dublin have partnered on a various range of programmes over a period of 10 years. UCD has been the university Microsoft Ireland has been cooperating with the most, establishing a long-lasting relationship and working together on developing various programmes.

In the academic years 2017/2018 and 2018/2019 Microsoft has sponsored the delivery of the Professional Diploma in Education (Computational Thinking) at the UCD. The programme represents a unique university/industry partnership aiming to provide
participants with strategic understanding and applied skills in computational thinking. In 2019, UCD launched Ireland’s first digital policy programme to help improve digital policy creation, in partnership with Microsoft. The programme was designed to support government officials with the skills and knowledge to implement digital policies and keep pace with ever changing technological progress, so the laws and policies are relevant to the challenges of a digitised world. The programme includes Certificate, Diploma and Masters’ level qualifications in Digital Policy Studies.

Microsoft and UCD also developed a digital practice module for the Professional Master of Education ePortfolio, in 2018. The module was delivered to 18 students at the Microsoft premises by both UCD and Microsoft staff, to provide a different learning space to its students.

Finally, Microsoft and the UCD worked together to develop and deliver ITELab Module C in May 2019, entitled Working with Learners. This taught short course introduces and explores a number of principles and practical issues on working with learners and its value to the beginning teacher / teachers in programmes of formation and education. Technology is referenced throughout and is used as an aid to the participants’ learning.

The module was delivered at Microsoft’s premises and was packaged up in a reusable way. Microsoft provided remote access to the sessions, so that other universities could join remotely. For both Microsoft and the UCD this has been an interesting and unique experience, and a new area of cooperation.

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13 UCD (2016) ‘Professional Diploma in Educational Studies (Computational Thinking)’ Available at: https://www.cs.ucd.ie/postgrad-programmes/professional-diploma-educational-studies-computational-thinking/

Together, Microsoft and UCD have built good quality programmes and developed long lasting relations between staff. In particular, good relations established with Professor Conor Galvin from UCD help support this cooperation. Throughout the years, Professor Galvin has developed an understanding of how Microsoft can contribute to the UCD’s academic environment, which has been very valuable to both parties.

4.2.2 Collaboration with other ITE institutions in Ireland

In addition to the University College Dublin, two other educational institutions in Ireland serve as examples of cooperation between universities and Microsoft: Dublin City University and St Patrick’s College15.

The cooperation between Microsoft, DCU and St Patrick’s College led to a creation of the ‘21st Century Learning Design’ MOOC, a result of a cooperative research. The course is available through the Microsoft Educator Community and is accessible to educators worldwide. The MOOC helps educators bring more technology skills into the classroom and seeks to develop communication, collaboration and problem-solving skills. The course enables teachers to embed ICT more effectively into their classroom and design learning activities that develop 21st century skills16.

Microsoft and DCU also cooperated on the 2018 Hour of Code campaign. The campaign saw thousands of students around Ireland involved in a one-hour coding

15 The cooperation with the St Patrick’s College lasted until September 2016, when it was dissolved and incorporated into Dublin City University

session, involving 450 student teachers and 10,000 primary school students. Additionally, 200 Microsoft employees visit schools around Ireland to deliver face to face Hour of Code sessions. The sessions were also available through an interactive Hour of Code video session in the Microsoft’s Minecraft Studio, a learning space for students in DCU and practising teachers\(^\text{17}\).

Finally, in 2016, St. Patricks College DCU Institute of Education in cooperation with Microsoft, launched the MindRising initiative calling on young people to use Minecraft to tell the story of Ireland looking back to 1916 and projecting it forward to 2116. By using Minecraft, the projects bridge formal and informal learning spaces, aiming to engage youth through innovative technologies and learning experiences building better understanding of past and future events\(^\text{18}\).

### 4.2.3 Collaboration with ITE institutions in Europe

Microsoft partnered with the Leeds Beckett University’s Carnegie School of Education (UK) in the development of the Microsoft STEP Programme. Microsoft has consulted the university on the learning content of the programme, creating a guide for other universities and trialled out the first pilot in the academic year 2017/2018\(^\text{19}\). The programme has been implemented in the university’s curriculum over three years, starting with the BA Primary Education courses.

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Strathclyde University (UK) embedded the STEP Programme into their placement modules within their 4-year BA Primary Education programme. In the first half of the year of this programme concentrates on blended learning with knowledge acquisition using the Microsoft Education Community. Afterwards, the students apply the newly gained knowledge during their placements followed by an evaluation by their tutors.

Students can capture their progress and knowledge through the OneNote Class Notebook, throughout the duration of their studies. The notebook ultimately becomes a revision tool for the Microsoft Certified Educator examination and also serves as a portfolio during employer interviews. In their final year, students are given a timetabled non-credit lesson to complete their portfolio, prepare for the MCE exam and take the exam itself.
Similarly, University of Bangor (UK) also implements STEP in their ITE curriculum over three terms. During the first term, students receive guidance for STEP together with lessons dedicated to digital pedagogy. In the second term, students are taught how to use Skype in the Classroom and Microsoft in Education. In their third term, the curriculum concentrates on 21st century learning design and a cross-curricular Digital Competency Framework.

4.3 Impact

Microsoft has been deeply involved in cooperation with educational institutions, not only developing virtual spaces designed for learning, but also co-developing physical learning spaces and collaborating with the institutions in innovative ways. The virtue of the collaboration depends entirely on the institution with which Microsoft cooperates.
Similarly, the outcomes of such cooperation depend on the level and length of such collaboration.

Microsoft is open to cooperation with ITE institutions primarily because it is in its own interest that the teachers possess the skills to integrate technology in their teaching practices. Being involved and collaborating with ITE institutions offers an opportunity to ensure teachers hold the digital pedagogy skills and will implement technology in their future teachings. Moreover, Microsoft not only focuses on the fact that the teachers implement technology in their classrooms, but also ensures that the technology is implemented effectively as this is perceived as equally important.

The biggest achievements of these collaborations include the 21st Century Learning Design MOOC and achieving numerous partnerships across Europe, which make Microsoft a credible voice within the sector. In general, assisting in the development, delivery and partnering in teacher preparedness for the use of technology in the classroom is critical to Microsoft’s mission in education.

The most important and most successful collaboration which impacted both students and tutors positively are the following:

- **Development of the Module C for the ITELab project.** Collaboration in the development and delivery of the Module C’s first pilot demonstrated how academic institutions and industry can collaborate to deliver a module that is relevant and impactful for ITE students. Delivering in an unfamiliar, different teaching and learning space such as DreamSpace allows students, tutors and project partners to work together and trial different elements of the module, which they would not be able to trial in their classrooms.

- **Development of the Minecraft Studio.** The innovative studio serves as a learning space for students and practising teachers. The studio brings the virtual immersive educational environment of Minecraft to life in an educational setting. The studio is equipped with devices and furniture which allow explore innovative virtual and physical learning spaces.

- **UCD’s Professional Master of Education ePortfolio and Digital Practice Module.** The ePortfolio and the module were delivered at Microsoft’s premises in order to provide a fresh and different learning space. The content was co-developed and delivered by Microsoft and UCD School of Education faculty staff to 18 students in 2018.

### 4.4 Challenges

One of the biggest challenges in cooperation with ITE institutions is the pace of technological change which ITE institutions can find difficult to keep track of. Very often, due to these changes, ITE institutions might look to change the existing practices of delivering student teachers training. There is the balance, for example, for the ITE institutions to keep the tried and tested curricula, against looking into the possibilities to update it. All ITE institutions operate at different paces and some are more aware about the changes in the EdTech market than others. Therefore, certain level of
openness to change is required from ITE institutions while cooperating with the private sector but it’s also crucial that the private sector understand the complexity of module & curriculum development within institutions.

When ITE Institutions view private sector companies as a long-term collaborative partner, not as the traditional stereotypical suppliers, and see that these entities are willing to engage on a long-term basis, then these create the grounds for genuine partnership.

One method to work towards this is to building trust through projects over a short and medium term. If, within these projects, both parties can demonstrate together the impact they both have made in classrooms together, the partnership is one of mutual benefits.

4.5 Future Plans

In the future, Microsoft plans to continue to expand the relations it has with ITE institutions, creating new opportunities for collaboration. Its focus will be demonstrating the impact technology has in the classroom to help educational institutions to innovate and understand the skills they need to foster in their students.

Microsoft’s focus will remain on the STEP Programme; however, the company continues to develop initiatives across a range of EdTech opportunities, tailored particularly for the institutions with which Microsoft partners.
5 CASE STUDY 3: SUPPORTING FUTURE CLASSROOMS, SMART TECHNOLOGIES

5.1 BACKGROUND

SMART Technologies is one of the leading providers of education and collaboration products in Europe and is committed to technology-driven learning. The company provides purpose-built solutions for education by working with teachers and students worldwide to guide product design. To ensure effective implementation, it provides professional development and education consultancy services based on educational technology research findings.

The company has been primarily known for its SMART Board, an interactive whiteboard display but SMART also provides a range of educational hardware, software and education consultancy services. For example, hardware includes SMART Podium, developed specifically to be used in lecture theatres in the higher education institutions, and various accessories such as document cameras, coding kits, speakers, and mobile stands. SMART educational software includes SMART Learning Suite (both desktop and online), designed to deliver lessons and activities, SMART Remote Management for education administrators and SMART Teamwork, a visual collaboration tool designed to be used with the SMART Board. Finally, SMART offers consultation services which include:

- Ed Tech capabilities consultancy
- Professional development, training and workshops
- Online self-access training material
- Certifications – SMART Certified Educator, SMART Certified Champion, SMART Certified Trainer

The company provides training to teachers, supported by an active community of SMART Exemplary Educators, consisting of over 1,500 teachers globally. This includes free classroom resources and an online training platform offering webinars, online courses and professional development opportunities to teachers using the implementation of the SMART Portfolio.

SMART is also a regular partner in various education European Commission funded projects, for example the major EU FP7 funded iTEC project, in which educational tools and resources were developed and piloted in over 2,500 classrooms across 20 European countries, with the goal of providing a sustainable model for fundamentally redesigning teaching and learning. The iTEC project work led European Schoolnet to

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20 SMART content sharing platform – free classroom resources - https://exchange.smarttech.com/
21 EC iTEC project, Example video: How to support Independent Learning https://youtu.be/x0ouT7Aky2Q
create the Future Classroom Lab (FCL) an innovative learning space in Brussels which provides inspiration for the redesign classrooms around Europe. SMART is one of the founding partners of the FCL.

![SMART Collaborative Classroom employing iTEC Learning Design pedagogical approach](image)

Figure 7: SMART Collaborative Classroom employing iTEC Learning Design pedagogical approach

### 5.2 Collaboration with Initial Teacher Education Institutions

Collaboration with universities covers a range of activities, such as supporting research, training teacher educators and collaborative research projects. The aim is to build a long-term relationship with the institution concerned. The nature of the collaboration with each is focused on improving educational outcomes, varying the approach to meet the needs of the particular institution.

For example, where teachers already possess high levels of digital pedagogy related skills, SMART concentrates more on developing their in-depth ICT skills as applied in the classroom. Some universities implement SMART certification, providing their students with accreditation proving they are efficient at implementing technology in their classroom. Students find the certificate valuable when looking for employment, as having digital pedagogical skills is becoming as important as possessing digital skills.

One of the most successful, long term research collaborations is with the Lancaster University in the UK, where particularly good professional relations have been established with one of the university professors, Professor Don Passey. SMART and Lancaster University have been collaborating on research into collaborative practices and the role of EdTech in the classroom since 2014, resulting in the publication of three

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22 http://fcl.eun.org an inspirational learning environment in Brussels, challenging visitors to rethink the role of pedagogy, technology and design in their classrooms
academic papers. An international case study ‘Understanding how interactive whiteboards support learning’, for example, follows a one-year research study of how SMART interactive whiteboards were introduced into a secondary school in Germany. The case study identifies a range of ways that these technologies, coupled with a virtual learning environment, support teaching and learning, thereby enhancing collaboration, visibility and inclusivity and offering teacher and learner efficiencies.

As a result of the collaboration with ITE institutions, SMART has seen its technology being implemented in the delivery of the ITE curricula, as well as providing support through its training material (e.g. self-directed online material) and training sessions run by SMART consultants and channel partners on changing the way a subject is taught in more innovative ways.

5.2.1 Benefits gained from the collaboration

SMART’s aim in working with ITE providers is to achieve improved educational outcomes through the use of EdTech, helping student teachers understand how the latest technology could be used in the classroom. Through these collaborations, SMART gains an opportunity to showcase to ITE students how to use its technology and explains the way it can be implemented in the classroom. Student teachers gain new skills, access to SMART certification and the latest thinking. After graduation, the certification can help them while looking for employment, proving to be valuable on the employment market and help future teachers get a job faster.

Moreover, by being involved in such collaboration, SMART also gains a deeper understanding of student teachers and their needs which feed into future EdTech developments.

The ITE institutions gain a better picture of the fast-changing world of technology and the perspective of an EdTech industry partner with a global view of EdTech developments and an informed insight into the sector, its direction and where trends are heading. Higher education institutions, more involved in academic work, often miss this perspective, and through this collaboration become more aware of changing trends. For example, SMART recently sponsored a global survey capturing the views of around 500 education leaders in 10 countries, ‘EdTech Capabilities and Learning Outcomes’.

23 https://www.lancaster.ac.uk/people-profiles/Don-Passey
24 http://eprints.lancs.ac.uk/83695/1/German_School_Report_Final.pdf
5.2.2 Factors contributing to a successful collaboration

A successful collaboration that brings the best outcomes and benefits for all the involved parties is one built on mutual trust and a long-term relationship. However, this can be difficult, because commercial companies are traditionally viewed as suppliers often dealt with in universities at central procurement level. However, educational institutions should also understand that there are private companies which share their goal of improving educational outcomes. The trust gained helps develop long-term collaboration, aimed at achieving the best outcomes possible.

SMART has gained the trust of educational institutions by being involved in the EdTech market for over 30 years, working as a key partner on collaborative EU education projects (as in the iTEC example above) and supporting academic research. In addition to raising awareness in educational institutions of SMART’s collaborative approach and the results of its research, the company supports trials for SMART software and campaigns targeting ITE institutions, to allow the institutions to trial the software so they have the opportunity to see its educational value.

5.3 IMPACT

As a result of being involved in projects such as designing active learning spaces in future classrooms and cooperating with ITE institutions, SMART constantly innovates and develops new products adapted to the needs of their customers: students, student teachers and teachers.

The following examples show how collaborations between various institutions and SMART have made an impact.

5.3.1 ITE Cooperation: Teacher Training Programme at Roehampton University

Cooperation between an ITE institution and SMART can help mentor new teachers such as Lea, with the support of the SMART Exemplary Educators (SEE) community.

During her first year at university, Lea joined the SEE community and participated in its events, connecting with other practising student teachers to build her confidence. Lea then went on to represent Roehampton University as part of the SMART stand at the BETT 2018 exhibition in London demonstrating pedagogical value of SMART products.

Since then, Lea has become a SMART Exemplary Educator, using SMART products in her own classroom. While working as a newly qualified teacher, she set up a small student digital leader programme to train teachers and ultimately increase use of SMART products in classrooms across her school. With the support of her headteacher, Lea has been leading deeper implementation of EdTech across the school, including

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27 BETT Show 2020 https://www.bettshow.com
a SMART coding initiative. As an exemplary educator, Lea has also been working with SMART to trial and feedback on new products.

Lea’s progress has been supported throughout by her involvement in the SEE community, which has helped her develop the confidence to be able, as a first-year teacher, to challenge the established school setup and implement a more consistent and deeper level EdTech approach across the school. Compared to other newly appointed teachers who often struggle to adapt to new working environments, Lea was able to transform her experience of a new teacher and adopt EdTech in her classroom with the help of the SEE community.

5.3.2 Fostering Innovation and Creativity in Further Education: Ayrshire College

Following the investment in SMART Board interactive displays and Learning Suite software, SMART educators collaborated with ITE teachers to create interactive, engaging lessons and change the way instructors teach, and the way Ayrshire students learn. The company provides workshops, training and information sessions for staff to bring enthusiastic teachers on board, and create an environment for peer-peer training as well.

One of the learning points gained from this collaboration is that partnering and collaboration is key to industry working with ITE Institutions. In particular, by collaborating with SMART, the college tries to encourage staff to use technology more in their classes. According to the college, the only way to do that is to persuade teachers who have been using it for a number of years to become peer trainers.

“The best way to foster innovation and creativity in day-to-day learning and teaching is to provide staff with basically three things: the right tools, the right training and the right support to promote innovation”

Ayrshire College

5.3.3 Building learning from working with UK universities

SMART has also been cooperating with numerous universities in the UK, such as the universities of Brighton, Reading, Kingston, Plymouth, Brunel as well as the Oxford University Union Library.

Several learning points were drawn from these collaborations. First, SMART products proved to be highly relevant to education faculties within institutions. Second, the education faculties proved to be early adopters and advocates of using the company’s products; for example, SMART’s interactive flat panel technology was used in workgroup spaces in order to replicate workplace environment and better prepare student teachers for their future profession.

The implementation faced some of the typical challenges. For example, university lecturers were sometimes resistant to change teaching practices, which makes
embedding technology into teaching a challenge. There was also a lack of time allocated to learning about new digital pedagogical approaches using technology. Support from the senior leadership within the ITE establishment is critical for a successful implementation.

5.4 CHALLENGES

One of the biggest challenges in collaborations between ITE institutions and SMART is the different levels of understanding of the latest technology developments. Often the ITE institutions do not appreciate the benefits the knowledge an EdTech company can bring as part of long-term partnership. Sometimes ITE institutions consciously avoid such collaboration, as they might have had a negative experience with another, less professional, company. This lowers ITE’s level of trust towards private companies and reduces the likelihood of cooperation.

However, some challenges might also stem from student teachers themselves: they may have a high perception of their personal digital skills and do not think they need to develop skills. In such cases it is important that the classroom technology beyond social media and basic use: digital skills and digital pedagogy are not interchangeable.

Collaboration between ITE and private EdTech companies can also be constrained by education policy. For example, the current emphasis in the UK is on basic skills and less on the value of digital pedagogy. However, it is necessary to acknowledge that pupils need to have experience of learning with technology, to develop the digital skills for future jobs and the ability to adapt to an ever-changing employment market.

5.4.1 Solutions

Building credibility, gaining ITE’s attention and being regarded as a trusted partner are the most common and the most difficult challenges to overcome in terms of cooperation with ITE institutions. SMART gains ITE’s attention by getting involved in EU projects, attending various networking events, conferences, providing workshops speaking at thought leadership conferences and trainings. All these help SMART’s visibility and an image of a credible professional partner.

Moreover, creating an opportunity with the education policy maker community to show that developing digital pedagogy skills is not only a matter of public institutions, but is also a space for private companies in the sector to be involved in. Erasmus Plus Knowledge Alliance projects, such as ITELab, help to provide such opportunities, as they create space for cooperation between the private and public sectors in the education field and build increasing mutual trust.
Finally, creating a quality standard for educational products, such as certification, would help to eliminate low quality products from the market and increase the trust in those private EdTech companies that have similar vision for education as schools, universities and policy makers.

5.5 Future plans

SMART would like to continue building exemplary ITE communities in the future, by listening to the student teacher voice and getting them more involved in developing SMART solutions.

The company would like to deepen the existing relationships and refine them, and look for new ones with the aim of improving educational outcomes, expanding the business and creating new products.

SMART firmly believes in the value of partnership with ITE and sees this collaboration as key to provide future generations of new teachers with the necessary skills in the 21st century teaching.

“Unless we can change the use of Edtech with our new teachers and help them become catalysts of change we will deprive the current generation of schools students of the opportunities that they are entitled to. A collaborative, co-design and bottom-up approach, involving student teachers, is critical to the success of this transformation.”

Peter Claxton, SMART Technologies
6 CONCLUSIONS

The three case studies demonstrate that collaborations between ITE institutions and private EdTech companies can be meaningful, bring benefits and yield positive outcomes. They show that the collaborations positively impacted all the involved parties, but a number of issues were revealed that can impede the level of cooperation and its effectiveness.

Through long-term partnerships and collaborations with universities, the EdTech companies gain a reputation and visibility as a trusted and credible private sector partner, as well as being able to present their products to both ITE institutions and future teachers. They are able to invest in the partnership and also able to obtain valuable end-user feedback used to improve products to be more closely adapted to needs. Examples cited showed the benefits from the partnerships extending into working together on new research and initiatives (e.g. IRIS-JAMK online MOOC, Microsoft STEPS programme, SMART-Lancaster University educational research).

ITE institutions for their part benefit from gaining an understanding of emerging technology and new products to support teaching and learning which they might not have known about otherwise. The educational consultancy and training provided by the EdTech companies helps tutors reflect on teaching programmes and students’ digital pedagogy skills and adjust study programmes accordingly. This helps student teachers gain new skills and a confidence to use technology in the classroom and the opportunity to experiment. The companies’ certification programmes (e.g. Microsoft Innovative Educator, SMART Exemplary Educator), help develop skills and can give them an advantage in the competition for jobs.

All three case studies show how companies influenced ITE programmes of study and activities. This ranged from incorporating their products (software and hardware) at ITE institutions, supporting them with educational consultancy and training, introducing them to the support from their respective large, teaching communities, to co-developing and designing new MOOCs and online training content supporting the move to new active learning spaces for student teachers.

However, even though these collaborations were considered successful and beneficial, numerous challenges were identified. All the companies agreed that they often face a lack of trust among ITE institutions. This can be either caused by other EdTech companies that develop products of poor quality and damage the name of others on the market, or it can stem from the slow pace of technological adoption in ITE institutions. Many institutions, according to the companies consulted, are either constrained or unwilling to adapt their curricula to bring more digital pedagogy into their teaching. In some cases, policies can hinder the use of technology in the classroom, such as highlighted in the IRIS Connect case study above, where Bavarian teachers are permitted to record their classes only if recording is essential to improve pupils’ skills, such as during sport or recitation classes. Any other use of recordings is considered a breach of students’ privacy.
In summary, success factors in working with ITE, from the companies’ point of view, are the following:

- Supportive national policies, including devolving a degree of financial and curriculum autonomy to higher education institutions;
- Building trust, dialogue and a partnership approach over the long term, essential to produce the range of benefits that can result from collaborative partnerships;
- A flexible approach, tailored to the institutional context and needs, based on understanding of the institutional culture, motivation and engagement of the institution, including the digital competence of tutors and technical infrastructure;
- Long term collaboration, in order to achieve a common and meaningful result benefiting both parties, demonstrating the evidence of effectiveness of the product and the value of cooperation, with a clear message and needs-driven aims when working in partnership with ITE. This also includes offering products on a trial basis to ITE institutions, enabling them to assess their quality and added value a partnership brings;
- Participation in collaborative research and projects to build mutual cooperation between the private and public sectors in the education field and gain mutual understanding and trust.

### 6.1 RECOMMENDATIONS

Recommendations arising from the case studies:

**European and national policy level:**

- **Support institutional autonomy.** Devolve decision-making and spending powers to ITEs, enabling them to adopt more flexible approaches to working with industry;
- **Encourage more participation by industry and ITE in EU collaborative research and projects** to build connections between policymakers, ITE, schools and private sector to share knowledge and work together towards common educational aims;
- **Review and update policies to prioritise and encourage innovation in ITE programmes of study,** supporting student teachers in the use of digital pedagogy and consider how best to harness the contribution that EdTech suppliers can make.

**ITE Industry level:**

- **Share best practice examples with other EdTech suppliers** to help avoid common mistakes and misunderstandings and encourage the development of a collaborative approach aimed at improving educational outcomes.
• Seek to understand the context, culture and needs of ITE, adopting a flexible, sensitive approach tailored to each institution, rather than pushing a sales agenda.

• Aim to build trust so that both sides benefit from collaboration. This takes time and results may only appear in the longer-term. Participation in joint research projects can be beneficial in this respect and demonstrates an enduring commitment to education, differentiating companies from competitors.

ITE institution level:

• Value collaboration between ITE institutions and private sector EdTech companies. The case studies show that partnerships benefit both the institution and the company. Success comes from good personal relations (often sustained over time) and understanding each side’s point of view and the benefits that can accrue to both. Making use of the ITE industry’s peer to peer communities (policy, school, teacher networks) offers a practical approach for both teacher educators and students, to link up with the industry’s professional learning communities, resources and certifications, sharing innovative ways of using technologies in the classroom.

• Participate in peer learning study visits to similar institutions where there are partnerships with EdTech suppliers. The case studies show that industry-ITE partnerships are the exception rather than the rule. ITE tutors could visit other institutions with a view to learning about the benefits of working with EdTech suppliers, how concerns are overcome and about any adjustments to programmes of study made in order to develop student teachers’ pedagogical digital competence and preparedness for their teaching career.
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8 ANNEX

8.1 GENERAL QUESTIONNAIRE USED DURING THE INTERVIEWS

Background to the Discussion

1. **How many ITE institutions do you currently cooperate with?** Which countries are the based in?
2. **Can you tell me more about your involvement in ITE?** Did you start in the schools sector? What led you into the ITE sector?
3. **What was your primary motivation behind developing your products and implementing them into ITE?** What are the similarities with schools? What are the differences? Is there a different response to from teachers in high schools and beginning teachers in ITE? Do you also collaborate with Higher Education institutions?
4. **Are there any other initiatives where you cooperate with ITE institutions?**

ITE providers

5. **Could you please describe your collaboration with ITE institutions?** For example, how long do these collaborations last? What effective or innovative approaches are used? Have you used any innovative examples of the use of products, services, solutions etc. or did students themselves come up with an innovative approach? Could you highlight any good examples? Why would you say these are good examples?
6. **Does your experience differ in terms of collaboration based on a country or a school vs ITE institution?** What does this depend on (national system, administration, language constraints etc.)?
7. **Do you collaborate with ITE and their teaching placement schools?** If yes, how does this model work?
8. **What elements are crucial for a successful collaboration?** Are there any constraints preventing this? If so, do these constraints vary between schools and ITE institutions?
9. **What benefits do these collaborations bring to you as a provider and to ITE/schools?** What were the biggest achievements of this collaboration?
10. **What effective approaches are used during this collaboration?** Does this vary by country? How does this vary from schools? Do you have collaborations with ITE and their teaching placement schools? If yes, how does this model work?
11. What innovative approaches have you used, in collaboration with the ITE institutions? Have you used any innovative examples of the use of products, services, solutions, programmes, teaching communities etc. during this collaboration? Have the student teachers themselves come up with innovative examples/ways that are new to you?

Impact

12. What have been the main benefits and impact of bringing the ITE solution into ITE for developing the student teachers’ ICT skills? What evidence do you have from the student teachers themselves? How and where do they practice using your products – in the ITE institution? In the schools on their teaching practice? What is their motivation? Constraints?

Success stories and effect on the ITE curriculum and student skills

13. Based on your experience, has the collaboration with the ITE institutions influenced the ITE curriculum, if so, in what way? Can you share an example of this – at the ITE institution level, region/country level linked with schools? Have you seen any changes being implemented in the curriculum? If so, do you think they were a direct result of the cooperation?

14. How has the cooperation affected the ICT skills of student teachers? More general skills and competences eg classroom management, questioning styles. Regarding the Teacher Educators skills (ie the lecturers themselves)? Positive impact seen by schools of future teachers coming to them from the ITE?

15. Do you have any planned or ongoing research analysing the impact on the development of the pedagogical ICT skills of future teachers and its outcomes? Compared to schools? Any other research than the one published on your website?

16. Could you describe up to three success stories, where the collaboration with ITE impacted students and tutors? Specifically, in terms of costs, time saving, improved self-awareness of strengths and weaknesses, increased confidence; new ways of teaching; changes in the ITE curriculum etc.

Obstacles and challenges

17. What major challenges and obstacles have you encountered in collaboration with the ITE institutions? E.g: around how and where the solution is implemented? The motivation of the teacher educators themselves to embrace this into their own teaching? The student teachers?
18. Did these obstacles stem primarily from the particularities of the ITE institutions? Or are they the same as in schools?

19. What level were these challenges mostly encountered at? (Management level, department level, teacher educator level, student teacher level, etc.) What about ITE who have developed their own in-house video applications? What do you see as the pros and cons of these?

20. How have you resolved these obstacles?

21. Based on the obstacles you have encountered, what advice would you give to other companies and ITE institutions on industry-ITE partnerships?
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