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What systematic connections should we have around schools to support the work of teachers? Global lessons and the potential of ambition loops

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Abstract

Co-constructing a long-term sustainable vision on the future of teaching is a policy priority for many countries as society rapidly changes. There is a need to create space in the teacher debate to look forward for inspiration and to learn from contemporary change in other professions, such as the concept of “connective professionalism”. There is also a paradox to navigate. On the one hand, the idea of change can be daunting. This leads to people seeking comfort in the known. On the other hand, the status quo is unlikely to provide the solutions required for a prosperous and sustainable future for the teaching profession. In this paper, we introduce an Ambition loops tool to create preferred future scenarios that can support the work of teachers, add to the prosperity for students and communities, and support transformation of education to meet contemporary challenges while focusing on current needs. The framework has an iterative design and outlines ambitions relevant to all stakeholders in the school-community, education community and broader societal sectors. The current framework statements have been distilled from a review of the research as well as engagement with experts and practitioners.

Table of contents

Acknowledgements	3
Abstract	4
1. Introduction	7
1.1. Connective professionalism	7
1.2. Lifespan approach.....	8
1.3. The Ambition loops tool	9
1.4. Outline of the paper	9
2. Why develop an Ambition loops tool?	10
2.1. The value of forward-looking approaches	10
2.2. Cross-sectoral collaborations and partnerships as a powerful tool for teachers and schools.....	12
2.3. Creating space for examining uncertain futures while supporting immediate needs: a two-path policy making approach	15
2.4. Ambition loops to support connections between teachers and partners	17
3. Ambition loops for new professionalism and the future of teaching	18
3.1. Stakeholder mapping: What systematic supports should we have around schools?.....	18
3.2. Organising the stakeholder mapping within a framework of ambitions	21
4. Ambition loop principles	23
5. Ambition loops for the school-community sector	26
5.1. What if... we value schools as a physical place for interactions within the community for learning?.....	26
5.2. What if... we reframe the roles of teachers and learners within a broader community of expertise?	27
5.3. What if... we unlock student voice and involvement in decision making?	29
5.4. What if... we value that all adults in the school community play a role in caring for children and young people?	30
5.5. What if... we create space to think collectively about the future and develop new ideas?	34
6. Ambition loops for the educational sector	36
6.1. What if... we think about "the learning journey", accompanying learners through formal education with links to non-formal learning and learning to learn?	36
6.2. What if... we form partnerships to strengthen teacher professional identity (TPI) throughout the career span?.....	39
6.3. What if... we support interdisciplinary learning and working as a core part of professionalism?	42
7. Ambition loops for the broader societal sector	45
7.1. What if... we see schools as a hub for learning and connecting with community?.....	45
7.2. What if... we use learning partnerships for real-life experiences?	46
7.3. What if... we see teachers as pedagogical innovators?	48
8. Using the Ambition loops tool to develop preferred scenarios for the future of teaching	50
8.1. Generating preferred scenarios using the Ambition loops tool.....	50
8.2. Actioning the preferred future scenarios.....	51

8.3. Example of a preferred scenario generated using the Ambition loops tool	51
9. Conclusion.....	55
References	56
Annex A. Statements of ambition for the educational community	71
Annex B. Statements of ambition for broader societal sectors.....	74

Tables

Table A A.1. Statements of ambition for ECEC	71
Table A A.2. Statements of ambition for VET and lifelong learning	72
Table A A.3. Statements of ambition specific to higher education, including teacher education	73
Table A B.1 Statements of ambition for health and resilience	74
Table A B.2. Statements of ambition for the cultural sector	76
Table A B.3. Statements of ambition specific to Ed Tech	77
Table A B.4. Statements of ambition for sustainability	79

Figures

Figure 1.1. A new framework for conceptualising professionalism	8
Figure 1.2. The teaching career pathway model	9
Figure 2.1. Five guiding principles for cross-sector and interprofessional collaboration	13
Figure 3.1. Partnerships between school and external actors	20
Figure 3.2. Potential collaborations with partners, including other professionals, to support teachers' work	21
Figure 3.3. The Ambition loops tool framework	22
Figure 6.1. Teacher professional identity (TPI) development and outcome model	40
Figure 8.1. Survey categories	51

Boxes

Box 2.1. Finnish Teacher Education Forum	11
Box 2.2. Building trust through stakeholder engagement	14
Box 2.3. A principal's reflections on a two-path planning process	16
Box 4.1. Learning from other sectors – “Fourth generation” institutions	23
Box 4.2. Learning from other sectors – “Anchor institutions”	25
Box 5.1. Some of the current challenges to strengthening the relationships between teachers and families	31
Box 5.2. A Pedagogy of walking alongside	32
Box 5.3. The Speaker's Outreach programme, New Zealand	35
Box 6.1. Research examining the benefits that can cumulate for a learner as they move through different stages of formal learning	37
Box 6.2. School – university partnerships built out of trust	41
Box 6.3. What if... interprofessional skills were taught as a core skill in higher education?	43
Box 8.1. Example of a preferred future scenario (overview)	52
Box 8.2. Two illustrations of how the preferred future scenario might benefit an experienced teacher and a teacher at the beginning of their career	55

1. Introduction

The work of teachers is changing. This is due to rapid changes in society as well as changes in the profession. The impact of the Covid-19 pandemic and tightening of the labour market (OECD, 2023^[1]) has also seen the rise in concern about issues relating to teacher shortages (OECD, 2020^[2]; Simon and Johnson, 2015^[3]; Sutcher, Darling-Hammond and Carver-Thomas, 2019^[4]), teacher attrition, and burnout (Madigan and Kim, 2021^[5]; Gómez-Domínguez et al., 2022^[6]; Weißenfels, Klopp and Perels, 2022^[7]). The latest example of new challenges is the need to respond to the advancements in AI (OECD, 2023^[8]). This creates a paradox. On the one hand, the idea of change can be daunting. This leads to people seeking comfort in the known as the teaching profession faces these challenges. On the other hand, the status quo is unlikely to provide the solutions required for a prosperous and sustainable future for the teaching profession.

This paper argues for the need to create space to collectively think about the future of teaching. Anticipating future developments can contribute to identification of solutions for future and current challenges. Although counterintuitive, identifying aspects of long-term change can help improve short term pressures in a rapidly changing world. A two-path approach to policy planning provides a way to identify long term preferred changes while separating shorter term needs that require attention. This dual approach adds clarity to the planning process which can reduce feelings of being overwhelmed. It also changes the pace of change to a two-speed approach which opens a greater variety of actions that can be utilised to move along the path towards transformation by including longer term planning strategies that benefit from time to be undertaken. The paper presents an approach to create space for multi-stakeholder discussion and development of preferred scenarios for the future of teaching, while focusing on supporting current needs. It also presents a tool that has been developed to support this approach.

The paper draws on two main concepts to support future thinking on new professionalism and the future of teaching: connective professionalism and a lifespan approach to teachers' careers.

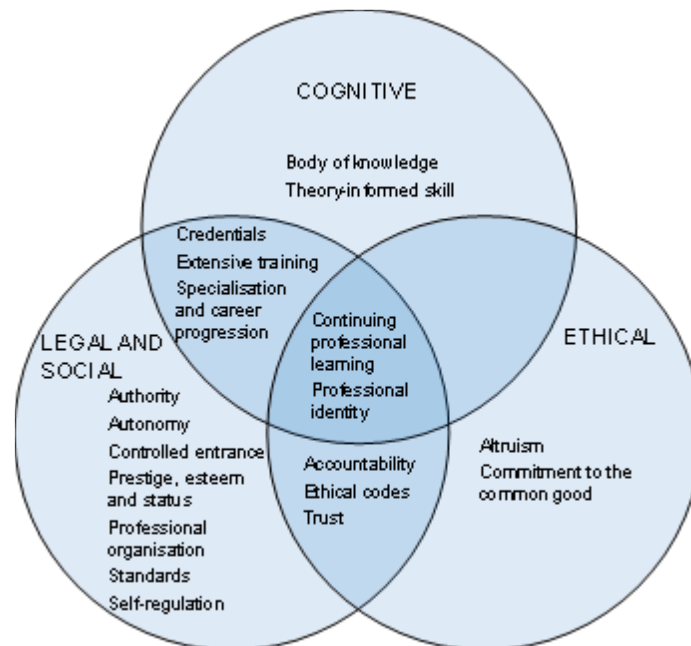
1.1. Connective professionalism

Firstly, this paper observes that the nature of professionalism itself is changing, with a core focus on professional growth and how this can be nurtured by interactions with other professionals. It argues for transformation, therefore, towards a new “connective professionalism” (Mezza, 2022^[9]; Noordegraaf, 2020^[10]). By considering “What systematic connections should we have around schools to support the work of teachers?”, the paper identifies potential connections between teachers and other professionals to enrich their professional growth and support their work with students.

Across all professions, the enactment of being a professional is changing from traditional conceptions of “protective professionalism” towards a “connective professionalism” (Noordegraaf, 2020^[10]) which is more relational, interdependent, process-centred and networked (Noordegraaf, 2020^[10]; Mezza, 2022^[9]). Traditional views of professions such as medical doctors, lawyers, accountants and academics are examples of protective professionalism (Noordegraaf, 2020^[10]) but these professions have changed over time. New ways of rethinking participation of education stakeholders can benefit connective professionalism and develop social capital within communities. As well as supporting formal learning in schools there are benefits for communities through informal connections and learning opportunities (Iyengar, 2021^[11]).

Figure 1.1 shows a framework for conceptualising teacher professionalism from a synthesis of literature on the changing nature of professionalism across all areas of work (Mezza, 2022^[9]). The framework places teacher professional identity (Suarez and McGrath, 2022^[12]) and professional growth at the centre of conceptualising professionalism as well as identifying other aspects related to the cognitive, ethical, and legal and social domains that can be focused on to support teachers' work.

Figure 1.1. A new framework for conceptualising professionalism



Note: Mapping features of professionalism proposed in the literature into cognitive, legal, social, and ethical spheres emphasise links across domains as well as the role of contextual factors.

Source: Mezza, A. (2022^[9]), "Reinforcing and innovating teacher professionalism: Learning from other professions", <https://doi.org/10.1787/117a675c-en>.

1.2. Lifespan approach

Secondly, the paper emphasises the need to consider different motivations and development needs for teachers at different ages and stages of their career.

Fulfilling and rewarding working conditions are key to attracting and retaining teachers. At the same time as lifelong learning for students is valued (Munro, 2019^[13]; Day, 2002^[14]; OECD, 2023^[11]), the professional work of teachers can also be viewed across the lifespan of a career.

Figure 1.2 outlines some of the different pre-service and in-service stages of a teacher's career (Mezza, 2022^[9]). The framework for teachers supports focusing across their career lifespan rather than just on some stages. This approach encourages looking beyond just focusing on the early part of a teacher's career transition from pre-service into the profession. The teaching career pathway can also be overlaid against personal stages of a teacher's life, as well as intergenerational characteristics (Nilsson Brodén, 2022^[15]), to consider the various motivations and needs for professionals at different ages and stages.

Figure 1.2. The teaching career pathway model

A lifespan approach to career development



Source: Adapted from (OECD, 2020^[2]) TALIS 2018 Results (Volume II): Teachers and School Leaders as Valued Professionals, <https://doi.org/10.1787/19cf08df-en>

Using these two main concepts of (a) connective professionalism and (b) a lifespan approach to teachers' careers, there are potential benefits to consider what systematic connections we need around schools. These benefits include valuing cross-sectoral collaborations as a powerful tool for teachers and schools, putting teachers at the centre by growing and investing in a diverse generation of educators that can develop at each stage of their professional career, keeping great teachers in the profession and responding to current and future teacher shortages.

1.3. The Ambition loops tool

The paper develops a tool to support a collective discussion about the future of the teaching profession: Ambition loops. Adapting the definition by Metzger et al. (2018^[16]), Ambition loops are a combination of bold action statements that can be used with teachers and other stakeholder partners to create a set of positive feedback loops that reinforce each other for the purpose of transforming practice and policy over the medium term. The Ambition loops tool forms the basis for a multi-stakeholder collective dialogue.

The paper draws on methodology developed to bring together partners from across society, including links with other professions, that can support the professional work of teachers to add prosperity to the lives of children, young people and communities. We present a set of ambition loop statements in support of new professionalism and the future of teaching. They are informed by research on best and next-practice and are framed by a series of "What if...?" statements. Creating shared ambitions can frame forward-looking discussions and can be used to generate a set of collective, preferred future scenarios to impact the future and the present. We describe how the Ambition loops tool, with its statements from research and practice, can provide the "steppingstones" toward a discussion about future pathways by identifying points of consensus and tension.

1.4. Outline of the paper

Section 2 of the paper examines the question, "why develop an ambitions loops tool?" This includes exploring the value of utilising forward-looking approaches. This section outlines benefits that can be gained from creating space to explore uncertain futures as well as describing how a two-path approach to policy planning can support shorter- and longer-term thinking.

Section 3 connects stakeholder mapping with the overall research question, “what systematic connections should we have around schools?” This section outlines how the stakeholder mapping has been organised with the framework of the Ambitions Loops tool.

Sections 4 to 7 provide details for the Ambition loops tool. It is intended that all three levels of the Ambition loops tool (Ambition loop principles, Ambition loops, and Statements of ambition) will be of relevance for different purposes. Sections 4 to 7 describe ambition statements that have been developed using evidence from research and practice for new professionalism and the future of teaching. As well as a set of principles, Ambition loops are distilled for the school-community, education and broader societal sectors. Each ambition loop includes a short description for each Ambition loop connected to research and practice.

Section 8 outlines how the Ambitions Loops tool can be used to develop preferred scenarios for the future. This section also describes an example scenario generated using the Ambition loops tool.

The annexes contain Statements of ambition specific to each particular area within the education sector (Annex A) and broader societal sector (Annex B). For example, Statements of ambition for each area that comprises the Education sector (early childhood education and care (ECEC), vocational education and training (VET), higher education including teacher education) are listed separately in Annex A.

In this paper, we use the term “parents” and “families” as interchangeable terms to identify the closest adults in the lives of children and young people that include “caregivers” and “guardians”. We also use the terms “stakeholders” and “partners” as interchangeable to describe groups who can support the work of teachers and learners.

2. Why develop an Ambition loops tool?

This paper develops and presents an Ambition loops tool. The rationale for this is twofold: there is value in creating space for reflecting on the future; there is value in connecting teachers with other professionals.

2.1. The value of forward-looking approaches

There is value in utilising forward-looking approaches during turbulent times. Forward-looking approaches provide agency to consider the futures we would like to create which can subsequently influence the present-day decisions we make.

Strategic thinking that is forward-looking adds the concept of foresight (OECD, 2021^[17]) to more traditional approaches of exploring insights and using hindsight. Foresight approaches, such as anticipation (Facer and Sriprakash, 2021^[18]; Amsler and Facer, 2017^[19]), do not predict the future (Amsler and Facer, 2017^[19]; Holfelder, 2019^[20]; OECD, 2021^[17]) but provide a way to examine possible futures that can impact on the near and distant futures (Holfelder, 2019^[20]). Foresight can focus on “what if...” (Gümüşay and Reinecke, 2022^[21]) as a way of looking at preferred (Hsu, 2020^[22]) and possible futures (Cork and Horsfall, 2019^[23]). Forward-looking approaches show how futures are “shapeable” (Holfelder, 2019, p. 943^[20]) at all levels and in ways that “improve the quality of knowledge and hence the precision of inferential entailments” (Fuller, 2017, p. 49^[24]) to create positive, sustainable futures.

The International Summit on the Teaching Profession (OECD; Education International; Ministry of Education and Vocational Training of Spain, 2022^[25]) discussed the need to

move from “leadership for reform and improvement to professional leadership for anticipation and uncertainty”, including valuing networked, multi-level learning and the importance of the local. One of the policy pointers from OECD *Education Policy Outlook 2022*, advises that “Education systems need to strengthen their skills anticipation capacity” (OECD, 2022, p. 32_[26]). Ambition loops provide a way for all levels of leadership to explore anticipation as a mindset approach to engaging with an uncertain future by focusing on next-practice to frame forward-looking dialogue.

Box 2.1 describes a process in Finland that focused on anticipating future needs in Teacher Education. Finland is known for its highly educated teacher workforce (Lavonen et al., 2020_[27]; Lavonen, 2018_[28]). Finnish teachers are required to have a master’s degree (OECD, 2022_[29]) and there is a focus on research within the teaching profession. Student demand exceeds the supply of teacher education opportunities in Finland. Additionally, the Finnish education system provides teachers with a large degree of autonomy and local contexts can easily be addressed (Lavonen, 2018_[28]; Lavonen et al., 2020_[27]). From a policy perspective, the Finnish Teacher Education Forum demonstrates a collaborative, evidence-based process focused on anticipating teacher needs to support achievement of system goals in the context of the 2020s. One tangible result of the forum and its work has been the revision of the Teacher Education Development Programme for 2022-2026 (Finland Ministry of Education and Culture, 2022_[30]).

Box 2.1. Finnish Teacher Education Forum

The Finnish education system is known for its high student outcomes in achievement in international comparative assessments such as the Programme for International Student Assessment (PISA). However, PISA and Teaching and Learning International Survey (TALIS) survey results from 2013 and 2014 respectively, as well as national-level monitoring reports, demonstrated several challenges. Many of these challenges were grounded in changes observed in the needs of learners, school composition and technological advancements. A number of these can be attributed to global trends.

In response, the Ministry of Education and Culture (MEC) initiated the Finnish Teacher Education Forum, grounded in research methodology (Lavonen et al., 2020_[27]; Lavonen, 2018_[28]). The main goal of this forum was to find consensus on professional teachers’ competences and identify key actions for the future. A review of literature on teachers and teacher education (Husu and Toom, 2016_[31]) highlighted several issues, which were addressed during the forum meetings. To be able to gather views from a broad range of teacher educators and stakeholders, the forum organised a national web-based brainstorming session on the revision of teacher education. The forum also invited about 100 experts from universities, the ministry, teacher unions, student unions and municipal unions to attend nationwide and local meetings, as well as several thematic group meetings. An executive committee of ten experts from the ministry, universities and stakeholder organisations monitored the process, discussed outcomes, and mirrored outcomes to literature and best practices that had been analysed prior to the meetings.

These meetings supported the collaborative efforts to meet current and possible future challenges and review the aims for teacher education. The process facilitated the drafting of a development programme for teachers, which highlighted three broadly shared strategic competence aims, as well as six concrete strategic guidelines to direct further development of teacher education and pilot projects. This was included into the

drafting of the Development Programme for Teachers' Pre-, Introductory and In-Service Education (Finland Ministry of Education and Culture, 2016_[32]).

Between 2017 and 2021, 45 collaborative and networking pilot projects were financed by the MEC with an allocation of 27 million euros. The call for proposals for pilot projects emphasised the aims and actions introduced in the development programme. It highlighted collaboration between pre- and in-service teacher education, collaboration with universities and schools, and the research-based orientation of the projects.

The projects worked through a number of challenges. The level of collaboration that is feasible in a project on a national scale must be taken into consideration. Voluntary participation could lead to not all stakeholders participating – broad consensus on the outcome might therefore not always be reached. Also, once strategic competence aims have been defined, creating a clear plan for supporting achievement can be challenging.

Findings of the Teacher Education Forum showed that more collaboration culture and networks would be needed in the future between all partners involved in education in Finland. The forum set-up was considered an example of this already. It was a way to emphasise the collaborative nature of the development of teacher education, including anticipating future needs. Other findings focused on a holistic view on teacher identity, stretching from preschool to higher education and the importance of having adequate leadership. While new areas of competence have come to national policy attention through the forum, traditional areas of teacher knowledge are still emphasised.

2.2. Cross-sectoral collaborations and partnerships as a powerful tool for teachers and schools

Collaborations, inside and outside the school, are important approaches during changing and uncertain times (Pino-Yancovic et al., 2022_[33]). From a governance perspective, Burns and Köster (2016_[34]) present the complexity of education systems, and the involvement in governance of many different stakeholders, including different levels of administration, ministries other than education, teachers, parents the media and students, among other. With multiple interactions among these stakeholders, negotiation and dialogue have become important governance mechanisms. A common response has been to increase school autonomy.

To address this complexity, schools should explore both the opportunity for collaborations at the individual professional level and partnerships at the organisational level (Nilsson Brodén, 2022_[15]). As Richard Elmore argues, “isolation is the enemy of improvement” (Elmore, 2004_[35]). Isolation limits effectiveness and can explain some of the challenges related to workforce turnover. Teachers no longer work alone without essential assistance, connections, and resources. Teachers already collaborate with each other through collaborative formations that include teacher teams and professional learning communities. Collaboration already occurs positively within the teaching profession (OECD, 2020_[2]; OECD, 2019_[36]; Simon and Johnson, 2015_[3]). The OECD Teaching and Learning International Survey (TALIS) shows that, although rarer, more interdependent or deeper forms of collaboration are linked to higher levels of teacher satisfaction (OECD, 2020_[2]).

At school level, partnerships are organised with other schools and stakeholder groups in order to thrive. To ensure the value of partnerships, it is important that collaborations are meaningful and lead to sustained, positive benefits. Thomas L. Friedman, author of *The World is Flat: A Brief History of the 21st Century* (Friedman, 2005_[37]), connects the ideas

of collaborations in uncertain times by using the term “complex adaptive coalitions” (Friedman and Manyika, 2019^[38]; OECD, 2022^[39]) to highlight the value of shared problem solving through meaningful relationships that can bring together a variety of perspectives to create new solutions.

Cross-sectoral collaboration will also provide benefits for teachers and students as new challenges require inclusion of multiple perspectives and shared involvement in developing solutions (Nilsson Brodén, 2022^[15]). Figure 2.1 highlights five principles that can be used to maximise the benefits of collaboration. Potential partners to support the work of teachers, and add to the prosperity for students and communities, include families, the broader educational sector and areas of broader society (see Figure 2.1).

Figure 2.1. Five guiding principles for cross-sector and interprofessional collaboration

1. The collaboration needs to be continuously warranted for everyone involved
2. Teachers and other stakeholders need to be involved in planning and developing the collaborative effort
3. Trust-building leadership is vital
4. Clarity facilitates collaboration
5. Good interprofessional and cross-sector collaboration needs to be learnt

Source: Nilsson Brodén, D. (2022^[15]), “Cross-sector and interprofessional collaborations: A powerful tool for the teaching profession?”, <https://doi.org/10.1787/7144c6ac-en>.

Two benefits of cross-sectoral collaboration are outlined in the remainder of this section: building trust and allowing navigating new paths.

2.2.1. A stakeholder or partnership approach builds trust and value for the teaching profession

A benefit noted in the research about quality stakeholder involvement within schools is the increase in trust between partners (Gordon and Louis, 2009^[40]). The strengthened relationships from partnership approaches can also have positive impacts on student learning outcomes (Schleicher, 2018^[41]; Gordon and Louis, 2009^[40]) as well as broader, more holistic benefits in areas such as health (Malmberg-Heimonen, Tøge and Akhtar, 2023^[42]) and broader participation within political and community processes (OECD, 2021^[43]; Smithers et al., 2018^[44]). Engagement with partners can lead to benefits from quality ideas exchange (Gordon and Louis, 2009^[40]) because of the strengthening of relationships through processes of collaboration.

Trust is a key aspect of professionalism (see Figure 2.1) which has even greater focus in new forms of professionalism, such as connective professionalism (Noordegraaf, 2020^[10]; Mezza, 2022^[9]). Analysis of teacher reports in the OECD and partner countries highlights the benefits of involving other stakeholders and giving schools and teachers a voice in policy debates (Box 2.2) (OECD, 2020^[2]).

Box 2.2. Building trust through stakeholder engagement

Bolster system leadership and enhance teachers' and school leaders' voices in the policy debate

TALIS 2018 (OECD, 2020, p. 51^[2]) reports on the importance of strengthening the voice of the teaching profession in development of policy:

Irrespective of the degree of school and teacher autonomy, the ability of schools to adapt their curriculum and instruction to the needs of local communities and students ultimately depends on the degree of school-parent and school-community engagement. Unfortunately, this level of engagement is not as widespread as it could be, on the part of both principals and parents. This is a missed opportunity, as TALIS regression analyses show a positive association between levels of stakeholder participation in school decisions and levels of instructional leadership...

... Another aspect of system leadership relates to the opportunities for teachers and school leaders to engage in and influence policy development and to enact leadership beyond the borders of their schools and communities. Policy makers could benefit from engaging more in genuine and sustained dialogue with the profession on education policy, as a way to build up trust over time.

Source: OECD (2020^[2]), *TALIS 2018 Results (Volume II): Teachers and School Leaders as Valued Professionals*, <https://doi.org/10.1787/19cf08df-en>.

Partnering with stakeholders can support valuing of teachers' work (Simon and Johnson, 2015^[3]) as a direct result of ongoing interactions at a local level which can contribute to respect for the profession within society as a result of the appreciation and trust that is developed. There are also benefits for developing trust in institutions (OECD, 2022^[45]) by supporting citizens to create positive change through existing governance structures.

2.2.2. A stakeholder approach supports transformation by valuing the diversity of thinking and helping address ethical questions

Ideas sought from multiple perspectives and partners are an important part of the process of developing a strategic response (Jordan, Kleinsasser and Roe, 2014^[46]; Southgate, Reynolds and Howley, 2013^[47]), including transformational thinking. Anticipating future challenges will lead to a spectrum of responses from within and across different stakeholder groups. One current example relates to different viewpoints about the possible use of social robots in classrooms (Smakman, Vogt and Konijn, 2021^[48]) where the authors identify seventeen moral values that might be considered as part of deciding about whether the idea should be used within a given context. Rather than viewing the involvement of multiple stakeholder views as a concern, future-focused approaches rely on the ideas from multiple voices (Southgate, Reynolds and Howley, 2013^[47]) to shape responses and provide greater confidence in the new actions that are developed (Jordan, Kleinsasser and Roe, 2014^[46]).

Engaging with multiple viewpoints includes opportunities to consider a problem from a distance to question assumptions and views which are not generally represented (Southgate, Reynolds and Howley, 2013^[47]). This can include consideration of equity needs, especially perspectives of groups whose viewpoint may not normally be heard. Topics such as the use of technology and Artificial Intelligence (AI) will benefit from stakeholder perspectives that explore new ideas through ethical and other lenses. Developing ideas that are informed

by different stakeholder perspectives can also build greater trust that can provide a willingness to try new ways and help draw on local expertise to contextualise ideas.

2.3. Creating space for examining uncertain futures while supporting immediate needs: a two-path policy making approach

One of the challenges for policy and practice is to strategically balance catering for immediate needs at the same time as engaging in longer term planning (Burns and Köster, 2016^[34]; Bryson, Crosby and Stone, 2015^[49]; Bingham and Burch, 2018^[50]). This requires the capacity to embrace a mindset of “policy ambidexterity” (Duncan, 1976^[51]; Bingham and Burch, 2018^[50]):

Refining current knowledge and competencies (described as “exploitation”) and experimenting with new knowledge and practices (described as “exploration”) have long been discussed in the organizational studies literature as two fundamentally different processes that can lead to organizational tension... exploration of new practices can be time-consuming, with uncertain results, but without it, an organization becomes stagnant. Thus, the pursuit of both exploitation of current competencies and the exploration of new practices – ambidexterity – is necessary and beneficial to organizational performance. (Bingham and Burch, 2018, pp. 406-407^[50])

Responding to the tension between shorter-term and longer-term planning can support sustainable improvement as people are able to separate ideas for change across varying time periods. This provides clarity to move between innovation and nurturing of current needs. Strategies to support this ambidexterity include creating time and space for exploration (Yang, Chou and Chiu, 2014^[52]; Bingham and Burch, 2018^[50]); utilising pilot approaches with use of data to identify successful and unsuccessful strategies and consider impact on outcomes; and developing colleagues who can support professional learning of other staff (Bingham and Burch, 2018^[50]).

Policy ambidexterity supports sustainable change by separating the focus on current practice and future changes to manage the work. This can improve issues such as burnout (Madigan and Kim, 2021^[5]; Gómez-Domínguez et al., 2022^[6]; Weißenfels, Klopp and Perels, 2022^[7]) by showing clear focus on current needs while opening up opportunity to explore longer-term future pathways.

In this paper, we argue that there are benefits of adopting a two-path approach to decision making that anticipates longer term change while supporting current needs. We categorise potential action under three categories (1) already a strength within an education system, (2) there is room for improvement on existing practices (short term planning), and (3) there is a need for transformation (long term planning).

From a school perspective, there is opportunity to create space for discussing key challenges and the future people want to create within their local context. This includes valuing the “micro-innovations” (International, 2022^[53]; Addae-Kyeremeh and Fox, 2018^[54]) that are created. Box 2.3 shares the reflections on an action research process that was created by a principal when he arrived at a new school. This set out to address longer term directions for the school and built confidence and trust, which supported shorter term decision making.

Box 2.3. A principal's reflections on a two-path planning process

In 2017 I was appointed to the position of principal in an Australian public school. The focus of my first few months as principal was to observe, listen and reflect. I spoke with many stakeholders, and I listened. Reflecting on those conversations, I was able to synthesise the information into some common themes which I shared with different stakeholder groups and asked, 'what if we could do something about addressing those shared concerns, issues and ideals?'

We developed a "reflect, review, analyse, action, planned and share" (RRAAPs) panel for our school context based on critical and evaluative thinking processes. It is an approach which acknowledges, respects, embraces, and celebrates a disciplined approach to evidence-based decision making. The RRAAPs panel process creates 'space' and authentic opportunities for people to discuss and document the future they aspire to using a four-quadrant approach.

A feature of the process is to identify and acknowledge 'tension' related to a topic - this step provides purpose and focus to the RRAAPs panel review. Another feature is to ensure clarity about the process which includes starting with a "suspend judgement" mental mode and then moving later in the process to one that makes "on-balance" judgements. Between meeting tasks also support deeper analysis and thinking by moving from (1) collecting evidence to (2) analysis of evidence and then (3) forming draft recommendations for possible action.

RRAAPs panel recommendations are actioned (only) by the school's leadership team, however, in my experience the recommendations from every panel were implemented because (a) each recommendation had the 'voice' of stakeholders, (b) each recommendation was based on evidence, and (c) any 'decision' made had undergone a robust, transparent, and collaborative process.

Whilst important short-term goals were achieved through this process the real value was found in the longer-term impact on school culture - cultural ideals such as trust, respect, fairness, well-being, and a sense of excitement were nurtured and sustained. My 'milestone' moment came when staff suggested that certain matters would benefit from us forming a 'RRAAPs' panel to address the concerns and to come up with solutions.

To summarise, the four quadrants are:

Quadrant 1 – Panel members are asked to suspend judgement. What are we reviewing and why, what are our existing practices, where will find evidence opportunities? What is working and what is not, what is the anticipated scope of this review, and are there any policy or compliance matters we need to consider in relation to this review?

Quadrant 2 - Suspension of judgement remains a critical guiding principle. Annotate and analyse the evidence available to the panel. What is the evidence, what is it telling us? Do we need to keep looking for more information?

Quadrant 3 – Panel discussion to move towards sharing thoughts, ideas, opinions - panel members are encouraged to make on-balance judgements, though it is important for the chairperson to be aware of and manage cognitive and confirmation bias.

Quadrant 4 – Panel focus shifts to planning and sharing. What are we going to recommend, what is our next action, what are our 'what if' questions and who do we need to share these findings and recommendations with?

Note: Original contribution by Brad Lewis (recently retired principal).

From a policy perspective, there is room to consider the value of a document that captures longer-term thinking. The format could be traditional with shorter term focuses or take a more innovative shape that emphasises preferred directions towards the longer-term future and shared principles to support transformation. The Ambition loops tool offers one potential way to help achieve the latter.

2.4. Ambition loops to support connections between teachers and partners

Ambition loops can be used as a repository for collective wisdom from research, practice, and policy to support forward-looking thinking, transformation of policy and creating next practice solutions.

Ambition loops (Dagnet et al., 2019^[55]; Metzger et al., 2018^[16]) were developed by Metzger et al. (2018^[16]) to present positive feedback loops which support connections between business and government leaders to work collaboratively towards solutions to complex problems such as climate change. In the climate example, bold policies by business leadership can combine with bold policies from government to “accelerate the pace and scale of innovation and investment in low-carbon solutions” (Metzger et al., 2018, p. i^[16]). Ambition loops recognise that “policies that add clarity and build confidence are critical to driving action” (Metzger et al., 2018, p. ii^[16]), including developing long-term strategies and identifying areas where policy objectives and stakeholder interests are mutually beneficial.

The use of Ambition loops can be viewed among other innovative processes that are being used to involve stakeholders or citizens in the development of policy responses to contemporary challenges. Examples include the *Convention Cityonne pour le Climat* established by the French government, using a diverse range of citizens to “learn about, debate and prepare draft laws on all issues relating to ways to combat climate change” (Convention Cityonne pour le Climat, 2019^[56]; OECD, 2022^[57]) and the Irish Citizens’ Assembly, which aimed to address socially divisive issues such as abortion and gender equality (OECD, 2022^[57]).

In the education context, the Finnish Teacher Education Forum was described in Box 2.1. Another example is the Irish BEACONS (Bringing Education Alive for our Communities On a National Scale) initiative (The Teaching Council Ireland, 2022^[58]). This is a positive example of supporting dialogue between teachers, parents, and students within a town to create commitments for joint action. The BEACONS processes at a local level support a ‘policy from the middle’ approach that informs broader policy development and seeks to refocus on the joy of learning, teaching and life in schools (Hyland, 2020^[59]). Ireland has also announced plans for a Citizen’s Assembly focused on the future of education, emphasising the involvement of student voice as a key feature of the process (O’Brien, 2022^[60]).

Scotland has an open consultation called “Let’s talk Scottish education” (Scottish government and Convention of Scottish Local Authorities, 2022^[61]) where it is seeking to engage with citizens and stakeholder groups to consider the future of education, including using in-person events, online events and social media to create a way for people to contribute.

The Netherlands has established a process for exploring the future of secondary vocational education, higher education and science which seeks to develop a vision for these forms of education and research for the year 2040. In making the case why this exploration is relevant it argues that:

The world is changing at lightning speed. The Netherlands is facing major challenges: climate change, the energy transition, international security, demographic and socio-cultural changes. How do these challenges affect secondary vocational education, higher education and science in our country? Are changes needed? If so, which ones? What are the options? (Toekomstvanonderwijsenwetenschap, 2022_[62])

The Netherlands example highlights the broader societal challenges that might require a response by education as well as highlighting the value placed on participatory approaches to develop ways forward.

In New Zealand, “Kōrero Mātauranga” took place from 2018-2019 and was a participative process that involved diverse stakeholders in a series of ongoing conversations related to specific topics of relevance to the Education Work Program. Over 43 000 people participated in the process and there was a specific focus on capturing voices that were not traditionally heard in discussions about the future of education (people with disabilities, young people, Māori communities, ethnic communities, Pacific communities). The feedback has been instrumental in designing a vision for the future of education over the next 30 years, and a number of historical reforms informed by the feedback are now well underway (New Zealand Ministry of Education, 2023_[63]).

We utilise the concept of Ambition loops to look at connections between teachers and partners to support the professional work of teachers and benefit the future of schooling for all stakeholders. We argue that articulating clear, bold policy and actions by partners can contribute to overcoming the challenges for achieving transformational change, such as the pull of previous experience of schooling by stakeholders.

In the next section, the Ambition loops concept is connected with a mapping of stakeholders to organise the framework for the Ambition loops tool.

3. Ambition loops for new professionalism and the future of teaching

The Ambition loops tool developed in this paper utilises a framework that describes ambitions across three sectors and at three levels (see Figure 3.3). The framework has been informed by a stakeholder mapping process.

3.1. Stakeholder mapping: What systematic supports should we have around schools?

Stakeholder mapping provides an important opportunity to consider the relationships that already exist, could exist, or could be reframed to benefit teachers’ work. We seek to examine the key question, “what systematic connections should we have around schools?” utilising Ambition loops and a stakeholder mapping process to identify positive and sustainable ways forward.

Stakeholder mapping seeks to identify the various partners who have interests in a common area of focus (Raum, 2018_[64]). Identifying stakeholder groups provides opportunities to consider multiple perspectives on a topic, policy or idea for change. This can lead to more effective development and implementation of ideas and overcome a common obstacle to

change when new ideas do not adequately consider the perspectives of different stakeholders (Raum, 2018_[64]). Stakeholder mapping can enhance equity and sustainability of ideas for change “because it provides a detailed understanding of who has a stake and why” (Raum, 2018, p. 172_[64]). In turn, this can support a fairer process by explicitly considering which groups can support the navigating of new paths.

Looking beyond the school opens the possibility to value and harness “collective wisdom” (Mulgan, 2018_[65]). We can seek support through the creation of “complex adaptive coalitions” (Friedman and Manyika, 2019_[38]; OECD, 2022_[39]) across stakeholders that contribute to “community resilience and propulsion” (Friedman and Manyika, 2019_[38]). For example, recognising the potential of families as a “powerhouse and energy of schooling” or commissioning problem-solving reports from young people to ensure they can contribute to directions that will impact their lives (OECD, 2022_[39]).

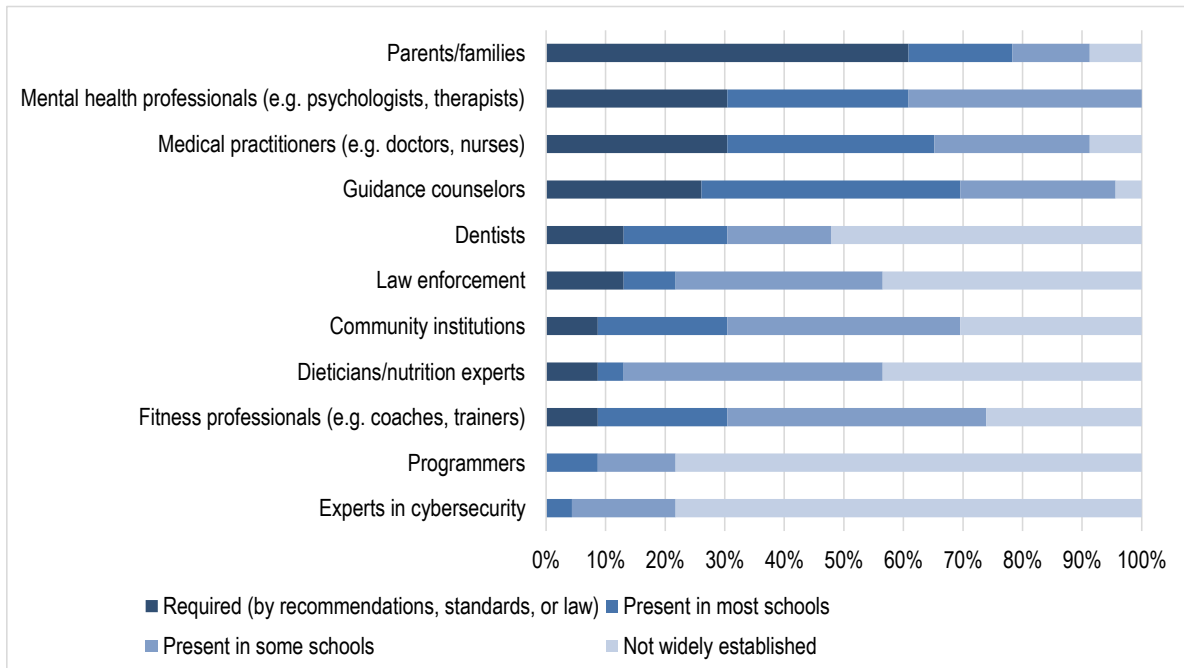
A stakeholder can be defined as “*any group or individual who can affect or is affected by the achievement of the organization’s objectives*” (Freeman, 2010_[66]). The importance of stakeholder recognition has grown across public sectors over the last 20 years (Ginige, Amaratunga and Haigh, 2018_[67]). Although schools have always recognised the role of parents and families as part of their work they are also expected to collaborate more broadly with other educational levels, the labour market and technology providers and to provide a range of social services that go beyond their traditional educational mission (Burns and Gottschalk, 2020_[68]).

Partnerships are an important focus in response to a world with added complexity and in rapid change. They can tap into rich resources in the community and bring learning closer to real-world contexts. Schleicher (2018, p. 17_[41]) argues that creating innovative partnerships is a matter of survival: “Isolation in a world of complex learning systems will seriously limit potential.”

The increasing focus on partnerships requires consideration of the impact on the role of teaching. This includes a growing focus on relational aspects of professionalism that complement core knowledge and teaching skills. Epstein (2018, p. 401_[69]) notes that a teaching professional understands that education is a shared responsibility of home, school and community and knows how to work effectively with students, family, community partners and colleagues.

While the growing focus of relational aspects of the teacher’s role over time have added to the complexity of their work, partnerships can also offer additional support for teachers’ work. This includes exploring the interconnections across stakeholder groups rather than in the past when institutions were more likely to consider each independent relationship with separate, singular stakeholder groups (Ginige, Amaratunga and Haigh, 2018_[67]; Malmberg-Heimonen, Tøge and Akhtar, 2023_[42]). Working with diverse partners is the educational reality in many schools within OECD countries (Figure 3.1).

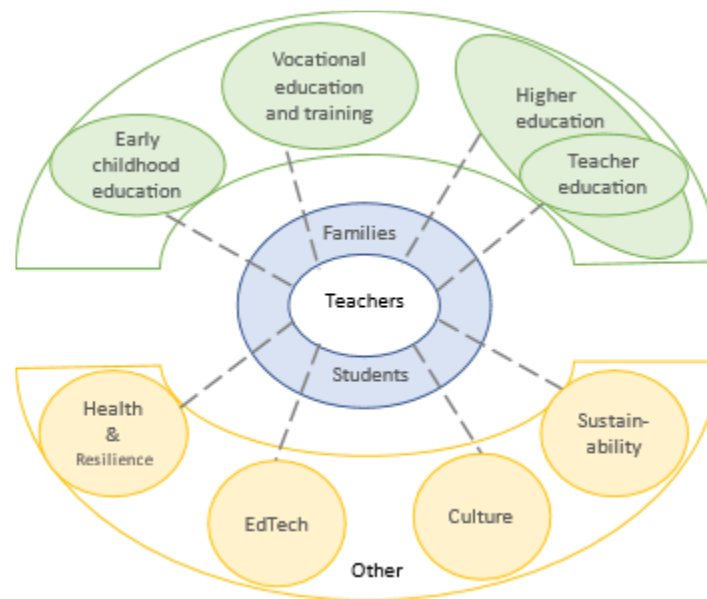
Figure 3.1. Partnerships between school and external actors



Source: Burns, T. and F. Gottschalk (eds.) (2020, p. 194₍₆₈₎) *Education in the Digital Age: Healthy and Happy Children*, <https://doi.org/10.1787/1209166a-en>.

Policy transformation should focus on both support for collaborative practice for teachers and partnerships at the school organisation level with community and other stakeholders. The Ambition loops tool organises potential collaboration partners for teachers and schools into three main groups or sectors: the school community, the education sector and broader society (Figure 3.2). Each of the three sectors include teachers, partnership group(s), school support and policy makers. We use the term “school support” to include school leaders or collective teacher leadership. Policy makers could be at a local or national level depending on the context.

Figure 3.2. Potential collaborations with partners, including other professionals, to support teachers' work



The first group (blue shading) refers to the school-community sector. This includes students and parents related to the setting of the school, typically Kindergarten to the end of formal schooling.

The second group (green shading) refers to the education sector. This includes education providers outside of formal schooling, including early childhood education and care (ECEC), vocational education and training (VET) and higher education. Within higher education there is also a specific relationship with teacher education. It is worth noting the diversity of the ECEC offer across systems, which in itself is of interest when considering the potential value of collaborations and professional relationships for teachers.

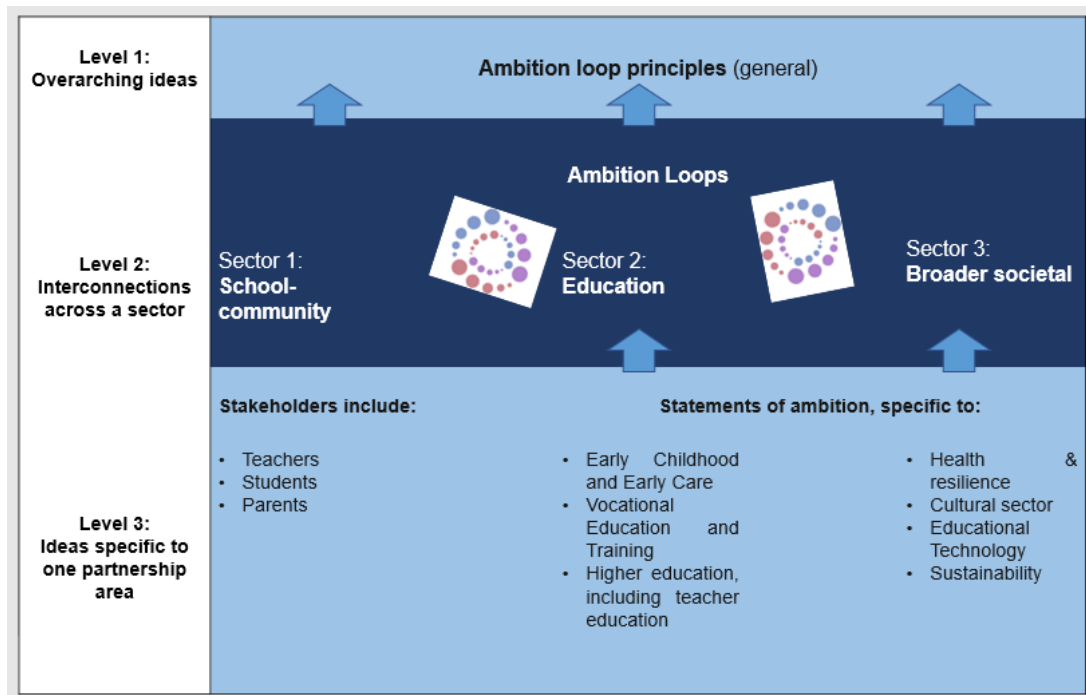
The third group (yellow shading) refers to the broader societal sector. The current iteration of the Ambition loops framework looks closely at four areas that are (a) health and resilience, (b) education technology (Ed Tech), (c) culture, and (d) sustainability. These areas are in some way connected to education and its goals. In most countries these sectors are already collaborating in different ways with the education sector. It is intended that these four areas can be added to over time. The ideas that are common to all four areas are also likely to be applicable to other areas within the broader societal sector.

3.2. Organising the stakeholder mapping within a framework of ambitions

As well as being organised into three sectors, based on the stakeholder mapping, the Ambition loops tool also contains a framework of three levels to describe ambitions that are general in nature (principles), describe common ideas at a sector level (Ambition loops), or are specific to one partnership area (Statements of ambition).

Figure 3.3. The Ambition loops tool framework

Three levels across three sectors



In Figure 3.3, the level of “Ambition loop principles” (see Section 4) is the most generalised of the three levels. The Ambition loop principles have been distilled from the more specific descriptions of ambition in the levels below. The Ambition loop principles represent a set of overarching ideas that can provide guidance for more detailed conversations.

In Figure 3.3, the level of “Ambition loops” covers the school-community sector, educational sector, and the broader societal sectors (see Sections 5, 6 and 7). The Ambition loops draw together the interconnections across each of the three sectors that make up cross-sectoral collaboration for the work of teachers:

1. School community (teachers, students and parents).
2. Education (early childhood education and care, vocational education and training, higher education including teacher education).
3. Broader society (based on examples of specific areas that are relevant to the work of teachers and schools).

The level referred to as “Statements of ambition” (see Annex A and Annex B) provide the most specific details for one partnership group within a sector (for example, higher education or culture). The Statements of ambition will be of relevance for those wishing to explore cross-sectoral relationships and collaborations within one specific area.

Short descriptions are provided for each statement to summarise the research.

4. Ambition loop principles

Eight “Ambition loop principles” have been distilled from the more specific descriptions of ambition in the lower levels of the Ambition loops tool framework. The principles describe ways of thinking about transforming collaborations towards benefits for teachers’ work, prosperity for students and communities as well as for other professionals.

Principle one: Recognise the value of interactions with partners

New forms of professionalism such as “connective professionalism” (Noordegraaf, 2020_[10]) focus on relational aspects where “there is an opportunity for a more interdependent, process-centred and networked version of professionalism to thrive” (Mezza, 2022, p. 14_[9]). It is essential that teachers and other stakeholders are involved in planning and developing the collaborative effort (OECD, 2020_[2]; Nilsson Brodén, 2022_[15]). It is also important that collaboration needs are continuously reviewed to ensure it is warranted for everyone involved (Nilsson Brodén, 2022_[15]).

The pandemic and the capacity for working arrangements for many professionals, such as teleworking, has facilitated a move to de-urbanisation (OECD, 2022_[57]) and greater opportunity for communities, including schools, to access local expertise in areas of interest. This change, along with technology access, exemplifies “the twin acceleration of globalising and localising forces” (OECD, 2022, p. 74_[57]) which can result in greater access to expertise within a community and beyond. Box 4.1 shares how institutions are also becoming more outward looking, particularly to support community goals.

Box 4.1. Learning from other sectors – “Fourth generation” institutions

Forward-looking literature on universities, museums and galleries describes the evolution of some towards becoming a fourth-generation institution. The concept of a fourth-generation institution is connected to ideas of the knowledge economy (Asgari, Khorsandi Taskoh and Ghiasi Nodooshan, 2021_[70]), innovation (Pedretti and Navas Iannini, 2020_[71]; Asgari, Khorsandi Taskoh and Ghiasi Nodooshan, 2021_[70]) and interdependence of institutions with their local contexts and beyond (Asgari, Khorsandi Taskoh and Ghiasi Nodooshan, 2021_[70]) that embrace broader community-focused goals (Pedretti and Navas Iannini, 2020_[71]). As well as supporting local contexts and innovation, these broader goals respond to larger societal challenges such as sustainability, technological change, health crises and changing political discourses.

Within the context of fourth generation science museums Pedretti and Navas Iannini (2020, p. 701_[71]) ask three questions for institutions to reflect on, “‘who are we’, ‘who do we serve’ and ‘how do we serve’?”. The authors also offer six defining drivers which fourth-generation institutions should focus on:

- embrace change and transformation
- promote productive struggle which allows for exploring of problematic topics rather than simply providing conclusions
- develop allyship which can support approaches that promote equity, inclusion and diversity rather than excluding
- foster empathy
- support epistemic democracy

- act as a hybrid third space (Pedretti and Navas Iannini, 2020, p. 701_[711]).

Fourth-generation institutions should also be considered as part of an innovation ecosystem (Asgari, Khorsandi Taskoh and Ghiasi Nodooshan, 2021_[70]). This requires policy making that expands beyond independent institutional thinking (Asgari, Khorsandi Taskoh and Ghiasi Nodooshan, 2021_[70]) to focus on more interdependent and cross-sectoral collaboration (Mezza, 2022_[9]; Nilsson Brodén, 2022_[15]).

Principle two: Create space at all levels to reflect on the future people want to build together

Ideas sought from multiple perspectives and stakeholders are an important part of the process of developing a strategic response to new challenges or for transformational change. Anticipation of future-first challenges, such as the possible use of social robots in classrooms (Smakman, Vogt and Konijn, 2021_[48]), will lead to a spectrum of responses from within and across stakeholders. Future focused approaches benefit from multiple voices (Southgate, Reynolds and Howley, 2013_[47]; Southgate, 2020_[72]) to shape responses that feature greater confidence in their resilience (Jordan, Kleinsasser and Roe, 2014_[46]).

Principle three: Support the role of “boundary crossers” and “bridge builders” to enhance partnerships

The role of boundary crossers (Ko et al., 2020_[73]; Harris, Azorín and Jones, 2021_[74]; Mujtaba et al., 2018_[75]; White, 2019_[76]) and bridge builders (DeMatthews, 2018_[77]; Harris, Azorín and Jones, 2021_[74]; Gordon and Louis, 2009_[40]), both formal and informal, are valued for the benefits they create from cross-sectoral partnerships. These professional attributes and roles play an important role to connect groups who might otherwise be working in parallel.

Principle four: Focus on long-term partnerships

Long-term partnerships can remain vibrant by focusing on current needs and the context of the community (Mockler, 2013_[78]; Mezza, 2022_[9]; Bain et al., 2022_[79]). This can support trust-building (Nilsson Brodén, 2022_[15]), achievement of specific collaborative goals, enhance the general culture, and provide resilience during times of crisis (Anderson and Weiner, 2023_[80]).

Principle five: Avoid hierarchical relationships when working collaboratively with colleagues and partners

Valuing the different roles of actors supports the development of meaningful change (Mezza, 2022_[9]; Bain et al., 2022_[79]; Mockler, 2020_[81]). Power within relations, even mandating collaboration, can impact on the levels of trust within a group (Aunger et al., 2021_[82]).

Principle six: Develop collective action for specific and complex problems

Commitment and skills are required to support work across organisational boundaries to develop solution to complex problems (Mezza, 2022_[9]). A recognition that “good interprofessional and cross-sector collaboration needs to be learnt” (Nilsson Brodén, 2022_[15]) will support the quality of action. Box 4.2 describes the role that institutions can play as “anchor institutions” to provide resources to navigate complexity.

Box 4.2. Learning from other sectors – “Anchor institutions”

“Anchor institutions” provide foundational support to connect different parts of a community to achieve social benefits. A key feature of an anchor institute is the development of a long term relationship (Halsey, 2018_[83]; Nilsson Brodén, 2022_[15]) that is centred within a local context to support holistic and multi-purpose goals (Halsey, 2022_[84]).

In a provocatively titled article, “Don’t expect schools to do all the heavy lifting to close the education divide...”, Professor John Halsey (2022_[84]) argues that students spend most of their time on the other side of the school fence and that there is a need to connect with community capacity building to support closing equity gaps, such as from living in more isolated communities. Professor Halsey argues that there is opportunity for schools to be one of the anchor institutions in a community that can work together with community to create positive change. He defines an anchor institute in his report:

Anchor organisations are what their name implies—something solid and grounded, ‘here for the long haul’ with sufficient presence, respect, and openness to working in partnership with others to grow and sustain worthwhile futures for individuals and communities (Halsey, 2018, p. 50_[83]).

Schools are among possible institutes that could function within communities as an anchor institute for the benefit of all.

Other anchor institutions could include universities, museums, and galleries. These other anchor institutions can also offer benefits from ongoing, long-term partnerships (Nilsson Brodén, 2022_[15]) that support the work of teachers and learners. Anchor institutions can connect with other institutions, as well as directly with community, in ways that create strengths through weaving supports and a commitment to fostering a common good.

Principle seven: Clarify goals and opportunities for each partner group as well as collective goals

Clarity is an important element (Malmberg-Heimonen, Tøge and Akhtar, 2023_[42]; Nilsson Brodén, 2022_[15]) for any successful partnership. Cross-sectoral partnerships are likely to be strengthened if there are clear focuses of interest for each stakeholder, along with common benefits (Raum, 2018_[64]). The focus on multiple goals should seek interconnections to refine directions and avoid diluting the role of teachers or creating overlap with other professionals (Burns and Gottschalk, 2020_[68]). One opportunity that schools, or education systems, could consider is developing a micro-credential (OECD, 2023_[85]) to recognise skills of those participating in a partnership. For example, this could include recognising the skills from involvement by community members and teachers that might contribute to further educational or professional progression, including benefits within equity groups.

Principle eight: Create space for transformation to take hold as part of aligning ideas (policy) with action (practice)

Space for transformation can involve identifying old practices that can be “abandoned” (Drucker, 2007_[86]). Unlearning can support creation of space for transformation when time or resources are added to what is necessary for the purposes of exploring new ways (Yang, Chou and Chiu, 2014_[52]). A focus on creating space for transformation should seek to align policy and practice to deepen the impact of new paths that are created.

5. Ambition loops for the school-community sector

The partners within the school-community comprise:

- teachers
- students
- parents, caregivers, families
- school support
- policy makers.

The Ambition loops for the school-community sector are grouped below using some themes which draw together interconnections between the Ambition loops. The themes are, “What if...”

- ... we value schools as a physical place for interactions within the community for learning?
- ... we reframe the roles of teachers and learners within a broader community of expertise?
- ... we unlock student voice and involvement in decision making?
- ... we value that all adults in the school community play a role in caring for children and young people?
- ... we create space to think collectively about the future and develop new ideas?

Each of the Ambition loops includes a short description, based on research and practice. Some examples are also provided to further illustrate the possibilities and how they can be used to create clarity and confidence for longer- or shorter-term action.

5.1. What if... we value schools as a physical place for interactions within the community for learning?

Whilst some scenarios of education describe the possible demise of school-based learning (OECD, 2020_[87]), such as through the “power of the machine” (OECD, 2020, p. 52_[87]), others argue that the physical presence of schools within a community is even more important in today’s world (Parry, 2022_[88]; Tesar, 2021_[89]). The COVID-19 pandemic has shown the value of interactions and social experience from on-site learning (Parry, 2022_[88]; Tesar, 2021_[89]) as well as the potential of technology to benefit teaching and learning (OECD, 2023_[8]). These changes are exemplified in the idea of “the twin acceleration of globalising and localising forces” (OECD, 2022, p. 74_[57]) which could be harnessed in more deliberate ways in the future to support the work of teachers and schools.

The physical place of a school within a community can address the needs of local contexts (Parry, 2022_[88]). This includes the important role of schools as an anchor institution (Halsey, 2018_[83]) (see Box 4.2) in the local community that can bring together people, and the transformative role that teachers can play to enrich connections between formal and informal learning (Parry, 2022_[88]; Day, 2002_[14]). Changing working arrangements for some adults, such as teleworking, has facilitated a move to de-urbanisation (OECD, 2022_[57]) and the potential to increase the availability of people to contribute to their local communities as they may spend less time in commuting.

Physical space can also bring together family and professionals who are in the lives of children and young people in ways that can foster the recognition that all adults play a role in caring for children and young people (J. Epstein, personal communication, 2022).

By working together adults can enhance the lives of children and young people in greater ways than working separately (Iyengar, 2021_[11]).

Three Ambition loops are outlined related to valuing schools as a physical place for interactions within the community for learning.

Ambition Loop: Schools identify and bring external experts into schools, valuing that other professionals working within their community can help empower learners and improve learning outcomes

The development of flexible and non-linear approaches (Iyengar, 2021_[11]) can harness the professional expertise of their families and communities to support learning as well as contribute to the building of communities. This could include utilising the expertise within the community directly or their work and community networks. New ways of rethinking community participation can both harness and develop social capital within communities to support with formal learning in schools as well as through informal learning approaches (Iyengar, 2021_[11]).

Ambition Loop: Policy makers develop mechanisms to harness the creative responses (or micro-innovations) that are generated within schools as a resource for the educational system

As society responds to a changing world, schools can be creative spaces that continuously adapt to challenges and opportunities. There is potential to capture these “micro-innovations” (International, 2022, p. 9_[53]) that can inform directions forward for education systems. “Micro-innovations” can provide evidence for school leaders, inform academic research and add to the overall “intelligence” (Addae-Kyeremeh and Fox, 2018, p. 55_[54]) of an educational system that seeks to bring together a broad range of evidence from practice, policy and research.

Ambition Loop: The school community places central value on learning at school, recognising the value of in-person social interactions and experiences that this provides learners

The reactions of societies to the COVID-19 pandemic showed the value of interactions and social experience from on-site learning (Parry, 2022_[88]). On-site school has benefits for student well-being and mental health (Hoover and Bostic, 2021_[90]) and learning (Iyengar, 2021_[11]). There is also value in being able to address the needs of local contexts (OECD, 2022_[57]; Parry, 2022_[88]).

5.2. What if... we reframe the roles of teachers and learners within a broader community of expertise?

Forward-looking thinking will benefit from clarifying the role of teacher and learner through the lens of organisational ambidexterity (Bingham and Burch, 2018_[50]). This can reduce risks for diffusion of roles when new ideas are just overlapped with old ideas, creating tensions and duplication of effort. The role of the teacher is discussed in this section and the role of learner in section 5.3.

Autonomy is a key element of any profession (Mezza, 2022_[9]). In education, this is sometimes referred to as teacher leadership (Grice, 2019_[91]) and is a specific element of professionalism that could be fostered to enhance Teacher Professional Identity (Suarez and McGrath, 2022_[12]). It has potential benefits for teacher professional satisfaction which can contribute to the professional status of teaching. This can be developed by examining the “discretionary authority” (Baker and Milner, 2016_[92]) available to a teacher, including decisions about both “how” and “what” questions related to teaching.

The clarification of the forward-looking role of teacher and learner would benefit from collaboration with stakeholders, supported by researchers and policy makers to ensure alignment (Bingham and Burch, 2018_[50]) between teaching, learning and other parts of the education system.

Six Ambition loops are outlined related to reframing the roles of teachers and learners within a broader community of expertise.

Ambition Loop: Teachers engage families as partners in improving student outcomes and building trust in the profession, parents value and trust teachers alike

Learning and teaching needs to be embedded in larger ecologies of relationships with potential gains for students, including achievement (Pushor and Amendt, 2018_[93]; Epstein, 2018_[69]; Ryan, 2021_[94]) that also build trust (Penttinen, Pakarinen and Lerkkanen, 2020_[95]). Working with families and community resources (DeMatthews, 2018_[77]; Masson, Antony-Newman and Antony-Newman, 2022_[96]) is similar to other professionals, such as doctors, who now engage their patients as more knowledgeable partners in complex health decisions, compared with in the past (Noordegraaf, 2020_[10]).

Ambition Loop: Teachers experiment with new ways of teaching that can positively reshape the role of the teacher (and learner) with a focus on purposes of education to meet contemporary needs

Ongoing dialogue with partners that strengthen relationships can support the clarification of the role of teacher and learner (OECD, 2019_[97]) by creating confidence in the new directions being explored. Experimentation could include consideration for the implications of enhanced student voice in the learning process (Bron, Emerson and Kákonyi, 2018_[98]; Charteris and Smardon, 2019_[99]) and other childhood focuses in today's world (Burns and Gottschalk, 2020_[68]).

Ambition Loop: Teachers exercise professional autonomy to develop teaching and learning that is relevant and meaningful to their students

There is scope to consider ways to enhance autonomy (teacher leadership) in teaching (Grice, 2019_[91]; Mezza, 2022_[9]) to benefit authentic and meaningful learning options for students. Enhanced pedagogical leadership (Grice, 2019_[91]), an area specific to teachers' professional work, could be supported by creating space within curriculum structures to allow teachers to lead. This includes examining the "discretionary authority" (Baker and Milner, 2016_[92]) available to teachers.

Ambition Loop: Students have the possibility to participate in community outreach activities where they can experience working collaboratively and contribute to community outcomes

Students can undertake learning through approaches that focus on contributing to the community good and building of community capital (DeMatthews, 2018_[77]). As well as benefits for students and their learning, the growth in social capital within the community (DeMatthews, 2018_[77]; Iyengar, 2021_[11]) can strengthen relationships with teachers/ school and the community to benefit the learning culture.

Ambition Loop: Schools provide support to students who need assistance to become more autonomous in their own learning

An important consideration when examining ways to empower students is to not assume that all students are motivated to the same levels (Charteris and Smardon, 2019_[99]; Istance and Kools, 2013_[100]). Some students will need greater support to be able to make choices or contribute ideas about their learning to achieve inclusive student voice in learning (Charteris and Smardon, 2019_[99]).

Ambition Loop: Policy makers research and evaluate innovations against equity goals

Addressing inequalities across society remains a challenge (OECD, 2022_[39]). The role for education is to continue helping children and young people develop as learners, people, and citizens (OECD, 2022_[101]). Through an equity lens there is opportunity “to build more effective education systems, and leverage synergies with other policy fields so that education and training contribute to better and more equitable economic and labour market outcomes, greater social participation and better-functioning democracies” (OECD, 2022_[39]). A focus on equity as part of research, design and evaluation phases can also lead to innovation and transformation.

5.3. What if... we unlock student voice and involvement in decision making?

There are opportunities to develop pedagogies that place more responsibility on the learner and create space to positively reshape the role of the teacher with a focus on contemporary priorities. Unleashing learners aligns with 21st century skills (Bron, Emerson and Kákonyi, 2018_[98]) and acknowledges the changing place of students within their own learning:

Most importantly, the role of students in the education system is changing from participants in the classroom learning by listening to directions of teachers with emerging autonomy to active participants with both student agency and co-agency in particular with teacher agency, who also shape the classroom environments. (OECD, 2019, p. 13_[97])

This might involve pedagogical approaches such as dialogical methods, peer teaching and assessment for learning practices to empower students in their learning and as effective citizens (Burns and Gottschalk, 2020_[68]).

Students can also be actively involved in decision making within schools. Schools can also be a conduit to harness the voice of children and young people within wider society (OECD, 2022_[101]). Ensuring involvement of young people in all decision making can connect them with the process of creating change within democratic society (OECD, 2022_[101]; OECD, 2022_[102]) in ways that build trust in democracy and its institutions.

Three Ambition loops are outlined related to unlocking student voice and involvement in decision making.

Ambition Loop: Students have ample opportunities to unleash their passions, voice and choice in learning and they value these

Teachers can play an important role in empowering students as citizens and lifelong learners. Young people’s voices are growing in terms of recognition across society (OECD, 2022_[101]) at the same time concepts of professionalism are more focused on relational expertise (Noordegraaf, 2020_[10]; Mezza, 2022_[9]), as well as knowledge expertise (Ulferts, 2021_[103]).

Ambition loop: Students are actively involved in making decisions about their learning in schools

Learner choice in curriculum design, along with pedagogical empowerment of teachers, provides opportunity for developing learning that is relevant (Bron, Emerson and Kákonyi, 2018_[98]) and meaningful to students. It demonstrates that the relationship between teachers and students is fundamental to the success of schooling and can raise awareness about issues of disadvantage (Cook-Sather, 2020_[104]) by sharing insights into their lived experiences.

Ambition Loop: Policy makers involve children and young people actively in the development of policies about key issues such as the importance of education, mental health, and employment

The COVID-19 pandemic raised the importance of education, mental health and employment as key issues for young people (OECD, 2022_[101]). In general, there has been a decline in young people's satisfaction with democracy and their trust in government before and following the pandemic (OECD, 2022_[101]). Building trust in institutions is a way of reinforcing democracy (OECD, 2022_[102]) across societies.

5.4. What if... we value that all adults in the school community play a role in caring for children and young people?

A starting point for building adult partnerships would promote that all adults care about the children and young people that connect them (J. Epstein, personal communication, 2022). This provides a strong foundation (Darling-Hammond, 2000_[105]) to build trusting relationships between the adults who can contribute to the growth of a child or young person.

While there are many benefits from teacher-parent/guardian relationships (Simon and Johnson, 2015_[3]; Ryan, 2021_[94]) there are challenges and barriers which, if worked through, could unlock positive outcomes for students, teachers, families and communities. The empowerment of students and parents, along with the teacher professionalism movement (Gordon and Louis, 2009_[40]) can at times be at odds with each other (Burns and Gottschalk, 2020_[68]). Other challenges include social media which has increased "expectations for perfection" (Burns and Gottschalk, 2020, p. 206_[68]) around young people that can lead to increased advocacy of families on behalf of their child. This requires new ways to harmonise approaches both individually and collaboratively.

Eight Ambition loops are outlined related to valuing all adults in the school community playing a role in caring for children and young people.

Ambition Loop: Teacher capacity to work with families and other partners is an important feature of professionalism

Developing expectations and ways for teachers' collaboration with parents and other partners should be strengthened, starting in initial teacher education to support development of new approaches (Epstein, 2018_[69]; Perälä-Littunen and Böök, 2019_[106]). Teacher capacity to work with families and other partners is an important feature of professionalism (Perälä-Littunen and Böök, 2019_[106]; Epstein, 2018_[69]; Ryan, 2021_[94]) that did not exist in the same way when teacher work was seen as solitary and specialised work. Teacher learning must support working effectively with individual parents and developing an understanding about how the professionalism of teachers plays a role in creating a welcoming school (Epstein and Sheldon, 2023_[107]; Epstein, 2018_[69]; Ryan, 2021_[94]).

Box 5.1 describes some of the current challenges to strengthening the relationships between teachers and families.

Box 5.1. Some of the current challenges to strengthening the relationships between teachers and families

One challenge for strengthening the relationships between teachers and families relates to its relatively low priority for initial teacher education (ITE) and continuing professional learning (CPL). While there has been increased interest in promoting family-school partnerships within policy (Ryan, 2021_[94]; Gordon and Louis, 2009_[40]) the fidelity of implementation has often been viewed as limited (Ryan, 2021_[94]; Gordon and Louis, 2009_[40]). There has also been limited focus within initial teacher education programs (Froiland and Mark, 2021_[108]; Alanko, 2018_[109]; Ryan, 2021_[94]; Epstein, 2018_[69]) and school development priorities, despite evidence of its contribution to outcomes for students (Froiland and Mark, 2021_[108]; Ryan, 2021_[94]; Gordon and Louis, 2009_[40]) and support for families (Froiland and Mark, 2021_[108]; Ryan, 2021_[94]) and schools (Ryan, 2021_[94]; Gordon and Louis, 2009_[40]).

For teachers, addressing parent or guardian concerns was reported as a source of stress by a third of lower secondary teachers on average in the OECD Teaching and Learning International Survey (TALIS) 2018 (OECD, 2020_[2]). While teacher-parent/ guardian co-operation is a feature of Early Childhood Education and Care (ECEC) and early years of schooling (Moss, 2012_[110]), it is less of a priority in older years of schooling. For example, the TALIS 2018 results show a decline in interest for training activities on teacher-parent/guardian co-operation compared with TALIS 2013 (OECD, 2019_[111]).

For parents, some argue that family life has become more intense generally, including more interest in being involved in their children's (Gordon and Louis, 2009_[40]). As well as changes within families, the role of parents to support their child as part of their schooling has changed (OECD, 2022_[57]). This includes a paradox whereby parent engagement is becoming more intensive but with the aim of supporting young people to be self-regulated and to lead their own learning (Jeziarski and Wall, 2019_[112]). As part of the Programme for International Student Assessment (PISA) 2018 survey, nine OECD systems collected feedback from parents on some of the issues hindering their involvement in school-led activities. The most frequent barriers reported on average were inconvenient meeting times or not being able to get away from work (over 30% of students' parents reported this) (OECD, 2020_[2]).

Ambition Loop: Parents work in service to their children's hopes, dreams and learning by valuing the contribution they make to their own child's development

Valuing parent knowledge and efficacy provides a strengths-based approach which honours their role as parents (Pushor, 2015_[113]; Masson, Antony-Newman and Antony-Newman, 2022_[96]). Parents can share knowledge and advocacy of their child that can strengthen the connection between community and schools through a deepened understanding of local assets and culture. Some key questions include, "What do you know about your child that no-one else knows? What do you know about your child's learning that could complement teachers' knowledge?" (D. Pushor, personal communication, 2022).

Ambition Loop: Parents and families are given a place and voice in school-level innovations that transform schools locally and can inform change at the systems level

Families are important stakeholders for teachers to engage with as different contexts anticipate possible futures (Jordan, Kleinsasser and Roe, 2014_[46]). This will involve identifying issues for the future to explore, navigating new possibilities for innovation, and

consideration of ethical dilemmas related to choices about actions (Smakman, Vogt and Konijn, 2021_[48]).

Ambition Loop: Parents value the friendships and connections formed through the school that add to the life opportunities of children and young people

Connections between families can provide benefits to individual students (and their futures) as well as for families. It also develops the importance of the school as a place to foster community. Creating webs of connection is important for social inclusion and cohesion (Lawson and Veen, 2016_[114]; DeMatthews, 2018_[77]). Young people can benefit from guidance and insights available from other families within a community which “can be a powerful tool to shape children’s education” (Iyengar, 2021, p. 438_[111]).

Ambition Loop: Teachers and schools develop a pedagogy of walking alongside families by valuing the unique knowledge that families hold about their child

Schools support family engagement in learning that value the knowledge that families have about their own child’s learning (Pushor and Amendt, 2018_[93]; Pushor, 2015_[113]). This can both add value placed on working with families and be feasible in terms of teachers’ work.

A key challenge is to consider ways to unlock the benefits in a genuine way that accounts for the time pressures on teachers and families. Professor Debbie Pushor develops the concept of “A Pedagogy of Walking Alongside” (See Box 5.2) to demonstrate how the work of the adults (teachers and parents) can support the child by working together. It underlines parent engagement is more expansive than their engagement with the teacher or the school. It is their engagement in their child’s learning, inside and outside school.

Box 5.2. A Pedagogy of walking alongside

Parent engagement is the authentic and meaningful place and voice of parents in their children’s learning and development – everywhere and all of the time. Integral to this definition is an understanding of the complementary but distinct notions of education and schooling. When a child enters a family, they are held, rocked, cared for, sung, and read to, introduced to the world in a myriad of ways. Their education begins immediately and unfolds continuously. This birth to forever process of education is one of parents’ teaching and nurturing in all areas of life and learning – the physical, emotional, intellectual, and spiritual – and across personal, social, and cultural dimensions. In this process of education, parents work to realise the hopes and dreams for their child in life.

During their schooling years, children are in school about 20% of the time and out of school about 80% of the time. What these percentages make clear is the importance of both the learning, and the parent engagement in that learning, that happens in out of school times and places. It is an understanding of the significant place and voice of parents in their children’s teaching and learning that underpins a pedagogy of walking alongside. It turns upside down the notion that it is the role of parents to support the work of the school to one in which teachers see the important role that they play in supporting parents to realise their lifelong hopes and dreams for their child. In a pedagogy of walking alongside, teachers bring together their professional knowledge of teaching, learning, and children with parents’ knowledge of teaching, learning, and children, pooling their resources to support children’s academic achievement and attainment of other educational outcomes, in school and in life.

As an educator, to engage in a pedagogy of walking alongside is to accompany, to be with parents on their journey. Green and Christian (1998_[115]) wrote that the Chinese character for the word ‘listen’ contains five symbols that depict ear, eye, heart, and the

concepts of ‘you’ and ‘undivided attention’. To accompany parents, then, is to listen with undivided attention, using the senses of both ears and eyes and, at the same time, the engagement of one’s heart. It is to demonstrate, “I am with you”.

What might such a teacher’s pedagogy of walking alongside look like in practice? It might entail beginning a relationship with parents by asking them to share their knowledge of their child through a letter or video with stories and photos. It might include a home visit in which the teacher experiences and learns from the family’s “home culture” (Ramirez, personal communication, 2020). It could be a redesign of a typical meet the teacher night focused on the teacher or the curricula into a meet the family night in which families share artifacts and stories to introduce themselves. It might mean a shift towards a home and school learning conference that begins with parents sharing the learning they have observed and documented in their child that term in out of school times and places and then moves to the teacher’s added insights about school learning, resulting in a more holistic picture of the child’s growth and development. It could include the co-construction of an inquiry unit, where a question such as, “Where does math live in your home and in your culture?” brings the fabric of families’ lives into the classroom for exploration in relation to curriculum outcomes. The possibilities are endless once teachers realise that everything they do can be done more contextually, with greater representation of their learners, and with greater insights and impact, if they do it with parents rather than without them. When everyone benefits (Sheldon and Jung, 2018_[116]), why not walk alongside?

Note: Original contribution by Debbie Pushor (University of Saskatchewan).

Ambition Loop: Schools seek ways to strengthen connections with families, culture and assets within the local community

Schools appreciate the multiple cultural communities that can support student sense of belonging and belief in their capacity to improve (Darling-Hammond and Cook-Harvey, 2018_[117]; Masson, Antony-Newman and Antony-Newman, 2022_[96]). This recognises that families and communities provide assets for a learner and for the work of teachers (DeMatthews, 2018_[77]; Masson, Antony-Newman and Antony-Newman, 2022_[96]). Some challenges include circumstances which frame parent engagement within schooling through an idealised middle-class perspective that does not adequately consider a range of family circumstances (Jeziarski and Wall, 2019_[112]; Pushor and Amendt, 2018_[93]). Schools can also hold a negative perception about parents who are not involved in their child’s schooling (Gordon and Louis, 2009_[40]) without recognising other ways that families can engage with their child’s learning.

Ambition Loop: Schools reassess how to facilitate and improve parent participation in the learning process on an ongoing basis, including valuing a range of ways to engage

The benefits of reciprocity show that “successful schools depend on the resources and support of their communities, and schools at the centre of their communities are often the most successful” (Schleicher, 2018, p. 9_[41]). A greater availability of expertise might be possible due to changes in working arrangements and moves to sustainable urban living arrangements (OECD, 2022_[57]; Allam et al., 2021_[118]; Jeziarski and Wall, 2019_[112]). These community assets can be utilised to support the work of learners and teachers.

Ambition Loop: All school-community sector partners recognise that all adults play a role in caring for children and young people

An important starting point for partnerships in the school-community sector is articulating the intentions of all stakeholders to do the best for children and young people (J. Epstein,

personal communication, 2022). At school and at home, “supportive, responsive relationships with caring adults are foundational for healthy development and learning” (Darling-Hammond, 2000, p. 5_[105]).

5.5. What if... we create space to think collectively about the future and develop new ideas?

School organisation will be necessary to coordinate opportunities to benefit from interprofessional and cross-sectoral partnerships. These need to consider effective ways of collaborating to benefit from positive, sustainable partnerships (Nilsson Brodén, 2022_[15]). This re-organisation of working that strengthens opportunities to consider the future would benefit if it also occurred at Ministerial and ministry levels.

As well as organisational matters to create the space for collective and inclusive thinking about the future, deliberate approaches can strengthen how this is undertaken to realise the benefits:

We need to carefully think about what assumptions we have about the future, what ideas we should use, and what thinking should be implemented. The overall concern is, are we currently asking the right questions... considering the right directions, are our educational policies serving the present, or are we aiming at imagining the possible and potential futures. (Tesar, 2021, p. 3_[89])

These approaches can be informed by forward-looking ideas based on futures methodologies such as foresight (OECD, 2021_[17]; Tesar, 2021_[89]; Amsler and Facer, 2017_[19]).

Four Ambition loops are outlined related to creating space to think collectively about the future and develop new ideas.

Ambition Loop: When exploring new ideas, schools seek views from multiple partners to provide richer responses for forward thinking

Ideas sought from multiple perspectives (Jordan, Kleinsasser and Roe, 2014_[46]; Southgate, Reynolds and Howley, 2013_[47]) and stakeholders are an important part of developing a strategic response for transformational change. Future-focused approaches rely on the ideas from multiple voices (Jordan, Kleinsasser and Roe, 2014_[46]; Southgate, Reynolds and Howley, 2013_[47]) to shape responses and feature greater confidence in their resilience.

Ambition Loop: Policy makers promote and invest in leadership within schools to help them connect and implement partnerships with families and community

Policy makers can support school leaders through co-development of approaches that can guide the development of new processes from theory into practice (Gu, 2021_[119]; Epstein, 2021_[120]; Ryan, 2021_[94]) This includes researching impact through the lens of equity (Epstein, 2021_[120]) to ensure new approaches enhance inclusivity.

Ambition Loop: Policy makers establish partnerships among different ministries to promote key partnerships for schools

Policy makers can play an important role in establishing partnerships at the policy and Ministerial levels to promote key partnerships (Holroyd, 2022_[121]; Nilsson Brodén, 2022_[15]) with other Ministers and ministries. From an innovation perspective there is opportunity to bring together experts across fields to develop an idea (Holroyd, 2022_[121]). Cross-ministerial approaches can also benefit service delivery through use of common approaches.

For example, Box 5.3 describes the parliamentary Speaker's programme in New Zealand, highlighting the role of cross-sectoral collaborations between teachers, schools, ministries, and other institutions, such as Parliament. One of the benefits is the opportunity to utilise an outreach model where people engage with young people and communities in their space/ school, reinforcing a shared commitment and respect for the importance of making connections.

Box 5.3. The Speaker's Outreach programme, New Zealand

The Speaker's Outreach programme provides an example of using the school as an anchor institution that creates a place to connect other institutions with students and community within a known environment. It provides an opportunity to foster agency and engagement within democratic governance processes.

The Speaker's Outreach programme started in 2018 in South Auckland, New Zealand. Members of Parliament (MPs) from different political parties accompany the Speaker of the Parliament on day trips to various towns around the country. Making Parliament more accessible is a real focus for the Speaker, and the Outreach programme aims to do just that by taking it out to the people.

The groups have visited schools and community groups across New Zealand to bring Parliament to the people. The programme aims to make at least six visits per year and provides an opportunity for people around the country to meet MPs and learn about Parliament. During a visit to Westport, the former Speaker, the Right Honourable Trevor Mallard said "Communities are at the heart of our country and we want everybody in every community to know they have a voice at Parliament. Launching this outreach programme is a way to show people that Parliament belongs to them." The Speaker's Outreach programme is currently continuing under the Speaker Adrian Rurawhe since August 2022.

The day's programme usually begins with a school visit where there is a mock debate or Q&A that the Speaker and MPs participate in. Debate topics have included:

Whether there should be a wealth tax on any assets/income over \$1 million?

- Whether private sale of whitebait should be taxed?
- Whether single use plastics should be banned?
- Whether we should conserve water?
- Whether cell phones should be allowed at school?

Sometimes small group discussions take place, for example, to discuss increasing youth engagement with Parliament.

Lunch is often at the local tertiary institute or with a local community group. Locals can ask questions to MPs. Some of the questions have related to the roles in Parliament, how they got into their positions, interests of the politicians, etc.

In 2021, two outreaches into schools focused on working with young people to develop their understanding of select committee processes. A small group of members of Parliament and staff from the Parliament's Education team brought issues to be debated to the school, and students workshopped what made a good submission on these topics.

In addition to online visits, technology also allows participants to visit Parliament via the Parliament XR App, taking them on a virtual tour of Parliament wherever they are

in the country. Since 2021 education visits to Parliament have also been able to be conducted online via a zoom call using extended video footage in different spaces at Parliament.

More information New Zealand Parliament (2023^[122]), *Speaker's Outreach Programme*, <https://www.parliament.nz/en/visit-and-learn/speakers-outreach-programme/>.

New Zealand Ministry of Education (2023^[123]), *School Leavers' Toolkit for Teachers*, <https://sltk-resources.tki.org.nz/curriculum-resources/>.

Ambition Loop: All school-community partners create space to reflect on the future they want to build together

Creating space to reflect on collaborative views of the future has benefits for the present times as well (Gordon, 2020^[124]). We can choose to wait for the future to arrive or we can create space and develop approaches to shape the future we would like (Tesar, 2021^[89]; Holfelder, 2019^[20]; Fuller, 2017^[24]).

6. Ambition loops for the educational sector

The Ambition loops for the educational sector comprise:

- Early childhood education and care (ECEC).
- Vocational education and training (VET) and lifelong learning.
- Higher education, including teacher education.

As well as education sector stakeholders, the Ambition loops focus on ideas that are specific to teachers, school support and policy maker roles, as well as common to all groups. School support can relate to school leaders or collective teacher leadership.

The Ambition loops for the education sector are listed below using some themes which draw together interconnections between the Ambition loops. The themes are, “What if”...

- ... we think about "the learning journey", accompanying learners through formal education with links to informal learning and learning to learn?
- ...we form partnerships to strengthen teacher professional identity (TPI) throughout the career span?
- ...we support interdisciplinary learning and working as a core part of professionalism?

Each of the Ambition loops includes a short description, based on research and practice. Some examples are also provided to further illustrate the possibilities and how they can be used to create clarity and confidence for longer- or shorter-term action.

6.1. What if... we think about "the learning journey", accompanying learners through formal education with links to non-formal learning and learning to learn?

Connecting educators across all levels of formal education can support developing a cohesive approach that is focused on accompanying the learner journey. This approach provides a way to strengthen communication between educational professionals as well as identify mutual goals to support each other and collaborate (Bryson, Crosby and Stone, 2015^[49]). There are opportunities to be gained from exploring the use of a framework that

follows a child through all their transitions through formal education, from birth to formal ECEC, through compulsory education and for those who choose, through higher education and training (International Standard Classification of Education (ISCED) levels 0 to 8). This approach places focus on the learner over the learning structures and connects educational sector stakeholders in a way that embeds the importance of partnership as core work for all, whilst recognising the specialist aspects of each stage. It also recognises multiple options for the learning journey as a connecting focus for all.

At the same time as building a coherent and holistic approach across different developmental stages, there does need to be recognition of the distinctions between different stages of development for children and young people, as well as distinctions in the goals of educational institutions at various points of education (Bryson, Crosby and Stone, 2015^[49]). Successful partnerships also need to be warranted (Nilsson Brodén, 2022^[15]) with individual and mutual benefits for all stakeholders (Nilsson Brodén, 2022^[15]).

Technology has increased the prominence of non-formal learning (Mujtaba et al., 2018^[75]; Villalba-García, 2021^[125]) opportunities for learners. Rapid societal change has also placed importance on learning to learn as a lifelong learner (Munro, 2019^[13]; Day, 2002^[14]). Both trends provide opportunities to explore links with formal education.

Five Ambition loops are outlined related to "the learning journey" and accompanying learners through formal education with links to non-formal learning and learning to learn.

Ambition Loop: Teachers network with other professionals within the education community to support a child-focused approach to learning and teaching

A child-focused approach connects professionals around the strengths and needs of the child (OECD, 2017^[126]). This approach values the opportunity for professionals to share professional knowledge about individual students as well as their broader educational work (OECD, 2017^[126]).

Box 6.1 describes some of the research seeking to examine the benefits that can cumulate for a learner as they move through different stages of formal learning. This helps to illustrate the value of connecting the professional work of educators across the sector.

Box 6.1. Research examining the benefits that can cumulate for a learner as they move through different stages of formal learning

Research articles examining Preschool/ Kindergarten (PK) to end of post-school education often considers the benefits against university outcomes (Bain et al., 2022^[79]; Horn and Tandberg, 2018^[127]; Norton and Zoghi, 2020^[128]). Some research highlights the way the partnership can offer support to schools (Lawson, 2013^[129]), especially around improving equity outcomes for students and communities (Lawson, 2013^[129]) through the provision of extra assistance and targeted resources.

Other research, particularly focused on ECEC highlights the valuable possibilities to be gained from a 0-8 years old approach (National Research Council, 2015^[130]) that unifies professionals in the care and education sectors. This approach also allows for different ages when formal schooling commences and recognises the increasing enrolment rates of 3–5-year-olds in ECEC across the OECD (OECD, 2021^[43]). Research relating to the early years of development often points to the important role that ECEC can play in life outcomes for children (Van Huizen and Plantenga, 2018^[131]; OECD, 2022^[57]; OECD, 2021^[43]), including shorter and longer term educational outcomes (Van Huizen and Plantenga, 2018^[131]; OECD, 2021^[43]) and equity outcomes (Van Huizen and Plantenga, 2018^[131]; OECD, 2021^[43]). Positive outcomes are also found across broader indicators

in adulthood, including individual outcomes such as health, and societal benefits such as broader participation within political and community processes (OECD, 2021^[43]; Smithers et al., 2018^[44]). Smithers et al. (2018^[44]) calls for more interdisciplinary studies to examine the effects of early life on non-cognitive skills in a more strategic way.

In the same way that research examines the cumulative benefits across all stages of formal learning, there are opportunities for practice to benefit from developing deliberate connections and a more cohesive approach that focuses on accompanying the learner journey.

Ambition Loop: Policy makers value the role that teachers can play in providing a bridge to support a lifetime of formal and non-formal learning for children and young people

Policy makers can facilitate examining the opportunities and challenges for connecting formal learning and non-formal learning (Mujtaba et al., 2018^[75]; Villalba-García, 2021^[125]). This includes the role of teaching to develop lifelong learning skills (Munro, 2019^[13]; Day, 2002^[14]) and the impact of technology (OECD, 2022^[57]; Carraro and Trinder, 2021^[132]) to provide non-formal learning opportunities. An equity focus would explore the impact of non-formal learning opportunities on outcomes for equity groups (OECD, 2022^[57]).

Ambition Loop: Educational sector partners adopt a cohesive approach to support collaborations between organisations and accompany the learning journey

Research on a 0-8 years old approach (National Research Council, 2015^[130]) or a PK to end of post-school schooling (Bain et al., 2022^[79]; Horn and Tandberg, 2018^[127]) highlight the synergies that partnerships across the educational sector can provide, such as development of transversal skills (Norton and Zoghi, 2020^[128]; Heimbrock, 2023^[133]) and greater clarity about focuses at different development points to prepare for lifelong learning.

Ambition Loop: Educational sector partners develop common understandings of child development across learning transitions that deepen professional understanding and support quality collaborations

A common understanding between professionals can support quality collaborations (National Research Council, 2015^[130]; Bryson, Crosby and Stone, 2015^[49]), build a long term, shared vision (National Research Council, 2015^[130]; Bryson, Crosby and Stone, 2015^[49]) and strengthen connections to the child and family (National Research Council, 2015^[130]; OECD, 2021^[43]; Ryan, 2021^[94]). These feedback loops can create synergies for teachers and learners.

Ambition loop: Education sector partners value a collaborative approach between professionals to mediate any potential learning support gaps for students during their learning journey

Transitions should be seen as multi-directional and holistic (OECD, 2017^[126]). A collaborative approach between professionals across the various stages of development and learning can reduce gaps in support and meeting of needs for young people (National Research Council, 2015^[130]; OECD, 2022^[26]). There should be a focus on “easing transitions along learners’ personal pathways” (OECD, 2022, p. 9^[26]) by “strengthening connections in learners’ pathways (organising learners’ pathways coherently to facilitate transitions from one education level, programme or institution to another)” (OECD, 2022, pp. 9-10^[26]).

6.2. What if... we form partnerships to strengthen teacher professional identity (TPI) throughout the career span?

Another perspective to innovate support for teachers' development through education sector partnerships is to consider their needs through a career lifespan approach (Mezza, 2022_[9]). There are generally strong connections between schools and teacher education at university to support pre-service teachers and teachers as they transition into the profession. There may be further opportunity to consider ways to strengthen partnerships that focus on other parts of teacher's career span, including leadership. There is opportunity to co-construct professional support in ways that draw on shared strengths of partners (Oates and Bignell, 2022_[134]), including enhancing the use of evidence or knowledge base and bridging both sides of the theory-practice gap (Oates and Bignell, 2022_[134]; Ulferts, 2021_[103]).

Approaches to Continuing Professional Learning (CPL) that place Teacher Professional Identity (TPI) at the heart of supporting teachers can focus on their current work and ongoing development needs (Suarez and McGrath, 2022_[12]). Cross-sectoral partnerships across the educational sector can harness interprofessional expertise and interests. On the one hand, there is opportunity to support teachers' work. On the other hand, there is also opportunity to conduct research on topics of relevance to contemporary practice that values the lived experience of teachers. Research and development can expand approaches, particularly with a focus on reducing theory-practice gaps (Resch, Schritteser and Knapp, 2022_[135]).

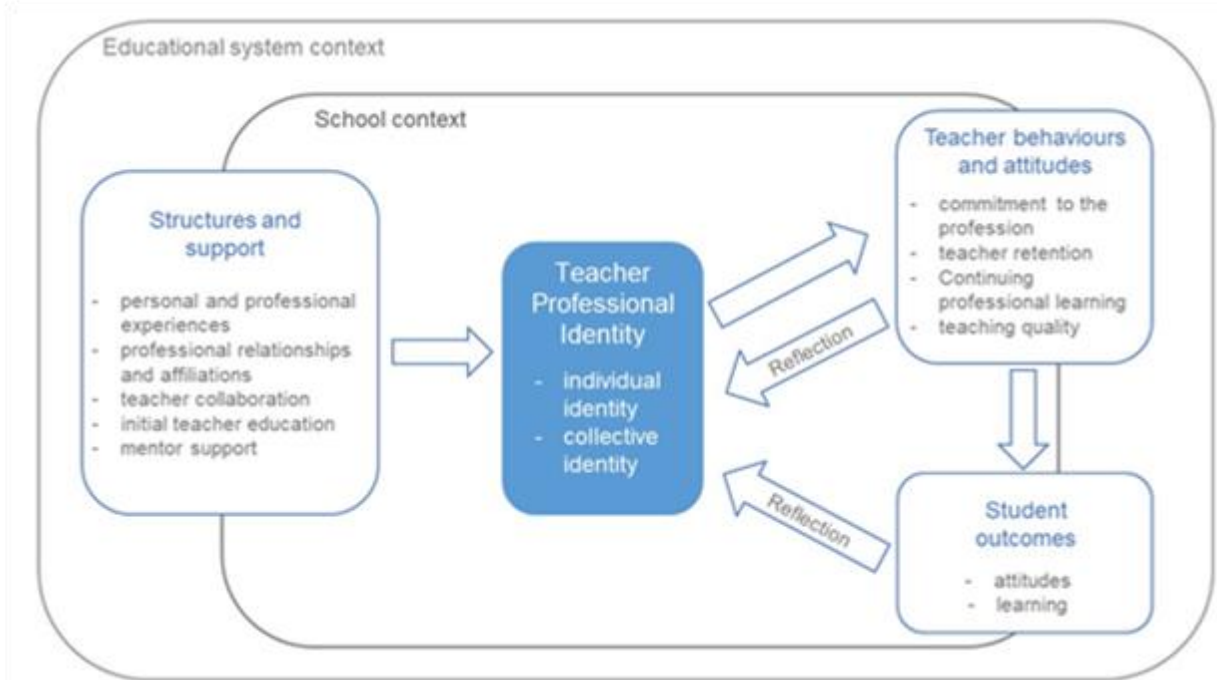
Five Ambition loops are outlined related to forming partnerships to strengthen TPI throughout the career span.

Ambition Loop: Teachers strengthen understanding of Teacher Professional Identity (TPI) to support individual and collective practice

CPL that is teacher-led, collaborative, school-based and emerges directly from the needs of teachers and their students can support professional growth and learning for students (Boeskens, Nusche and Yurita, 2020_[136]). Developing the skills of teachers to be introspective, reflective and collaborative, starting with initial teacher education, can enhance teacher professionalism through practical ways to support professional autonomy; and teacher responsibility for their own CPL and growth across a teacher's career (Suarez and McGrath, 2022_[12]).

Figure 6.1 shows TPI in the centre of a framework of working with students, school context and educational system context. The TPI development and outcome model highlights how both the enactment of TPI in the classroom and school settings, as well as inputs and supports from the school context and educational system context, can develop TPI.

Figure 6.1. Teacher professional identity (TPI) development and outcome model



Source: Suarez, V. and J. McGrath (2022, p. 9_[12]), “Teacher professional identity: How to develop and support it in times of change”, <https://doi.org/10.1787/b19f5af7-en>.

Ambition Loop: Teachers develop capacity to lead lifelong learning approaches

As lifelong learning becomes more an important focus within societies (Munro, 2019_[13]; Day, 2002_[14]; OECD, 2023_[1]) teachers can develop knowledge and capacity about lifelong learning to support their own professional growth and the learning of their students. Developing lifelong learning skills for children and young people can also be framed as an equity strategy given that many equity groups currently have less access to lifelong learning opportunities in the work place (Munro, 2019_[13]).

Ambition Loop: The broader educational community has a role in developing teacher leadership and school leadership across the lifespan of teachers’ careers

There are mutual benefits to be gained from the broader educational sector being involved in supporting the development of teacher and school leadership, particularly through school-university partnerships. Both organisations can learn from sharing of expertise and developing insights (Forester, 2020_[137]; Oates and Bignell, 2022_[134]) and trust which can benefit the collaboration as well as each individual group.

Box 6.2 describes specific benefits for teachers, teacher education and students that can be created through long term partnerships (Nilsson Brodén, 2022_[15]) and the building of ongoing trust. In this example, the strength of the partnership provided agility in responding to constraints of the pandemic.

Box 6.2. School – university partnerships built out of trust

Innovative solutions are needed to address rampant teacher shortages around the world. Short-term fixes are abundant and government schemes seek to incentivise teaching.

In New South Wales (NSW), Australia, there is a partnership between the University of Newcastle and the Department of Education, which seeks to actively create new ways of teacher education, both pre-service and for current educators and leaders. Foundationally, we work closely with over 200 schools to support about 3 000 placements a year. We have developed several collaborative research projects and provide ongoing professional learning opportunities for educators and leaders.

The COVID-19 chaos in schooling and tertiary education, created opportunity to further expand our partnership to provide:

- Professional learning for educators and leaders engaged in innovative forms of teaching, learning and assessment.
- Fit-for-purpose, school-designed placements for initial teacher education students who required placements:
 1. Honouring online teaching of young people during lockdowns as part of the placement hours required of new teachers - approved by the state accreditation body.
 2. School-developed classes and projects for students who needed additional support in between lockdown periods in NSW (University of Newcastle, 2020_[138]).
 3. Developed school-specific placement prior to the end of lockdowns that were implemented as schools returned on-site, enabling hundreds of new teachers the opportunity to complete required accreditation without losing a valuable study semester.

The key to any partnership is relationships built out of trust and mutual respect. The formal definition of a partnership is “an arrangement between two or more people to oversee business operations and share its profits and liabilities.” (Kopp, 2022_[139]). We add to this definition: a) the integration of “intellectual property” across the two differing types of learning organisations and b) the sharing of social and human capital to achieve the goal of learning for all.

Our collective talent allows us to prove the equation $1 + 1 > 2$. Our partnership allows us to (a) prioritise relevance of the collective work we do, (b) grows our talent from the people we have, not the people we wish we had, and (c) promotes the common good and contributes to equity.

Two-way, dynamic partnerships allow for the success of both and the opportunity to achieve both our separate organisational goals as well as our broader community goals. We become colleagues, allies with a foundation of trust and mutual respect. The truest partnerships allow the chance to tackle the toughest issues with commitment and optimism that we can achieve our collective goals.

Note: Original contribution by John Fischetti (University of Newcastle) and Kylee Owens (PhD candidate University of Newcastle).

Ambition Loop: Policy makers co-create, with teachers and other educational sector partners, partnerships to support specialist opportunities for teachers at different career stages

Policy makers can support connections across the educational sector that benefit teachers across the lifespan of their career (Mezza, 2022^[9]). As well as tailoring support to the needs of teachers at different parts of their career, the educational sector can work collaboratively to bridge theory-practice gaps (Forester, 2020^[137]; Ulferts, 2021^[103]; Oates and Bignell, 2022^[134]). This approach can validate teacher work and create benefits from connecting theoretical expertise (Oates and Bignell, 2022^[134]) and practical expertise (Resch, Schrittemer and Knapp, 2022^[135]).

Ambition Loop: Educational sector partners value the opportunity to connect with other experts within the sector to build shared professional knowledge and skills

Connecting expertise across sectors can enrich professional growth for each professional, as well as deepen learning experiences for students through involvement of multiple perspectives (Bryson, Crosby and Stone, 2015^[49]; National Research Council, 2015^[130]; OECD, 2021^[43]). The Partner School Programme at the University of Vienna (Resch, Schrittemer and Knapp, 2022^[135]) is one example which provides a choice of options for connections between teacher education and schools through community-based research, project-based learning or service learning.

6.3. What if... we support interdisciplinary learning and working as a core part of professionalism?

Education systems are promoting partnerships that support interdisciplinary thinking to develop problem-solving (Wang et al., 2020^[140]) which can address contemporary challenges. This includes issues such as climate change (Helvaci and Helvaci, 2019^[141]) and digitalisation (OECD, 2021^[142]).

Partnerships across the education sector provide opportunity to create a holistic view of connections that places formal education and its purposes within a frame of lifelong learning for students (Munro, 2019^[13]; Day, 2002^[14]). Partnerships across the education sector focused on interdisciplinary teaching (Choi et al., 2022^[143]) expand interprofessional connections which enrich the lifespan of careers for teachers. They also provide mutual benefits for students and other areas of the educational sector.

Career specialisation opportunities for teachers, based on curriculum or other areas of interest, can also be developed through interdisciplinary collaborations (Song and Wang, 2021^[144]; Wang et al., 2020^[140]; Choi et al., 2022^[143]) with a broad range of higher education specialisations. This approach builds on general trends across professions for increased interdisciplinary connections (Mezza, 2022^[9]).

Five Ambition loops are outlined related to supporting interdisciplinary learning and working.

Ambition Loop: Schools ensure that teachers have organisational support (time/space) to use shared knowledge to support students and learning when they transition into and from schooling

Organisational support can promote the role of the school as a platform that connects cradle to the grave learning (Pushor, 2015^[113]; Yang, Chou and Chiu, 2014^[52]; OECD, 2021^[145]; Facer and Buchczyk, 2019^[146]). As well as supporting teachers in schools to professionally engage with colleagues in other parts of the education sector, leadership support is essential to the success of partnerships (Oates and Bignell, 2022^[134]; OECD, 2017^[126]).

Ambition Loop: Education sector partners strengthen focus on providing future and current professionals with learned collaboration skills to support cross-sectoral/interprofessional collaborations as core work

As interdisciplinary approaches become core to professional work in response to contemporary and future challenges, professionals need skills to collaborate effectively with others. This should be supported in school and adult learning programmes (Lawson and Veen, 2016^[114]). Learned collaboration skills are valued in work and teachers and schools can model practices for students (Bax et al., 2023^[147]).

Box 6.3 describes an innovation referred to as “interprofessional education and training” which can develop collaborations with other professionals that can provide assistance, connections and resources to strengthen teachers’ efficacy, effectiveness, retention, and well-being.

Box 6.3. What if... interprofessional skills were taught as a core skill in higher education?

Twin observations from two American researchers introduce the new agenda for teacher education, classroom practice, the dominant organisational design for a school, and pre-service teacher education. Sociologist Dan Lortie concluded in 1975 that “teaching is lonely work”. Thirty years later, Richard Elmore added that “isolation is the enemy of improvement”—with special attention to the endemic challenges associated with teachers’ work with diverse children and youths in stand-alone classrooms. Both observations remain in good currency worldwide. They both help to explain and justify timely classroom-based and teacher-supportive innovations.

A growing number of schools worldwide were challenged by the increasing number of students who came to school with health, mental health, and social service needs as well as learning/developmental disabilities. Usually the terrible trilogy of poverty, social exclusion, and social isolation was implicated, whether in families or more pervasively in their residential communities. Few school systems have had the specialised personnel (e.g. social workers, school psychologists, counsellors, nurses) to address these barriers, so some school systems develop connections with community agencies—a configuration known as “school-linked services”.

One approach is to use “a co-location strategy”, this approach was instrumental in the development of new designs for schools, variously known as community schools (Coalition for Community Schools, 2023^[148]), full-service schools, and community learning centres. The main idea is practical and bold. If we want teachers and service providers to work together in service of students, we must prepare them together.

Interprofessional education as a focus in higher education: the case for change

Interprofessional education and training is well-established in the health professions, and treatment teams are the norm in hospitals and medical clinics worldwide. Social services disciplines, particularly social work, also have a firm trajectory with interprofessional education in service of collaborative practice and as team leaders.

Where teachers, school and district leaders, and the education workforce overall are concerned, interprofessional education and training in service of team formation and expanded communities of practice is a bold idea. However, it is of immense importance for the education workforce, students challenged by barriers to learning and school success, and service providers working with school-aged children. These service providers have a vested interest in children’s school engagement and success, just as

educators have a stake in service providers' success with the children and youths in their joint care. The teams and communities of practice they form and seek to optimise benefit the participating adults in tandem with students' improvements.

Thus, interprofessional education and training for educators, in service of collaborative practice in schools and communities, is an idea whose time has come. The core idea is compelling. If we want and need educators, social workers, health professionals, mental health professionals, and social services professionals to work together, we must prepare them together. Because degree programmes in every specialised field tend to be jam-packed with requirements, the initial strategy may be to prepare and offer short-term courses, modular experiences, and provide online resources. More fundamentally, if higher education institutions are expected to take the lead, professional development for professors, particularly professors of education is a practical necessity.

Note: Original contribution by Hal A. Lawson (University at Albany).

Ambition loop: Education sector partners explore opportunities to develop cross-educational sector approaches, particularly for new areas of curriculum focus

As space is created for new curriculum focuses, such as climate (OECD, 2022_[149]; Helvaci and Helvaci, 2019_[141]) or “digital trust” (OECD, 2022_[102]), there is opportunity to explore new approaches that focus on interdisciplinary opportunities (Toimata Foundation and Te Mauri Tau, 2023_[150]) and transversal skills (Thode, 2023_[151]). This provides an alternative to using traditional approaches, instead using new content focuses as an opportunity to create space for how to engage with it.

Ambition loop: Education sector partners value the importance of both theory and practice and subsequent synergies this focus can bring

There is opportunity to achieve benefits when education sector partnerships focus on developing a dual perspective that draws on both theory and practice (Oates and Bignell, 2022_[134]; Forester, 2020_[137]). It can also be a common reason for not realising partnership goals when a disconnect occurs in thinking (Oates and Bignell, 2022_[134]) and partners feel that only one perspective is considered during a collaboration.

Ambition Loop: Policy makers create space for interdisciplinary relationships

Policy makers identify opportunities to establish or extend interdisciplinary relationships in support of innovation. This might include redefining roles that “start from more traditional and “safe” teaching practices, and specifically from scenarios where teachers could easily anticipate or shape students’ thinking processes and outputs” (Vincent-Lancrin et al., 2019, p. 158_[152]). Interdisciplinary focuses on innovation can be supported by lightweight, adaptable structures. An initiative aiming to challenge gender perceptions about studying Information Communications Technology (ICT) (Serussi and Divitini, 2017_[153]) demonstrates the value of creating space through interdisciplinary connections. It brings female school students to work with Master-level university students who work as role models (Akre-Aas, Kindem and Divitini, 2022_[154]) to create a bridge between the school, its students and the university. While the organisation is relatively simple on all sides, there are benefits for all groups involved in the partnership (M. Divitini, personal communication, 2022).

7. Ambition loops for the broader societal sector

Four areas of the broader societal sector have been examined in detail (see Annex B) to develop the Ambition loops for the combined broader societal sector. The four areas are:

- Health and resilience.
- Cultural sector.
- Education Technology (Ed Tech).
- Sustainability.

Ideas common across these areas would be applicable to other areas within the broader societal sector. It is intended that other areas can be added over time in this project that are relevant for different contexts and topics.

As well as broader society sector stakeholders, the Ambition loops focus on ideas that are specific to teachers, school support and policy maker roles, as well as common to all groups. School support can relate to school leaders or collective teacher leadership.

The Ambition loops for the education sector are listed below using some themes which draw together interconnections between the Ambition loops. The themes are, “What if”...:

- ... we see schools as a hub for learning and connecting with community?
- ... we use learning partnerships for real-life experiences?
- ... we see teachers as pedagogical innovators?

Each of the Ambition loops includes a short description, based on research and practice. Some examples are also provided to further illustrate the possibilities and how they can be used to create clarity and confidence for longer- or shorter-term action.

7.1. What if... we see schools as a hub for learning and connecting with community?

The role of a physical school within a community provides opportunities for the school to be an anchor institution (Halsey, 2018_[83]) (see Box 4.2) that contributes to the community good. The school can be a hub to connect families, other parts of the education sector as well as relevant sectors within broader society (Giles-Kaye et al., 2022_[155]) as a way of fostering prosperity for students and communities. In turn, the community can support, recognise and value teachers’ work which contributes to greater respect for the profession within society.

As part of any reconceptualisation of the school as a community hub, there is a need to consider purposes of education that extend beyond traditional literacies of reading, writing and numeracy to include more holistic aspects such as health, well-being, technology (OECD, 2021_[142]), and ethics. This includes placing school within a framework of lifelong learning (Munro, 2019_[13]; Day, 2002_[14]), including connecting with non-formal learning opportunities and valuing capacities in learning to learn. To achieve balance, it is important to gain clarity of direction between past and forwarding-looking ideas to prevent duplication of effort.

The voice of teachers (and education) may not always be automatically considered as society responds to new challenges and opportunities that arise from a changing world. Some of these changes include Artificial Intelligence (OECD, 2021_[142]), climate (OECD, 2022_[149]) and health crises (OECD, 2022_[101]). However, the work of teachers and schools can provide an important contribution to shaping responses to meet these changes.

Three Ambition loops are outlined related to seeing schools as a hub for learning and connecting with the community.

Ambition Loop: Broader societal partners value and contribute to the development of schools' role as a community hub

The school can be a place to connect students and families with each other as well as with others in government and broader society who can support the school's immediate and longer-term aspirations and educational and broader goals (Giles-Kaye et al., 2022_[155]). Schools can develop social capital within the community by providing formal and informal opportunities to connect and expand support networks through “bonding” (DeMatthews, 2018_[77]) or “organisational embeddedness” (Small, 2009_[156]).

Ambition Loop: Broader societal partners develop common understanding about the value of broader societal sector partnerships for learning and teaching

Multi-stakeholder approaches support dialogue, collaborative inquiry and strengthening of relationships (Payne and Calton, 2004_[157]). These approaches can also promote knowledge exchange and mobilisation (Fazey et al., 2014_[158]) as well as contribute to equity outcomes through shared action (Siarova and van der Graaf, 2022_[159]).

Ambition Loop: Broader societal partners work together to address specific, complex needs around the community of the school

The transfer of information between stakeholders can support implementation of ideas and action (Fazey et al., 2014_[158]; Siarova and van der Graaf, 2022_[159]), including encouraging the alignment of practice, policy and research (Siarova and van der Graaf, 2022_[159]). This type of exchange can help create directions to respond to challenges which are complex in nature (Burns and Köster, 2016_[34]).

7.2. What if... we use learning partnerships for real-life experiences?

Cross-sectoral partnerships can contribute to and catalyse innovations in curriculum and pedagogy. Greater flexibility and proximity to expertise near schools, and even across the world via technology, provide new opportunities to connect the work of teachers, learning of students and the specific expertise of other professionals. This can include supporting student voice and choice in their learning (Bron, Emerson and Kákonyi, 2018_[98]; Charteris and Smardon, 2019_[99]) to access sustained, enrichment experiences inside or outside the school building that build on talents or interests. A tension to navigate is creating more space for strengths-based approaches for young people (Shek et al., 2019_[160]) that emphasise co-construction between teachers and students, compared with traditional approaches.

At the same time, supporting teacher specialisation opportunities and collaborations can have a reciprocal benefit for other professionals as well as teachers. For example, the cultural sector (OECD, 2022_[161]) has sought to reframe its purpose and ways of operating which might benefit the work of teachers and benefit from collaborating with teachers.

Eight Ambition loops are outlined relating to the use of learning partnerships for real-life experiences.

Ambition Loop: Teachers value their professional role in providing a bridge to support a lifetime of formal and informal learning for children and young people

Concepts such as informal and non-formal learning (Villalba-García, 2021_[125]) provide opportunity to reframe teachers' work and formal learning within a context of lifelong learning. They can be extended to include the concept of working within a “learning city”

(Facer and Buchczyk, 2019_[146]) which draws on networking learning opportunities such as links with galleries, museums and other institutions.

Ambition Loop: Institutions within the broader societal sector connect with schools to extend curriculum opportunities for learning outside of school buildings

Rich learning environments can benefit student learning (Darling-Hammond et al., 2020_[162]) within schools and by connecting with other institutions both locally and globally. This can include supporting Interest-Driven Learning (Darling-Hammond et al., 2020_[162]). It can also support reframing schools as an “anchor institution” (Hildreth, 2012_[163]; Mersand et al., 2019_[164]) which values the “unique ability to strengthen civic life, understand and respond to community needs, and knit community members together through common experiences and shared interests” (Hildreth, 2012, p. 44_[163]).

Ambition Loop: Schools support production of high-quality student work that could be published or disseminated by partners in broader societal sectors

Collaborations with broader societal sectors can support the development and showcasing of product-based learning approaches (Shintani, Li and Ellis, 2013_[165]). The focus on preparing a product for a public audience can help learners develop “life-enhancing skills” (Chen and Yang, 2019, p. 71_[166]). There is also opportunity to gain feedback from broader stakeholders as part of the learning process, as well opportunities to showcase final products (Chen and Yang, 2019_[166]).

Ambition Loop: Schools provide a pathway for school partners to contribute to community representation (and vice-versa) as part of a local community

Schools can open up community representation opportunities to school stakeholders, as well as connecting with community representatives to add to the vibrancy of the school’s connections with community (Lewandowsky, Facer and Ecker, 2021_[167]). This can include supporting the contribution of voices who may not always be included within debates (Southgate, Reynolds and Howley, 2013_[47]; New Zealand Ministry of Education, 2023_[63]).

Ambition Loop: Policy makers support collaboration between teachers and experts in broader societal sectors that build on the mutual expertise

Policy makers can support co-development of collaborations between teacher expertise and other sectors to provide opportunities for creating materials and approaches that are rich in knowledge and deep in engagement (Mujtaba et al., 2018_[75]). This includes collaborating with fourth-generation institutions (Pedretti and Navas Iannini, 2020_[71]) (see Box 4.1), such as science museums, who are seeking to develop dialogical and participatory approaches for people to engage with current societal challenges (Pedretti and Navas Iannini, 2020_[71]). These approaches connect formal learning with other opportunities to engage on relevant topics (Bevan et al., 2010_[168]).

Ambition Loop: Policy makers support collaboration between teachers and experts in broader societal sectors that support teacher career specialisation opportunities

Policy makers can support cross-sectoral and interagency opportunities that can provide benefits for teacher satisfaction and retention through career specialisation opportunities (Mezza, 2022_[9]). In the same way that teachers are preparing students for lifelong learning there should be opportunities for teachers to expand their knowledge base and skills (OECD, 2023_[11]), particularly in areas of high interest to their work. These opportunities also support responding to changing curriculum focuses based on societal challenges which are themselves more complex to engage with by just one institution, such as schools only (Bevan et al., 2010_[168]).

Ambition Loop: Policy makers work with other partners to ensure that the purpose of education is evolving to develop people who will thrive in a complex and quickly changing world

There is value in policy makers supporting clear articulation of a relevant purpose for education that supports a shared focus that can shape the work of teachers and strengthen the partnerships with students and parents. A clear, bold vision that connects stakeholders will support long term transformation. Purposes of education have changed over time within education but also vary at the micro level of individual, schools, teachers, students and families. Reviewing purposes of education could examine the need for broader educational goals that focus on individual and collective well-being (OECD, 2019_[97]), developing learner agency (OECD, 2019_[97]), “need for a broad set of knowledge skills, attitudes and values in action” (OECD, 2019, p. 4_[97]), and “competencies to transform our society and shape our future” (OECD, 2019, p. 5_[97]).

Ambition Loop: Broader societal partners and schools ensure equitable opportunities to tailor the curriculum to student strengths, interests and needs that allows young people to co-construct aspects of their learning

Strengths-based approaches for young people (Shek et al., 2019_[160]) provide opportunities for tailoring curriculum to student interests and acknowledging the assets that young people bring to their learning. There is a need to consider the implications for pedagogy, the role of the teacher/ learner, as well as opportunities to make connections beyond the school. A key issue is equity (Bevan et al., 2010_[168]), particularly where equity groups do not have easy access to a wide set of broader societal people. Another equity issue to challenge is stereotyping (Bevan et al., 2010_[168]) by providing a rich set of opportunities to explore.

7.3. What if... we see teachers as pedagogical innovators?

There is opportunity to create space for teachers to innovate pedagogy in line with reframing of the purposes of education (Hannon and Peterson, 2017_[169]). New partnership opportunities for teachers and schools could support transformation of education from the school level outwards to address contemporary issues and anticipate how these may evolve.

Providing teachers with the time and space to innovate can unleash their curiosity and innovation. Providing resources (financial, physical or human resources), allows the space for “unlearning” (Yang, Chou and Chiu, 2014_[52]), exploring innovation beyond current resource requirements, and changes in routine and beliefs. Benefits for teachers include professional growth and deeper professional satisfaction from undertaking research and development. Benefits for schools and systems come from utilising the current experiences of teachers and other partners to create solutions to contemporary challenges and to apply their professional expertise to inform system approaches. The need for schools to respond to contemporary issues such as technology (OECD, 2021_[142]), mis- or disinformation (Hill, 2022_[170]) or climate change (OECD, 2022_[149]) provide opportunities to explore how schools could transform their approaches. A challenge remains to place adequate value on innovation and how it sits alongside a predominant focus on formal assessments or in later years of schooling when the stakes of academic success are perceived as becoming higher (Weninger, 2018_[171]; Paniagua and Istance, 2018_[172]).

Five Ambition loops are outlined related to seeing teachers as pedagogical innovators.

Ambition Loop: Teachers are expected to be open and curious and to explore pedagogical approaches which innovate learning opportunities

Creativity and critical thinking are becoming more important focuses as traditional focuses are becoming automated and digitalised (Vincent-Lancrin et al., 2019_[152]).

Artificial Intelligence is changing what students will need to learn (OECD, 2021_[142]). There are benefits for focusing on creative (E. Travkina, personal communication, 2022) and critical thinking, including for the labour market, civic life, and personal and social well-being (Vincent-Lancrin et al., 2019_[152]). The current, lived experience of teachers working in a rapidly changing world is an asset to be harnessed, both for teachers, learners and the collective intelligence of an educational system (Addae-Kyeremeh and Fox, 2018_[54]; Mulgan, 2018_[65]).

Ambition Loop: Teachers take advantage of opportunities that support student choice and voice (agency) to lead learning

One of the benefits from empowering students as part of their schooling is developing their capacity as citizens (Bron, Emerson and Kákonyi, 2018_[98]; Burns and Gottschalk, 2020_[68]; Shek et al., 2019_[160]) to be able to participate and respond to a changing world (OECD, 2019_[97]). Teachers should be supported to create space, through curriculum and pedagogy, to “recognise learners’ individuality... [and] ...acknowledge the wider set of relationships – with their teachers, peers, families and communities – that influence their learning” (OECD, 2019, p. 4_[97]).

Ambition Loop: Schools create an environment for teacher innovation within schools, supported by other partners

Creating an environment for innovation includes time (Yang, Chou and Chiu, 2014_[52]) and development of long-term partnerships that can be utilised as new matters evolve (Anderson et al., 2005_[173]). Some of the challenges to be examined include a lack of training in how to work across disciplines (Vincent-Lancrin et al., 2019_[152]) and a dominant focus on assessment can come at the sacrifice of innovation initiatives or skill development (Weninger, 2018_[171]). Structural processes to support interdisciplinary innovation that are lightweight and adaptable maximise flexibility in their application (M. Divitini, personal communication 2022).

Ambition Loop: Policy makers develop an ecosystem approach that connects broader society and school partners to enrich teaching and learning, including through shared Research and Development opportunities

Capacity to respond to changing challenges and opportunities can be supported through partnerships that connect practitioners, researchers and developers (Li, Tripathy and Gluck, n.d._[174]; Singapore Ministry of Education, n.d._[175]). This includes focusing on “networking with community and industry” (Singapore Ministry of Education, n.d._[175]) and developing approaches that are user-centric and adopt agile methodologies (Singapore Ministry of Education, n.d._[175]). Iterative research practices can focus on aligning development, implementation, actual user experience and impact (Li, Tripathy and Gluck, n.d._[174]).

Ambition loop: All broader societal partners explore approaches to addressing new curriculum demands, including use of interdisciplinary approaches from across the teaching profession and beyond

As schools engage with changing societal issues, there is opportunity to consider different ways of addressing the topic that might extend beyond traditional approaches. For example, partnerships with other experts such as journalists to assist with challenging disinformation (Hill, 2022_[170]). As well as being clear about how time will be created to address new issues, there is a need to clarify the role of education within broader government and societal responsibilities to reduce overlap of effort (OECD, 2022_[102]).

8. Using the Ambition loops tool to develop preferred scenarios for the future of teaching

The Ambition loops tool can be used to engage diverse stakeholders in a process to reflect on what they would like to see in the future for teachers and teaching. It organises a body of research and ideas for next practice into readily accessible statements of ambition to strengthen connections between teachers and a wide range of stakeholders, including within the education sector and in broader society. Its adaptable design means that it can be used to support more general discussions on meaningful collaborations or to focus on specific types of collaboration, according to the focus and policy interest in a particular education system.

8.1. Generating preferred scenarios using the Ambition loops tool

The Ambition loops tool can be used to create preferred scenarios for the future of teaching and teachers. ‘Preferred scenarios’ are developed through participatory approaches (Gordon, 2020_[124]) and can enhance the quality of the futures that are created. A variety of approaches can be used to collect the perspectives of multiple stakeholders, including through in-depth interviews, facilitated group discussions, surveys or an argumentative Delphi (Cuhls et al., 2022_[176]).

The tool connects with other OECD work on future scenarios for schooling, which supports thinking outside the box and going beyond current limitations (OECD, 2020, p. 3_[87]). Thus, it aims to support transformative thinking. Desk-based research and secondary analysis of OECD data was used to identify statements described above that could be framed as future focused in many jurisdictions. This includes identifying “weak signals” (Saritas and Smith, 2011_[177]) or ideas that already exist in limited ways that might transform future or next practice if brought to scale. Input was also sought from experts, including within the OECD and beyond.

As education systems engage stakeholders to work with the Ambition loops tool, the process will generate evidence from research and practice and enrich the framework (OECD, 2022_[178]). Thus, the Ambition loops tool can capture ongoing learning from practice, policy and research which can inform transformation to meet contemporary challenges.

Ambition statements provide a framework from which preferred scenarios can be created that are contextualised, informed by stakeholders and are a catalyst for action. Ambition statements are successful when they create action-oriented synergies through collaboration of stakeholders towards a positive vision for the future. Using the Ambition loops tool promotes systematic curiosity. The focus on “what if” (Gümüşay and Reinecke, 2022_[21]) can extend thinking beyond a starting point of current practice. Considering next practice ideas can also open transformation possibilities. The overall benefits include:

- Providing a medium/longer term vision that anticipates future developments regarding teaching and teachers.
- Creating space in the teacher debate by thinking about a long-term sustainable vision on the future of teaching and teacher professionalism.
- Moving away from shorter term issues by using research and practice statements to reframe narratives.
- Co-constructing a shared vision on the future of teaching and teacher professionalism can guide future developments and policy regarding teachers and teaching.

8.2. Actioning the preferred future scenarios

Once created, future scenarios can be actioned through backcasting (Gordon, 2020_[124]) approaches. Backcasting supports current decision-makers to develop actions that will move towards the preferred future scenario(s) by working backwards in time from the preferred scenario to the present (Gordon, 2020_[124]). Being “prospective” (Gordon, 2020_[124]) or forward-looking can support transformation of both the present and future as an alternative to passively awaiting the future to appear.

The scenarios can be further developed by focusing on the implications for the end-user. In the example below we construct first-person persona responses (Nilsson Brodén, 2022_[15]) that describe benefits for two different teacher archetypes based on the scenario. These illustrations (Skilling and Stylianides, 2020_[179]) also highlight how one policy response can impact in multiple ways in practice (Nilsson Brodén, 2022_[15]).

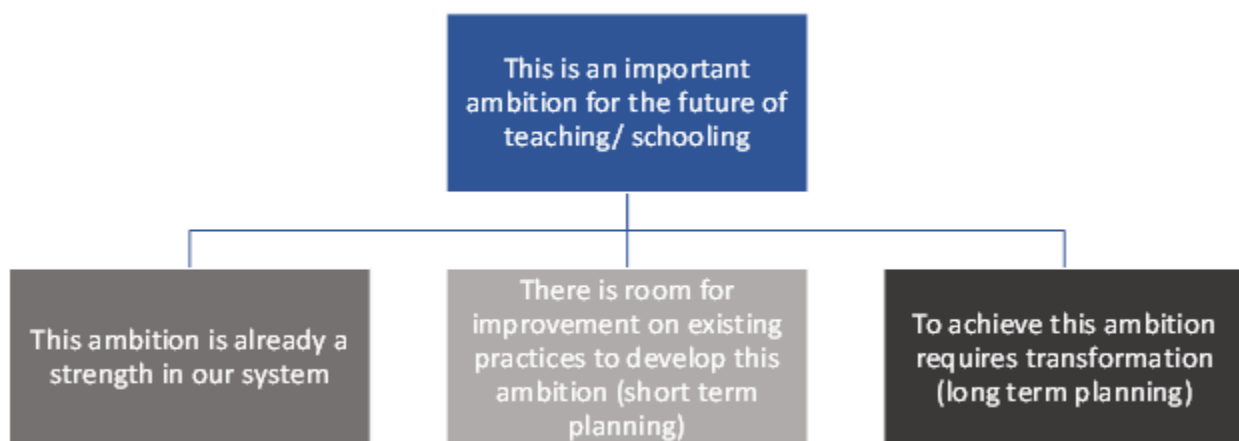
8.3. Example of a preferred scenario generated using the Ambition loops tool

The following example was developed as part of processes piloting the use of the Ambition loops tool to create preferred scenarios. The processes were abbreviated for the purposes of the pilot.

Step 1: Stakeholder survey

In this pilot, a small sample of people (N=15) were asked to complete a survey where they considered statements from the Ambition loops tool. Participants were asked to identify statements that would be important to their preferred scenario for the future (see Figure 8.1). They were also asked to consider which statements were current strengths in their context or would require short- or long-term planning to realise.

Figure 8.1. Survey categories



Step 2: Stakeholder workshop - identify statements from the Ambition loops framework where there is consensus (and dissensus)

As part of a stakeholder workshop, the group were asked to consider statements from the Ambition loops tool with data added from the survey results for each ambition statement.

Participants were asked to individually prioritise a set number of statements they would see as being important to their preferred future.

Step 3: Stakeholder workshop - create a scenario using the Ambition loops framework statements of interest and the generated discussion between stakeholders

A facilitated discussion considered the statements from the Ambition loops tool that the small group had identified as being of shared interest. After discussing their perspectives on the value of the statements they chose, the group was supported by a facilitator to create a scenario using relevant statements from the Ambition loops tool and points from their discussion. As part of the process, the group developed a heading for their scenario and a brief description (see Box 8.1).

Box 8.1. Example of a preferred future scenario (overview)

Title of scenario

Elevating the teaching profession through flexible professional connections

Brief description of the scenario

In this preferred scenario, the future focus is on elevating the role of the teacher through more flexible connections with both the community and other professions.

This scenario recognises that there are many ways to be a great teacher and highlights a more flexible career path for teachers. Teachers might wish to experience more freedom to switch between careers and keep on learning and developing their skills in the broadest sense possible. They will not only take with them more experience in the classroom, but also experience more freedom in their career choices and long-term development.

In a rapidly changing world, including technological innovation, it is essential to address “what is the essence of the teacher’s role?” Examining this question can build the foundations for responding to the next societal or global challenge and to ensure a vibrant profession.

Long term planning for transformation would explore:

1. What if... we value that all adults in the school community play a role in caring for children and young people? What if... we see schools as a hub for learning and connecting with community? This includes valuing the benefits of creating space for strengthened engagement with families and communities.
2. What if... we see teachers as pedagogical innovators? What if... we form partnerships to strengthen teacher professional identity (TPI) throughout the career span? This includes greater flexibility to tap into a wider education ecosystem and other professional communities to foster a latticed approach to teacher growth across the lifespan of their career. A lattice approach, across a career lifespan, values opportunities to move between teacher work in the classroom/school and other professional opportunities that exist outside the classroom/school.

Step 4: Draft scenario and illustrations of benefits for end-users

A longer description of the scenario was developed by the OECD project team following the stakeholder workshop. This involved using the statements chosen by the group, short descriptions of relevant statements from the Ambition loops tool and the discussion points from the stakeholder exercise.

Two vignettes (Skillings and Stylianides, 2020_[179]) have also been developed to illustrate how this scenario might benefit an experienced teacher and one at the beginning of their teaching career (see Box 8.2).

Long description of the preferred future scenario

In this preferred future scenario, the focus is on elevating the role of the teacher through more flexible connections and to enhance the impact of the teaching profession within a community.

Longer term planning for transformation would explore: *What if... we value that all adults in the school community play a role in caring for children and young people?* and *What if... we see schools as a hub for learning and connecting with community?* Education policy would engage in long term planning that promotes and invests in school and teacher leadership to help them connect and implement partnerships between teachers/schools, families, and community. The focus of this support would be to guide the development of new processes by drawing together theory and practice (Gu, 2021_[119]; Epstein, 2021_[120]; Ryan, 2021_[94]; Forester, 2020_[137]), including researching impact through the lens of equity (Epstein, 2021_[120]). Teachers would have the opportunity to exercise professional autonomy to develop teaching and learning that is relevant and meaningful to their students. There is scope to consider ways to enhance autonomy (teacher leadership) in the area of teaching to benefit authentic and meaningful learning options for their students (Mezza, 2022_[9]; Grice, 2019_[91]). A goal for transformation would be for policy makers to create an environment where there are structural connections for innovation for teachers and students to engage. Structural processes to support valuing of innovation can be lightweight and adaptable to maximise flexibility in their application. Current challenges include time, development of long-term partnerships, and a lack of training in how to work across disciplines. Assessment focuses can lead to stakeholders not prioritising innovation initiatives.

Longer term planning for transformation would explore the question *What if... we see teachers as pedagogical innovators?* Teachers are expected to be open and curious and to explore pedagogical approaches and innovate learning opportunities. Creativity and critical thinking are becoming more important as traditional focuses are becoming automated and digitalised. Artificial Intelligence is changing what students will need to learn. Benefits for focusing on creative and critical thinking include for the labour market, civic life, and personal and social well-being (Vincent-Lancrin et al., 2019_[152]). There is an emphasis on growing a broad network of connections that teachers can access to support their needs and interests. There is recognition that there are many skills and areas of knowledge required to be a teacher but this can be harnessed by providing diverse and flexible opportunities for teachers to grow as they move through their career. These opportunities could include supporting informal/formal networks of teachers (in-person or virtually) or building connections with other professionals linked to curriculum and other areas of interest.

Longer term planning for transformation would also explore the question *What if... we form partnerships to strengthen teacher professional identity (TPI) throughout the career span?* While providing time and space is important, policy makers should seek ways to support collaborative action that prioritises a focus on development of the teacher workforce to create prosperity for the teaching profession, the students they teach within the

communities that they work. The opportunities could include short- or longer-term possibilities, even allowing for shared job focuses or moving in and out of the classroom/profession. A goal for transformation would be for policy makers to co-create with teachers and other educational sector stakeholders, partnerships to support specialist opportunities for teachers that could be accessed at different career stages. Recognition of changing needs across the lifespan of a career can be supported by tailoring of support and benefits, including increased professional satisfaction and efficacy.

It is essential to identify what is the essence of teaching and the role of the teacher in our context. The clarification of the forward-looking role of teacher and learner would benefit from collaboration with stakeholders, supported by researchers and policy makers to ensure alignment (Bingham and Burch, 2018_[50]) between teaching, learning and other parts of the system. This will assist building strong foundations for responding to technological innovation, the next societal/global challenge and to ensure a vibrant profession in a rapidly changing world.

Teachers are supported to learn from each other and other professionals/ actors in the educational ecosystem. This learning can also inform the educational system who can harness the ideas and innovations developed. There is greater fluidity in depicting professional needs and interests. This is reflected in recognition of more diverse career paths and opportunities across the career span of a professional teacher for those who would like to explore these options while staying active in the profession. Experience is valued within the profession along with other opportunities for cross-fertilisation working with other professionals where it enhances opportunities for teachers and learners. There are many ways to be a great teacher.

Box 8.2 provides two illustrations (Skilling and Stylianides, 2020_[179]) that describes how this scenario might benefit an experienced teacher and a teacher at the beginning of their career. These illustrations can be used to engage with complex ideas by providing a method for “reflecting realistic and identifiable settings that resonate with participants for the purpose of provoking responses” (Skilling and Stylianides, 2020, pp. 542-543_[179]). In these examples, the variation between the two illustrations highlights different motivations and development needs for teachers at different ages and stages of their career. The examples also exemplify how a policy statement can impact differently in practice, supporting the value of considering different teacher personas (Nilsson Brodén, 2022_[15]) or archetypes as a way of strengthening the alignment between policy and practice.

Box 8.2. Two illustrations of how the preferred future scenario might benefit an experienced teacher and a teacher at the beginning of their career

Illustration One: An experienced teacher

As an experienced teacher I have seen the role of the teacher blossom of the last decade. The enhanced flexibility to tailor my teaching and learn with colleagues has allowed me to do more targeted work for my students, including working with their interests. It has given me the opportunity to access some local contacts who are willing to allow young people access the specialist facilities in the community. Along with colleagues, we have also been able to utilise some opportunities from farther afield who come to the school as well as provide physical and virtual links to their site. The added trust in our professional experience encouraged us and some other colleagues to share, with our local and system-wide ideas bank, some new classroom ideas we developed across three curriculum areas – we have been told it is something our system would like to showcase.

Illustration Two: A new teacher

As a new teacher, I am proud to have joined the profession. It is fantastic to be able to support young people and to think we can make a difference in a world that has a lot going on. I am working hard on learning to be the best teacher possible. I am looking forward, in a few years' time, to accessing some of the opportunities available to us to engage in some specialist work in our curriculum field. I have my eye on applying for a term scholarship to work in an area of passion, working with experts in that field plus two other teacher colleagues who share my interest. As part of the scholarship, we would also work with some experienced teacher colleagues in curriculum design to develop the learning from the experience into a curriculum resource that can be trialled and further refined.

9. Conclusion

Although counterintuitive, identifying aspects of long-term change needed can also help ameliorate short term pressures. A two-path approach to planning provides a way to identify long term, preferred changes while separating shorter term needs that require attention. This adds clarity to the planning process. It also changes the pace of change at any one moment and opens a greater variety of actions that can be utilised to move along the path towards transformation.

The Ambition loops tool provides a repository of ideas about next practice. The statements allow for both a broad and deep exploration of ideas. The tool is iterative and has flexibility to respond to new areas of investigation. Generating preferred scenarios within a specific context provides an innovative way to consider future possibilities that can add to the suite of tools available to policy makers.

Developing preferred scenarios for the future of teaching provides an opportunity to seek new insights that can be examined to create positive and sustainable directions forward. The scenarios are informed by evidence contained within the Ambition loops tool as well as insights from the current, lived experience of stakeholders. Supporting the work of teachers recognises the role of the profession within society to add to the prosperity of students and communities. It can start by examining, “What if...?”

References

- Addae-Kyeremeh, E. and A. Fox (2018), “What makes useful evidence for educational leadership practice? An interview”, *Management in Education*, Vol. 32/1, pp. 53-55. [54]
- Ahmadjonovna, E. and S. Bakhromovich (2020), “Pedagogical analysis of culturo-educational institutions’ actions in youth education (On the example of museum activities)”, *The American Journal of Social Science and Education Innovations*, Vol. 2/08, <https://doi.org/10.37547/tajssei/Volume02Issue08-95>. [205]
- Akre-Aas, C., I. Kindem and M. Divitini (2022), *Fighting the Gender Gap in ICT: Guidelines for Game Design*, Springer, Singapore. [154]
- Alanko, A. (2018), “Preparing pre-service teachers for home–school cooperation: Exploring Finnish teacher education programmes”, *Journal of Education for Teaching*, Vol. 44/3, pp. 321-332, <https://doi.org/10.1080/02607476.2018.1465644>. [109]
- Allam, Z. et al. (2021), “Proximity-based planning and the “15-Minute City”: A sustainable model for the city of the future”, in *The Palgrave Handbook of Global Sustainability*, Springer. [118]
- Amsler, S. and K. Facer (2017), “Contesting anticipatory regimes in education: Exploring alternative educational orientations to the future”, *Futures*, Vol. 94, pp. 6-14, <https://doi.org/10.1016/J.FUTURES.2017.01.001>. [19]
- Anderson, E. and J. Weiner (2023), “Managing up, down, and outwards: Principals as boundary spanners during the COVID-19 crisis”, *School Leadership & Management*, pp. 1-19, <https://doi.org/10.1080/13632434.2023.2171006>. [80]
- Anderson, R. et al. (2005), “Case study research: The view from complexity science”, *Qualitative Health Research*, Vol. 15/5, pp. 669-685. [173]
- Arantes, J. and R. Buchanan (2022), “Educational data advocates: emerging forms of teacher agency in postdigital classrooms”, *Learning, Media and Technology*, doi: 10.1080/17439884.2022.2087084, pp. 1-21, <https://doi.org/10.1080/17439884.2022.2087084>. [212]
- Asgari, A., A. Khorsandi Taskoh and S. Ghiasi Nodooshan (2021), “The required specifications of a fourth-generation university to shape innovation district under anchor approach: a meta-synthesis analysis using text mining”, *International Journal of Innovation Science*, Vol. 13/4, pp. 539-562, <https://doi.org/10.1108/IJIS-10-2020-0193>. [70]
- Aunger, J. et al. (2021), “Why do some inter-organisational collaborations in healthcare work when others do not? A realist review”, *Systematic Reviews*, Vol. 10/1, p. 82, <https://doi.org/10.1186/s13643-021-01630-8>. [82]
- Bain, S. et al. (2022), “Real connections: A new paradigm for partnership development”, *Focus on Colleges, Universities and Schools*, Vol. 16/1, pp. 1-5. [79]
- Baker, S. and J. Milner (2016), “Building discretionary authority in a teacher education program”, *Action in Teacher Education*, Vol. 38/2, pp. 91-103. [92]
- Batty, R. et al. (2019), *EdTech Testbeds for Improving Evidence*, <https://docs.opendeved.net/lib/PTB2WYDR>. [211]

- Bax, W. et al. (2023), *What works best in the school-to-work transition?*, OECD, Paris, <https://www.oecd-forum.org/posts/what-works-best-in-the-school-to-work-transition>. [147]
- Bethere, D., L. Pavitola and J. Grava (2022), *Comparative Analysis of Conceptual Guidelines for Transition Preeschool-primary School*, IATED. [180]
- Bevan, B. et al. (2010), “Making science matter: Collaborations between informal science education organizations and schools”, *Center for Advancement of Informal Science Education, Washington DC*. [168]
- Bingham, A. and P. Burch (2018), “Reimagining complexity: Exploring organizational ambidexterity as a lens for policy research”, *Policy Futures in Education*, Vol. 17/3, pp. 402-420, <https://doi.org/10.1177/1478210318813269>. [50]
- Boeskens, L., D. Nusche and M. Yurita (2020), “Policies to support teachers’ continuing professional learning: A conceptual framework and mapping of OECD data”, *OECD Education Working Papers*, No. 235, OECD Publishing, Paris, <https://doi.org/10.1787/247b7c4d-en>. [136]
- Borgonovi, F. et al. (2022), “Young people’s environmental sustainability competence: Emotional, cognitive, behavioural, and attitudinal dimensions in EU and OECD countries”, *OECD Social, Employment and Migration Working Papers*, No. 274, OECD Publishing, Paris, <https://doi.org/10.1787/1097a78c-en>. [222]
- Braund, M. and M. Reiss (2019), “The ‘Great Divide’: How the arts contribute to science and science education”, *Canadian Journal of Science, Mathematics and Technology Education*, Vol. 19/3, pp. 219-236, <https://doi.org/10.1007/s42330-019-00057-7>. [204]
- Bron, J., N. Emerson and L. Kákonyi (2018), “Diverse student voice approaches across Europe”, *European Journal of Education*, Vol. 53/3, pp. 310-324. [98]
- Brown, M. and M. Nic-Giolla-Mhichil (2022), “Unboxing micro-credentials: an inside, upside and downside view (Descifrando las microcredenciales: en qué consisten, ventajas e inconvenientes)”, *Culture and Education*, Vol. 34/4, pp. 938-973. [185]
- Bryson, J., B. Crosby and M. Stone (2015), “Designing and implementing cross-sector collaborations: Needed and challenging”, *Public Administration Review*, Vol. 75/5, pp. 647-663, <https://doi.org/10.1111/puar.12432>. [49]
- Burns, T. and F. Gottschalk (eds.) (2020), *Education in the Digital Age: Healthy and Happy Children*, Educational Research and Innovation, OECD Publishing, Paris, <https://doi.org/10.1787/1209166a-en>. [68]
- Burns, T. and F. Gottschalk (eds.) (2019), *Educating 21st Century Children: Emotional Well-being in the Digital Age*, Educational Research and Innovation, OECD Publishing, Paris, <https://doi.org/10.1787/b7f33425-en>. [210]
- Burns, T. and F. Köster (eds.) (2016), *Governing Education in a Complex World*, Educational Research and Innovation, OECD Publishing, Paris, <https://doi.org/10.1787/9789264255364-en>. [34]
- Campbell, T. et al. (2019), “Negotiating coherent science teacher professional learning experiences across a university and partner school settings”, *Journal of Science Teacher Education*, Vol. 30/2, pp. 179-199, <https://doi.org/10.1080/1046560X.2018.1547033>. [193]
- Carraro, K. and R. Trinder (2021), “Technology in formal and informal learning environments: Student perspectives”, *Global Journal of Foreign Language Teaching*, Vol. 11, pp. 39-50. [132]

- Cedefop (2022), *Apprenticeships for Greener Economies and Societies*, Publications Office, Luxembourg, [188]
<https://data.europa.eu/doi/10.2801/628930>.
- Charteris, J. and D. Smardon (2019), “Student voice in learning: Instrumentalism and tokenism or opportunity for altering the status and positioning of students?”, *Pedagogy, Culture & Society*, Vol. 27/2, pp. 305-323, <https://doi.org/10.1080/14681366.2018.1489887>. [199]
- Chen, C. and Y. Yang (2019), “Revisiting the effects of project-based learning on students’ academic achievement: A meta-analysis investigating moderators”, *Educational Research Review*, Vol. 26, pp. 71-81, <https://doi.org/10.1016/j.edurev.2018.11.001>. [166]
- Choi, S. et al. (2022), “Professional Learning Communities: Supporting Interdisciplinary Teaching in STEM”, in Bobis, J. and C. Preston (eds.), *7th STEM in Education Conference 2022 Proceedings*, University of Sydney, Sydney, Australia. [143]
- Coalition for Community Schools (2023), , <https://www.communityschools.org/about/> (accessed on 23 June 2023). [148]
- Cognition Education (2023), *Pūtātara*, <https://putatara.education.govt.nz/#/home> (accessed on 2023). [220]
- Convention Cityonne pour le Climat (2019), *Convention Cityonne pour le Climat*, <https://www.conventioncitoyennepourleclimat.fr/en/> (accessed on 2023). [56]
- Cook-Sather, A. (2020), “Student voice across contexts: Fostering student agency in today’s schools”, *Theory into practice*, Vol. 59/2, pp. 182-191, <https://doi.org/10.1080/00405841.2019.1705091>. [104]
- Cork, S. and D. Horsfall (2019), “Thinking the unthinkable: Challenges of imagining and engaging with unimaginable practice futures”, in *Challenging Future Practice Possibilities*, Brill. [23]
- Covacevich, C. et al. (2021), “Indicators of teenage career readiness: An analysis of longitudinal data from eight countries”, *OECD Education Working Papers*, No. 258, OECD Publishing, Paris, <https://doi.org/10.1787/cec854f8-en>. [191]
- Cuhls, K. et al. (2022), “Probability and desirability of future developments – Results of a large-scale Argumentative Delphi in support of Horizon Europe preparation”, *Futures*, Vol. 138, p. 102918, <https://doi.org/10.1016/j.futures.2022.102918>. [176]
- Dagnet, Y. et al. (2019), *Data and Ambition Loops for Enhanced Climate Action: Potential Drivers and Opportunities in Asia*, World Resources Institute, <https://apo.org.au/node/256991>. [55]
- Darling-Hammond, L. (2000), “Teacher quality and student achievement”, *Education Policy Analysis Archives*, Vol. 8, p. 1, <https://doi.org/10.14507/epaa.v8n1.2000>. [105]
- Darling-Hammond, L. and C. Cook-Harvey (2018), *Educating the Whole Child: Improving School Climate to Support Student Success*, Learning Policy Institute, Palo Alto. [117]
- Darling-Hammond, L. et al. (2020), “Implications for educational practice of the science of learning and development”, *Applied Developmental Science*, Vol. 24/2, pp. 97-140, <https://doi.org/10.1080/10888691.2018.1537791>. [162]
- Day, C. (2002), *Developing Teachers: The Challenges of Lifelong Learning*, Routledge. [14]
- DeMatthews, D. (2018), “School leadership, social capital, and community engagement: A case study of an elementary school in Ciudad Juárez, Mexico.”, *School Community Journal*, Vol. 28/1, pp. 167-194. [77]

- Dewey, J. (2005), *Art as experience*, Penguin. [208]
- Drucker, P. (2007), *Management Challenges for the 21st Century*, Elsevier, Burlington. [86]
- Duncan, R. (1976), “The ambidextrous organization: Designing dual structures for innovation”, *The Management of Organization*, Vol. 1/1, pp. 167-188. [51]
- EC et al. (2021), *Investing in Career Guidance*, https://www.oecd.org/education/career-readiness/collapsecontents/Investing%20in%20CG_booklet_EN.pdf (accessed on 17 January 2023). [189]
- Education Gazette editors (2022), *The Time is Now: Education’s Contribution to a Climate-resilient Future*, <https://gazette.education.govt.nz/articles/the-time-is-now-educations-contribution-to-a-climate-resilient-future/>. [187]
- Elmore, R. (2004), *School Reform From The Inside Out: Policy, Practice, and Performance.*, Harvard Education Press, Cambridge MA. [35]
- Epstein, J. (2021), *The Nordic Model of Education and Home-School Relations*, AERA Annual Meeting Family, School, Community Partnerships SIG. [120]
- Epstein, J. (2018), “School, family, and community partnerships in teachers’ professional work”, *Journal of Education for Teaching*, Vol. 44/3, pp. 397-406, <https://doi.org/10.1080/02607476.2018.1465669>. [69]
- Epstein, J. and S. Sheldon (2023), *School, family, and community partnerships: Preparing educators and improving schools*, Taylor and Francis, New York. [107]
- Facer, K. and M. Buchczyk (2019), “Towards a research agenda for the ‘actually existing’ Learning City”, *Oxford Review of Education*, Vol. 45/2, pp. 151-167, <https://doi.org/10.1080/03054985.2018.1551990>. [146]
- Facer, K. and A. Sriprakash (2021), “Provincialising futures literacy: A caution against codification”, *Futures*, Vol. 133, p. 102807, <https://doi.org/10.1016/j.futures.2021.102807>. [18]
- Fazey, I. et al. (2014), “Evaluating knowledge exchange in interdisciplinary and multi-stakeholder research”, *Global Environmental Change*, Vol. 25, pp. 204-220. [158]
- Finland Ministry of Education and Culture (2022), *Teacher Education Development Programme 2022–2026*, Ministry of Education and Culture, <https://urn.fi/URN:NBN:fi-fe2022053140998> (accessed on 27 March 2023). [30]
- Finland Ministry of Education and Culture (2016), *Opettajankoulutuksen kehittämisohjelma [Development programme for teachers’ pre- and in-service education]*, Ministry of Education and Culture, https://minedu.fi/artikkeli/-/asset_publisher/260kehittamisohjelma-julkistettiin-opetnitelmallisesti-lapityour (accessed on 27 March 2023). [32]
- Forester, J. (2020), “Five generations of theory–practice tensions: Enriching socio-ecological practice research”, *Socio-Ecological Practice Research*, Vol. 2/1, pp. 111-119, <https://doi.org/10.1007/s42532-019-00033-3>. [137]
- Freeman, R. (2010), *Strategic Management: A Stakeholder Approach*, Cambridge university press. [66]
- Freidman, T. (2005), *The World is Flat*, Farrar, Straus and Giroux, New York. [37]
- Friedman, T. and J. Manyika (2019), *Thomas L. Freidman and James Manyika: The world’s gone from flat, to fast, to deep*, McKinsey. [38]

- Froiland, J. and J. Mark (2021), “A comprehensive model of preschool through high school parent involvement with emphasis on the psychological facets”, *School Psychology International*, Vol. 42/2, pp. 103-131, <https://doi.org/10.1177/0143034320981393>. [108]
- Fuller, T. (2017), “Anxious relationships: The unmarked futures for post-normal scenarios in anticipatory systems”, *Technological Forecasting and Social Change*, Vol. 124, pp. 41-50, <https://doi.org/10.1016/J.TECHFORE.2016.07.045>. [24]
- Giles-Kaye, A. et al. (2022), “Supporting children’s mental health in primary schools: A qualitative exploration of educator perspectives”, *The Australian Educational Researcher*, <https://doi.org/10.1007/s13384-022-00558-9>. [155]
- Ginige, K., D. Amaratunga and R. Haigh (2018), “Mapping stakeholders associated with societal challenges: A methodological framework”, *Procedia engineering*, Vol. 212, pp. 1195-1202. [67]
- Goldblatt, P. (2006), “How John Dewey’s theories underpin art and art education”, *Education and Culture*, pp. 17-34. [209]
- Gómez-Domínguez, V. et al. (2022), “How much do we care about teacher burnout during the pandemic: A bibliometric review”, *International Journal of Environmental Research and Public Health*, Vol. 19/12, <https://doi.org/10.3390/ijerph19127134>. [6]
- Gordon, A. (2020), “Limits and longevity: A model for scenarios that influence the future”, *Technological Forecasting and Social Change*, Vol. 151, p. 119851, <https://doi.org/10.1016/j.techfore.2019.119851>. [124]
- Gordon, M. and K. Louis (2009), “Linking parent and community involvement with student achievement: Comparing principal and teacher perceptions of stakeholder influence”, *American journal of education*, Vol. 116/1, pp. 1-31. [40]
- Green, C. et al. (2021), “Developing innovative practices through third-space partnerships: Reflections on Project DARE (Dementia Knowledge, Art, Research and Education)”, *Journal of Educational Research and Practice*, Vol. 11/1, pp. 34-45. [194]
- Green, C., S. Tindall-Ford and M. Eady (2020), “School-university partnerships in Australia: A systematic literature review”, *Asia-Pacific Journal of Teacher Education*, Vol. 48/4, pp. 403-435, <https://doi.org/10.1080/1359866X.2019.1651822>. [195]
- Green, M. and C. Christian (1998), *Accompanying Young People On Their Spiritual Quest*, Church House Publishing. [115]
- Grice, C. (2019), “Leading pedagogical reform”, *International Journal of Leadership in Education*, Vol. 22/3, pp. 355-370, <https://doi.org/10.1080/13603124.2018.1463462>. [91]
- Gu, L. (2021), *Inclusion, Exclusion, or Segregation: Parents’ Position in Education in Sweden*, AERA SIG-Family, School, Community Partnerships Paper and Symposium Sessions. [119]
- Gümüşay, A. and J. Reinecke (2022), “Researching for desirable futures: From real utopias to imagining alternatives”, *Journal of Management Studies*, Vol. 59/1, pp. 236-242. [21]
- Hall, T. et al. (2021), “Narrating the learning ecosystem: Knowledge, environment and relationships for participatory and principled design of educational technology for childhood and youth”, *Narrating Childhood with Children and Young People: Diverse Contexts, Methods and Stories of Everyday Life*, pp. 257-280. [214]

- Halsey, J. (2022), *Don't expect schools to do all the heavy lifting to close the education divide between the big cities and the rest of Australia*, The Conversation. [184]
- Halsey, J. (2018), *Independent Review into Regional, Rural and Remote Education*, Australian Department of Education, <https://www.education.gov.au/quality-schools-package/independent-review-regional-rural-and-remote-education>. [183]
- Hamilton, E. and K. Margot (2020), "Learning to teach in a museum: Benefits of a museum–university partnership", *Journal of Museum Education*, Vol. 45/4, pp. 462-475, <https://doi.org/10.1080/10598650.2020.1807242>. [192]
- Hannah, A. et al. (2022), "The role of 'non-knowledge' in crisis policymaking: A proposal and agenda for future research", *Evidence & Policy*, pp. 1-15. [198]
- Hannon, V. and A. Peterson (2017), *Thrive: Schools Reinvented for the Real Challenges We Face*, Innovation Unit Press. [169]
- Harpazi, S. et al. (2020), "Perceptions of art therapy in adolescent clients treated within the school system", *Frontiers in Psychology*, Vol. 11, p. 518304. [200]
- Harris, A., C. Azorín and M. Jones (2021), "Network leadership: A new educational imperative?", *International Journal of Leadership in Education*, pp. 1-17, <https://doi.org/10.1080/13603124.2021.1919320>. [74]
- Heimbrock, S. (2023), *Building confidence builds competence: Why smoothing the transition from school-to-work with work-based learning is the key to a resilient, inclusive workforce*, OECD, Paris. [133]
- Helvacı, S. and I. Helvacı (2019), "An interdisciplinary environmental education approach: Determining the effects of E-STEM activity on environmental awareness", *Universal Journal of Educational Research*, Vol. 7/2, pp. 337-346. [141]
- Heras, M., I. Ruiz-Mallén and S. Gallois (2020), "Staging science with young people: Bringing science closer to students through stand-up comedy", *International Journal of Science Education*, Vol. 42/12, pp. 1968-1987, <https://doi.org/10.1080/09500693.2020.1807071>. [203]
- Hildreth, S. (2012), "Inspiring libraries as community anchors", *National Civic Review*, Vol. 101/4, pp. 44-48. [163]
- Hill, J. (2022), "Policy responses to false and misleading digital content: A snapshot of children's media literacy", *OECD Education Working Papers*, No. 275, OECD Publishing, Paris, <https://doi.org/10.1787/1104143e-en>. [170]
- Holfelder, A. (2019), "Towards a sustainable future with education?", *Sustainability Science*, Vol. 14, pp. 943-952, <https://doi.org/10.1007/s11625-019-00682-z>. [20]
- Holroyd, C. (2022), "Technological innovation and building a 'super smart' society: Japan's vision of society 5.0", *Journal of Asian Public Policy*, Vol. 15/1, pp. 18-31, <https://doi.org/10.1080/17516234.2020.1749340>. [121]
- Hoover, S. and J. Bostic (2021), "Best practices and considerations for student mental health screening in schools", *Journal of Adolescent Health*, Vol. 68/2, pp. 225-226, <https://doi.org/10.1016/j.jadohealth.2020.11.004>. [190]
- Horn, A. and D. Tandberg (2018), "Indicators of educational quality for postsecondary accountability systems", *Assessing quality in postsecondary education: International perspectives*, pp. 3-26. [127]

- Hsu, L. (2020), “Visioning the future: Evaluating learning outcomes and impacts of futures-oriented education”, *Journal of Futures Studies*, Vol. 24/4, pp. 103-116. [22]
- Husu, J. and A. Toom (2016), *Opettajat ja opettajankoulutus—suuntia tulevaan. Selvitys ajankohtaisesta opettaja- ja opettajankoulutustutkimuksesta opettajankoulutuksen kehittämissuunnitelman laatimisen tueksi. [Teachers and teacher education—Directions for the future. Report of the current teacher and teacher education research to support their further development; in Finnish]*, Ministry of Education and Culture, <https://urn.fi/URN:NBN:fi-fe2022053140998> (accessed on 27 March 2023). [31]
- International, E. (2022), *A Briefing by Educational International: The Pandemic-Moving Forward: Governments and Teacher Unions Working Together to Leave No-One Behind*, Educational International. [53]
- Istance, D. and M. Kools (2013), “OECD work on technology and education: Innovative learning environments as an integrating framework”, *European Journal of Education*, Vol. 48/1, pp. 43-57. [100]
- Iyengar, R. (2021), “Rethinking community participation in education post Covid-19”, *Prospects*, Vol. 51/1, pp. 437-447, <https://doi.org/10.1007/s1125-020-09538-2>. [11]
- Jamal, S., N. Ibrahim and J. Surif (2019), “Concept cartoon in problem-based learning: A systematic literature review analysis”, *Journal of Technology and Science Education*, Vol. 9/1, pp. 51-58. [201]
- Jeziarski, S. and G. Wall (2019), “Changing understandings and expectations of parental involvement in education”, *Gender and Education*, Vol. 31/7, pp. 811-826, <https://doi.org/10.1080/09540253.2017.1332340>. [112]
- Jordan, M., R. Kleinsasser and M. Roe (2014), “Wicked problems: inescapable wickedity”, *Journal of Education for Teaching*, Vol. 40/4, pp. 415-430, <https://doi.org/10.1080/02607476.2014.929381>. [46]
- Kashiwa, M. and P. Benson (2018), “A road and a forest: Conceptions of in-class and out-of-class learning in the transition to study abroad”, *TESOL Quarterly*, Vol. 52/4, pp. 725-747. [217]
- Ko, D. et al. (2020), “A systematic review of boundary-crossing partnerships in designing equity-oriented special education services for culturally and linguistically diverse students with disabilities”, *Remedial and Special Education*, Vol. 42/6, pp. 412-425, <https://doi.org/10.1177/0741932520983474>. [73]
- Kools, M. and L. Stoll (2016), “What makes a school a learning organisation?”, *OECD Education Working Papers*, No. 137, OECD Publishing, Paris, <https://doi.org/10.1787/5jlwm62b3bvh-en>. [215]
- Kopp, C. (2022), *Partnership: Definition, How It Works, Taxation, and Types*, <https://www.investopedia.com/terms/p/partnership.asp#:~:text=A%20partnership%20is%20an%20arrangement,form%20a%20limited%20liability%20partnership>. [139]
- Kozyreva, A. et al. (2022), “Critical ignoring as a core competence for digital citizens”, *Current Directions in Psychological Science*, pp. 81-88, <https://doi.org/10.1177/09637214221121570>. [197]
- Kraehe, A., J. Acuff and S. Travis (2016), “Equity, the arts, and urban education: A review”, *The Urban Review*, Vol. 48/2, pp. 220-244, <https://doi.org/10.1007/s11256-016-0352-2>. [206]
- Landrum, R., K. Brakke and M. McCarthy (2019), “The pedagogical power of storytelling.”, *Scholarship of Teaching and Learning in Psychology*, Vol. 5/3, p. 247. [202]
- Lavonen, J. (2018), “Educating professional teachers in Finland through the continuous improvement of teacher education programmes”, *Contemporary Pedagogies in Teacher Education and Development*, pp. 3-22. [28]

- Lavonen, J. et al. (2020), “A collaborative design for a Finnish teacher education development programme”, *Journal of Teacher Education and Educators*, Vol. 9/2, pp. 241-262. [27]
- Lawson, H. (2013), “Third-generation partnerships for P-16 pipelines and cradle-through-career education systems”, *Peabody Journal of Education*, Vol. 88/5, pp. 637-656, <https://doi.org/10.1080/0161956X.2013.835187>. [129]
- Lawson, H. and D. Veen (2016), “A planning framework for the five core components”, in *Developing Community Schools, Community Learning Centers, Extended-service Schools and Multi-service Schools*, Springer. [114]
- Lewandowsky, S., K. Facer and U. Ecker (2021), “Losses, hopes, and expectations for sustainable futures after COVID”, *Humanities and Social Sciences Communications*, Vol. 8/1, p. 296, <https://doi.org/10.1057/s41599-021-00961-0>. [167]
- Li, L., R. Tripathy and L. Gluck (n.d.), *Don't Forget the "R" In R&D! Lessons From A Research Partnership for Inclusive Edtech Design*, <https://www.learningdesigned.org/resource/don%E2%80%99t-forget-%E2%80%9Cr%E2%80%9D-rd>. [174]
- Madigan, D. and L. Kim (2021), “Does teacher burnout affect students? A systematic review of its association with academic achievement and student-reported outcomes”, *International Journal of Educational Research*, Vol. 105, p. 101714, <https://doi.org/10.1016/j.ijer.2020.101714>. [5]
- Malmberg-Heimonen, I., A. Tøge and S. Akhtar (2023), “Improving interprofessional collaboration in schools: A cluster-randomized study evaluating the effectiveness of the LOG model on collaboration practices”, *Journal of Interprofessional Care*, pp. 1-8, <https://doi.org/10.1080/13561820.2022.2149717>. [42]
- Mann, A. (2022), *Career Readiness and “Green” Career Choices*, <https://epale.ec.europa.eu/en/blog/career-readiness-and-green-career-choices>. [190]
- Markowitsch, J. and J. Bjørnåvold (2022), “Scenarios for vocational education and training in Europe in the 21st century”, *Hungarian Educational Research Journal*, Vol. 12/3, pp. 235-247, <https://doi.org/10.1556/063.2021.00116>. [182]
- Masson, M., M. Antony-Newman and M. Antony-Newman (2022), “The immigrant perspective: Eastern-European parental discourses about the value of French, plurilingualism and plurilingual literacy practices”, *International Journal of Bilingual Education and Bilingualism*, Vol. 25/9, pp. 3507-3520, <https://doi.org/10.1080/13670050.2022.2079372>. [96]
- Mbah, M., S. Ajaps and P. Molthan-Hill (2021), “A systematic review of the deployment of Indigenous Knowledge Systems towards Climate change adaptation in developing world contexts: Implications for climate change education”, *Sustainability*, Vol. 13/9, <https://doi.org/10.3390/su13094811>. [221]
- McLean, J. (2020), “Changing digital geographies”, in *Changing Digital Geographies*, Springer. [223]
- Mekacher, L. (2019), “Augmented Reality (AR) and Virtual Reality (VR): The future of interactive vocational education and training for people with handicap”, *International Journal of Teaching, Education and Learning*, Vol. 3/1, pp. 1-12. [184]
- Mersand, S. et al. (2019), “Public Libraries as Anchor Institutions in Smart Communities: Current Practices and Future Development”, *Proceedings of the 52nd Hawaii International Conference on System Sciences*. [164]

- Metzger, E. et al. (2018), *The Ambition Loop: How Business and Government Can Advance Policies That Fast Track Zero-Carbon Economic Growth.*, [16]
<https://static1.squarespace.com/static/5bbe243651f4d40801af46d5/t/5c00266c0e2e728a28cee091/1543513751309/The-Ambition-Loop.pdf>.
- Mezza, A. (2022), “Reinforcing and innovating teacher professionalism: Learning from other professions”, [9]
OECD Education Working Papers, No. 276, OECD Publishing, Paris,
<https://doi.org/10.1787/117a675c-en>.
- Mockler, N. (2020), “Navigating professional identity as a teacher of history”, in *Historical Thinking for History Teachers*, Routledge. [81]
- Mockler, N. (2013), “The slippery slope to efficiency? An Australian perspective on school/university partnerships for teacher professional learning”, *Cambridge Journal of Education*, Vol. 43/3, pp. 273-289, <https://doi.org/10.1080/0305764X.2013.818103>. [78]
- Mooney, B. (ed.) (2020), *Ireland's Yearbook of Education 2018-2019*, Education Matters, Kerry. [59]
- Moss, P. (2012), “Readiness, partnership, a meeting place? Some thoughts on the possible relationship between early childhood and compulsory school education”, *Forum*, Vol. 54/3, pp. 355-368. [110]
- Moula, Z. (2020), “A systematic review of the effectiveness of art therapy delivered in school-based settings to children aged 5–12 years”, *International Journal of Art Therapy*, Vol. 25/2, pp. 88-99, <https://doi.org/10.1080/17454832.2020.1751219>. [199]
- Mujtaba, T. et al. (2018), “Learning and engagement through natural history museums”, *Studies in Science Education*, Vol. 54/1, pp. 41-67, <https://doi.org/10.1080/03057267.2018.1442820>. [75]
- Mulgan, G. (2018), *Big mind: How collective intelligence can change our world*, Princeton University Press. [65]
- Munro, D. (2019), *Skills, Training and Lifelong Learning*, Public Policy Forum. [13]
- National Research Council (2015), *Transforming the Workforce for Children Birth Through Age 8: A Unifying Foundation*, National Academies Press. [130]
- Network, O. (2019), *Scaling Access & Impact: Realizing the Power of EdTech.*, Omiyar Network, <https://omidyar.com/scaling-access-impact-realizing-the-power-of-edtech-2/>. [213]
- New Zealand Ministry of Education (2023), *Kōrero Mātauranga: Welcome to the hub for the Education Conversation*, <https://conversation.education.govt.nz/about/>. [63]
- New Zealand Ministry of Education (2023), *School Leavers' Toolkit for Teachers*, <https://slt-resources.tki.org.nz/curriculum-resources/>. [123]
- New Zealand Parliament (2023), *Speaker's Outreach Programme*, <https://www.parliament.nz/en/visit-and-learn/speakers-outreach-programme/>. [122]
- Nilsson Brodén, D. (2022), “Cross-sector and interprofessional collaborations: A powerful tool for the teaching profession?”, *OECD Education Working Papers*, No. 283, OECD Publishing, Paris, <https://doi.org/10.1787/7144c6ac-en>. [15]
- Noordegraaf, M. (2020), “Protective or connective professionalism? How connected professionals can (still) act as autonomous and authoritative experts”, *Journal of Professions and Organization*, Vol. 7/2, pp. 205-223, <https://doi.org/10.1093/jpo/joaa011>. [10]

- Nørgård, R. (2021), “Theorising hybrid lifelong learning”, *British Journal of Educational Technology*, Vol. 52/4, pp. 1709-1723. [186]
- Norton, M. and B. Zoghi (2020), *A Narrative Inquiry into Pedagogical Approaches that Support the Development of Transversal Skills in Engineering Students*, 2020 ASEE Virtual Annual Conference. [128]
- Oates, C. and C. Bignell (2022), “School and university in partnership: A shared enquiry into teachers’ collaborative practices”, *Professional Development in Education*, Vol. 48/1, pp. 105-119, <https://doi.org/10.1080/19415257.2019.1689520>. [134]
- O’Brien, C. (2022), “Citizen’s Assembly on education to ‘include voice of youth’”, *The Irish Times*. [60]
- OECD (2023), “Micro-credentials for lifelong learning and employability: Uses and possibilities”, *OECD Education Policy Perspectives*, No. 66, OECD Publishing, Paris, <https://doi.org/10.1787/9c4b7b68-en>. [85]
- OECD (2023), *Retaining Talent at All Ages, Ageing and Employment Policies*, OECD Publishing, Paris, <https://doi.org/10.1787/00dbdd06-en>. [1]
- OECD (2023), *Teaching for the Future: Global Engagement, Sustainability and Digital Skills*, International Summit on the Teaching Profession, OECD Publishing, Paris, <https://doi.org/10.1787/d6b3d234-en>. [8]
- OECD (2022), *Are Students Ready to Take on Environmental Challenges?*, PISA, OECD Publishing, Paris, <https://doi.org/10.1787/8abe655c-en>. [149]
- OECD (2022), *Building Trust and Reinforcing Democracy: Preparing the Ground for Government Action*, OECD Public Governance Reviews, OECD Publishing, Paris, <https://doi.org/10.1787/76972a4a-en>. [102]
- OECD (2022), *Building Trust to Reinforce Democracy: Main Findings from the 2021 OECD Survey on Drivers of Trust in Public Institutions*, Building Trust in Public Institutions, OECD Publishing, Paris, <https://doi.org/10.1787/b407f99c-en>. [45]
- OECD (2022), *Delivering For Youth: How Governments Can Put Young People at the Centre of the Recovery*, OECD Publishing, Paris., <https://www.oecd.org/coronavirus/policy-responses/delivering-for-youth-how-governments-can-put-young-people-at-the-centre-of-the-recovery-92c9d060/>. [101]
- OECD (2022), *Education at a Glance 2022: OECD Indicators*, OECD Publishing, Paris, <https://doi.org/10.1787/3197152b-en>. [29]
- OECD (2022), *Education Ministerial: Re-building an Inclusive and Equitable Society through Education*, <https://www.oecd.org/education/ministerial/>. [39]
- OECD (2022), *Education Policy Outlook 2022: Transforming Pathways for Lifelong Learners*, OECD Publishing, Paris, <https://doi.org/10.1787/c77c7a97-en>. [26]
- OECD (2022), *The Culture Fix: Creative People, Places and Industries*, Local Economic and Employment Development (LEED), OECD Publishing, Paris, <https://doi.org/10.1787/991bb520-en>. [161]
- OECD (2022), *Trends Shaping Education 2022*, OECD Publishing, Paris, <https://doi.org/10.1787/6ae8771a-en>. [57]
- OECD (2022), *Who Cares about Using Education Research in Policy and Practice?: Strengthening Research Engagement*, Educational Research and Innovation, OECD Publishing, Paris, <https://doi.org/10.1787/d7ff793d-en>. [178]

- OECD (2021), *Global Scenarios 2035: Exploring Implications for the Future of Global Collaboration and the OECD*, OECD Publishing, Paris, <https://doi.org/10.1787/df7ebc33-en>. [17]
- OECD (2021), *OECD Digital Education Outlook 2021: Pushing the Frontiers with Artificial Intelligence, Blockchain and Robots*, OECD Publishing, Paris, <https://doi.org/10.1787/589b283f-en>. [142]
- OECD (2021), *OECD Skills Outlook 2021: Learning for Life*, OECD Publishing, Paris, <https://doi.org/10.1787/0ae365b4-en>. [145]
- OECD (2021), *Starting Strong VI: Supporting Meaningful Interactions in Early Childhood Education and Care*, Starting Strong, OECD Publishing, Paris, <https://doi.org/10.1787/f47a06ae-en>. [43]
- OECD (2020), *Back to the Future of Education: Four OECD Scenarios for Schooling*, Educational Research and Innovation, OECD Publishing, Paris, <https://doi.org/10.1787/178ef527-en>. [87]
- OECD (2020), *Early Childhood Education: Equity, Quality and Transitions: Report for the G20 Education Working Group*, OECD, Paris. [181]
- OECD (2020), *TALIS 2018 Results (Volume II): Teachers and School Leaders as Valued Professionals*, TALIS, OECD Publishing, Paris, <https://doi.org/10.1787/19cf08df-en>. [2]
- OECD (2019), *OECD Future of Education and Skills 2030 OECD Learning Compass 2030 A Series of Concept Notes*, <https://www.oecd.org/education/2030-project/contact/>. [97]
- OECD (2019), *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*, TALIS, OECD Publishing, Paris, <https://dx.doi.org/10.1787/1d0bc92a-en>. [111]
- OECD (2019), *Working and Learning Together: Rethinking Human Resource Policies for Schools*, OECD Reviews of School Resources, OECD Publishing, Paris, <https://doi.org/10.1787/b7aaf050-en>. [36]
- OECD (2017), *Starting Strong V: Transitions from Early Childhood Education and Care to Primary Education*, Starting Strong, OECD Publishing, Paris, <https://doi.org/10.1787/9789264276253-en>. [126]
- OECD (2013), *Innovative Learning Environments*, Educational Research and Innovation, OECD Publishing, Paris, <https://doi.org/10.1787/9789264203488-en>. [216]
- OECD (Forthcoming), “The Future of Teachers and Teaching”. [218]
- OECD; Education International; Ministry of Education and Vocational Training of Spain (2022), *International Summit on the Teaching Profession*, <https://istp2022.es/en/welcome/>. [25]
- Paniagua, A. and D. Istance (2018), *Teachers as Designers of Learning Environments: The Importance of Innovative Pedagogies*, Educational Research and Innovation, OECD Publishing, Paris, <https://doi.org/10.1787/9789264085374-en>. [172]
- Parry, L. (2022), *A New Definition of Success with Valerie Hannon*, <https://www.thelearningfuture.com/the-learning-future-podcast/episode-2-a-new-definition-of-success-with-valerie-hannon>. [88]
- Payne, S. and J. Calton (2004), “Exploring research potentials and applications for multi-stakeholder learning dialogues”, *Journal of Business Ethics*, Vol. 55/1, pp. 71-78, <https://doi.org/10.1007/s10551-004-1570-1>. [157]

- Pedretti, E. and A. Navas Iannini (2020), “Towards fourth-generation science museums: Changing goals, changing roles”, *Canadian Journal of Science, Mathematics and Technology Education*, Vol. 20/4, pp. 700-714, <https://doi.org/10.1007/s42330-020-00128-0>. [71]
- Penttinen, V., E. Pakarinen and M. Lerkkanen (2020), *Exploring Parent-teacher Trust and School Involvement: A Finnish perspective*, Nova Science Publishers. [95]
- Perälä-Littunen, S. and M. Böök (2019), “Finnish teacher-students’ views on home-school cooperation”, *International Journal about Parents in Education*, Vol. 11/1. [106]
- Pilichowski, E. (2023), *What is the role of public servants and policymakers in the battle against mis- and disinformation in our democratic systems?*, OECD, Paris, <https://www.oecd-forum.org/posts/what-is-the-role-of-public-servants-and-policymakers-in-the-battle-against-mis-and-disinformation-in-our-democratic-systems>. [196]
- Pino-Yancovic, M. et al. (2022), “Collaborating inside and outside the school: Together overcoming COVID-19 challenges in Chile”, *Journal of Professional Capital and Community*, Vol. ahead-of-print/ahead-of-print, <https://doi.org/10.1108/JPC-04-2022-0025>. [33]
- Pushor, D. (2015), “Walking alongside: A pedagogy of working with parents and family in Canada”, in *International teacher education: Promising pedagogies (Part B)*, Emerald Group Publishing Limited. [113]
- Pushor, D. and T. Amendt (2018), “Leading an examination of beliefs and assumptions about parents”, *School Leadership & Management*, Vol. 38/2, pp. 202-221. [93]
- Raum, S. (2018), “A framework for integrating systematic stakeholder analysis in ecosystem services research: Stakeholder mapping for forest ecosystem services in the UK”, *Ecosystem Services*, Vol. 29, pp. 170-184. [64]
- Resch, K., I. Schrittmesser and M. Knapp (2022), “Overcoming the theory-practice divide in teacher education with the ‘Partner School Programme’. A conceptual mapping”, *European Journal of Teacher Education*, pp. 1-17, <https://doi.org/10.1080/02619768.2022.2058928>. [135]
- Rousell, D. and A. Cutter-Mackenzie-Knowles (2020), “A systematic review of climate change education: giving children and young people a ‘voice’ and a ‘hand’ in redressing climate change”, *Children’s Geographies*, Vol. 18/2, pp. 191-208, <https://doi.org/10.1080/14733285.2019.1614532>. [219]
- Ryan, S. (2021), *Promising Partnership Practices to Support Children’s Learning*, Cambridge Scholars Publishing. [94]
- Saritas, O. and J. Smith (2011), “The Big Picture – trends, drivers, wild cards, discontinuities and weak signals”, *Futures*, Vol. 43/3, pp. 292-312, <https://doi.org/10.1016/J.FUTURES.2010.11.007>. [177]
- Schleicher, A. (2018), *Valuing our Teachers and Raising their Status: How Communities Can Help*, International Summit on the Teaching Profession, OECD Publishing, Paris, <https://doi.org/10.1787/9789264292697-en>. [41]
- Scottish government and Convention of Scottish Local Authorities (2022), *Let’s talk Scottish education - National discussion*, Let’s Talk Scottish Education, <https://consult.gov.scot/national-discussion-scottish-education/>. [61]
- Serussi, S. and M. Divitini (2017), *Girls and Computing in Lower Secondary Education: The Surprisingly Unsurprising Results of a Norwegian Exploratory Study*, Bibsys Open Journal Systems. [153]

- Shek, D. et al. (2019), “Positive youth development: current perspectives”, *Adolescent Health, Medicine and Therapeutics*, Vol. 10, pp. 131-141, <https://doi.org/10.2147/AHMT.S179946>. [160]
- Sheldon, S. and S. Jung (2018), “Student outcomes and parent teacher home visits”, *Center on School, Family, & Community Partnerships, Johns Hopkins University*, <http://www.pthvp.org/wp-content/uploads/2018/12/181130-StudentOutcomesandPTHVReportFINAL.pdf>. [116]
- Shintani, N., S. Li and R. Ellis (2013), “Comprehension-Based Versus Production-Based Grammar Instruction: A Meta-Analysis of Comparative Studies”, *Language Learning*, Vol. 63/2, pp. 296-329, <https://doi.org/10.1111/lang.12001>. [165]
- Siarova, H. and L. van der Graaf (2022), “Multi-stakeholder approach for better integration of refugee students: Stakeholder engagement in the practice-research-policy transfer in refugee education policy”, *OECD Education Working Papers*, No. 265, OECD Publishing, Paris, <https://doi.org/10.1787/82b390fb-en>. [159]
- Simon, N. and S. Johnson (2015), “Teacher turnover in high-poverty schools: What we know and can do”, *Teachers College Record*, Vol. 117/3, pp. 1-36, <https://doi.org/10.1177/016146811511700305>. [3]
- Singapore Ministry of Education (n.d.), *Educational Technology Journey*, <https://www.moe.gov.sg/education-in-sg/educational-technology-journey>, <https://www.moe.gov.sg/education-in-sg/educational-technology-journey>. [175]
- Skilling, K. and G. Stylianides (2020), “Using vignettes in educational research: a framework for vignette construction”, *International Journal of Research & Method in Education*, Vol. 43/5, pp. 541-556, <https://doi.org/10.1080/1743727X.2019.1704243>. [179]
- Smakman, M., P. Vogt and E. Konijn (2021), “Moral considerations on social robots in education: A multi-stakeholder perspective”, *Computers & Education*, Vol. 174, p. 104317, <https://doi.org/10.1016/J.COMPEDU.2021.104317>. [48]
- Small, M. (2009), *Unanticipated Gains: Origins of Network Inequality in Everyday Life*, Oxford University Press. [156]
- Smithers, L. et al. (2018), “A systematic review and meta-analysis of effects of early life non-cognitive skills on academic, psychosocial, cognitive and health outcomes”, *Nature Human Behaviour*, Vol. 2/11, pp. 867-880, <https://doi.org/10.1038/s41562-018-0461-x>. [44]
- Song, G. and Z. Wang (2021), “Factors influencing middle school students’ interdisciplinary competence in science education”, *Journal of Research in Science Teaching*, Vol. 58/7, pp. 1041-1072. [144]
- Southgate, E. (2020), *Virtual Reality in Curriculum and Pedagogy: Evidence from secondary Classrooms*, Routledge. [72]
- Southgate, E., R. Reynolds and P. Howley (2013), “Professional experience as a wicked problem in initial teacher education”, *Teaching and Teacher Education*, Vol. 31, pp. 13-22, <https://doi.org/10.1016/j.tate.2012.11.005>. [47]
- Spilski, J. et al. (2019), “Potential of VR in the vocational education and training of craftsmen”, *Proceedings of the 19th International Conference on Construction Applications of Virtual Reality*, pp. 181-190. [183]
- Suarez, V. and J. McGrath (2022), “Teacher professional identity: How to develop and support it in times of change”, *OECD Education Working Papers*, No. 267, OECD Publishing, Paris, <https://doi.org/10.1787/b19f5af7-en>. [12]

- Sutcher, L., L. Darling-Hammond and D. Carver-Thomas (2019), “Understanding teacher shortages: An analysis of teacher supply and demand in the United States”, *Education Policy Analysis Archives*, Vol. 27/35, p. 35, <https://doi.org/10.14507/epaa.27.3696>. [4]
- Tesar, M. (2021), “Future studies: Reimagining our educational futures in the post-Covid-19 world”, *Policy Futures in Education*, Vol. 19/1, pp. 1-6. [89]
- The Teaching Council Ireland (2022), *BEACONS*, <https://www.teachingcouncil.ie/website/en/about-us1/beacons/>. [58]
- Thode, E. (2023), “The Need for Future Competencies: What can the analysis of online job ads tell us?”, *The OECD Forum*, <https://www.oecd-forum.org/posts/the-need-for-future-competencies-what-can-the-analysis-of-online-job-ads-tell-us>. [151]
- Toekomstvanonderwijswetenschap (2022), *Toekomstvanonderwijswetenschap*, <https://toekomstvanonderwijswetenschap.nl/english/> (accessed on 4 June 2023). [62]
- Toimata Foundation and Te Mauri Tau (2023), *Enviroschools*, <https://toekomstvanonderwijswetenschap.nl/english/> (accessed on 4 June 2023). [150]
- Ulferts, H. (ed.) (2021), *Teaching as a Knowledge Profession: Studying Pedagogical Knowledge across Education Systems*, Educational Research and Innovation, OECD Publishing, Paris, <https://doi.org/10.1787/e823ef6e-en>. [103]
- University of Newcastle (2020), *Silver Lining for COVID-19 Affected HSC Students*, <https://www.newcastle.edu.au/newsroom/featured/silver-lining-for-covid-19-affected-hsc-students>. [138]
- Van Huizen, T. and J. Plantenga (2018), “Do children benefit from universal early childhood education and care? A meta-analysis of evidence from natural experiments”, *Economics of Education Review*, Vol. 66, pp. 206-222, <https://doi.org/10.1016/j.econedurev.2018.08.001>. [131]
- Villalba-García, E. (2021), “Validation of non-formal and informal learning: The hero with a thousand faces?”, *European Journal of Education*, <https://doi.org/10.1111/ejed.12468>, pp. 351-364, <https://doi.org/10.1111/ejed.12468>. [125]
- Vincent-Lancrin, S. et al. (2019), *Fostering Students’ Creativity and Critical Thinking: What it Means in School*, Educational Research and Innovation, OECD Publishing, Paris, <https://doi.org/10.1787/62212c37-en>. [152]
- Wang, H. et al. (2020), “Defining interdisciplinary collaboration based on high school teachers’ beliefs and practices of STEM integration using a complex designed system”, *International Journal of STEM Education*, Vol. 7/1, p. 3, <https://doi.org/10.1186/s40594-019-0201-4>. [140]
- Weißenfels, M., E. Klopp and F. Perels (2022), “Changes in teacher burnout and self-efficacy during the COVID-19 pandemic: Interrelations and e-learning variables related to change”, *Frontiers in Education*, <https://doi.org/10.3389/educ>. [7]
- Wei, Y. and J. Broome (2022), “Same Standards, Different Classes: A Comparative Case Study of Two Art Classes Within Communities of Contrasting Socioeconomic Status”, *Studies in Art Education*, Vol. 63/1, pp. 55-68, <https://doi.org/10.1080/00393541.2021.2007689>. [207]
- Weninger, C. (2018), “Problematising the notion of ‘authentic school learning’: Insights from student perspectives on media/literacy education”, *Research Papers in Education*, Vol. 33/2, pp. 239-254. [171]

- White, S. (2019), “Teacher educators for new times? Redefining an important occupational group”, [76]
Journal of Education for Teaching, Vol. 45/2, pp. 200-213,
<https://doi.org/10.1080/02607476.2018.1548174>.
- Yang, K., C. Chou and Y. Chiu (2014), “How unlearning affects radical innovation: The dynamics of [52]
social capital and slack resources”, *Technological Forecasting and Social Change*, Vol. 87, pp. 152-
163, <https://doi.org/10.1016/j.techfore.2013.12.014>.

Annex A. Statements of ambition for the educational community

This annex outlines “Statements of ambition” which are specific to each of the education areas:

- ECEC
- VET and lifelong learning
- Higher education, including teacher education

The Statements of ambition will be of relevance for those wishing to explore specific cross-sectoral relationships and collaborations.

Table A A.1. Statements of ambition for ECEC

Statement of ambition	Short description
Early childhood education leadership provides resources and tools for supporting inter-institutional collaboration and staff professional development	Leadership at all levels can develop systems to support the learning and work of teachers. Leadership also plays a key role to remove obstacles from maximising benefits for the efforts that take place in practice (OECD, 2017 _[126]).
Schools ensure that teachers have organisational support (time/space) to use shared curriculum and pedagogical knowledge in order to support students in continued learning when they transition from early childhood education to schooling	Conditions conducive to a collaborative focus between pre-primary and primary settings are necessary to remove barriers and realise benefits (OECD, 2017 _[126]). Processes should support the development of trust (Bethere, Pavitola and Grava, 2022 _[180]) as well as opportunities to engage purposefully (Bethere, Pavitola and Grava, 2022 _[180]).
Policy makers ensure alignment between early childhood and primary education curricula and these have a clear progression over the years, valuing the continuing development of the child	ECE curricula should inform curriculum in transition years to primary school and support pedagogical approaches that meet child’s developmental needs beyond a narrow academic orientation and build on the capabilities children have already (OECD, 2020 _[181]).
Policy makers support the development of the early childhood education workforce, including recognition of its professional status as equal with teachers in primary education	Equalising the professional status of pre-primary and primary teachers is important for achieving bi-directional communication between these two groups, ensuring that the knowledge and skills of pre-primary teachers is recognised and valued. Teachers specialised in early childhood development, or with greater experience of transitions, are more likely to use a higher number and wider variety of transition practices (OECD, 2017 _[126]).
All partners value a focus on making schools ready for children, and not only children ready for school	Align the culture of pre-primary and primary settings to reduce the gaps for children as they transition, creating systems that are appropriate to the age of children (OECD, 2017 _[126]). Transition between the two setting should be seen as multi-directional and holistic (OECD, 2017 _[126]). At a system level, there is opportunity to create greater integration beyond transition points, or going further, to significantly rethink the concept of schooling.
All partners value a continuum of services from early childhood education to schooling that has a broader focus than just on the transition point	A holistic focus on supporting a child, with an extended view of development across pre-primary and primary settings will benefit the child and reduce the impacts of transition points.
All partners value and ensure opportunities for joint continuing professional learning between early childhood and primary education staff	A key focus would include sharing and developing the same knowledge and understandings related to child development, learning and well-being, as well as student transition (OECD, 2020 _[181]).
All partners value and seek the active involvement of parents and children in the transition processes as part of developing a community approach	Pre-primary and primary collaboration can support involvement of parents as well as other agencies such as health and family services (OECD, 2020 _[181]). There are many advantages to developing a community approach or education microsystem (Bethere, Pavitola and Grava, 2022 _[180]) and ensuring students have voice in the transition process as part of developing their agency (OECD, 2017 _[126]). Working closely with families has benefits for all stakeholders. There is also opportunity to continue long-term, reciprocal relationships that articulate the unique qualities of a child (OECD, 2017 _[126]).

Table A A.2. Statements of ambition for VET and lifelong learning

Statement of ambition	Short description
Policy makers explore the interconnections between vocational and academic learning to support a pluralistic approach to education	While maintaining the benefits from a distinctive VET approach as the preferred option for some students, there are opportunities to also reduce the distinctions from general education through a stronger focus on lifelong learning that broadens opportunities for all students (Markowitsch and Bjørnåvold, 2022 ^[182]).
Policy makers work with partners to examine the possibilities that technology can play in VET	Technology provides opportunities including for delivering training, such as through simulators or Virtual Reality (VR) (Spilski et al., 2019 ^[183] ; Mekacher, 2019 ^[184]). It also provides opportunities for the management and communication between the learning environments. (M. Vandeweyer, personal communication, 2023) and can support inclusive learning environments for students with disabilities (Mekacher, 2019 ^[184]).
Policy makers support the reframing of the purpose and nature of teachers' work within a framework of lifelong learning for citizens	As the focus on benefits of lifelong learning for citizens grows (Munro, 2019 ^[13]), there is value to make connections with current formal schooling to explore opportunities and ensure cohesion in approaches. Developing a learning society, based on principles of lifelong learning, requires shared responsibility across all levels (Day, 2002 ^[14]). This could include examining processes of certification and skills recognition, including modularisation/ micro credentialling, and pathway options that are accessible in formal schooling and beyond (Brown and Nic-Giolla-Mhichil, 2022 ^[185]).
All partners examine opportunities to create hybrid lifelong learning opportunities that connects theory and practice and breakdown boundaries of learning environments beyond the school fence	Establishing partnerships with local and beyond organisations provides opportunities for rich learning experiences (Nørgård, 2021 ^[186]) at school, opportunities beyond the school, as well as developing lifelong learning capacity. Approaches can include bringing experts into the learning space, learner developed assignments, developing real life projects and using public spaces to showcase final projects (Nørgård, 2021 ^[186]). At a broader level, these approaches can be summarised as "for the public", "with the public" or "in the public" (Nørgård, 2021 ^[186]). Teachers can play a role in developing contacts.
All partners recognise that VET and lifelong learning can play a leading role in the development of skills for green jobs	VET can be at the forefront of connecting school and labour market transformation around skills for green jobs (Education Gazette editors, 2022 ^[187] ; Cedefop, 2022 ^[188]). This includes include both technical skills (to work in green jobs, but also to apply greener technologies in other jobs) and sustainability competences/ values (Cedefop, 2022 ^[188]). Lifelong learning opportunities can be a conduit for opening up the conversation around climate change and ways of responding (Education Gazette editors, 2022 ^[187]). There is a need to plan for both shorter-term and longer-term transformations (Cedefop, 2022 ^[188]). A focus during formal schooling can support ongoing learning as an adult.
All partners value opportunities to use local and beyond networks to support career education experiences	Authentic experiences through careers education can support young people to connect with changing labour markets as well as learn about the impacts of global trends, such as green transition (EC et al., 2021 ^[189] ; Mann, 2022 ^[190]). This includes career conversations, workplace visits or job shadowing and occupationally focused short programmes (Covacevich et al., 2021 ^[191]). This provides opportunities to promote the value of VET jobs and to challenge gender and other stereotypes.

Table A A.3. Statements of ambition specific to higher education, including teacher education

Statement of ambition	Short description
Higher education partners, including Teacher Education, have an explicit focus on providing future and current professionals with the necessary skills to work effectively within cross-sectoral/interprofessional collaborations	Interprofessional work and cross-sector collaboration is a key feature of professional work (Lawson, 2013 _[129] ; Nilsson Brodén, 2022 _[15]). The skills need to be explicitly learnt (Lawson, 2013 _[129]) to maximise value from these efforts (Hamilton and Margot, 2020 _[192]).
Education policy makers value and promote the potential for schools to establish long-term relationships with universities in their local context (acting as 'anchor institutions' in their communities)	Schools often face societal challenges which they cannot adequately address on their own, but they can provide foundational support to connect different parts of a community to achieve social benefits. A key feature of an anchor institute is the development of a long term relationship (Halsey, 2018 _[83] ; Nilsson Brodén, 2022 _[15]) that is centred within a local context (Halsey, 2022 _[84]) to support holistic and multi-purpose goals (Halsey, 2022 _[84]). Anchor institutions can connect with other institutions, as well as directly with community, in ways that create strengths through weaving connections and a commitment to fostering a common good. This can support community and the work of teachers.
All partners value partnerships with schools as ways to innovate by pooling expertise on topics of mutual interest	School-university partnerships provide opportunities to develop innovation through expertise drawing on multiple perspectives (Campbell et al., 2019 _[193]).
All partners seek ways to create "a third space" to work collaboratively as partners with schools and teachers and invite other experts into this space as necessary	While there are different purposes for a partnership to be developed, the partnership can exist within a third space to work collaboratively as partners (Green et al., 2021 _[194] ; Green, Tindall-Ford and Eady, 2020 _[195] ; Hamilton and Margot, 2020 _[192]). There is also opportunity for schools and universities to involve other stakeholders such as community as part of the third space (Green et al., 2021 _[194]).
All partners establish partnerships with schools that value both the practice of teachers and the research base that supports this work	Partnerships can be developed with a strong pedagogical focus that values, promotes and explores the practice of teachers in classrooms and the research base that supports this work (Oates and Bignell, 2022 _[134]).
All partners value that partnerships with schools are adequately informed by the dual perspectives and strengths brought to the partnership	Partnerships need to adequately seek to be informed from the various perspectives of stakeholder groups. For example, there is opportunity to connect theory and practice (Forester, 2020 _[137]) as part of a university and school partnership that values both perspectives (Green, Tindall-Ford and Eady, 2020 _[195]).
Teacher education contributes to the development of teacher leadership and school leadership across the lifespan of teachers' careers	A lifespan approach to teachers' development (Mezza, 2022 _[9]) creates opportunities to offer tailored opportunities relevant to needs and interests. Teacher educators are well placed to support co-construction of opportunities across the lifespan of a teacher's career and to benefit from the opportunity focus supporting the full range of needs and interests of new and experienced teachers. (See Box 6.2).
Initial (and continuing) teacher education provides teachers with the necessary skills to work effectively within cross-sectoral /interprofessional collaborations as part of forming their teacher professional identity	Development of interprofessional ways of working is a skillset that should be core focus for the preparation of new teachers. There are potential gains for individual and collective professional identity (Suarez and McGrath, 2022 _[12]) that can support lifespan of a teacher's career.
Working with mutual respect, all partners value the collective work between teacher education and schools to nurture the talent already within the teaching profession	Based on a culture of mutual respect, prioritise relevance of the collective work we do (see Box 6.2). Informed practice builds connections between theory and practice (Forester, 2020 _[137]). This includes reflection in/on practice (Resch, Schritteser and Knapp, 2022 _[135]), building research/ evaluative capacities (Resch, Schritteser and Knapp, 2022 _[135]) that develop individual and collective Teacher Professional Identity (Suarez and McGrath, 2022 _[12]).

Annex B. Statements of ambition for broader societal sectors

This annex outlines “Statements of ambition” which are specific to each of the following areas of broader society:

- Health and resilience
- Cultural sector
- Ed Tech
- Sustainability.

The Statements of ambition will be of relevance for those wishing to explore specific cross-sectoral relationships and collaborations.

Table A B.1 Statements of ambition for health and resilience

Statement of ambition	Short description
Policy makers clarify the teacher role within a system of support for students and communities	A whole-school (Giles-Kaye et al., 2022 _[155]) and whole system approach can help describe the informal and formal roles (Giles-Kaye et al., 2022 _[155]) of the teacher as well as other professional connections that are needed to address student health needs (Malmberg-Heimonen, Tøge and Akhtar, 2023 _[42]). For example, teachers are in a unique position to identify potential issues (Nilsson Brodén, 2022 _[15]), such as mental health, which may require other professional expertise to address. Teachers can maintain strong relationships with students and families which can add to the overall support available for a student (Giles-Kaye et al., 2022 _[155]). Addressing the impact on staff well-being should be part of a systems approach to support the role of the teacher (Giles-Kaye et al., 2022 _[155]).
Policy makers support building leadership skills that build trust in others and capacity to work as boundary crossers in times of crisis	Developing leadership skills in trust-building and capacity to work across traditional work organisation boundaries can enhance resilience and responses to crisis (Anderson and Weiner, 2023 _[80]).
Policy makers support participatory processes within school that build trust in institutions and democracy	Strengthening the openness of governance (OECD, 2022 _[45]), such as opportunities to participate in decision making of institutions related to schooling, can build citizen trust in democratic processes generally. This is important for young people who report less trust in opportunities to be heard in society than older generations (OECD, 2022 _[45]). At the same time, governments need to ensure “healthy information ecosystems that can support democratic debate” (OECD, 2022, p. 103 _[45]) in order to challenge misinformation and disinformation.
Policy makers examine impacts on physical and mental well-being arising from the pandemic and natural disasters that are contributing to emotional fatigue for students, staff and parents	Resilience is becoming an important transversal skill in the labour market (Heimbrock, 2023 _[133] ; Thode, 2023 _[151]), along with other new priorities for developing transversal competencies in a future-focused world (Thode, 2023 _[151]).
All partner groups collaborate to increase the school's role as a community hub	Support families and develop partnerships with families to meet student needs as well as connections between school and community-based supports (Giles-Kaye et al., 2022 _[155]).
All partner groups develop collective action and support to address specific, complex student needs	There are benefits when multiple agencies worked together to support a family in a cohesive manner. Teachers can also provide unique (Nilsson Brodén, 2022 _[15]) that can inform the development of an overall plan.
All partner groups identify combined health-education goals	Cross sectoral collaborations require clarity of roles (Malmberg-Heimonen, Tøge and Akhtar, 2023 _[42] ; Nilsson Brodén, 2022 _[15]), combined and individual goals and benefits (Raum, 2018 _[64] ; Nilsson Brodén, 2022 _[15]).
All partner groups value the provision of school-based health resources and effective conduits to community-based resources	Cross-Department and Ministerial approaches (Nilsson Brodén, 2022 _[15]) can ensure role clarification is implemented effectively in practice to produce a conduit of support for the student (Giles-Kaye et al., 2022 _[155]).

Statement of ambition	Short description
All stakeholders recognise the need to build societies' resilience to information threats through cross-sectoral approaches	Building resilience within communities to mis- and disinformation requires collaboration across government and professions, including education (OECD, 2022 ^[102] ; Pilichowski, 2023 ^[196]). For example, media education to combat disinformation can be collaboratively developed and delivered with external experts such as journalists to support the work of teachers in new areas (Hill, 2022 ^[170]).
Policy makers support the development of interdisciplinary teams, including teachers, to create timely curricula materials and support to action responses to emerging issues	As well as emerging issues there are also evolving approaches and terminology to responding to disinformation such as "critical ignoring" (Kozyreva et al., 2022 ^[197]), "non knowledge" (Hannah et al., 2022 ^[198]). There is a need for support to focus on interpreting an ever-changing landscape through the lens of pedagogy and curricula (Burns and Gottschalk, 2020 ^[68]). This includes a focus on "increase resilience to disinformation and teach children the skills to successfully distinguish between fact, opinion and fiction" (Hill, 2022 ^[170]). This includes development of critical thinking skills as well as participatory approaches, including digital trust in the institutions of democracy (OECD, 2022 ^[102]).

Table A B.2. Statements of ambition for the cultural sector

Statement of ambition	Short description
Teachers explore pedagogical approaches and learning opportunities that are enriched by openness, curiosity and a focus on developing creativity and critical thinking	Expertise within the cultural sector can support exploring the use of new technologies, building capacity with using creative and critical mindset (Vincent-Lancrin et al., 2019 ^[152]).
Teachers collaborate with experts working with children and youth in the cultural sector, regarding approaches developing student well-being, agency, confidence and skills	For example, art therapy/ practice can have benefits (Moula, 2020 ^[199] ; Harpazi et al., 2020 ^[200]), including student well-being; self-concept, agency and confidence; and support skills development in areas such as problem-solving.
Experts within the cultural sector are valued for their capacity to provide opportunities for deeper engagement and developing understanding of abstract concepts in concrete ways	The cultural sector often focuses on problematic topics (Pedretti and Navas Iannini, 2020 ^[71]), providing a rich and engaging way to explore contemporary challenges (D. Sommer, personal communication, 2022).
The cultural sector collaborates with schools and other institutions to increase the engagement in contemporary social goals, such as sustainability	Fourth generation museums and galleries (Pedretti and Navas Iannini, 2020 ^[71]) see a role in examining contemporary and often controversial topics in a meaningful way (Mujtaba et al., 2018 ^[75]) as part of playing a role in responding to the challenges faced by society.
Schools build on engagement with traditional cultural mediums to explore new areas such as cartooning, video games, book publishing, storytelling, comedy	Creating space to explore new mediums (Jamal, Ibrahim and Surif, 2019 ^[201] ; Landrum, Brakke and McCarthy, 2019 ^[202] ; Heras, Ruiz-Mallén and Gallois, 2020 ^[203]) taps creates opportunities to investigate (Braund and Reiss, 2019 ^[204]) different approaches (E. Travkina, personal communication, 2023).
Policy makers encourage design of physical spaces that provide opportunity for cultural activities to be held on-site with experts, including local focuses and capacity to access meaningful national and international collaborations	Redesigning spaces within a school could include developing a school museum (Ahmadjonovna and Bakhromovich, 2020 ^[205]), creating technology hubs for groups of students to connect virtually with expertise around the world.
All partners support collaborations that create high quality, collaborative approaches and resources	Collaboration can align approaches between teacher expertise and those in broader societal sectors (Mujtaba et al., 2018 ^[75]) to support student learning, including engagement in learning (Mujtaba et al., 2018 ^[75]).
All partners value a focus on cultural sector connections are valued as an equity strategy rather than a privileged activity	Collaborations with the cultural sector should improve equity outcomes (Kraehe, Acuff and Travis, 2016 ^[206] ; Wei and Broome, 2022 ^[207]) rather than widen gaps (D. Sommer, personal communication, 2022). This should include creating opportunities where “students are authors” (Personal communication, Sommer) where students are provided time and space to be artists (make something new as a result of a process) and intellectuals (reflect on the process and products of making something new (Dewey, 2005 ^[208])) (D. Sommer, personal communication, 2022).
All partners value the capacity for experiencing The Arts as a connection to democracy and support for nurturing citizenship	The experience of art making provides opportunity to build capacities for self-direction and re-imagining ideas that can be linked to agency and optimism that education philosophers such as Dewey (2005 ^[208]) connect with support for democracy (Goldblatt, 2006 ^[209]).

Table A B.3. Statements of ambition specific to Ed Tech

Statement of ambition	Short description
Policy makers examine education needs regarding Ed Tech through the lens of equity	Three possible digital divides include (1) access to technology, (2) inequalities in skills and how technology is used, and (3) how digital disadvantage compounds other existing forms on disadvantage (Burns and Gottschalk, 2019 ^[210]). To respond these challenges a multi-stakeholder approach dealing with digital disadvantage and societal inequalities is needed (Burns and Gottschalk, 2019 ^[210]), along with building digital citizenship (Burns and Gottschalk, 2019 ^[210]). Technology can support meeting the needs of a growing diversity of student population such as inclusion of students with special education needs (Burns and Gottschalk, 2019 ^[210]). Digital technology has the potential to promote equity through personalisation of learning (e.g. “from one curriculum for all students to *the right* curriculum for every student”) or by improving student engagement (OECD, 2021 ^[142]).
Policy makers co-create, with teachers and Ed Tech industry, the development, trialling and implementation of technology tools that could assist the work of teachers	Teachers and schools are involved in the development of technology relevant to their work, so as to reduce misalignment (Nilsson Brodén, 2022 ^[15]). There is also potential to obtain mutual benefits related to pedagogical and product development impacts through co-research and development (Batty et al., 2019 ^[211]). Policy makers should also create channels for teachers to initiate and lead the creation of new technology solutions by connecting with technical support that can realise a new application or product. Other possibilities to support research, development and innovation by teachers or organisations may include the organisation of (competitive) education grants, drawing closer and supporting the collaboration between schools and EdTech firms, setting up monetary and non-monetary incentives to encourage the development/ trialling/ implementation of new digital solutions (Q. Vidal, personal communication, 2023).
Policy makers adopt a post digital perspective for developing policy	Although a key aspect of policy making relates to addressing barriers to accessing technology (Burns and Gottschalk, 2019 ^[210]), an intergenerational analysis of teacher profiles there is also a need to adopt a post digital mindset to address other aspects of policy making. Post digital theory assumes that the digital revolution has already happened and that “we need to change our focus from specific technologies to explore the processes, relations and material conditions engendered by its presence and use.” (Arantes and Buchanan, 2022, p. 2 ^[212]). There is still a need to support digital literacies and digital skills for teachers and students, including being able to critically engage with mis- and dis- information, and creation of new knowledge using technology.
Policy makers shape development for a well-functioning, well-supplied EdTech ecosystem including collaboration on developing infrastructure, governance, interoperability and integration	Policy makers can play to “bridge the gaps” in the fragmented EdTech environment, where there is a patchwork of EdTech solutions available to people in schools. Policy makers can influence the development of the Ed Tech ecosystem (Network, 2019 ^[213] ; Hall et al., 2021 ^[214]). Those solutions are often not interoperable with one another hence limiting their adoptions at scale, which further raises a barrier to innovation. Policy makers can leverage several tools to address that, such as setting (open) standards, guiding procurement practices, setting up enabling conditions for innovation, and organising spaces for collaboration across sectors (Q. Vidal, personal communication, 2023). Education policy makers should seek active connections with whole of government expertise, particularly related to emerging topics, but also ensure that the voice of the schools sector is integral in whole of government decision making.
Policy makers develop career specialisation roles that enhance teacher voice and agency and connections between practice, policy and networking relationships with EdTech industry	These positions could include education ethicist roles similar to bio-ethics (Arantes and Buchanan, 2022 ^[212]) and teacher influencers (Arantes and Buchanan, 2022 ^[212]) who can assist in mediating the challenges and opportunities utilising teacher voice. This can include examining equity issues to identify approaches that can support teachers and learners. New technologies, such as Virtual Reality (Southgate, 2020 ^[72]) also open a range of other issues that can be explored linked to pedagogy, physical design of learning spaces, concepts about student-directed learning, timetabling amounts of time for a lesson, as well as ethical and legal matters (Southgate, 2020 ^[72]).
All partners examine benefits and challenges for closer communication and networking through use of technologies	Information Communication Technology (ICT) can support connections between stakeholders that can support development of a learning organisation (Kools and Stoll, 2016 ^[215]). ICT can also support digital networking locally and globally for teachers and learners that widens the reach of connections that can enhance to learning community (OECD, 2013 ^[216]).

Statement of ambition	Short description
All partners examine the connections between formal and informal learning, including the implications for learning, teaching and preparing lifelong learners	Teacher awareness of individual, informal student learning can provide opportunities for connections between learning in both spaces (Carraro and Trinder, 2021 ^[132] ; Kashiwa and Benson, 2018 ^[217]), including by considering a learner's integrated learning environment (Kashiwa and Benson, 2018 ^[217]). At the same time, awareness of informal learning approaches can identify opportunities for formal schooling to strengthen capacity for lifelong learning.
All partners value that responding to new technological opportunities and challenges will benefit from multiple voices across all partner groups contributing perspectives that can shape the directions forward with greater confidence	Ideas sought from multiple perspectives and stakeholders are an important part of the process of developing a strategic response to new challenges or for transformational change: "to ensure a human-centred approach, education experts and policy makers need to reflect jointly with the EdTech industry on the questions of technology use that are still unanswered and need resolving for a better digital education in today's classrooms. They need to envision a desirable future use of technology and a strategy that works towards it" (OECD, Forthcoming ^[218]).

Table A B.4. Statements of ambition for sustainability

Statement of ambition	Short description
Partnerships between the sustainability area and schools provide field-based opportunities for teachers and students	This could include placed-based learning (Rousell and Cutter-Mackenzie-Knowles, 2020 ^[219] ; Cognition Education, 2023 ^[220] ; Mbah, Ajaps and Molthan-Hill, 2021 ^[221]) and other real-life experiences. Climate education should connect with and create a broad coalition of partnerships.
Schools provide a pathway for school partners to contribute to community representation (and vice-versa) as part of being part of a local community	Schools can connect with other anchor institutions. This can include opening up community representation opportunities to school stakeholders, as well as connecting with community representatives to add to the vibrancy of the school's connections with community (Lewandowsky, Facer and Ecker, 2021 ^[167]). Parent support can be harnessed as environmental mentors (OECD, 2022 ^[149]).
Policy makers create opportunities to develop curriculum that supports interdisciplinary learning and relevant transversal skills	As well as connections between subject disciplines (Education Gazette editors, 2022 ^[187]) there is also opportunity to connect local and global perspectives (Education Gazette editors, 2022 ^[187] ; Rousell and Cutter-Mackenzie-Knowles, 2020 ^[219]). This could also be reflected through identifying transversal skills or competencies (Cedefop, 2022 ^[188]) in areas such as analytical thinking, advanced communication, and entrepreneurial thinking as a part of promoting green skills. This could include opportunities for projects to engage with families and local community (OECD, 2022 ^[149]) as well as links with vocational education, citizenship education (Cognition Education, 2023 ^[220]).
Policy makers develop the role of schools to play an active role as a social agent for addressing contemporary social issues such as climate action	It is important that systems level leadership complements and supports local initiatives (Education Gazette editors, 2022 ^[187]). Policy makers articulate clear and bold purposes of education that connect the work of teachers and broader societal aims, including creating space within the curriculum to support these aims. Updating values and the purpose of education should support review of curriculum and other areas of teachers' work to create space for new ideas. At the same time, clear guidance must be articulated about how space has been created to support new directions.
Policy makers examine education needs regarding sustainability through the lens of equity	Young people's perspectives on sustainability have variation according to groupings such as socio-economic and gender factors (Borgonovi et al., 2022 ^[222]). It is important to ensure moves towards a green transition do not widen inequalities (OECD, 2022 ^[149]).
Policy makers examine practices to reduce emissions, including infrastructure and electronic practices	Education systems can model the process for change by examining current challenges and opportunities. This can include infrastructure (Education Gazette editors, 2022 ^[187]) as well as emerging areas such as electronic practices (McLean, 2020 ^[223] ; Facer and Buchczyk, 2019 ^[146]). There are also opportunities to support student extracurricular activities (OECD, 2022 ^[149]).
All partner groups value a focus on action for climate empowerment	The focus on empowerment moves away from more passive approaches such as education about climate change (Education Gazette editors, 2022 ^[187] ; Rousell and Cutter-Mackenzie-Knowles, 2020 ^[219] ; OECD, 2022 ^[149]). Alternative framing includes 'education for the transition to a low-emissions future' or 'education for a climate-changing future' which promotes the concept of creating change (Education Gazette editors, 2022 ^[187]). Knowledge and agency should be seen as complementary rather than opposites but are necessary components for a growth mindset approach (OECD, 2022 ^[149]).
All partner groups value the importance of co-constructing work with young people	Empowering young people promotes agency as well as critical and creative thinking that can support the development of solutions and responses to wicked problems such as climate change (Education Gazette editors, 2022 ^[187]). Co-constructing learning with young people can support transdisciplinary approaches that incorporate multiple elements of learning (Rousell and Cutter-Mackenzie-Knowles, 2020 ^[219]).
All partner groups develop links between Indigenous Knowledges and approaches to sustainability	This can include strengthening understandings such as personal health as environmental health (NZ), Australia, Canada (Mbah, Ajaps and Molthan-Hill, 2021 ^[221]).