



European Federation of Education Employers

Final Project Report

Innovation4Education

Strengthening the Capacity of European Education Employers through the Promotion of Innovation in Education Institutions in a Post-Covid-19 Era



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Summary

The last fifteen years have brought frequent crises and relentless change to Europe. Amidst this ongoing social turbulence, many countries share concerns about widening social inequalities, a crisis in teacher supply and the wellbeing of both students and education professionals. Clearly, education systems need to be responsive and foster resilience in the face of these challenges.

Responsive education professionals working in ever changing circumstances adapt and adjust their practice to the challenges they face. Educational innovation is about solving real problems in fresh ways to promote equity and improve learning. It involves changing policy, practice and organisation or developing approaches and resources to address local issues and solve local problems.

When solving problems, educational professionals are both the users of innovations and innovators themselves. It is important that they are creative and critical in both of these roles. Whilst innovation is often allied with technology, practitioners must be alert to technologies creating further inequities.

Structural innovations such as organisational and policy changes work best when they have the trust and confidence of those they affect. This can be achieved through inclusive consultations, stakeholder collaborations and transparent decision making.

The case for structural innovation and change should outweigh that for continuity and stability. Innovation for its own sake, where the benefits of change are neither obvious nor broadly accepted, can damage organisational credibility, reduce professional trust and demotivate both staff and students.

Strong communities can counter the insecurities of living in uncertain circumstances and afford resilience amongst students, parents and practitioners, whilst community building in schools and neighbourhoods improves the mental health and wellbeing of all and allows them to thrive in challenging circumstances.

Using insights from educational and social research, professional learning communities provide collaborative support for cycles of problem identification, innovation, evaluation and adaptation. They increase teacher motivation and can improve recruitment and retention.

Community building with their neighbourhoods allows education institutions to benefit from parental and other local expertise and to improve the circumstances of students' everyday lives.

At best, education institutions are the foundation of a good society. In response to educational and broader social challenges, they balance the need for continuity with a commitment to necessary change. They achieve this by instilling security

and belonging through community whilst promoting the welfare of all and working for the common good.



Background

This report brings together the findings of a two-year project coordinated by EFEE that began in 2022. The intention was to promote innovation in teaching and learning practices within European education institutions while reflecting on the potential impact of this on industrial relations within the sector. By facilitating an exchange of knowledge, practices and challenges during the project meetings and conducting a survey of education employers across member states, the project aimed to build the capacity of European education employers to promote innovation in education institutions following the coronavirus pandemic.

The coronavirus pandemic that began in late 2019 substantially disrupted learning and teaching in schools and colleges and necessitated the introduction of a variety of innovative learning approaches into European education systems. School closures and the suspension of in-person teaching required remote teaching often using digital and online technologies. This alone made demands on education professionals who lacked adequate skills or resources. This immediate response and willingness of the education sector to adapt demonstrated a shared commitment to students despite unprecedented conditions.

While the pandemic also revealed and, in many cases, exacerbated longstanding challenges, there were also some positive outcomes. Necessity accelerated the digital transition, whose possibilities and dangers had been discussed for many years, whilst other innovative practices were introduced to facilitate teaching and learning. Against the background of the *EU Next Generation and Recovery and Resilience Fund*, and the objectives set out in the *Porto Declaration* to 'build back better' by 'putting education and skills at the centre of our political action', the *Innovation4Education* project explored how education employers can build on such developments whilst continuing to enable the creative and critical potentials of educational professionals who brought them about.

The *Innovation4Education* project also recognised the important role education employers play in helping meet *United Nations Sustainable Development Goal 4* and implementing the *European Pillar of Social Rights*, from which Principle 1 states, 'Everyone has the right to quality and inclusive education, training and life-long learning in order to maintain and acquire skills that enable them to participate fully in society and manage successfully transitions in the labour market.'

Principle 8 underlines the importance of strong social dialogue for fair working conditions, a point also reflected in the *Communication of the European Commission on a strong social Europe for just transitions*, in which it is underlined that 'Fair working conditions are also about strong social dialogue: workers and employers can find joint solutions that best fit their needs. Strong, representative organisations and their timely involvement in policymaking both at national and European level are extremely important.' In this regard, this project sought to widen the involvement of local, regional and national organisations in European social dialogue, mobilising this to co-create new policy directions, contribute to the European social and economic governance mechanism and ensure that the

voice of education employers, representing the management of education institutions at all levels of education, as well as education authorities' voices are heard in the policy sphere.

Key challenges facing education in Europe after Covid-19

The landscape of educational change

Education faces a number of common challenges across Europe. We are living through the backlash to late modernity (Giddens, 1991), which entailed a movement away from traditional social relations amidst broad disruptions of time and space wrought by new technologies and open borders, that led schools, like other institutions, to become dislocated from their localities or communities; and liquid modernity (Bauman, 2000), a condition of constant mobility and change in relationships, identities, and global economics within contemporary society that led to increasing diversity, fluidity and uncertainty. In this context, the nature of professionalism in education has changed greatly. For Xavier Dumay and his colleagues at the Université Catholique de Louvain (Dumay & Burn, 2023), teacher policy since the 1970s across Europe and globally has been affected by a set of emphatic shifts in institutional logics: a shift from governing to governance, from education to learning, and from relatively stable and long-term employment relations to a flexibilisation paradigm.

These changes are reflected in the concerns of the profession. Ten years ago, the European Trade Union Committee for Education (ETUCE) identified how, 'many countries have made schools more autonomous in their decision-making while centralising accountability requirements and demanding that schools adopt new research-based approaches to teaching and learning. The advent of the financial and economic crisis in 2008, affecting many countries in Europe, has seen many education and school budgets slashed, thus presenting new challenges to school leaders. Despite a strain on education and school budgets, school leaders and schools are expected to maintain optimal services and to do more with less' (ETUCE, 2012: 6).

In addition, for the last decade a teacher shortage has affected many EU countries. Some years ago, the European Commission (2013) described a shortage of qualified teachers in Europe, which they put down to an incapacity to attract the best candidates, because of declining prestige, deteriorating working conditions and lower remuneration than equivalent professions. This, they added, was compounded by an ageing teaching population, with many teachers soon to retire. Concern was expressed at some of the unsustainable solutions adopted by different countries. As most tenured teachers had no intention of changing their profession, the growing shortage was often addressed through longer working hours for teachers, higher pupil-teacher ratios and an increase in the retirement age. To develop more sustainable solutions, it is important to recognise how to attract people into teaching and retain them as teachers.

The commission repeated its concerns about teacher shortages and the ageing teacher population in its most recent report on teaching careers in Europe (European Commission, 2018), adding that almost half of the countries in Europe are faced with an ageing teacher population. Further, gender disparities are common and - amidst ever present calls for increased quality and productivity - a decreasing number of qualified candidates are applying for positions and a continuing and substantial number of qualified teachers leave the profession within five years, often citing excessive workload linked to notions of performativity and accountability.

In an extensive review of studies published between 1980 and 2015, Han and Yin (2016) identify a number of possible causes for this shortage, including not only the ageing teaching force and early teacher attrition, but also an imbalance of high demands coupled with less reward, limited career opportunities, less job security and low prestige. These are important, as they suggest teacher motivation is associated more with environmental factors, including student motivation, educational reform, teaching practice and teachers' well-being, than with individual capabilities and attributes.

Such reports and research have brought demands to improve the status and attractiveness of the education workforce and, in particular, to improve approaches to school leader, teacher and associated workforce recruitment, increase the number and quality of those recruited, improve retention rates and enhance employment and workplace rights. In particular, professional associations would like to see workload regulation, the clear definition of responsibilities and the provision of salaries commensurate with workload and responsibility.

In this light, a European Education Policy Network study (Kelly, 2019) reported that the primary reasons for becoming a teacher are altruistic, although this is balanced with external factors including perceptions about the nature of teaching and the attractiveness of working conditions. Important features that increase the retention of both beginning and longer serving teachers include: high-quality support and professional development; opportunities to work with others and take on leadership roles; the ability to maintain a work life balance; and financial benefits such as salary, pension and insurance. Further, the degree of autonomy afforded to teachers contributes both to their retention and to the quality of their work. However, stressful working environments have a significant demotivating effect on teachers. These are characterised by: high amounts of administration; overbearing bureaucracy; managerialism including the setting of performance targets; increased accountability; limited teacher autonomy; having to deal with constant change; repetitive teaching; poor student attitudes and behaviours; inadequate career structures and limited career progression possibilities; few opportunities for personal development; and low salaries. Test based accountability has a particularly damaging effect on teacher retention, whilst excessive workload and time pressures are strongly associated with low teacher wellbeing. Significantly, teacher motivation, especially their subject specific motivation, is a useful predictor of student learning, and low teacher motivation

leads to highly controlled, teacher rather than student-centred teaching and an underestimation of student capabilities.

Educational responses to crises

A number of crises since 2007 have presented specific challenges for education (Kushnir, 2021):

Crisis	Education Response
Global Financial (2007-8) Greek Debt (2009-17)	Deliver a creative, entrepreneurial and highly skilled workforce to improve national and international competitiveness, prioritising science, technology, engineering and mathematics
Migration (2015)	Develop intercultural understanding Promote community cohesion and coexistence
Rising populism and democratic backsliding (from late 2000s) Brexit (since 2016)	Develop critical citizens with a common European culture and identity
Coronavirus (since December 2019)	Address regional infrastructural differences and digitalisation Narrow socioeconomic, educational and health inequalities and promote positive mental health and wellbeing
Environmental (ongoing)	Promote sustainability amidst a wider green agenda and encourage people to move from environmental awareness to individual and collective action
Ukraine conflict (since February 2022)	Provide crisis education and support displaced children Emphasise security through social solidarity

In this regard, EFEE (2020) recently endorsed Ursula von der Leyen who said, 'Europe must lead the transition to a healthy planet and a new digital world. But it can only do so by bringing people together and upgrading our unique social market economy to fit today's new ambitions. As we embark on this journey, we must make the most of all of our strengths, talent and potential. We must focus on equality and creating chances for all'. In so doing, they identified the need to: (i) provide people with the skills they need for the digital age and make better use of digitalisation in education; (ii) professionalise all people working in education (and training) institutions; and (iii) protect our European way of life.

Post-Covid

A number of pressing specific post-Covid challenges have affected member states across Europe. The immediate concern was to replace face to face school attendance, so improving access was a priority, but since the lockdowns ended there has been a realisation of the benefits of digital, online and other new technologies use in school management and pedagogy (Kelly et al., 2021).

School lockdowns exacerbated educational inequalities, often because of the unequal distribution of resources and opportunities between different socioeconomic groups. This raised awareness of the relationship between socioeconomic and educational inequality, and particularly the need for any serious attempt to reduce educational inequality to also tackle the out of school disadvantages students face. In some countries, the impact of regional infrastructure differences were also exposed (Gross et al., 2022).

Amongst the post-Covid fallout was a recognition of the damage that school closures and disrupted learning inflicted on the health and wellbeing of everyone associated with schools. This brought a realisation of the important role schools have in promoting positive health and wellbeing for all (Kelly et al., 2021).

Some of the best work by schools for their communities was coordinated, not by central or even local government, but by individual schools and school leaders working in and for their communities. This included not just the school community but also the wider community, with a view that, to best support students, schools needed also to support their families and others in their localities who would provide a secure setting. This has led to a re-evaluation of the role of schools as the centres of communities (ILC, 2020).

The public nature of speedy policymaking during the pandemic exposed some of the tensions in using evidence to inform practice on two fronts. First, statistical evidence or data was constantly being called into question as its limitations were exposed. And second, the contested nature of research evidence was also revealed as scientists argued with each other and interpreted findings in different ways, and as politicians and other policy actors were seen to select evidence to justify their arguments rather than weigh up evidence to consider the best way forward (Kelly et al., 2021).

Summary

- In times of uncertainty, turbulence and constant change in societies across Europe, there are concerns about widening social inequalities, a crisis in teacher supply and the wellbeing of both students and education professionals.
- Strong communities can help build the resilience required for people to thrive in difficult circumstances, and education can support community building.
- It is important to understand how education professionals can be helped to be flexible in adapting and adjusting to changing circumstances and innovative in solving problems.
- Structural innovations such as organisational and policy changes must have the trust and confidence of those they affect.

Opportunities and challenges in the case study countries

Belgium

Belgium is a federal state structured regionally and linguistically. Political decision making is separated into three levels: (a) the federal government in Brussels, (b) the Flemish, French and German language communities; and (c) the Flemish Region made up of five provinces, the Walloon Region also comprising five provinces and the Brussels-Capital Region. Education is primarily organised within the language communities. As a result, there are three education systems and three ministers of education.

Although Belgium performs above the EU average, students from disadvantaged and migrant backgrounds are more at risk of underperforming in reading than their advantaged and native-born peers. PISA 2019 showed that 20% of Flemish pupils were functionally illiterate when they left education, a figure exacerbated by the Covid-19 crisis and a national teacher shortage. The divided educational system allows disparities between languages and within language communities leading to differences in student outcomes.

In this project, our focus is the Flemish education system which achieves aggregated student scores are significantly better than those of the French and German language communities. Four main networks operate including the public-school network *GO! Onderwijs van de Vlaamse Gemeenschap*. Other networks include mainly Catholic schools organised by religious authorities and subsidised and supervised by their communities. Whilst the ministry defines the general rules and the financial means of the system, networks provide legal and other support services for schools, regulate the curriculum and give pedagogical advice. Divisions between ministry and networks can create tensions.

The OECD report a lack of established criteria or quality indicators to evaluate teacher performance and a need for teacher and school leader professional development to support self-evaluation and improvement. They recommend such processes are centralised and allied to third party inspections. Meanwhile, the Flemish community has introduced *School Communities* to support networking and collaboration.

Norway

The Norwegian government has adopted a decentralised administrative structure, which delegates authority for primary and lower secondary education to the 367 municipalities. Eleven administrative counties are responsible for upper secondary education and training and post-secondary vocational education, whereas the national government is responsible for other higher education. The Ministry of Education and Research sets the statutory framework for all areas whilst the Norwegian Directorate for Education and Training ensures that education policy is

implemented and upholds the rights of children at kindergartens, school pupils and apprentices to equality of care and education. The Directorate is also responsible for inspections, managing and interpreting legislation, developing teaching frameworks and producing various kinds of exams and national tests. Teachers have considerable autonomy in deciding how to adapt the national curriculum and teach specific content areas and topics. This autonomy allows pedagogic interpretation and innovation and there are no high stakes teacher evaluations to complicate matters, although national tests are conducted at intervals during a student's school career to keep track of their progress.

Norwegian students generally perform above the OECD average in international comparative assessments with little variation, showing schools are broadly equitable. However, grades for students with a migration background are lower than those for settled students.

During the coronavirus school closures, the autonomy enjoyed by teachers meant that the support provided to students was uneven and some students went for weeks with little teacher contact. Similarly, the extent to which digital tools and online environments were used varied greatly. Government evaluations suggest that the youngest, poorest and lowest attaining students made the least progress. Following the coronavirus school closures, students' quality of life self-reports showed a significant decline. Girls were particularly affected by depression, whilst the least privileged socioeconomic groups showed the greatest psychological distress.

Portugal

Portugal has a centralised bureaucratic education system. Although some areas of education have been liberalised since the 1990s, this continues to affect teacher recruitment and allocation. The statutory school leaving age was raised to 18 years in 2009. In recent years, education policy has focussed on: (a) increasing literacy levels and preventing early school leaving; (b) improving vocational education and training (VET) and education for economic growth; and (c) curriculum reform and expanding student-centred learning and the use of new technologies. However, PISA results in mathematics and reading declined between 2018 and 2022, although the gap between the 10% of students with the highest scores and the 10% with the lowest scores narrowed in mathematics.

Nevertheless, elementary school attendance has improved and the numbers of early school leavers and those young people not in education or training have both decreased, but unequal access and opportunities for girls persist and the socio-economic background of students has a significant impact on their educational success. VET schools, supervised by the Ministry of Education, attract 40% of secondary students. These schools have curricular autonomy set within a national framework and budgetary autonomy whilst financed by the state and European Social Fund.

The educational challenges faced in Portugal mirror those found elsewhere. Nearly a quarter of largely socioeconomically disadvantaged students did not participate regularly in school activities during school closures in the pandemic. Their difficulties were exacerbated by a lack of access to online platforms and digital resources. Together, these served to widen educational inequality based on socioeconomic status. Since schools resumed, there has been an increase of students from all groups for whom there are mental health concerns. Finally, there is a teacher shortage with many retiring early and low salaries have led to recent strikes. Hence, the main challenges currently are providing high quality education that is inclusive of all students and improving the quality of teaching to allow this.

Slovenia

Despite being smaller than most EU countries, Slovenia has a strong network of public schools. However, one of the challenges faced by governance at national and local level is the shortage of teachers, which has become especially noticeable in the past four years. This is, in part, because of the coronavirus crisis when salaries fell. Meanwhile, most school leaders, who are elected for a five-year mandate, do not want to apply for re-election. Salaries of school heads and teachers are very similar. Pre-school education is mostly financed by local authorities and supervised by state, and all kindergartens remain open 11 hours daily. Indeed, Slovenia has one of the highest education inclusion rates for of under 3 years old children.

Currently, there are 142 public secondary schools, 14 school centres and 6 private upper secondary schools. Challenges include teacher shortages in most subjects, low salaries for teachers, standardised testing that schools are reluctant to conduct and low rates of international students' programmes compared to the OECD average. Additionally, only 30% of schools publish annual school evaluations as there are no national standards for this. Unfortunately, Slovenia has a high level of suicides among youngsters because of struggles with mental health. Keeping curricula up to date with rapidly changing technology is also an obstacle in the Slovenian education system.

Summary

These challenges are evident in all of the case study countries:

- Often inconsistent use of digital tools and online learning environments, and variable teacher support for home learning.
- Limitations in the progress of the youngest and lowest achieving students, of students with low socioeconomic status and with migration backgrounds, and sometimes of girls, leading to widening inequalities between each of these groups and the strongest performers.
- Significant mental health concerns for many student groups.
- Weaknesses in school self-evaluation and in-school and networked professional support.
- Concerns about difficulties with teacher and school leader recruitment and retention.

Increasing the capacity for educational change: A review of literature

In this report we separate everyday educational innovation at an institutional level from planned structural innovation, which can occur at an institutional level, but which can also be found at the regional, national and European levels. Fundamental to this account is the view that substantive and sustainable innovation of either type will only occur in conditions of underlying stability and security. Such conditions foster resilience to the wider social turbulences described earlier. At an institutional level, this concerns building communities. At supra-institutional levels, this means building confidence and trust through the inclusive involvement of and interdependent collaboration between key stakeholders, whilst also consulting widely, seeking a plurality of evidence and viewpoints and working in an open and transparent manner.

Responsiveness and resilience

The OECD (2020) highlight the need for education systems to be responsive:

Education systems also face the urgent challenge of absorbing and adapting to the disruption of not just the COVID-19 crisis, but also other crises as they continue to emerge around the world (e.g. natural disasters, but also social, political or economic disruptions). This requires building resilience, seizing the opportunity to learn from this crisis, and future ones, in order to inform longer-term improvement.

Responsiveness demands resilience. Resilient learners adjust positively to change, manage uncertainty, and respond to shocks. This starts with the student's sense of security and emotional well-being, as well as their ability to work both independently and interdependently and to think critically and creatively. Education systems must equip learners with such skills and adapt educational experiences by considering their interests, abilities, aspirations, and backgrounds. This is particularly important for those in adverse circumstances.

But schools too must be resilient by ensuring the security and wellbeing of all who work in them and providing a network of co-ordinated supports that sustain these. Establishing a resilient broader learning environment implies bringing together a variety of people within and between different learning environments, both inside and outside the school, for effective collaborations, and by implementing policies that respond to local contexts.

Educational practice as community building

The need for social interaction was highlighted during the coronavirus pandemic when many were isolated from each other and dependent on technology for communication. Those children, young people and teachers who were able to maintain links with others often through online communities fared better than those who could not (discussed in Kelly et al., 2021). Much research (summarised in Block et al., 2022) confirms that meaningful relationships with others promote positive mental health and wellbeing, whilst research by Becker and her colleagues (2021) shows that the sense of connection between people is much reduced in environments dominated by competitive individualism. Indeed, people are better able to adapt to, accommodate and ride out sudden and unforeseen changes in interconnected communities than in loose associations of competitive individuals (PHW, 2019). Community participation builds the resilience people need in times of complex social change (PHW, 2019) but we live in societies characterised by an 'I' rather than a 'we' ethos, where often the focus is more on rights than responsibilities. To increase resilience in education and wider society, we should shift this focus from independence towards interdependence.

Both the welfare of all and the common good are best served in an age of uncertainty by following an inclusive and communitarian logic to reformulate the purpose of schools as builders of communities, whether of interdependent learners and teachers or of supportive neighbourhoods, that are neither authoritarian nor technocratic but democratic in nature.

Communities of practitioners

The recruitment, retention, wellbeing and indeed professional practice of school leaders and teachers would be improved in an age of turbulence and late-modern uncertainty if they worked in interdependent professional learning communities (OECD 2015; 2019), where school leaders, teachers and other colleagues are trusted to collaborate, make decisions and act in the areas for which they are directly responsible, and where all are included in broader decision making. Indeed, at times it might be apposite to include both students and parents, thereby adding to the diversity of views brought to bear on the most stubborn problems and complex issues, whilst also enlisting their support.

Regarding collaborative school leadership, there is encouraging research on flat hierarchies and the value of distributed leadership, with claims that these improve teacher and student performance (Harris, 2013; Malloy & Leithwood, 2017). Often, though, these approaches are conceived as sharing tasks between individuals who then work on them alone. Nevertheless, social views of expertise such as those of Wenger (1998) are behind professional learning communities, and much has been written about the benefits of these (OECD 2015; 2019). In a similar vein, most accounts do not identify the inherent tension between individuals considered experts and the interdependencies that bring about community. In this regard, teacher innovation and practitioner research are best

facilitated using collaborative and inclusive approaches as part of the routine and everyday craft of teaching (Chapman et al., 2016). Whilst collaboration allows practitioners to learn from and with each other, the interdependence provided by inclusive communities affords security in an environment open to flexible experimentation and awash with a diversity of ideas. Inclusive environments that foster collaboration are more enabling of creative and critical practice than arenas characterised by competition and jeopardy. Yet how to build collaborative school environments that facilitate teacher engagement with a plurality of research and foster ingenuity and rigorous inquiry remains an important agenda for future research.

With the benefit of technology, school clusters and wider networks can also form communities. Whilst the first may be driven by local needs, both can support teacher research, allow information sharing, facilitate discussions and even include reading groups. Their format doesn't have to be complex and can include WhatsApp groups and the like. But for the most part, they will be better at supporting critical and creative thinking if they include all staff members, regardless of their role and bringing a diversity of experiences and perspectives.

Communities beyond the school gates

Whilst parents are most often children's primary educators, local communities are where they grow up and spend most of their time, so helping to keep their homes and neighbourhoods safe and supportive will benefit students' schooling and improve their lives. In most cases, the circumstances and substance of children's upbringing strongly influences their chances of educational success. Hence, it is important to regard carers and parents as genuine partners in their children's education and provide them with both opportunities and the support they need to do this (Bishop, 2023).

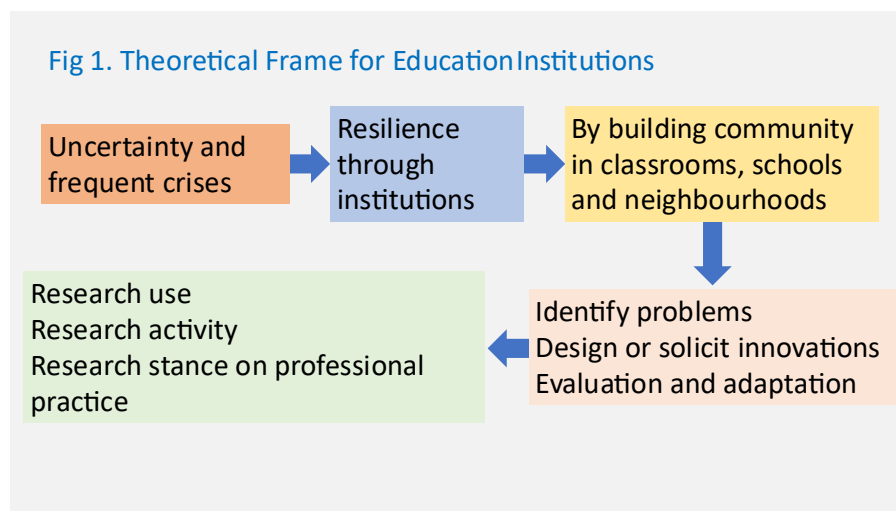
More broadly, as the proverb says, 'it takes a village to raise a child'. People from across a community can provide for and interact positively with children to nurture and help them grow into healthy, rounded and responsible citizens. Possibilities for such collaborations include community choirs, orchestras and dramatic societies that encourage students and adults to participate alongside each other. This is particularly helpful in small schools wishing to bolster their numbers. Some schools allow community societies and organisations to gather on their premises so long as they include activities for children. And others have links with nearby amenities and businesses that allow students to benefit and learn from local expertise.

However, it is not just that having strong relations with neighbourhoods is good for schools; as Ursula Franklin, Holocaust survivor and German-Canadian academic and social activist, said in 1997, 'a good school is the price of peace in our communities' (Hargreaves & Fullan, 1998: 10). Schools bring many different students – and consequently their families – together. They may be from a diversity of cultures and backgrounds, with many values and assumptions and

representing a range of views and interests. At the very least, teachers can insist that students learn to live with each other, but perhaps they can also help children and young people to recognise that their similarities outweigh their differences.

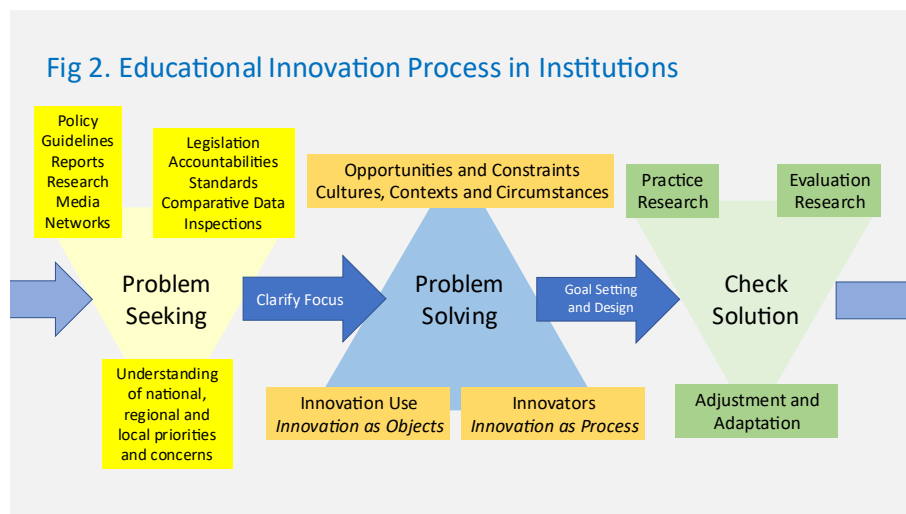
Theoretical frame for education institutions

Thus far, the argument has been made that the resilience and responsiveness needed in late modernity is best fostered in communities (the top row of Fig 1). These provide the security and stability needed by education professionals if they are to engage in the innovation processes (the bottom row of Fig 1).



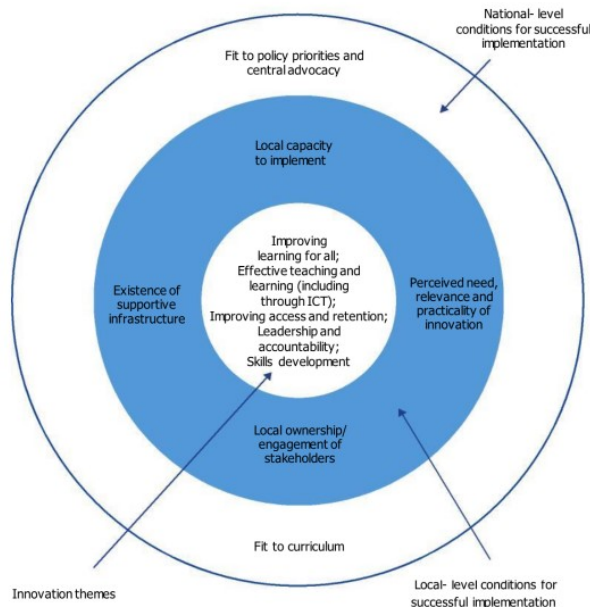
The educational innovation process in institutions

Fig 2 brings together ideas on the development of professional practice already outlined. The process starts with the identification of a problem or concern that requires a change in practice. Here, a distinction is made between education professionals as users of innovations – such as digital technologies – designed and developed by others, and where education professionals, whatever their role, are innovators themselves and need to be flexible and ready to continuously adapt their practice to address the concerns and problems they encounter. A role for research approaches and tools is identified in the implementation of both.



Theoretical frame for structural innovation

Tickly and Milligan (2017) map out a framework for structural innovation.

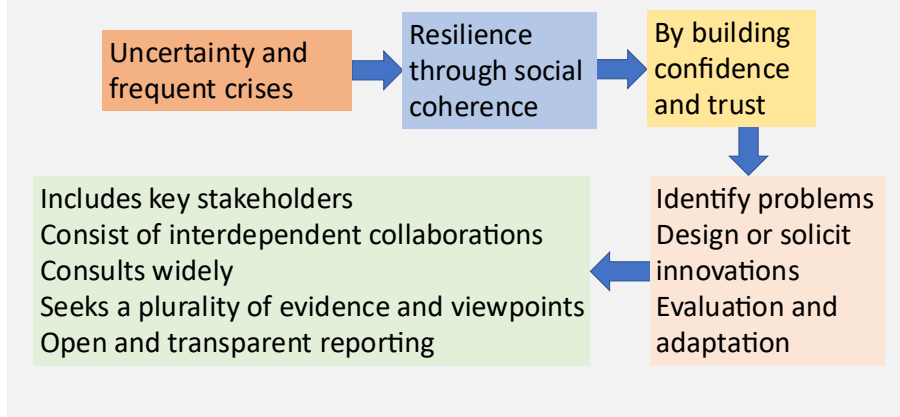


Innovation responds to nationally and locally identified needs and problems set in national and local contexts and circumstances, so solutions will be contingent on these conditions.

Based on this, they identify potential areas for structural innovation. These include (a) learner access, retention and completion, (b) curricula, pedagogies and assessment, (c) learner centred education, (d) digital technology use, (e) professional learning and development, (f) leadership, accountability and governance, (g) educational organisation, cultures and resources, and finally (h) employment and working conditions of school leaders, teachers and allied professionals.

Fig 3 shows the various factors at play in the development of structural innovations. Following the arguments already made, it is important that social reforms enjoy the support of those they affect. This is achieved using approaches that foster trust and build confidence that any proposed changes are in the interests of everyone and represent the common good (the top row of Fig 3), thus securing the 'buy in' of education professionals so that they embrace and enact the resultant changes (the bottom row of Fig 3).

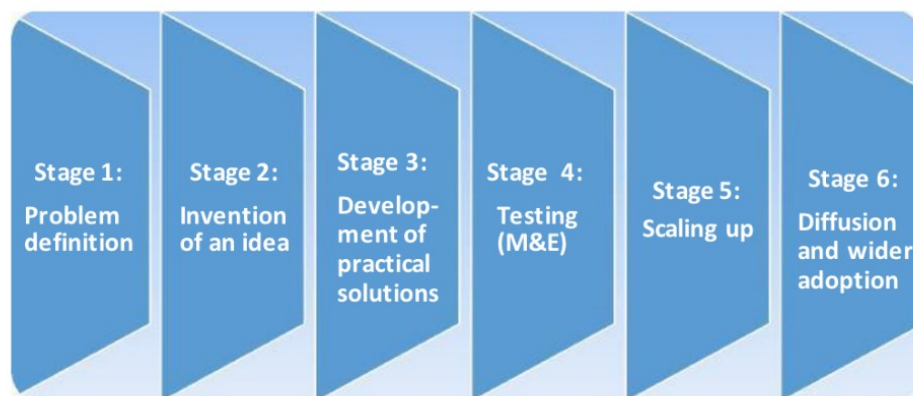
Fig 3. Theoretical Frame for Structural Innovation



The structural innovation process

This process is fully described elsewhere (and in outline in Tickle and Milligan, 2017).

Fig 4. The Structural Innovation Process (Tickle & Milligan, 2017)



Initially, the imperative for change should be clearly identified and explored. Following this, the process by which trustworthy structural innovations which enjoy the confidence of all are developed should be inclusive, involving all key stakeholders, and informed by a plurality of existing research and other evidence and viewpoints, giving due attention to any limitations, to avoid accusations that this has been chosen selectively or read narrowly. All decision making should be carried out and reported in an open and transparent manner. The process of development should be collaborative and draw on a diversity of expertise and experience. Above all, the intention should be to demonstrate faithfully that the developments are in the interests of all and represent the common good. Finally, cyclical processes of staged evaluation, adjustment, improvement and upscaling should be meaningful and rigorous, using research approaches and tools in a critical manner.

Method

Overview

This project contributes to European social dialogue by using a rigorous process to faithfully represent the voices and lived experiences of education employers as they discuss professional concerns. The findings and guidance that follow result from an inductive analysis. They are provided to help build the capacity of educational professionals and institutions to respond to complex social challenges.

The research approach adopted in this study is distinctive in three ways. First, it is committed to the principle that policy and practice are best informed by a combination of the insights of academic research and the professional judgement of experienced leaders and practitioners. Second, the insights of academic research and experienced education leaders and practitioners were explored through (a) desk research that mapped approaches to promoting innovation in education across the EU and investigated how this related to the working conditions of education personnel, and (b) survey responses from EFEE member organisations that identified opportunities, constraints and examples of innovative teaching and learning approaches in education institutions on the ground. And third, the insights of education leaders and practitioners were further explored in depth using an evaluative case study approach (Biesta, 2007) at four Interactive Peer Learning Activity meetings, each in the context of a different EU member state.

Project organisation

A Project Advisory Group steered the project. Case study data was generated in the four Peer Learning Activity meetings. This was augmented by desk research and a survey of the wider EFEE membership.

Project Events	Dates
<i>Advisory Group Meetings</i> brought together representatives from the European Federation of Education Employers to provide guidance, monitor the project developments and to promote an active involvement in the project meetings and dissemination actions among their affiliates.	July 2023 November 2023
<i>Interactive Peer Learning Activities</i> took 1.5-days respectively and provided Advisory Group Members, and other National Social Partner representatives with a platform to exchange, peer learn, and discuss the topics identified during the preceded Advisory Group meetings in greater depth. Moreover, the peer learning activities included local school visits, allowed participants to gain in-depth practical on-site knowledge on the implementation of innovative tools and practices in the respective school contexts and therewith considered challenges and opportunities by engaging in a dialogue with school related representatives.	November 2022 <i>Ghent</i> February 2023 <i>Lisbon</i> April 2023 <i>Oslo</i> September 2023 <i>Ljubljana</i>
<i>Final Conference</i> in Leuven, devoted to sharing the results of the study.	March 2024 <i>Leuven</i>

Evaluative case study

Evaluative case study constitutes an enquiry into an educational programme, system, project or event to determine its worthiness, and is conducted: (i) within a localised boundary of space and time; (ii) into interesting aspects of an educational activity, or programme, or institution, or system; (iii) mainly in its natural context and within an ethic of respect for persons; (iv) in order to inform the judgements and decisions of policy makers and practitioners; and (v) in such a way that sufficient data are collected for the researcher to be able to: explore significant features of the case; create plausible interpretations of what is found; test for the trustworthiness of these interpretations; construct a worthwhile argument or story; relate the argument or story to any relevant research in the literature; convey convincingly to an audience the argument or story; and provide

enough data for other researchers to validate or challenge findings, or construct alternative arguments.

Survey

A survey of EFEE member organisations was conducted in October and November 2023, which asked about their capacity to respond to the coronavirus pandemic, the immediate and longer-term challenges they faced and the innovations in policy and practice that were implemented in areas of concern. Opportunities for and constraints on innovation were then explored before finally respondents were asked to appraise their preparedness for future crises.

Key findings

What is innovation in education?

Educational innovation is about solving real problems in fresh ways to promote equity and improve learning. There is a tendency to conflate technology and innovation, even though they are quite different. Innovation does not have to be technological. It can involve changes in policy, practice and organisation or the development of approaches and resources to address local issues and solve local problems. These range from extensive and long-term to relatively small and short-term changes.

In this vein, education professionals are both innovation users and innovators themselves, whilst the focus of innovation should be to serve the private, public and common goods of education in equal measure (UNESCO, 2018).

Private Good <i>Serves individual interests</i>	Common Good <i>Benefits the collective interests of society</i>	Public Good <i>Serves the welfare of all</i>
<i>Education that allows individual flourishing</i>	<i>Education that allows the flourishing of political, commercial, cultural and civil society</i>	<i>Education that allows everyone to flourish, whatever their backgrounds or circumstances</i>
<ul style="list-style-type: none"> Forms cultured, considered and confident individuals Increases individuals' economic security and improves their health and wellbeing Provides opportunities for individuals to form long-lasting friendships Allows certification in gatekeeping qualifications and supports future access 	<ul style="list-style-type: none"> Provides knowledgeable citizens who can contribute to a dynamic democracy and lively civic and cultural life Provides a skilled workforce to increase human capital and bring greater national wealth and government income Provides a diverse workforce to increase representativeness and expand the talent pool Provides a healthy, contented and more equal population that makes fewer demands on healthcare, justice and policing, social work and welfare Increases social tolerance allowing those with different values to live alongside each other 	<ul style="list-style-type: none"> Ensures policy and pedagogy allow the needs of all to be met and promotes the wellbeing and achievement of all Compensates for differences in upbringing, out of school experience and personal resources Provides opportunities for students to meet a wide variety of peers with different backgrounds Seeks to widen participation, certification and opportunity, bringing increased social mobility

Innovation and technology

Technology provides many examples of innovation in education in the development and use of digital tools to support learning, online and digital communications and learning environments, and artificial intelligence. The organisation of technological support is a key area in the sustainable management of effective technology use. We can think of this as two tasks. First, technological leadership and coordination aims to tackle variations in digital infrastructure, access/divide, teacher competence and student dispositions (based on ethnicity, gender and social class). And second, pedagogic leadership and coordination aims to tackle over-reliance on

teacher-led practice and commercial materials and encourage student participation and interaction whilst ensuring their protection.

Everyday educational innovation

The crafts of leading, managing and teaching are complex as they serve many purposes and are directed towards multiple goals some of which are in tension. They are rife with dilemmas and set in constantly changing circumstances. And they respond to colleagues and students with a diversity of capacities and needs. Such demands mean that education professionals, whatever their role, need to be flexible and ready to continuously adapt their practice to address the concerns and problems they encounter. Often, the outcomes of creative and inquisitive processes are most useful to the groups of practitioners undertaking them in the everyday contexts in which they happen. In such circumstances, the value of dissemination is limited because, for the most part, any findings are of limited consequence elsewhere and difficult to apply. Indeed, the majority are small, relatively simple, and often unremarkable. Nonetheless, many small such changes can bring incremental improvements in practice over time.

Environments that support everyday innovative practice often combine this with practitioner research as both an evaluative tool and an approach to problem solving. Teacher innovation and practitioner research are best facilitated using collaborative and inclusive approaches as part of the routine and everyday craft of teaching. Whilst collaboration allows practitioners to learn from and with each other, the interdependence provided by inclusive communities affords security in an environment open to flexible experimentation and awash with a diversity of ideas. Clearly, inclusive environments that foster collaboration are more enabling of creative and critical practice than arenas characterised by competition and jeopardy. Indeed, identifying the important features of environments that enable collaborative approaches to innovative practice and practitioner research as part of the routine and everyday craft of teaching can help those elsewhere reduce barriers and increase opportunities for using similar approaches to improve their teaching.

Education professionals as innovation users

There are many commercial and philanthropic organisations providing services, information, materials and resources to educational institutions and practitioners. These range from digital technologies to curriculum schemes of work and pedagogic approaches, assessment materials and wellbeing and mental health support programmes. Many claim to be evidence-based or informed and are often attractive because they promise some respite to busy professionals facing multiple complex demands. Whilst many are of good quality and prove extremely useful to practitioners, some do not live up to their claims.

In this light, education professionals need to be critical consumers, questioning the evidence on which these commodities are based and evaluating their veracity and reliability. Evaluative case study research provides a rigorous approach to this. Meanwhile innovation use may need to be adapted, and critical action research approaches can help with this.

Innovation in professional learning

Setting	Formal	Informal
Private	Online courses and seminars Self-study courses Preparation	Engagement with social and other media and on online platforms Reading and journal writing
School	Workshops and training programmes Career stage programmes (eg induction, middle leadership) Lesson observation and appraisal meetings Coaching and mentoring Teacher research for school development	Discussions and exchanges with colleagues Reading and special interest groups Collaborative planning and teaching Peer observation
Off-site	Professional courses and seminars, conferences and qualifications	Teacher visits, exchanges and networks

Education professions should be fully supported to face the complexities of professional practice with confidence and draw on a diversity of approaches to professional learning (OECD, 2019).

Innovation in management and leadership

The days of the single charismatic authority leading an education institution have passed. It is far more productive to think of leadership as distributed across every member of staff at every level in some form. Institutional organisation can flatten hierarchies by linking accountabilities to decision making, and allowing decisions to be made close to where they will have their greatest effect. They can also draw on the experiences and understandings of all, providing everyone shares a common sense of purpose, by encouraging interdependent problem solving and decision making. In these, the notion of critical friendship is important if we are to avoid groupthink. In addition, critical action research provides a rigorous approach for practitioners developing innovative practice. Leadership should support both and use critical prompts to help with this.

Problem seeking is the starting point for innovation

Data is useful but doesn't tell you everything
and sometimes doesn't tell you anything

Research won't think for you
but can make you think

Critical reflection is key, and
writing is a form of inquiry

Innovations don't have to be exciting

Don't mistake managing a problem for solving one

Test results are an unreliable
approximation for learning

Problems may be common but have local
characteristics, so innovative responses
are often contingent

You might be the problem

Be gentle in argument, compassionate in
disagreement and admit when you are wrong

Learn from your mistakes as well as your successes

There are many ways of thinking about
and many ways of solving a problem

Be honest when evaluating innovations

Solutions are often partial and temporary

Diversity is good; work with people who see things
differently and are happy to disagree with you

The solution to one problem may create another

Structural innovation

Structural changes respond to existing issues, problems or dilemmas, a political shift in worldviews about what constitutes a good society or good life and the policy imperatives this brings, or expectations about future needs and circumstances. The imperative for structural innovation can originate at European, national, regional or institutional levels, and pass up or down this hierarchy. The problems that changes and developments seek to address can emerge from research evidence, statistical analyses or areas of public and political interest. At best, the design of structural innovations is informed by existing research and the experiences of others in similar circumstances, and subjects these to critical consideration.

Examples of structural innovation

In this report we do not highlight specific innovations that we think are widely useful. Rather, we consider their development to illustrate processes of creative and critical adaptation and change oriented toward solving identified problems. This constitutes innovative practice. Few problems are universal, although they might reflect broad themes or be structurally isomorphic to others, and most solutions are specific to the circumstances in which they have been developed, and so cannot be readily borrowed. However, we can learn by comparing the contingent inquiries, investigations, designs and solutions of others with the opportunities and constraints that frame our own problem-solving activities.

Digital support and blended learning in Belgium

Teacher support in digital technology use has been a focus at *Middenschool Voskenslaan* (middle school) and *Atheneum Voskenslaan* (secondary school) in Ghent. With approximately 2,000 students, these schools prioritise innovation, contemporary education, diversity, sustainability, personalised group learning and self-regulated learning. Both schools promote blended learning, conceptualising the school as a hybrid institution. Although the amount of blended learning has drastically increased after the coronavirus pandemic, these two schools were quickly to adapt and provide quality blended learning. Their principals stressed the importance of teachers and students being in possession of one device each but, due to capacity and economic issues, this was difficult to achieve. Their approach to blended learning is based on a community of inquiry model, where the quality of teaching remains the highest priority and much attention is given to digital teaching methods. Student centered learning approaches including self-initiated and self-regulated pedagogies are used.

These schools not only invested time and resources, but also enlisted parental support and engaged in careful monitoring of teacher and student engagement as strategies to facilitate their approach. A particular strength was the employment of non-teaching IT coordinators, although this brought some financial and contractual difficulties that had to be overcome. As a result, the burden on teachers, who might not be able to solve technical issues on their own, was considerably lightened.

Curriculum design in Norway

A new curriculum for primary and secondary schools was introduced in Norway in autumn 2020 and involves both general and vocational strands in upper secondary education. This is the first major reform in Norway since the Knowledge Promotion in 2006. The development of the new curriculum was a collective endeavour to give it legitimacy, and included trade unions, with participants responding to a

series of questions including (a) what characterises the future society and working life, (b) what trends will have impact on the education system, (c) what kind of competences will children need to develop to meet and build the future society and working life, and (d) how can schools and kindergartens work to develop the broad competence that is needed?

Features of the content of the new curriculum include a greater emphasis on play-based learning for the youngest children; several subjects have become more practical and exploratory, critical thinking and critical approach to sources are central to a number of subjects; there has been a reduction in the number of subject competencies to allow for more in-depth learning; the teaching of digital skills, programming, and technology have all been strengthened; and finally key social challenges are addressed through the introduction of three interdisciplinary topics, health and life skills, democracy and citizenship, and sustainable development.

Evaluations so far have been positive. However, both school leaders and union representatives want to focus more on social dialogue and school development and need further professional training and changed cultures to allow this.

If we want our pupils to be creative, exploring and innovative, we have to do the same. We have to use our own creativity, to test new things. Then the pupils themselves will dare to go into the unknown. (Kjenn Skole in Lørenskog, *A handbook for innovation*)

Innovation, vocational and entrepreneurial education in Portugal and Norway

The VET school *Escola Comércio* in Lisbon was founded in 1989 and is based in a participatory and active learning approach to vocational education. It has very strong links to the community and business world, and is particularly focussed on the commercial, tourism and services sectors. Classrooms use collaborative learning approaches and the engagement in employment role-play simulations. During their course, students undertake three work placements, and these are sometimes in other EU countries. Teachers are also encouraged to work collaboratively.

The *Kjenn ungdomsskole* (lower secondary school) in Oslo has a vocational focus on developing entrepreneurial and innovation competencies in students, and benefits from strong relationships with parents based on good communications (including a regular podcast). The school also focusses on community, both in terms of the school as a learning community and the school within the local community. However, there are challenges: (a) increasingly, migration and mobility amongst students and in the wider community have affected the school, and (b) there is an awareness that preparation for the unknown, particularly in terms of future job markets, is important, whereas education is sometimes

criticised for not responding and remaining too traditional in its approach. The new National Curriculum, introduced in 2020, shifts from just content to combining this with processes to focus on cross curricular competences and skills developed through creative, collaborative and problem based learning. Teachers report challenging norms and traditions and emphasising perseverance. Their evaluations and those of students of the move from a teacher-centred to a learner-centred approach are positive. In this, teachers make good use of digital platforms and tools but are keen to develop principles for this that relate to good practice. At the moment, this new approach only takes place on one day a week, and some on the teaching staff are yet to buy into it, but there is a very engaged vanguard group actively promoting this work and regularly leading meetings with colleagues to develop enthusiasm and capacity. There have also been concerns from trade unions about changes to teachers' terms and conditions, especially regarding workload and professional development needs, and there were some uncertainties from parents who didn't fully understand the new way of working or criteria used for grading student assessments; it will take time, openness and clear communications with them to build trust. The model is rooted in vocational and technological/engineering approaches and therefore constitutes a move away from traditional academic subjects. The handbook for students is the basis for changes in pedagogy. It contains a rubric for problem-based learning and innovation, together with prompts, suggestions and examples to support students in this work at each stage of their projects. It is linked to the goals of the new national curriculum. Students with SEN do particularly well and are given extra in-class support when needed.

These two cases make the point that innovation in education can be interpreted in two ways: (a) in schools, a focus on students leads to an interpretation of innovation as economic preparedness; whilst (b) in school development we regard innovation as a way of making improvements to professional practice. They raise two considerations in relation to implementing structural innovation. First, when developing a collegial approach, it is important to consider (a) teachers' contracts, workloads, working time arrangements and working conditions in negotiation with other local actors including trade unions, and (b) the role of regional and local administrators alongside school leaders. And second, there is the question of how to support those colleagues who are resistant to change. In times of precariousness, people return to tradition. School leaders need to build consensus and make it in the interest of all to embrace change. Sometimes this can be achieved through student and parental involvement to create an expectation for change. Pressure can also be put on teachers through weight of numbers, as more and more of their colleagues buy into the new approach. Partnerships with outside bodies including universities, researchers and other schools may help.

Digital sustainable teachers in Slovenia

This is a project, funded by the European Commission and based at the *Solski Centre* in Ljubljana, brings together three different areas of competences under the topics of digital, sustainable, and financial literacy. Two things were key to the success of this project. First, teachers from kindergarten to adult education were all included. And second, each participant received a considerable amount of support through digital environments and 13 days of nationally and locally organised training. This helped develop teacher competencies and to strengthen organisational cultures. As a result, there is increased use of computers, smartboards and graphic tablets, and interactive learning tools and platforms now play a bigger role in educational institutions. Teachers are now regarded, not as the supreme authority or sole provider of knowledge, but as the creators of learning environments. Learner-centred approaches such as peer to peer learning, personalisation and differentiation in tasks, debating and critical thinking, and game-based learning have been adopted. There has also been an increased focus on developing soft skills like empathy and solidarity in writing essays, assignments or articles. This builds social skills including patience, punctuality, politeness and gratitude.

Principles for developing resilient organisations that are innovation friendly

The following principles for innovation-rich environments that successfully meet new and ongoing social challenges are based on the analysis above.

Education institutions should:

- build safe communities, founded on mutual respect, that have a shared sense of purpose and work for the health, wellbeing and success of all;
- provide inclusive spaces, rooted in plurality, that celebrate diversity;
- be democratic, employing distributed leadership and promoting the active participation of all;
- be learning communities that value individual and collaborative, and informal, non-formal and formal approaches to learning;
- embrace a range of formal, non-formal and informal approaches to professional learning in both in-person and online learning environments;
- respond to challenges in their local communities and with their local communities;
- understand data, research and other forms of scholarship and use these to critically inform and evaluate practice, and seek improvement by looking at practice through the lens of research and using practitioner research approaches;
- embrace digital in all its forms as a powerful driver of change and facilitator of learning, and promote and advance the green agenda;
- actively challenge themselves, think creatively about their responses and implement sustainable change when necessary.

Next steps

During this study, several questions were raised that would benefit from future investigation, including:

- What are the main opportunities that educational technology provides and what are the most significant threats?
-
- How should principals and practitioners evaluate educational services and resources?
-
- What approaches can help build collaborative school environments that facilitate teacher engagement with a plurality of research and foster ingenuity and rigorous inquiry?
-
- What are the obstacles to collaborative development in educational institutions and how can these be overcome?
-
- What are the most effective forms of professional development?
-
- What can be done to move distributed leadership in education beyond delegation?
-
- What can be done to ensure those affected by structural innovations buy into the changes they bring?
-
- What can be done to ensure that structural innovations are trustworthy and that stakeholders have confidence in them?

Recommendations

Institutional innovation

- Educational innovation should improve learning by widening equitable access to educational opportunities and advancing provision for students with diverse learning needs.
- To identify problems requiring innovative solutions at the institutional level, education professionals should understand and be close to their local communities, schools, students and their parents or carers, and have the competence and support to anticipate trends and challenges, access and understand research findings and their implications and generate and analyse relevant data including comparative and contextualised data on educational outcomes.
- As the users of innovative approaches, ideas, technologies and resources designed by others, education professionals should know how to evaluate their veracity and make adaptations to optimise their operation.
- As innovators themselves, education professionals should have the competence and support to initiate, develop and evaluate innovations, adopting a creative and critical stance informed by ideas and best practice, and using trustworthy strategies for gauging effectiveness and identifying unintended consequences. Practitioner research is a useful basis on which to develop and evaluate innovative practice.

Innovation and technology

- Education professionals and students should have access to a diversity of inclusive and age-appropriate digital platforms and tools that cater for the needs of all and facilitate student-centred pedagogical approaches.
- Education professionals, students and their parents or carers should learn about and reflect on both the opportunities and threats that technologies afford.
- Technology that allows education professionals to collect, manage and analyse student data to improve practice should follow clear and transparent protocols.
- Education professionals should understand the algorithms and statistical approaches employed in data management technologies so that they can interpret findings with confidence.
- When evaluating technological innovations or tools, education professionals should raise concerns if the rights of children and young people appear to have been infringed or their interests are not prioritised.
- Education professionals should have ready access to expert technical and pedagogical support.

Innovation in professional learning

- Educational leaders should promote collegial professionalism and collaborative community building and recognise the key role of professional learning communities, where a problem finding stance is also promoted.
- Educational leaders should foster open and inclusive cultures in their institutions, welcoming parents and carers, allowing teachers to access to each other's classrooms, encouraging the sharing of ideas and resources and organising communal events.
- Education professionals should employ a pluralistic approach to seeking new ideas and solutions, which embraces diversity.
- Educational leaders should facilitate innovation using ongoing continuous development that engages teachers and teaching assistants in a diversity of approaches to formal, non-formal and informal professional learning.
- Educational professionals are research users, researchers themselves and are informed by research approaches when developing professional practice. They should be supported to develop their competence in all these areas.
- With the benefit of technology, school clusters and wider networks can also form communities. Whilst the first may be driven by local needs, both can support teacher research, allow information sharing, facilitate discussions and even include reading groups.

Innovation in management and leadership

- The capacity for educational leaders to engage in community building and community leadership at all levels is an important area for development.
- Educational leadership practices should allow both autonomy and collaboration amongst education professionals, enabling them to drive positive change within their institutions.
- Distributed school leadership is more than delegation and should include the promotion of collaborative and interdependent decision making and accountabilities.
- Innovation in practice requires leadership at all levels that understands pedagogy and focusses on improving student learning.

Structural innovation

- The argument for change should be clearly identified at the outset.
- The process of development should be inclusive, involving all key stakeholders including educational professionals, students and their parents or carers, and collaborative, drawing on a diversity of expertise and experience.
- The design should be informed by a plurality of existing research and other evidence and viewpoints including the experiences of others in similar

circumstances, whilst subjecting these to critical consideration and giving due attention to any limitations.

- Decision making should be open, transparent and inclusive to engage all relevant stakeholders and promote the collective ownership of educational initiatives.
- Cyclical processes of staged evaluation, adjustment, improvement and upscaling should be meaningful and rigorous, using research approaches and tools in a critical manner.

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Appendices

1. Research Agenda
2. Desk Research
3. Ghent Minutes
4. Lisbon Reflections
5. Oslo Reflections
6. Ljubljana Minutes
7. Survey