



Strengthening higher education-school partnerships for green and digital innovation

The Education and Innovation Practice Community (EIPC)

This is the first in a series of “Innovation Bulletins” on developing competencies to support innovation for the digital and green transitions. They are outputs of the **Education and Innovation Practice Community (EIPC)**, an European Commission initiative, implemented with the OECD as part of the [New European Innovation Agenda](#), flagship 4 “Fostering, attracting and retaining deep tech talent”.

This Bulletin presents key lessons and inspiring examples of policy and practice to inform collaboration between secondary education and higher education. It builds on the findings of three international peer learning events and two analytical reports on [How higher education can support effective curricula in schools](#) and [How higher education can support teachers and school leaders](#). [Click here](#) to join the EIPC network, and contact the OECD Higher Education Policy Team (HigherEducation@oecd.org) or the European Commission (EAC-UNITE-C1@ec.europa.eu) for more information.

Secondary education builds competencies for innovation

Secondary schools have a key role to play in supporting students to develop the wide range of knowledge, skills, attitudes and values needed to shape, and adapt to, the social and economic changes implied by the digital and green transitions. Crucial among these competencies are a strong foundation in science and an understanding of how different subjects (such as mathematics, chemistry or biology) link to sustainability and innovation; social, digital and transversal cognitive skills (e.g. critical thinking, creativity, systems thinking); digital skills; and positive attitudes towards the environment and its protection.



EIPC is an inspiring initiative of the new European Innovation Agenda of the European Commission. It brings together education stakeholders with the aim to design and share education practices that equip students with the innovation competencies they need to tackle global challenges. I am happy to see the first concrete results of this ongoing co-operation.

(Pia Ahrenkilde Hansen, Director-General of DG EAC, European Commission)

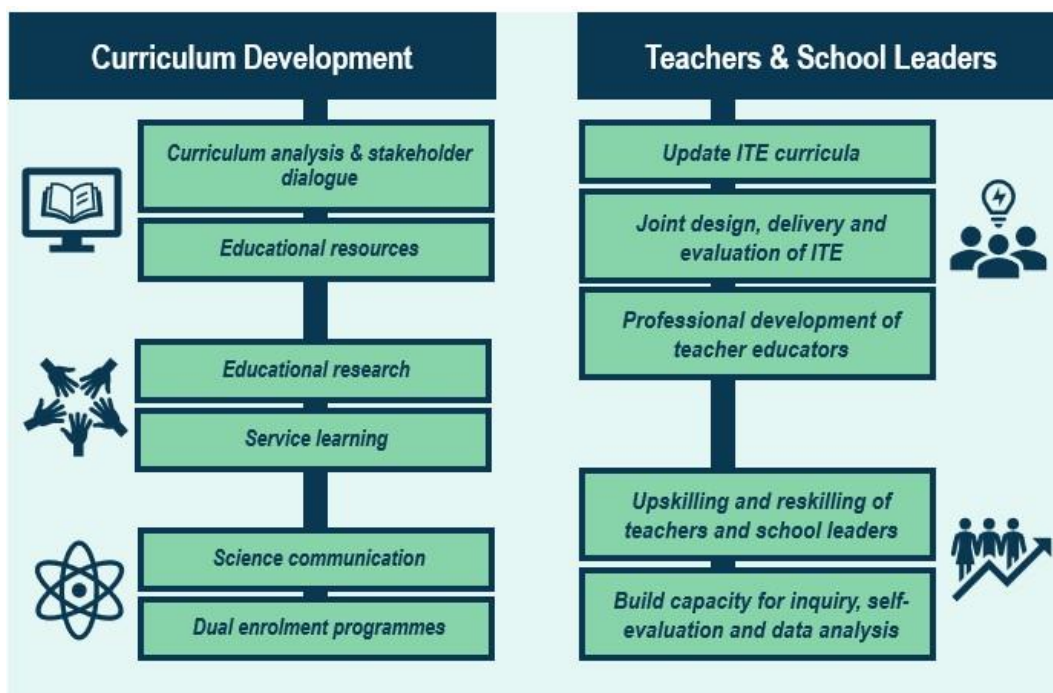


Higher education can support schools with competency development

Operating at the critical intersection of policy, research and practice, higher education institutions (HEIs) are uniquely positioned to support secondary schools to help their students develop competencies for innovation. Two broad types of support can be distinguished (see Figure 1):

1. In many OECD and EU countries, academics advise policy makers and practitioners on where and how to **integrate competencies for innovation into school curricula**. HEIs also develop educational resources, teaching and assessment methods on specific competencies (e.g. lesson plans on education for sustainable development created by Sorbonne University (OCE, n.d.^[11])). HEIs also play an active role in helping school students' competence development through science communication (e.g. school visits by Trieste's International School for Advanced Studies (Busato et al., 2022^[21])), by embedding service learning with schools into their study programmes (e.g. Academically Based Community Service (ABCS) courses at the University of Pennsylvania (n.d.^[3])), or by offering dual enrolment-type programmes for upper secondary school students (e.g. Maynooth University's STEM Passport for Inclusion (2023^[4])).
2. Some HEIs have started to **integrate digital and climate change education into their initial teacher education (ITE) curricula and continuing professional learning (CPL)** for teachers and school leaders. Some have placed a focus on teachers' research skills development in ITE and develop this through school partnerships for the design, delivery and evaluation of dedicated modules (e.g. "university schools" pilot at the Arctic University of Norway (2021^[5])). Such practices can help ensure the connection between ITE and educational practice and school educators' connections to the latest disciplinary and pedagogical research. Providing time and incentives to teacher educators to engage in CPL is also increasingly common in many education systems. A number of HEIs are also developing micro-credentials for schoolteachers (e.g. CPL certificates on digital education and global sustainable development by University College Cork (2023^[6]; 2023^[7])), managing communities of practice for school leaders and teachers (e.g. Digital Labs at the University of Potsdam (n.d.^[8])), or supporting schools to critically evaluate their pedagogical practices to improve student learning (e.g. Future School programme of Tallinn University (n.d.^[9])).

Figure 1. Opportunities for HEIs to support secondary schools



Available evidence on the impact of higher education support for schools – while limited – suggests benefits for different stakeholders involved. For students, higher education-school partnerships can support skills development and completion rates (Center for Community Engagement, 2023^[10]; Losser et al., 2018^[11]; Taylor et al., 2022^[12]), especially when powerful role models are involved and collaboration is sustained over several weeks. For schoolteachers, CPL can lead to changes in teaching practice, although it is challenging to establish a direct link between a specific CPL activity, changes in teaching practice, and improved student learning (Darling-Hammond, Hyler and Gardner, 2017^[13]; Boeskens, Nusche and Yurita, 2020^[14]). For HEIs, collaboration with schools can help academics’ transversal skills development, widen access and enhance the institution’s place-based connections.



Higher education institutions need to rethink how they incentivise and reward academic staff to collaborate with schools.

(Steven Strogatz, Jacob Gould Schurman Professor of Applied Mathematics, Cornell University, EIPC webinar 18 April 2023)

Several key barriers to strengthening HE-school collaboration remain. Time and resource constraints limit the ability of researchers and schoolteachers to engage in more continual forms of collaboration going beyond one-off occurrences (e.g. a few school visits). Societal engagement lacks recognition within HEIs compared with teaching and research, which in most HEIs determine career advancement (Bentley and Kyvik, 2012^[15]). Finally, not all academics who are interested in collaboration with schools are equally prepared to communicate effectively about – or apply – their research in school settings.

How can HEIs strengthen their engagement with schools?



To help schools rethink what and how they teach, HEIs themselves need to rethink how they support school curriculum development, and how they design and deliver teacher education.

(Andreas Schleicher, Director of Education and Skills, OECD)

To scale and maintain effective partnerships with schools, HEIs can:

- **Develop an institutional strategy and leadership** for collaboration with schools, which can incentivise and guide relationship-building and resource allocation.
- **Support different levels of partnership**, adapted to the needs of individual schools and HEIs. Partnerships can range from highly spontaneous interactions relying on pre-existing relationships or a one-off experience requiring little infrastructure, to more strategic partnerships with dedicated staff from schools and HEIs collaborating (NCCPE, 2017^[16]).
- **Provide time, resources and training** to those who wish to engage in partnerships with schools, by taking into account (school) community engagement in career advancement or by setting up an institutional support centre for (school) community engagement.

Note: Based on key lessons from three EIPC peer learning events on: (i) [Supporting green and digital competencies in curriculum design and delivery in secondary education](#) (18 April 2023); (ii) [Embedding digital and green competencies in initial teacher education and continuing professional development](#) (11 May 2023); (iii) [Connecting higher education, teacher training and schools to advance education for the digital and green transitions](#) (22 November 2023).

Government support for higher education-school partnerships

Governments can play a key role in supporting HEIs and schools to initiate, scale and sustain effective partnerships, and to incentivise collaboration for the development of specific competencies or subjects such as digital skills, climate change literacy, or science, technology, engineering or mathematics (STEM). Three common approaches can be identified across OECD and EU systems (see Figure 2):

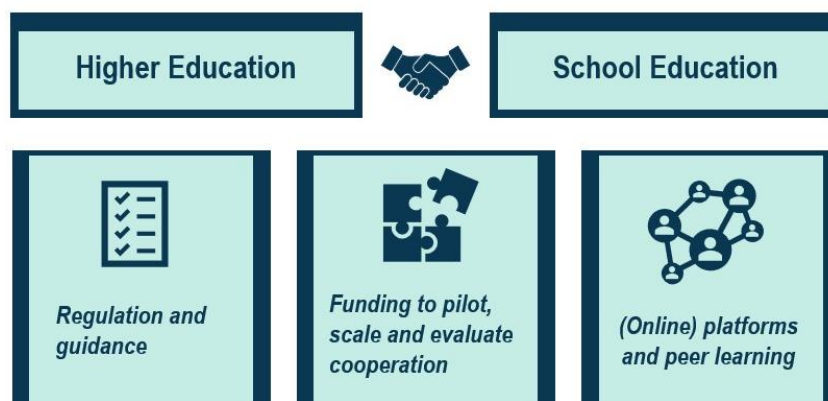


Teachers’ educational resources and methods should draw on the latest developments in scientific and educational research.

(Anna Weinrich, Board Member, OBESSU, EIPC webinar 18 April 2023)

1. In some systems, governments have developed **specific regulation or guidance** around higher education-school collaboration, giving HEIs a mandate to collaborate with schools. Austria’s social inclusion strategy for higher education covers specific actions to “expand cooperation between higher education and schools” (BMBWF, 2017^[17]). Romania’s national “Doing School Differently” plan (*Scoala altfel*) calls on all schools to cooperate with local communities, which in many cases covers HEIs (Romanian Ministry of Education, 2016^[18]). In Scotland (United Kingdom) and Ireland, teacher professional standards cover digital and climate change education to incentivise these competencies being embedded in ITE curricula (Teaching Council Ireland, 2020^[19]; GTC, 2021^[20]).
2. Some countries have established dedicated **funding schemes to pilot, scale and evaluate** collaboration. The National Co-ordinating Centre for Public Engagement (NCCPE) in the United Kingdom has supported 12 HEIs to establish partnerships with local schools, and evaluated these partnerships to develop sectoral guidance (NCCPE, 2017^[21]). In the Netherlands, school educators can apply for a grant to complete a PhD on top of teaching (Dutch Research Council, n.d.^[22]).
3. The development of **(online) platforms and peer learning communities** is another way in which governments seek to strengthen links between HEIs and schools. Finland, the Netherlands and Norway have established national centres that coordinate and support collaboration between school educators, researchers, teacher educators and policy makers (HE-School Clusters, 2018^[23]; University of Oslo, n.d.^[24]; Finnish Teacher Education Forum, 2022^[25]). In the Netherlands, the United Kingdom and the United States, online platforms facilitate access to and the use of educational research in policy making and educational practice (WWC, n.d.^[26]; EPPI, n.d.^[27]; NRO, n.d.^[28]). Australia, Estonia and the Flemish Community of Belgium have developed online platforms linking recommended (online) teaching and learning materials with the school curriculum (ACARA, n.d.^[29]; Flemish Department of Education and Training, n.d.^[30]; Opiq, n.d.^[31]).

Figure 2. Ways for governments to strengthen higher education-school collaboration



Spotlight: Key lessons from Ireland on strengthening higher education-school partnerships

Ireland's National Forum for the Enhancement of Teaching and Learning in Higher Education leads and advises on the enhancement of teaching and learning in Irish higher education. The Forum operates under the auspices of the Higher Education Authority (HEA) and, through actions such as the SALTE fund (Strategic Alignment of Teaching and Learning Enhancement Funding in Higher Education), the Disciplinary Excellence in Learning, Teaching and Assessment (DELTA) Awards, Open Courses or the maintenance of a National Resources Hub, drives teaching and learning innovation and enhancement across the higher education sector, including teacher education. The three key priorities for the National Forum in 2022-24 are: 1) Education for Sustainable Development (ESD), 2) Digital Transformation in the Tertiary Sector; and 3) Best Practice in Cultivating and Upholding Academic Integrity (Ireland's National Forum for the Enhancement of Teaching and Learning in Higher Education, 2022^[32]).



Being a Peer Learning Anchor for EIPC was a great opportunity for Ireland and the National Forum to discuss with international colleagues how, through teacher education and science communication, we can support teaching and learning enhancement across all levels of education and training.

(Ross Woods, Ireland's National Forum for the Enhancement of Teaching and Learning in Higher Education, EIPC workshop 22 November 2023)

In November 2023, the OECD facilitated an international peer learning workshop for the National Forum in Ireland to reflect with international peers on how public policy can strengthen higher education-school partnerships. Key lessons noted in the workshop are the need for:

- **An overarching framework** that gives HEIs and schools a mandate to collaborate, with space for discretion and experimentation.
- **Supporting measures** to help HEIs and schools initiate and maintain partnerships, and to respond effectively and dynamically to continual societal pressures to adapt education to new competency demands (e.g. digitalisation, artificial intelligence, climate change).
- **A sustainable “networking space”** for policy makers, teacher educators, academics and school practitioners to exchange and align education policy, practice and research.
- **Time and resources** for higher education and school educators' timetables and curricula to engage in meaningful co-operation and experimentation, as well as evaluation of their collaboration, to draw lessons and improve collaboration arrangements.
- **A professional recognition framework** for academic staff, which incentivises transversal skills development and values societal engagement as much as research and teaching.
- **International partnerships**, supported by organisations such as the OECD and the European Commission, to support peer learning among public bodies with responsibility for supporting teaching and learning enhancement across all levels of education and training.

Note: Based on key lessons from EIPC workshop on [Connecting higher education, teacher training and schools to advance education for the digital and green transitions](#) (22 November 2023).

About this Innovation Bulletin

This document was authored by François Staring, an Analyst in the OECD Higher Education Policy Team at the OECD Directorate for Education and Skills. Simon Roy (Team Leader, Higher Education Policy) and Andrea-Rosalinde Hofer (Analyst, Higher Education Policy) advised the development of the document. Editorial and publication support were provided by Marika Prince and Caio Passos Newman. Overall guidance was provided by Paulo Santiago (Head of Division, Policy Advice and Implementation, Directorate for Education and Skills) and Andreas Schleicher (Director, OECD Directorate for Education and Skills).

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