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Cross-sector and interprofessional collaborations: A powerful tool for the teaching profession?

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Abstract

OECD education systems place a premium on high-quality teaching and look to strengthen the attractiveness of the teaching profession in the mid- to long-term. This paper considers if, when and under what circumstances new or ameliorated interprofessional and cross-sectoral collaborations may strengthen the teaching profession. It also introduces “personas” as a tool to illuminate how various stakeholders may respond to a given policy. This tool can inform smarter policy design and implementation choices. Based on the literature within and outside the education sector and concrete, cutting-edge examples, the paper identifies common facilitating features and proposes a set of guiding principles that can aid policy makers and practitioners in decisions related to the introduction or development of cross-sector or interprofessional collaborations. The paper concludes that cross-sector and interprofessional collaborations, under certain circumstances, can strengthen the teaching profession, by supporting, attracting and retaining a diverse teacher workforce and improving student outcomes.

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1. Introduction

There is an urgent need to address challenges and identify opportunities for the teaching profession. The expectations towards professional roles are evolving even in traditional and long-established professions such as medicine. Education policy, however, often lags behind (Mezza, 2022^[1]). Various phenomena are noted, including ‘a theory-practice gap’ (Ulferts, 2021^[2]) and ‘burn-out’ (Madigan and Kim, 2021^[3]; Weißenfels, Klopp and Perels, 2022^[4]), which indicate the tensions between expectations and the lived reality of teachers at different stages of their career (Mezza, 2022^[1]). At the same time, feedback from teachers overwhelmingly indicates a collegial and collaborative mindset among the majority of them (OECD, 2020^[5]). This would seem fertile ground for teaching to lead the way as the concept of professionalism itself evolves towards ‘connective professionalism’ in which relational and interdependent aspects are key (Noordegraaf, 2020^[6]). Considering these tensions and opportunities, this paper examines the possible contribution that collaboration with professionals in, or from, other sectors could offer to the teaching profession.

The influence of socio-economic background on a student’s educational outcome persists (OECD, 2019^[7]) or increases (Chmielewski, 2019^[8]), further exacerbated by learning losses following the COVID-19 pandemic (Moscoviz and Evans, 2022^[9]; Patrinos, Vegas and Carter-Rau, 2022^[10]). As a result, the prospects of reaching the fourth 2030 sustainable development goal (SDG) to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (United Nations, 2015^[11]) are looking progressively more dull.

High-quality teachers are the most important actors for the educational success of students (Guerriero, 2017^[12]; OECD, 2021^[13]; OECD, 2022^[14]; Ulferts, 2021^[2]), and for advancing equitable quality education for everyone. Despite the importance of high educational attainment for individuals, communities and societies, countries struggle with teacher shortages (OECD, 2019^[15]; OECD, 2020^[16]; OECD, 2020^[17]). It is vital for countries to succeed in attracting, growing, and retaining an increasingly diverse workforce.

Earlier work has suggested different policy options for increasing the attractiveness of the teaching profession. Mezza (2022^[1]) looked at attractiveness in other professions and identified possibilities for specialisation and career progression, increased autonomy and enhanced status as features that would benefit the teaching profession.

OECD (Forthcoming^[18]) outlines individual and collective elements of teacher professionalism that have potential to contribute to reduced teacher shortages:

- commitment to a high standard of practice as well as lifelong learning
- professional exchange, collaboration, and identity
- responsibility and autonomy
- professional knowledge and competences.

Together, these elements can be expected to strengthen the perception of teaching as a knowledge profession, and in turn increase the status of teachers.

At the centre of teachers’ professional knowledge lies knowing what to do to increase student outcomes: Teachers need to decide on the appropriate means of instruction, engage in collaboration with peers, and turn to experts in special needs education when deemed necessary. In turn, principals need to know how to lead their school in a way that supports teachers, and education authorities need to know how to support the principals. This paper considers expanding the body of professional knowledge by exploring how to engage in or support cross-sector collaborations for teachers, school leaders, education administrators

and policy makers. The paper aims to go beyond the state-of-the-art by considering if, when, and under what conditions cross-sector collaborations may strengthen the teaching profession – and in turn how these could contribute to reducing teacher shortages and empowering students.

This paper addresses some promising types of collaboration, such as to re-allocate tasks and responsibilities, learning-oriented collaboration with pre-primary and higher education (HE) institutions, and enhanced community involvement. Different types of collaborations may lead to a reduced workload and stress for teachers, an increased recognition of teachers being the experts on teaching and learning and reduced mental pressure from collaborations giving students the support they need. Improved academic outcomes following from increased collaboration may also strengthen the profession. To account for a reality where teachers and schools have a stressful working environment (OECD, 2020^[5]), and suffer from reform fatigue (Burns, Köster and Fuster, 2016^[19]), the introduction of new types of collaborations or the deepening of existing ones need to be warranted and well devised. The paper takes this into account by explicitly considering under what circumstances cross-sectoral or interprofessional collaborations may be fruitful for the teaching profession.

This working paper has two main objectives:

1. To consider cross-sector and interprofessional collaboration as a powerful tool for strengthening the teaching profession.
2. To introduce, and showcase, personas as a useful tool in the considerations of different policy- and implementation choices.

The paper is comprised of seven sections. Following this introduction, section 2 provides definitions and the rationales for considering cross-sector and interprofessional collaborations for teachers and schools. In section 3, lessons related to interprofessional and cross-sector collaborations in different contexts are provided. Section 4 introduces “personas” as a tool to bring the policy making- and implementation processes closer to practice, by considering how various stakeholders may respond to certain choices. Section 5 provides specific kinds of cross-sector and interprofessional collaboration that may have the potential to strengthen the teaching profession. It also shows how the personas can be applied by considering how they may respond to different policy- and implementation choices related to collaboration-related examples. Section 6 proposes five guiding principles for leaders and policy makers at different levels to consider when introducing or enhancing cross-sector or interprofessional collaborations. The principles are based on lessons from the research and examples provided throughout the paper. Finally, section 7 presents conclusions, and addresses the paper’s implications for teachers and schools, researchers and policy makers.

2. Cross-sector collaborations and the teaching profession

In this section, “cross-sector collaborations” as a concept is introduced, followed by considerations for why it is relevant to address in the context of teacher professionalism. Arguments for its relevance are related to the generally positive benefits from collaborating, the possibility to improve working conditions for teachers and support to their students, the need to prepare for a future where increased collaboration might be expected, and the impossibility to solve certain problems in the absence of collaboration.

2.1. Cross-sector and interprofessional collaboration

Cross-sector collaboration is one of many terms used in the literature, along with for example collaborative, new public, and integrated governance (Bianchi, Nasi and Rivenbark, 2021^[20]). The common factor is that they are engaged in “multi-actor collaboration, usually led by a public sector organisation aimed at building consensus among stakeholders on a formal set of policies designed and implemented to generate public value.” (Bianchi, Nasi and Rivenbark, 2021, p. 1582^[20]). Bryson, Crosby and Stone (2006^[21]) define cross-sector collaborations as:

...the linking or sharing of information, resources, activities, and capabilities by organisations in two or more sectors to achieve jointly an outcome that could not be easily achieved by organisations in one sector separately (p. 44^[21])

The emphasis on joining efforts to achieve an outcome that is hard to achieve in the absence of collaboration, is important. Collaborations that could potentially strengthen the teaching profession may, however, be done in a plethora of ways and with multiple stakeholders. Investing the energy of individuals and collective resources in collaboration must be warranted and make sense for all involved actors to engage with.

When considering different types of cross-sector collaborations and issues related to their implementation, it is important to explicate the level at which the collaborative effort takes place: The policy level, organisational level, or the interprofessional level. See Figure 2.1 for a distinction of the collaborative levels.

The interprofessional level is ultimately where the collaboration between professionals from different professions takes place in interdependent relations, for example between a teacher and a social worker or a Teaching assistant (TA). These collaborations can take two main shapes – 1) teachers and the other professionals *team up* in an intertwined manner to support students, and 2) the other professional supports students and prepare them for learning by utilising skills that teachers do not have.

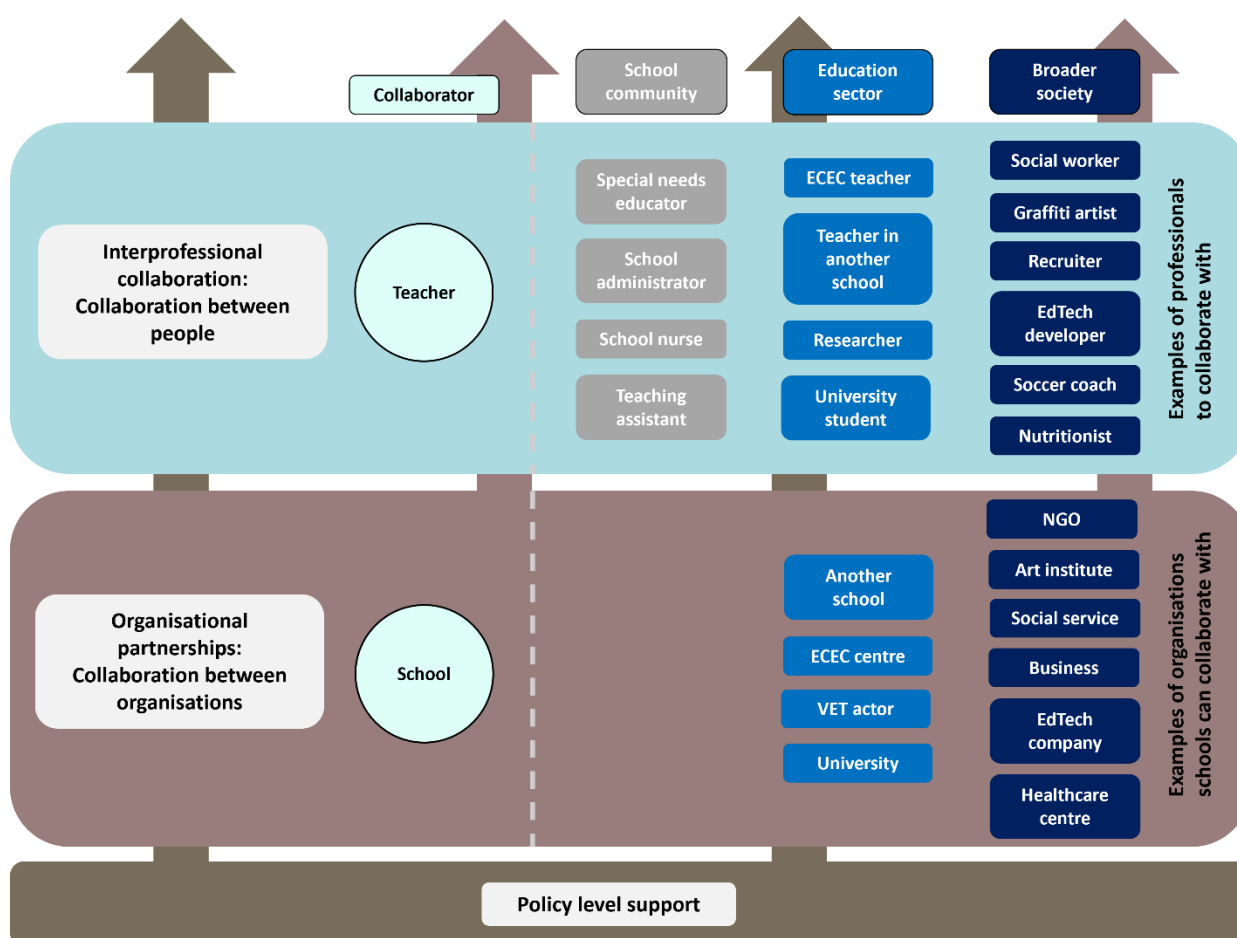
As shown in Figure 2.1, interprofessional collaboration can occur at the school level with for example school nurses and TAs. Schools may introduce new staff categories to alleviate teachers from certain tasks and support students. Teachers may also collaborate with professionals in other organisations. For these types of collaborations, the *teacher* becomes the collaborator.

The nature of the collaboration can vary from deeper partnerships and alignment of practices to ad hoc, one-time-only efforts. Interprofessional collaboration is not always cross-sectoral as put forth in the definition by Bryson, Crosby and Stone (2006^[21]): Two or more people are involved in collaborating with each other. Interprofessional collaboration can take place within or in absence of an organisational collaboration, and within or without the presence of policy level support.

When interprofessional collaboration between teachers and other individuals within stakeholder groups takes place under the presence of organisational partnerships, the *school* becomes the collaborating entity. As shown in Figure 2.1, a school can collaborate with organisations within the education sector or in the broader society, for example an Early Childhood Education and Care (ECEC) centre, an art institute or a healthcare centre. The forms and purpose of the collaboration may be regulated in agreements of varying degrees of formality. Regardless of the degree of formality and nature of the organisational aspects of these collaborations, interprofessional collaboration between two or more professionals are also present.

Support, or efforts at increased collaboration, can also take place at the policy or ministerial level, for example by requiring or introducing blended funding, establishing links between policy areas, and seeking to align languages and processes to support stakeholder collaboration and support the implementation of policies. Interprofessional collaboration and organisational partnerships can take place without the involvement of the policy level, but the policy level has a potential to facilitate, enhance, and support collaborative efforts, especially if it is devised well. There is also potential for collaboration to take place at the ministry level, where policy makers from two or more ministries partake in organisational and interprofessional collaboration to engage in issues relevant to both ministries.

Figure 2.1. Cross-sector and interprofessional collaboration for teachers and schools



Note: The author acknowledges the input from Hal A. Lawson in the creation of this figure. EdTech stands for “educational technology”, NGO stands for “non-governmental organisation”, ECEC stands for “early childhood education and care”, VET stands for “vocational education and training”. The examples of professionals and organisations should be considered as examples, not recommended actors to collaborate with.

2.2. The relevance of considering cross-sector collaborations for the teaching profession

This section argues the importance of considering cross-sector and interprofessional collaborations for the teaching profession for multiple reasons. A summary of the main arguments is provided in Figure 2.2. These are elaborated throughout the section.

Figure 2.2. The relevance of considering cross-sector collaboration for the teaching profession

Teachers' collaborative practices already make a difference	Bringing other professions into the school can benefit teachers and their students	Teachers need to be ready to face the future	Certain issues are best solved together
Existing collaborative practices have a positive impact on teachers and their work.	One source of stress is not being able to provide what the students need. Introducing new professions to schools can alleviate teachers from tasks they are unprepared for, while catering for student needs better.	- Teachers' work needs to develop as society changes. - The future of education will most likely entail shifts in the role of teachers and expectations of collaboration.	- Some problems are impossible or very difficult to solve in the absence of cross-sector collaboration. - Teachers can contribute as the expert on teaching and learning in a collaboration.

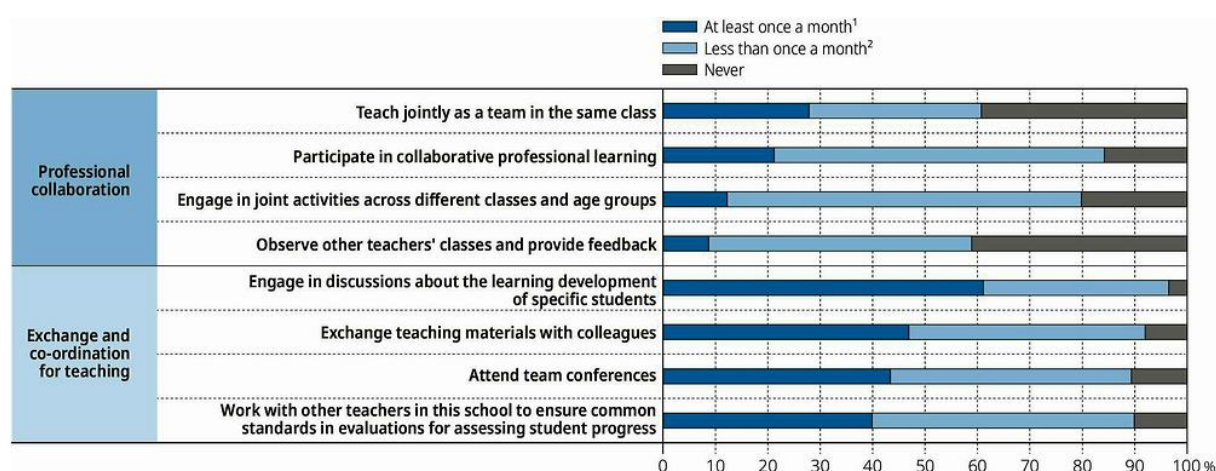
2.2.1. Teachers' collaborative practices make a difference

While the explicit consideration of cross-sector and interprofessional collaboration as a way of strengthening the teaching profession may be new, collaborative practices among teachers are not (Hargreaves, 2019^[22]), particularly between teachers at the school level. Recent OECD Teaching and Learning International Survey (TALIS) findings indicate that the most common types of collaboration between lower secondary teachers are to discuss the learning development of specific students (61%) and to exchange teaching materials with colleagues (47%) (OECD, 2020, p. 148^[5]). On average, collaboration between teachers and their colleagues varies according to the level they teach: It is more prevalent in primary education and less prevalent in upper secondary education, compared to lower secondary education.

In TALIS 2018, the OECD (2020^[5]) distinguishes between simpler and deeper forms of collaborations among teachers. The simpler forms of collaboration are to engage in discussions about the learning development of specific students, to exchange teaching materials with colleagues, to work with other teachers in the school to ensure common standards in student evaluations, and to attend team conferences. The deeper forms are to teach jointly as a team in the same class, to observe other teachers' classes and provide feedback, to engage in joint activities across different classes and age groups, and to participate in collaborative professional learning. What makes these collaborative activities deeper is the increased requirement of interdependence between teachers, and their focus on collaboration directly tuned to improve instructional processes in the classroom. Figure 2.3 shows the average prevalence for certain types of collaborations for lower secondary education teachers across OECD member states. Perhaps not surprisingly, professional collaboration, or deeper forms of collaboration, are less prevalent than simpler forms of collaboration. At the same time, the TALIS 2018 data highlights greater benefits from deeper collaborations for teachers.

Generally, collaborative professional learning such as networks of teachers, peer observation and coaching is an uncommon practice in the countries and economies participating in TALIS. Interestingly, in several countries and economies, two specific types of professional collaboration, team teaching and observation-based feedback, are more prevalent in schools with at least 30% students from disadvantaged homes (OECD, 2020, p. 151^[5]). Most of the variance, on average 87%, in teachers' engagement in professional collaboration is, however, explained by within-school variance: Some teachers within the same school engage in professional collaboration, while others do not collaborate at all (OECD, 2020, p. 155^[5]). In light of this, the need to account for a diverse teacher workforce is evident, further highlighting the importance of the persona tool.

Figure 2.3. Lower secondary education teachers' collaboration with each other



Note: The upper half of the figure represents deeper forms of collaboration. The lower half represents simpler forms of collaboration. 1. “At least once a month” covers the following response options: “1-3 times a month”, “Once a week or more”; 2. “Less than once a month” covers the following response options: “Once a year or less”, “2-4 times a year”, “5-10 times a year”; Values are grouped by type of collaborative activity and, within each group, ranked in descending order of the collaborative activities in which lower secondary teachers report to engage at least once month.

Source: (OECD, 2020, p. 150^[5]), TALIS 2018 Results, *Teachers and School Leaders as Valued Professionals, Volume II*, <https://doi.org/10.1787/19cf08df-en>.

Importantly, TALIS data shows that collaboration with other teachers is associated with several positive aspects such as higher self-efficacy and job satisfaction. Teachers who report that they engage in deeper forms of collaboration and describe that their school has a collaborative culture characterised by mutual support and that teachers can rely on each other have, on average, higher job satisfaction than those who do not report these aspects (OECD, 2020^[5]). Similarly, those who report to engage in deeper forms of collaboration, and to have a collaborative school culture characterised by mutual support also have, on average, higher self-efficacy in classroom management, instruction and student engagement (OECD, 2020^[5]). Deep collaboration between teachers and a collaborative school climate have also been shown to be related to higher academic achievement among students, thus warranting sustained focus among policy makers and practitioners. While some countries have seen an increase in this type of collaboration, it has decreased in others, according to results from TALIS in 2013 and 2018 (OECD, 2020, p. 157^[5]).

The OECD, the research community and practitioners have called for increasing and developing the deeper forms of collaborative practices between teachers (Hargreaves, 2019^[22]; OECD, 2020^[5]). It is also one of the identified elements of future teacher professionalism argued for by OECD (Forthcoming^[18]) which emphasises that “As a professional community, teachers think collectively about important challenges. Constant collaboration and dialogue with peers and stakeholders help them learn and grow professionally. Together they reflect on how to improve and innovate teaching and schools. They provide each other with feedback and share a professional identity”.

Clearly, there will be considerable continued relevance for collaborative practices between teachers in the future. However, other types of collaborations are not unprecedented – schools collaborate with many external actors, such as parents/families, mental health professionals, medical practitioners, guidance counsellors, law enforcement, community institutions and fitness professionals, to name some (Burns and Gottschalk, 2020^[23]). As local autonomy is increasing across countries, teachers engage to a larger extent in

different kinds of networks and partnerships, both in the form of school-to-school and teacher professional networks, and in the form of partnerships with other public and private service providers (OECD, 2020, p. 29^[17]). Within the local school setting, teachers also collaborate with a number of other professionals.

Previous OECD work mapped school staffing frameworks for 19 countries and economies, and categorised the staff into three categories: Instructional and leadership staff, Professional support staff, and Administrative, maintenance and operations staff (OECD, 2019^[24]). The definitions of different types of staff within the categories were based on the UNESCO-OECD-Eurostat (2018^[25]) manual. In terms of professional support staff, the report distinguishes between *specialised professionals*, who work to support the inclusion of special needs students, and *professional pedagogical support staff*, who have the responsibility for school climate, student safety and well-being (pp. 68-69^[25]). The publication (OECD, 2019^[24]) also mapped types of staff working in schools in a word cloud (Figure 2.4). Similarly, Education International (Butler, 2019^[26]) use the term *educational support personnel* (ESP) to describe job categories such as career guidance and counselling personnel, food and nutrition personnel, health and welfare personnel, transport personnel, and TAs, to name a few.

Figure 2.4. Types of staff working in schools



Note: Font size reflects the prevalence of non-teacher/principal staff categories mentioned in survey responses from the 19 countries and economies involved.

Source: (OECD, 2019, p. 68^[24]), *Working and learning together – Rethinking human resource policies for schools*, Annex Figure 1.A.3, <https://doi.org/10.1787/b7aaf050-en> (accessed on 12 July 2022).

Four factors have been identified to influence the mix of staff and their task profiles in school systems: (i) the educational goals and curriculum requirements, (ii) the distribution of responsibilities for the provision of education between levels, (iii) the programmes that schools offer may particularly influence leadership functions, and (iv) the organisation of school provision, such as the school size, length of school day and the level of inclusion of children with special needs (OECD, 2019, pp. 71-73^[24]). Additionally, while it is noted that socio-economically disadvantaged schools have a comparatively bigger struggle with

teacher shortages (OECD, 2020_[16]), teachers in these schools report collaborating more, on average, than their counterparts in socio-economically advantaged schools (OECD, 2020_[5]).

It is evident that teachers in different contexts already engage in collaboration with both teachers and in interprofessional collaboration with other professionals, and that doing so may be beneficial to them. While increased prevalence in deeper forms of professional collaboration between teachers arguably should be the main focus for school leaders and policy makers, exploring the characteristics of successful development and implementation of cross-sector and interprofessional collaboration that may strengthen the teaching profession is warranted.

2.2.2. Bringing other professions into the school can benefit teachers and their students

About half of lower secondary teachers in OECD countries report that they experience stress “quite a bit” or “a lot” in their work, reaching an extreme 87% in Portugal (OECD, 2020_[5]). The level of stress is generally similar in primary and upper secondary education, but significantly more prevalent in urban schools, public schools and those with a high proportion of disadvantaged students. Female and younger teachers also report experiencing stress “a lot” to a greater extent than their male and older colleagues. The most frequently reported sources of stress are the administrative workload, being held responsible for students’ achievement, keeping up with changing requirements from authorities, having too much marking, and maintaining classroom discipline (OECD, 2020, p. 95_[5]). Considering how these sources of stress may be mitigated are therefore relevant.

When asked about spending priorities, 55% of lower secondary teachers responding to the 2018 TALIS survey attributed high importance to reducing teachers’ administration load by recruiting more support staff (OECD, 2019, p. 110_[15]). Reports were similar for primary and upper secondary teachers. This indicates that teachers are open to introducing other professions in the school if it alleviates their own administrative burden. However, TALIS 2018 indicates that more administrative staff members may not automatically yield reduced teacher time spent on administration (OECD, 2019, p. 174_[24]).

The lack of preparation, confidence, and knowledge among teachers to engage with students’ non-academic needs can feel burdensome and lead to significant stress (Sibley et al., 2017_[27]). Research suggests that when teachers have positive perceptions of their schools’ student support system, they report lower levels of stress (Ball and Anderson-Butcher, 2014_[28]). There are three reasons for this: they know that students receive the support they need, they feel supported in an area they do not have enough training in, and they can engage in the kinds of collaborations they find most useful (Sibley et al., 2017, p. 148_[27]).

An OECD report on human resource policies argued that schools may identify needs that require the employment of other additional staff to “relieve teachers or school leaders by responding to less complex school needs (e.g. procurement or student discipline)” (OECD, 2019, p. 26_[24]). It also argued that schools may be better at meeting the academic, social and emotional needs of individual students by having a wide range of staff available, with a caveat that much still remains to be understood about the topic (OECD, 2019, p. 250_[24]).

In line with this, Burns and Gottschalk (2019_[29]) argue for a holistic view of students and their needs, where academic support is provided within and beyond the classroom, and considerations of the physical and emotional health of the learner can help improving the environmental conditions for learning. By ensuring a strong student support system, teacher stress may decrease.

Interprofessional collaboration in the form of bringing other professionals into the school has the potential to alleviate teachers from certain tasks that others are better equipped to handle. Furthermore, if more stakeholders take part in the empowerment of individual children and youth, there is potential to reduce teacher stress related to feeling solely responsible for the educational achievements of students. By allowing teachers to focus on teaching and teaching-related tasks, the prospects of elevating the teaching profession, and reducing stress, is promising.

2.2.3. Teachers need to be ready to face the future

As society changes and develops, professions unavoidably change with it (Mezza, 2022^[1]). Teaching is no exception. The role of teachers and teaching has always been subject to change: The discussion about teachers has shifted from whether it should be considered a semi-profession (Guerriero, 2017^[12]), to a clear acknowledgement that teaching must be regarded as a profession (Ulferts, 2021, p. 13^[2]). The present debate revolves around what aspects teacher professionalism should include. Teaching is dynamic and evolving, more so than ever with massive societal shifts: new legislation and revised curricula in light of political and/or societal development, forces of digitalisation, globalisation, and crises like the COVID-19 pandemic accentuate the need for the teaching profession to continue to develop and prepare learners with 21st century skills.

Recent OECD work (Forthcoming^[18]) brought together research, policy and large-scale data development communities to reflect on future challenges and opportunities for teaching and teachers. It identifies five elements of professionalism, presented in Annex A. They include the acknowledgement that teachers have a specific body of professional knowledge and competences, emphasise standards of access to the profession, and advocate for continuing professional learning and constant collaboration with peers and stakeholders to improve the practices. They assert that autonomy and influence over decisions is a natural part of teachers' work following their expertise in teaching. Coupled with opportunities for career progression, a competitive reward structure, and certain working conditions, these elements of teacher professionalism are expected to increase the status and strengthen the profession.

The work emphasises the need to gain a better understanding of the nature of partnerships and collaborations, their impact on student and teacher learning, and their impact on family and community well-being (OECD, Forthcoming^[18]). Considering ways to engage in cross-sector collaborations in a fruitful way for teachers is warranted to help teachers and education systems prepare for a possible future, while acknowledging, respecting, and taking the other identified elements of teacher professionalism into account (Annex A). Exploring cross-sector collaboration is particularly important because increased collaboration is likely to be a desired part of the teaching profession in the future. In OECD's forward-looking work, four potential scenarios for the future of schooling have been identified (OECD, 2020^[17]). In all the scenarios, teachers will teach under new circumstances compared to today – a big or small change in collaboration and division of tasks with professionals from other sectors being one of them. These scenarios and their potential implications for collaboration are presented in Table 2.1. It is unlikely that any of these scenarios will become the reality on their own, rather a mix is expected. While some of its descriptions regarding the future of work for teachers may seem preposterous, other elements are already a reality.

Table 2.1. Future scenarios for schooling and the changing role of teachers

OECD scenarios for schooling (OECD, 2020 _[17])	Future role for the teacher workforce? (OECD, 2020 _[17])	What could it entail for cross-sector and interprofessional collaboration?
Scenario 1: Schooling extended Participation in formal education continues to expand. International collaboration and technological advances support more individualised learning, yet the structures and processes of schooling remain.	More personalised learning alters the nature of teachers' work, with subsequent impact on teacher education and professional development. There is marked division of tasks and greater diversification of professional profiles in school networks, which now benefit from larger economies of scale.	There are already multiple sources of learning, not just the formal academic institutions. In the future, school networks may have greater potential to organise collaboration with other sectors, e.g. linking groups of students from different schools around the world in a sustained programme run by world-class institutions. Benefits of collaboration with different colleagues and specialised expertise.
Scenario 2: Education outsourced Traditional schooling systems break down as society becomes more directly involved in educating its citizens. Learning takes place through more diverse, privatised, and flexible arrangements, with digital technology as a key driver.	There is greater variety of teaching profiles and working arrangements, with implications for professional and reputational status. Learning networks, such as massive digital learning platforms, bring different human resources together according to perceived needs.	There are already different forms of public and private provision, including offers of private tutoring and informal lecturing. In the future, teachers become one of several professionals catering to the needs of students. Teachers will unavoidably have to engage with these other actors as society becomes directly involved in education.
Scenario 3: Schools as learning hubs Schools remain, but diversity and experimentation are the norm. Opening the "school walls" connects schools to their communities, favouring ever-changing forms of learning, civic engagement, and social innovation.	Knowledgeable, networked teachers coexist with diverse individual and institutional players offering a variety of skills and expertise. Strong partnerships leverage the resources of external institutions, such as museums, libraries, residential centres, technological hubs and more.	There are already schools using learning resources and experts in their environment (e.g. community schools). This ranges from bringing various professionals into the school to talk to students, to using public spaces (e.g. museums) to conduct lessons. In the future, all schools bring resources from other sectors, recognising that teachers cannot provide all expertise. A specific role of "boundary-crosser" engages organisations with schoolwork.
Scenario 4: Learn-as-you-go Education takes place everywhere, anytime. Distinctions between formal and informal learning are no longer valid as society turns itself entirely to the power of the machine.	Traditional teaching professionals vanish as individuals become "prosumers" (professional consumers) of their learning.	There are already some tutoring artificial intelligence systems that already allow adapted support to a particular student and can follow their progress. In the future, some pedagogical professionals are called in to contribute to the content of artificial intelligence systems.

Source: (OECD, 2020_[17]), *Back to the Future of Education: Four OECD Scenarios for Schooling*, <https://doi.org/10.1787/32b6cddf-en>.

Active development of research on cross-sector collaborations centred around teachers can innovate teacher professionalism (Mezza, 2022_[1]). While not being the primary focus, some OECD work has featured aspects of partnerships, cross-sector and interprofessional collaboration in the education sector (Burns and Gottschalk, 2019_[29]; OECD, 2022_[30]; Radinger and Boeskens, 2021_[31]). Radinger and Boeskens (2021_[31]), for example, emphasise active policy level support in the development of multi-professional teams for learning and exchange in the case of introducing longer school days featuring extracurricular activities conducted by other types of staff than teachers (Radinger and Boeskens, 2021, p. 133_[31]). The OECD (2022_[30]) also emphasises heightened prospects for better use of research in practice through partnerships between universities and schools. The potential role of cross-sector and interprofessional collaboration in strengthening the teaching profession has, however, not gained as much emphasis from the organisation.

2.2.4. Certain issues are best solved together

Some scholars argue that educational challenges such as literacy (Jordan, Kleinsasser and Roe, 2014_[32]), curriculum reform (Hawick, Cleland and Kitto, 2017_[33]) and teacher evaluation (Lillejord, Elstad and Kavli, 2018_[34]) are "wicked problems" (Rittel and Webber, 1973_[35]), to be tackled using "wicked responses" or "wicked actions" (Jordan, Kleinsasser and Roe, 2014_[32]). Wicked problems are symptoms of other problems,

context-bound and do not have an easy one-time-fix solution (Jordan, Kleinsasser and Roe, 2014^[32]; Rittel and Webber, 1973^[35]): Sustainable development and climate change are the staple examples. An important part of dealing with wicked problems is to support cross-sector collaboration (Lawson and Lawson, 2020^[36]), where different stakeholders with different perspectives discuss, argue and innovate to respond to the issue at hand (Jordan, Kleinsasser and Roe, 2014^[32]):

Wicked responses and actions demand interactive, relational and distributed sense-making that might begin to include ‘ongoing revisions and updates and fleshing out of diagnoses’ (Weick, personal correspondence) and ‘coordination of action over alignment of cognitions, mutual respect over agreement, trust over empathy, diversity over homogeneity, loose over tight coupling, and strategic communication over unrestricted candour’ (Weick, 2005, p. 27 and 59^[37]). (Jordan, Kleinsasser and Roe, 2014, p. 426^[32])

If some of the issues education systems, schools and teachers face are recognised as wicked problems, enabling cross-sectoral and interprofessional collaborations could facilitate adequate responses to these issues. Lawson and Lawson (2020^[36]) suggest that wicked problems in the school context are likely to occur when social isolation, exclusion and poverty are concentrated to a certain place.

Another major reason for considering cross-sector collaboration between the education sector and other sectors is the idea of “public value” (Bryson, Crosby and Stone, 2006^[21]). The authors argue that the point of creating and sustaining cross-sector collaborations ought to be the production of “public value” that cannot be created by one single sector. Building on other research, Page et al. (2015^[38]) define public value as:

the extent to which a cross-sector collaboration achieves its overarching and subsidiary purposes, meets applicable mandates, and achieves lasting and widespread benefits at reasonable cost that no single organization could have achieved alone in a democratically accountable way (p. 716^[38])

In other words, engaging in cross-sector collaborations must be warranted. The collaborative effort needs to solve problems that the education sector and teachers cannot solve alone. By being experts in education and teaching, teachers can contribute with their expertise in outcome-oriented collaborations with other professionals to empower students and increase academic outcomes.

Assuming countries provide education to ensure that as many inhabitants as possible get equipped to join the labour force and develop the necessary skills and knowledge to participate actively in society, collaborative efforts aimed at improving these outcomes are desirable. If cross-sector or interprofessional collaboration between different sectors and professionals yield increased outcomes compared to the absence of collaboration, it makes sense from a public point of view to introduce and/or enhance collaborative efforts.

An economical argument can also be made: If public funds used for cross-sector collaborations can solve certain problems (for instance related to educational attainment) that are nearly impossible to solve in absence of such collaboration, it makes economic sense to allocate resources for collaboration. This is particularly the case if the effects of failing to solve the problems yields higher costs in the future. It is hard to establish exactly how much societies and individuals can gain in economic terms from improving the educational outcomes, but clearly, gains are expected.

Hanushek and Woessmann (2011, p. 470^[39]), for example, estimated that an increase in scores in the Programme for International Student Assessment (PISA) test would generate an extra USD 90-226 trillion for the OECD countries following increased growth by 2090

compared to the expectations from keeping the results constant. They based their estimates on three scenarios: A 25% increase in PISA score in each country, an increase in test score to at least 400 points, bringing each country to Finland's average score of 546 points. Other research estimated that a 10 percentage point increase in the graduation rate would net a total gain of 33 000 USD per student including private earnings, tax revenues and public savings related to welfare, crime and health care in the United States (Basile, 2012^[40]). This would add up to a gain of nearly USD 127 billion.

If graduation rates, and educational outcomes are increased, due to well-devised cross-sector and interprofessional collaboration or other policies, societal and economic outcomes are expected for individuals, family and society.

3. Cross-sectoral lessons from other contexts

While the education sector does not have a strong tradition of cross-sector collaboration and interprofessional collaboration, it is an intricate part elsewhere. By looking to cross-sector and interprofessional collaboration in other contexts, it may be possible to identify certain lessons to be learnt that could be useful when considering collaborations between the school sector and others.

A triad of researchers at the University of Minnesota, (United States), have on two occasions conducted extensive literature reviews on cross-sector collaboration (Bryson, Crosby and Stone, 2006^[21]; Bryson, Crosby and Stone, 2015^[41]). In their more recent work, they mapped theoretical frameworks related to the field and empirical studies published between 2006 and 2015. They provide practitioner points which summarises the essence of aspects supporting cross-sector collaboration (Bryson, Crosby and Stone, 2015, p. 647^[41]):

- *Make sure there is a clear collaborative advantage to be gained by collaborating, meaning that collaborators can gain something significant together that they could not achieve alone. Make use of windows of opportunity to advance the collaboration approach.*
- *View collaborations as complex, dynamic, multilevel systems.*
- *Collaborating parties should take a design approach to cross-sector collaboration. This means starting as much as possible with the ends in mind and designing processes, structures, and their interactions in such a way that desired outcomes will be achieved and required accountabilities met. Build ongoing learning into the design, including learning about what goals and performance indicators should be.*
- *Make sure that committed sponsors, champions, and facilitators are involved throughout.*
- *Use inclusive processes to develop inclusive structures, which, in turn, will sustain inclusive processes.*
- *Adopt flexible governance structures that can adjust to different requirements across the life cycle of the collaboration.*

Clearly, there are a multitude of aspects needed to be dealt with related to for example structure, organisation, communication, culture, and leadership. This is further emphasised in the 26 propositions organised under five main categories the authors provide in the review. Table 3.1 offers key messages from these propositions. It is important to recall that Bryson, Crosby and Stone (2015^[41]) define cross-sector collaboration to be between two or

more organisations, and the individuals working in those organisations. They do not include the interprofessional collaboration taking place between colleagues working in the same organisation, such as a school.

Table 3.1. Propositions for cross-sector collaboration

Category	Key messages from the propositions
Address initial conditions	Cross-sector collaborations are more likely to succeed when several linking mechanisms are in place at the time of their initial formation. These linking mechanisms are, for example, powerful leaders, general agreement on the problem and existing networks. There also needs to be a clear case for engaging in a cross-sectoral approach to respond to a relevant, inter-disciplinary problem.
Design effective processes	Processes to support collaboration need to be developed in ways that are inclusive and recognise the diversity of actors involved. The involvement of key decision makers among all actors involved in the shaping of the collaboration is vital. A perception that the collaboration is necessary, committed formal and informal leaders at different levels, and a continuing effort of trust-building activities are important for its success. Conflicts need to be actively mitigated and power imbalances dealt with. A combination of deliberate and emergent planning, where the stakeholder perspective is ensured, the enactment of inclusive practices, and the strengths and competences of each actor utilised facilitate effective collaboration and increase the likelihood of success.
Create effective structural and governance arrangements	Governance can be ambiguous due to changing membership and requires ambidexterity and ongoing evaluation to ensure collaborations remain focused and meaningful. Responsiveness in the collaborative structure is necessary since changes in the surrounding environment and strategic purpose of the collaboration is likely to change. The responsiveness of governing arrangements operating at both the formal and informal levels in dealing with strategy, operational and mixed issues influence the collaborative effectiveness.
Manage contingencies and constraints affecting process and structure	Cross-sectoral collaboration benefits from taking an opportunity mindset. Taking advantage of windows of opportunity and technology in the collaboration can improve the likelihood of success. It is important that the collaboration ensures access to the right competences and build in resources and tactics for dealing with power imbalances and shocks. Competing institutional logics between the collaborating partners need to be managed effectively to ensure agreement on process, structure and expected outcomes.
Manage outcomes and accountabilities	A focus on public value is a way of drawing together outcomes which can be varied for different actors. Cross-sector collaborations are most likely to create public value if they build on the self-interest and strengths of individuals and organisations, if they produce different types of effects outweighing the negative effects, and if they are long-lived and engage in regular reassessments. An accountability system which uses a variety of methods for gathering, interpreting, and using data to track inputs, processes and outcomes is important as well as a strong relationship with key political and professional constituencies. Clarifying the priority of outcomes sought can provide coherence to cross-sectoral work.

Source: Adapted from the appendix in Bryson, Crosby and Stone (2015^[41]), “Designing and implementing cross-sector collaborations: Needed and challenging”, <https://doi.org/10.1111/puar.12432>.

Cross-sector collaboration is not easy, which Bryson, Crosby and Stone (2015^[41]) emphasise in their proposition: “The normal expectation ought to be that success will be very difficult to achieve in cross-sector collaborations.” (Bryson, Crosby and Stone, 2015, p. 663^[41]). This reinforces the need to ensure that cross-sector and interprofessional collaboration is warranted. At the same time, there are learnings from other contexts that can inform success in supporting this work for teachers and schools. This includes the benefits of taking a long-term perspective, involving stakeholders in the planning from the beginning, and regularly clarifying different perspectives. Recognising the specific nature of conducting cross-sectoral collaborations, including an understanding of the knowledge base, can support success from the earliest stage when such an approach might be considered.

The health sector is an area where there has been research into collaboration, particularly regarding ways that collaboration can be facilitated at the interprofessional level: the collaboration between people. The field is comparatively well developed in the sector, at least partly due to the 2010 World Health Organization (WHO) guideline “Framework for action on interprofessional education & collaborative practice” (World Health Organization, 2010^[42]). Systematic reviews on the effects of interprofessional education show positive outcomes for both pre- and in-service professionals in the health care sector

(Guraya and Barr, 2018^[43]; Reeves et al., 2016^[44]). Outcomes are related to both collaborative skills and knowledge, improved attitudes/perceptions of one another, and improved outcomes for patients. Literature specifically targeting interprofessional collaboration can provide further insights on this level of collaboration. Improving trust, building on individuals' expertise, and ensuring that there is something to gain for everyone, are some of these points.

The narrative literature review by Etherington et al. (2019^[45]) on surgery team communication identified structured and standardised communication as important since it increases the accuracy and understanding between team members. Furthermore, they asserted that a consistency among team members, sharing of common goals, and equal participation is important for effective communication. This is hampered by the traditional curricula of these professions, which has omitted intrateam communication: "Each profession or discipline has been taught in silos" (p. 1254^[45]). Other research in the field also advocates for a development where additional interprofessional collaboration can be facilitated in programmes and courses at the tertiary level (Baerheim, Ødegaard and Ness, 2022^[46]; Lawlis, Anson and Greenfield, 2014^[47]; Ravet, 2012^[48]). Researchers argue that health professionals who are currently not working together as an established part of their work, would benefit from getting the foundational knowledge about how to engage in interprofessional collaborations at the tertiary level. Furthermore, the hierarchy among the team members also influences effective communication between the professions (Etherington et al., 2019^[45]): An open, institutional culture with a flat hierarchy where individuals feel comfortable in speaking up facilitates interprofessional collaboration.

A literature review on factors promoting and hindering joint and integrated working between health and social services in the United Kingdom also provides findings that could be relevant for the education sector (Cameron et al., 2014^[49]). They found that some problems were a lack of appreciation of the aim of the initiative, competing organisational visions about the joint-up agenda and organisational differences, incompatible information technology (IT) systems which entailed difficulties in sharing important information, the presence of separate management structures, differing professional philosophies and ideologies which acted as barriers to effective joint working, a lack of trust, respect and confidence in other professions, complex organisational relationship and uncertainty regarding finances.

They also identified some beneficial features in the literature, such as involving staff in the development of policies and procedures, provide introductory and ongoing training, have clear legal and financial frameworks and agreement on responsibilities, effective communication, strong management and leadership providing appropriate professional support to improve the understanding of roles and aims of the initiative, a past history of joint working at both operational and strategic levels, team building events and regular team meetings to foster an understanding of professional roles, help overcome professional differences and to build trust between groups, and the possibility to disengage from structures and personalities who were not committed to joint working.

They also identified some beneficial features in the literature, such as involving staff in the development of policies and procedures, providing introductory and ongoing training, having clear legal and financial frameworks, and agreeing on responsibilities, communicating effectively, having strong management and leadership providing appropriate professional support to improve the understanding of roles and aims of the initiative. Furthermore, a previous history of joint working at both operational and strategic levels, team building events and regular team meetings to foster an understanding of professional roles, help overcome professional differences and to build trust between

groups, and the possibility to disengage from structures and personalities who were not committed to joint working, was found to be beneficial.

A few other aspects could also be beneficial, or counteractive unless caution is taken (Cameron et al., 2014^[49]). Flexible or integrated roles and working in integrated teams were positive for facilitating innovation, reduced role conflicts and led to fewer contradictory demands compared to other configurations. This was coupled with concerns regarding maintaining role boundaries between the professions in the integrated teams. Another important element for success was co-location, because it encouraged informal contact which increased mutual understanding, facilitated communication and learning across professional boundaries. However, there was a risk that too much informality could undermine professional practice. Finally, pooled budgets as a tool for ensuring adequate resourcing of the initiatives was beneficial, but at the same time had the risk of damaging the viability of partner organisations if it led to a fragmentation of service responsibilities.

These examples from the health sector provide some lessons that could be relevant for the education sector. What is particularly striking is that they show that even a sector with a strong tradition of interprofessional collaboration still have room for improvement: Both with regards to enhancing collaboration at the interprofessional level, and with regards to engaging in organisational and cross-sectoral collaboration to a larger extent.

Another emerging area of work for research about cross-sectoral collaborations is in crisis management, in which cross-sectoral and interprofessional collaboration is the norm a strong norm and practice (Nohrstedt and Bynander, 2020^[50]). There is growing recognition that the number crisis and other expected situations facing society will occur more often (Hannah et al., 2022^[51]; OECD, 2022^[52]) than previous times. Flexibility is needed (OECD, 2022^[52]), including benefits from being able to draw support from other sectors.

During times of crisis, people feel the need for collaboration. Manifested through the emergence of new cross-sector partnerships (Arslan et al., 2021^[53]; Kunz et al., 2022^[54]) and an increase in scientific globalism (Lee and Haupt, 2021^[55]), the response to the COVID-19 pandemic is a clear example of that. This was apparent also for the OECD's work in education during the pandemic, where the organisation could function as a facilitator for cross-country discussions, as well as a research-broker.

Examples from the literature show a similar development at the local level. Pollack, Theodorakakis and Walsh (2021^[56]) studied how an evidence-based, integrated student support intervention responded to the crisis. They found that an intervention could focus on the immediate academic, socio-emotional and resource-related needs by leveraging existing processes and relationships and facilitating connections to new resources. Pino-Yancovic et al. (2022^[57]) provide an example from Chile on how networks and collaborative practices between teachers, principals and curriculum coordinators in different settings were beneficial for their responses to the pandemic. Another example is a study where the researchers followed the development of a cooperation between a school and a non-profit partner to improve school-family collaboration over an extended time-period (Dorner, Harris and Willoughby, 2022^[58]).

When suddenly being put under immense pressure, teachers, schools and education systems naturally sought collaboration. This insight generates two thought-provoking questions: First, if there is a place for cross-sector and interprofessional collaboration during times of crisis to solve issues, could there be a place for it in the absence of crisis too? Second, what would happen if we collectively viewed issues such as achievement gaps and teacher shortages as an ongoing crisis and acted accordingly?

4. “Personas”: A tool to facilitate the alignment of policy and implementation with the needs of teachers

This paper develops, applies, and showcases personas for two reasons. First, to introduce it as a new general tool in the policy maker’s toolbox. It can be used as a way of illuminating how different stakeholders may respond to different policy choices and let that feed into the policy design and implementation choices. Second, to consider how different teachers may respond to the introduction of various types of cross-sector and interprofessional collaborations which, in turn, can improve policy development and implementation. Particularly, they are used to consider how different policies may affect each personas’ willingness to stay in the teaching profession. Identifying different ways to increase the attractiveness of the teaching profession and working conditions for teachers is increasingly an area of focus in education policy given the urgent challenge of teacher shortages among OECD members, hampering the possibilities of delivering high-quality education (OECD, Forthcoming^[18]).

4.1. What are personas?

Before applying personas, this section gives an overview of the idea and how personas have been developed for this paper, informed partially by data from the OECD’s Teaching and Learning International Survey (TALIS) in 2018 (OECD, 2020^[5]).

Personas have primarily been used in design processes, such as in user-interface design to match the software to the needs of the intended users (2014^[59]). Huynh et al. (2021^[60]) describe them as follows:

Personas are lifelike characters that are driven by potential or real users’ personal goals and embody their experiences when using products (Cooper, 1999^[61]; Blomkvist, 2007^[62]). Personas are not a description of individuals or average information of specific groups of users. They are combined patterns of users’ behavior and motivations, where the rich information of an amalgamation of users is synthesized into a set of user archetypes or personas (Madsen et al., 2014^[59]). (Huynh et al., 2021, p. 692^[60])

A few pioneering researchers have attempted to introduce personas to the educational context, specifically for higher education institutions (Huynh et al., 2021^[60]; Madsen et al., 2014^[59]). Madsen et al. (2014^[59]) used personas as a part of the process to develop a professional development website tuned towards supporting faculty to use curricular and assessment innovations in physics instruction. They conducted semi-structured interviews with faculty focusing on their “motivations and goals, tasks that they typically completed around assessment, attitudes and beliefs, needs, pain points and constraints” (Madsen et al., 2014, p. 2^[59]). The interview data was used to create personas, which subsequently were prioritised in light of the goals of the website project. The design of the website was then adapted to accommodate the needs of the prioritised types of users.

Huynh et al. (2021^[60]) report on two examples from the higher education sector where personas were used to guide design choices. One regarded the devising of personas to guide design choices for a website oriented towards physics faculty professional development (Madsen et al., 2019^[63]). The other regarded the development of personas to guide design choices for undergraduate research programs, with the goal to engage undergraduate students in research (Huynh, Madsen and Sayre, 2020^[64]). In all these cases, personas served as a tool to better align the design of the “product” with the needs of the intended “users”. This paper argues that this way of thinking can, and should, be implemented when considering policy choices also in other educational contexts.

When engaging in educational reform, respecting teacher autonomy and teachers' possibility to influence decisions affecting them is vital (OECD, 2019^[24]); the development of teacher professionalism is no exception. Mezza (2022^[1]), for example, argues for an active involvement of teachers in a bottom-up rather than a top-down development of teacher professionalism, to ensure change initiatives resonate with the realities of teachers, promote a sense of agency and reduce the risk of failure to achieve the intended goals. In addition, data from TALIS 2018 showed that "keeping up with changing requirements from local, municipal/regional, state or national/federal authorities" (OECD, 2020, p. 95^[5]) was one of the greatest sources of stress for teachers. Furthermore, the original contribution by international experts in the professionalism field given in Mezza (2022, pp. 18-19^[1]) emphasised that "experiences of work and professionalism can vary across gender, age and other factors like race, ethnicity, and sexual orientation. Policies need to take intersections into account as workers may require different forms of support". Personas is a tool to, at least partly, accommodate for these needs, by acknowledging the diversity of the teacher workforce.

In the examples presented above, the authors used primary or archival data from semi-structured interviews, analysed through qualitative (specifically phenomenographical) methods to develop personas. The personas were then ranked in terms of whether they were the target group for the goal of the design problems. The priority of the personas guided the choices made with regards to the professional development website, and the design of the undergraduate research program, to align them with the characteristics of the prioritised personas (Huynh et al., 2021^[60]).

This paper takes a different approach to the development of personas, by using published data from the 2018 iteration of TALIS to inform the personas (OECD, 2019^[15]; OECD, 2020^[5]). In addition to the correlational data in TALIS, ideas about intergenerational differences are used in the persona development process. The development of the personas is described in greater detail in section 5, where they are also applied to consider how different policy- and implementation-related choices regarding cross-sector or interprofessional collaborations may affect their willingness to stay in the teaching profession.

The development and application of personas in this paper should be considered as an experimental source of inspiration, a starting point for a new way to accommodate for teacher needs when considering different policy- and implementation-related choices. Researchers, countries, stakeholders and future OECD work could further develop personas and other tools to better account for diverse teacher needs in policy development and implementation-related choices at different policy levels and across a range of topics.

4.2. Developing personas

To illustrate how personas can be a useful tool to support teacher policy considerations, this paper develops a set of personas. The personas are primarily informed by TALIS 2018 and ideas on generational characteristics. Personas are intended to be archetypes (Huynh et al., 2021^[60]) – they do not represent real people. Data from the 2018 TALIS study provides insights to how teachers collaborate and the OECD average is used as a basis to sketch out key aspects for five of the six personas (OECD, 2019^[15]; OECD, 2020^[5]). The OECD average masks variation in teacher reports among the different participating countries. The averages for teachers at the lower secondary level of education are used, as this covers the most OECD countries (fewer countries chose to survey primary and/or upper secondary teachers). The personas are also informed by information on generational characteristics and include distinct features of generations X, Millennials, Z and Alpha (Deloitte, n.d.^[65]; Generation Y, n.d.^[66]; McCrindle, 2020^[67]; My Business, n.d.^[68]). Again,

generational features are archetypal and not everyone from each generation will have the traits attributed to them in the persona development.

This paper uses published TALIS 2018 data (OECD, 2020^[5]) on collaboration, in tandem with intergenerational ideas and other research to *inform* the personas. This is one approach to their development. There is, however, opportunity to move from informing to *constructing* the personas by using statistical methods on the raw data (such as a multi-variable cluster analysis). Country specific data or qualitative interviews can also be used to create personas.

The first step in the persona development using the methodological approach chosen for this paper was to consult TALIS 2018 data on teacher collaboration (OECD, 2020^[5]). The analysis of teacher reports reveals how collaborative activities relate to job satisfaction, school culture and stress levels and whether these vary based on demographic factors. A few key observations informed the development of persona:

- Gender is not an important factor in deeper forms of collaborative behaviour, for example, teaching in teams (see Annex B for details). As such, the personas are constructed in pairs (one male, one female) which share the same description.
- Most variation in reported collaboration activities is within a school. However, deeper forms of professional collaboration are related to school culture factors, specifically a collaborative school culture, teachers relying on each other and providing impactful feedback.
- Similar to gender, age is not an important factor in deeper forms of collaborative behaviour. However, it is important in teachers' perception of how open teachers are to change and usefulness of feedback received.

In this section, a description of the development process of one of the personas is provided to outline how it was done. The full set of personas are presented in Box 4.1. Annex B can be consulted for a table on the data from TALIS that was used to inform the personas.

Meet Kim and Bill, the experienced and confident problem solvers:

Kim and Bill are in their late 40's. They come from a family of teachers. Currently, they have a desire to seek out diverse opportunities that provide challenge in both their personal and professional lives. They work full time in a school with a collaborative culture where they can rely on their colleagues. They receive feedback which they value as something that improves their teaching. They enjoy working with peers on topics of interest. They have strong self-efficacy, low stress levels, and are seen as problem solvers amongst their peers.

The TALIS data helped inform the development of the Kim and Bill persona. It showed that there were significant correlations between a collaborative culture in the school and job satisfaction. Receiving impactful feedback was also related to job satisfaction. Furthermore, a collaborative school culture and reported perception of being able to rely on each other, was associated with lower stress levels. Working full time was related to higher reported levels of participation in deeper forms of professional collaboration, as well as higher self-efficacy compared to those who work part time.

Kim and Bill belong to Generation X (42-57 year-olds) which is described as either being in an 'opportunity decade' or in a mid-life crisis (My Business, n.d.^[68]). Furthermore, people in this age were described to thrive from diversity, challenges, responsibility, and they are peer-oriented. From this, the parts of the persona describing that they have a "desire to seek out diverse opportunities that provide challenge" and that they "enjoy working with peers on topics of interest" were formed.

The other personas were developed in a similar fashion, with two notable exceptions: Cinders and Pheonix, and Ciel and Spacey. Cinders and Pheonix are informed by research on burn-out (Gómez-Domínguez et al., 2022^[69]; Madigan and Kim, 2021^[3]). Ciel and Spacey represent future generations of teachers. Since TALIS, for obvious reasons, does not have data on people who are not teachers yet, this persona is exclusively built on ideas on what might be the distinguishing features of this future generation.

Box 4.1. Meet the personas

Kim and Bill, the opportunity-seeking confident problem solvers



Kim and Bill are in their late 40's. They come from a family of teachers. Currently, they have a desire to seek out diverse opportunities that provide challenge in both their personal and professional lives. They work full time in a school with a collaborative culture where they can rely on their colleagues. They receive feedback which they value as something that improves their teaching. They enjoy working with peers on topics of interest. They have strong self-efficacy, low stress levels, and are seen as a problem solver amongst their peers.

Sam and Beatrice, the unheard middle-aged seekers



Sam and Beatrice are in their early 50's. Recently, they have been questioning whether they are making a difference at work and in their personal lives. They have been working full time in their current school for many years, are confident in their teaching skills and are often sought out as a problem solver. They feel like their voice has not been heard during a period of extensive change at both the school and system levels. They are open to professional collaboration but have few opportunities relevant to their needs. They perceive the feedback they receive to be irrelevant to their teaching practices. Despite changes and increase in workload, they are able to manage their stress levels most of the time.

Robin and Florian, the time-stressed family-builders



Robin and Florian are in their 30's. They work part time at a school with limited time and opportunities for professional development during the school day. Family responsibilities conflict with the opportunities for professional development they receive. They are often stressed and feel dissatisfied with the life-work balance. The feedback they receive is useful to their teaching but they would prefer more opportunities for discussions that develop their work.

Eden and José, the networked and ambitious collaborators



Eden and José are in their early 30's. They work full time and are ambitious at work and in their personal lives. They have a strong connection with broad networks in person and online, which they use to lead new projects at the school and connect with other teachers and professionals beyond their school. Even though their peers in other professions have greater flexibility, they appreciate working in a school with a collaborative mindset and opportunities for professional collaboration. They aren't as stressed as their friends working in schools with less of a collaborative environment. They seek out, and receive, impactful feedback on their teaching from a variety of sources.

Cinders and Pheonix, the exhausted doubters

Cinders and Pheonix taught throughout the years of the COVID-19 pandemic. They have noticed a negative change in themselves compared to the pre-pandemic era. They often feel emotionally exhausted, and a lack of motivation. They have missed out on social events with friends and family because of a need to complete teaching tasks after work, which has left them feeling more lonely. At work, they are finding increasing work demands exacerbated by high levels of uncertainty and a lack of resources. Their self-efficacy is low, and they question their competence. Their school provides good communication and is improving their support processes in response to an identified need. They have taken opportunities to be involved in creative projects at the school which they have enjoyed.

Ciel and Spacey, the hyperconnected, well-being centred professionals of the future

Ciel and Spacey enter the teaching profession 2035. Similar to their peers across other professions, they recognise they will be working longer than any other generation before them and place great importance for well-being in life and at the workplace, along with salary levels. They look forward to adaptable and personalised work opportunities. They see teaching as one of several professions they will pursue in their career. They are hyperconnected and expect extensive and flexible professional collaboration within and outside the school. They thrive from having mentoring leaders who actively facilitate their empowerment.

Note: The data that informed the personas is provided in Annex B.

5. Examples of cross-sector collaborations potentially strengthening the teaching profession

This section discusses four kinds of cross-sector and interprofessional collaborations that may be fruitful in terms of strengthening the teaching profession. Important aspects related to their development and implementation are highlighted. For each collaboration, a set of personas is used to consider how different policy- and implementation choices may positively or negatively affect teachers' views on the profession. A positive or negative stance towards the profession might change their willingness to remain being teachers.

The first kind of collaboration covers interprofessional collaboration at the school community level, showcasing two examples: 1) existing collaboration between teachers and teaching assistants (TA) hired for inclusivity reasons, and 2) the introduction of new staff categories to alleviate teachers from certain tasks. These examples are heavily situated at the interprofessional level (Figure 2.1), where aspects related to facilitating collaboration between people in different professions are the main point of interest.

A second kind of collaboration covered is expanded cross-sector collaboration at different levels, featuring two distinct types of examples. First, expanded collaboration with the local community is exemplified through the community school model. This example is primarily located at the organisational and interprofessional levels, since it involves collaboration between different professions working in different partnering organisations. Second, expanded cross-sector collaboration at the public policy and ministry level is addressed.

The third topic of collaboration covers how collaboration with the EdTech industry may be beneficial for teachers. This is primarily an example of collaboration at the organisational and interprofessional level.

Finally, collaboration with ECEC and HE is addressed. Examples relate to both interprofessional, organisational, and policy level aspects of collaboration.

There is a multitude of potential cross-sector and interprofessional collaborations that has the potential to strengthen the teaching profession. The types of collaborations covered in the section are therefore intended to be examples. Emphasis is put on addressing aspects related to the collaborative quality of these examples. The lessons learnt regarding cross-sector or interprofessional collaboration aspects influence the guiding principles presented in section 6, which can be used in the design- and implementation processes of other types of collaborations.

The personas introduced in section 4 will be applied to some of these kinds of collaboration. The persona application examples follow the same three-part structure:

First, a fictional situation related to the example of cross-sector or interprofessional collaboration dealt with in the section describes how the collaboration is enacted in this particular case. The situation is a made-up story about the introduction of a new policy and aspects related to its implementation. It provides a necessary setting for the subsequent considerations on how the six personas might respond to the collaborative initiative. The situation is followed by a consideration of how the change as described in the situation may affect the personas' willingness to stay in the profession. To illustrate this, the six personas are plotted on a line with the endpoints "negative" on the left-hand side and "positive" to the right. The closer they are to either of the endpoints, the more strongly the change as enacted in the situation is expected to affect their willingness to stay in the profession in a negative or positive fashion. A position close to the centre of the line indicates an indifference to the change, in terms of willingness to stay in the profession. Finally, an analysis describing why the personas were positioned the way they were is provided, along with some pointers to what policy makers and leaders could do differently to likely shift the personas further towards the positive side. The situations and following analyses will unavoidably have a varying degree of alignment with the realities of OECD member states because of their differing education systems and societal contexts.

The personas are not intended to be prescriptive for all contexts; rather, they are intended to show how the persona tool can be used. The positioning of the personas and their likely changes is not an exact science – consensus across contexts is not expected nor desired. The main purpose is to introduce personas as a *tool* to consider how different policy- and implementation choices may affect different teachers.

5.1. Interprofessional collaboration at the school level

This section specifically covers interprofessional collaboration between teachers and TAs, and other task-alleviating colleagues. The most typical type of collaboration at the school community level is of course with families, students and with other teachers (see the inner circle of Figure 5.2), but this is not the focus of the paper.¹

Although many different staff categories work in a school (Figure 2.4), and there is likely potential for teachers to collaborate with all of them in ways that may strengthen the

¹ Some researchers (e.g. (Epstein, 2018^[127]; Lawson and Lawson, 2020^[36]; Pushor and Amendt, 2018^[128])) advocate for changes in collaboration with families, which may strengthen the teaching profession.

teaching profession, this section addresses two very different types of TAs or similar staff categories. First, it looks to assistants whose primary tasks are related to the inclusion of students with special educational needs in mainstream classroom teaching. This is a common position in several OECD member states. Second, it looks to teaching assistants or other staff categories such as social pedagogues, who are employed to alleviate teachers from social and/or administrative tasks. In terms of outcomes on student achievement, Masdeu Navarro's (2015^[70]) literature review on different types of TAs (or learning support staff) found that earlier research provides mixed evidence on the outcomes. However, it also asserts that these staff members may be beneficial for teaching and learning if adequate strategies for their training, deployment and use are implemented.

In this section, the personas are applied to explore how different teachers may respond to the introduction of the second type of position described above: The introduction of new colleagues to the school, employed to alleviate teachers from certain tasks.

5.1.1. Inclusion-oriented teaching assistants

The terms teaching assistant (TA) or learning support are perhaps mostly used to refer to staff members who are employed to support students with special educational needs (for example due to neurodevelopmental disorders such as Attention deficit hyperactivity disorder (ADHD) or autism) to be included in mainstream classroom teaching. Several studies have addressed this type of TAs and their collaboration with teachers.

In the Catalan context, Jardí et al. (2022^[71]) identified factors that characterise effective interpersonal partnerships between teachers and TAs. They stress that it takes time and effort to achieve effective partnerships and that personal affinity, a sense of belonging, open communication and professional compatibility are key for the teachers and teacher assistants to feel at ease. Good interpersonal treatment is necessary to feel valued and respected. Another facilitator for developing more effective practices is for TAs and teachers to engage in collaborative practices (Main, 2015^[72]). To offset apparent power imbalances between teachers and TAs, it is important that teachers engage in reflective practices prior to working together in a classroom, and to allow for individual reflections before sharing with each other. Furthermore, suitable meeting spaces and time needs to be allocated, a trusting environment and open-mindedness facilitated. The organisational climate needs to have an emphasis on learning, the work environment support reflection and individuals need to have the required skills to participate in reflective practices.

Webster and De Boer (2021^[73]) argue for developing research on TAs working to support inclusive education in several ways. First, they encourage researchers to be cautious on whether their research may reinforce an overreliance on TAs. Second, they argue for large-scale international data collection and analysis on TAs, due to its increased prevalence in several countries. Specifically, they suggest developing TALIS 2024 to include data collection from and regarding TAs, and reduce the knowledge gaps identified in Butler (2019^[26]) on who they are, what they do and what they need to do their jobs effectively.

Since the position as a TA is already prevalent in schools in several systems, focus should be on how the interprofessional collaboration can be improved to meet its primary goal: increased inclusion for the students. Butt (2016^[74]) distinguishes between three different models for TA support and deployment: The one-on-one model, the itinerant model, and the class support model. In the one-on-one model, the TA is physically positioned close to the student in need in the classroom. It is the least inclusive, and teachers tend to disengage from the student when this model is enacted. In the itinerant model, the TA goes from classroom to classroom, working with several teachers and students. The TA takes on the role of the primary educator of the students with needs when they are present in the

classroom. This leads to isolation, stigmatisation, or marginalisation of the students. Furthermore, shared planning and consultation between the TA and the teachers is difficult. In the final model, class support, a TA is assigned to support a class under the direction of the teacher. This model is most effective, since the two adults can work together to meet the individual needs of the students in a collaborative work environment. In addition, the whole class benefits from the TA's skills and presence.

As described above, research points to risks in achieving the outcomes of increased learning for students with needs if systems have an overreliance on TAs and if they are deployed in ways that hamper rather than increase the inclusion of students with disabilities (Butt, 2016^[74]; Webster and De Boer, 2021^[73]). When TAs are organised in the classroom support model, where collaborative, reflection-based practices are enacted, there is a possibility for improved inclusion for the students with needs (Butt, 2016^[74]). This could also entail a strengthened teaching profession for several reasons. If the teaching team (teacher and TA) manages to work in a collaborative way to support the whole class, including children with needs, the teacher may feel that they have a shared responsibility for the achievements of the student compared to the absence of a TA. Since being held responsible for the achievements of students and maintaining classroom discipline are among the most frequently reported sources of stress (OECD, 2020^[5]), sharing that responsibility with a TA could contribute to reducing stress on teachers (Masdeu Navarro, 2015^[70]). There is also room for development-oriented conversations about the classroom practices, which may lead to greater job satisfaction, if the same correlation holds true for TA-teacher collaboration as it does for teacher-teacher collaboration (OECD, 2020^[5]).

5.1.2. Social and administrative task alleviation

Another, perhaps less frequently occurring, type of TAs are staff members employed to alleviate teachers from for example social and administrative tasks. As described earlier, teachers suffer from heavy workload and feel burdened with administrative tasks. In the wake of teacher shortages, it is not unprecedented for countries to be interested in finding ways to focus teachers' responsibilities by introducing other types of staff to alleviate them from certain tasks. From a teacher professionalism perspective, the introduction of new teacher alleviating professions may be viewed as an opportunity for the teaching profession to specialise, entailing increased professional status, certain privileges and increase the attractiveness of the profession (Lindqvist et al., 2020, p. 100^[75]). Furthermore, there are clear potential benefits for students from having teachers who have more time to spend on teaching-related tasks, with regards to improved educational outcomes. If professionals specialising on social matters are employed to alleviate teachers of tasks related social well-being, both students and teachers are likely to benefit.

According to a previous OECD publication, countries such as Chile, Czech Republic and Denmark have introduced dedicated professional pedagogical support staff to work with tasks related to the school climate, student safety and well-being (OECD, 2019^[24]). An attempt at something similar was done in Norway, where Borg and Drange (2019^[76]) studied interprofessional collaboration practices between teachers and other professions in five schools participating in the project "support network for teachers" (SNT). Two schools appointed part-time non-qualified social work assistants, hired to focus on the general student environment and to help teachers address day-to-day challenges. Another school had a qualified full-time social worker with a loosely defined role in the school. The researchers found that while the interventions were largely successful, more clarity on the roles and responsibilities between the professions would increase the quality of the work and facilitate a position-dependent rather than a person-dependent execution of the job. The researchers attributed this to a lack of leadership in the social work interventions.

Similar findings were found in the Swedish context, where Lindqvist et al. (2020, p. 98^[75]) concluded that “when competence requirements, the content of the work, the school context and character, professional identity/self-perception, disposition of work time, distribution of resources and responsibilities, and patterns of contact are coherent, there’s great opportunity for the introduction of alleviating positions in schools to be successful for both staff and students.” Furthermore, the authors emphasised the importance of the organisation of the work to take these eight aspects into account. It is vital, they assert, to develop structures, routines, make roles and authority explicit and clear as well as to institutionalise patterns of action, to make the introduction of new professions to a school successful.

The position as social pedagogues is an established job category in primary and secondary schools in several OECD countries (Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Lithuania, Norway, Poland and Slovak Republic) according to a literature review by Anderberg (2020^[77]). Furthermore, several other countries show a growing interest in introducing them in their schools (England, Estonia, Greece, Ireland, Scotland, Spain and Sweden). Anderberg’s research finds that social pedagogues may have different roles, depending on the context: (1) An explicit expert or specialist role, sometimes governed by education laws (specifically in the Czech Republic, Lithuania, the Slovak Republic, and the French-speaking community in Belgium). When having this role, they function as the expert on supporting and motivating pupils, and act as advisors to teachers on psychosocial matters. (2) The role of a link and mediator, facilitating collaboration that promotes the social and educational development of the students, for example by connecting teachers and health staff. (3) The role of an adult friend, in which they can complement the teacher’s education-oriented function by having a socially oriented role, to whom students can turn when they need support on non-academic issues. (4) The role of a security guard, where they take care of disciplinary matters in the case of conflicts and disruptive behaviour in the classroom.

Anderberg (2020^[77]) sees a risk in an underusage of the skills of social pedagogues due to a lower status and/or lack of knowledge at the school management level. He argues that social pedagogues should have an independent and strong position in schools, where their full range of professional knowledge is used. To facilitate that, he emphasises that a clarity in the division of responsibilities and roles between the social pedagogues and the other staff categories in the school is essential. A clear mission, focus and distinction between different roles also facilitates more constructive cooperation and better outcomes, he asserts. Similarly, Masdeu Navarro (2015^[70]) emphasises these aspects in his literature review on learning support staff: “The school management should ensure a clear definition of teachers/learning support staff’s respective roles, and provide enough time for them to plan and prepare classes and engage in reflection. The inclusion of learning support staff in the school’s decision making, as well as in the delineation of teachers’ and learning support staff’s roles, could be an effective strategy to achieve this.” (Masdeu Navarro, 2015, p. 40^[70]).

Another type of collaboration at the within-school interprofessional level includes co-teaching with a specialised assistant, which is a prevalent practice in some systems (Masdeu Navarro, 2015^[70]). In co-teaching, the main teacher works with a specialised assistant in for example mathematics, science, reading, language, or cultural mediation. The instruction can be organised in different ways, where the main teacher and the specialised assistant take different responsibilities depending on the plan for the lesson.

5.1.3. *Lessons for collaboration*

The two examples addressed in this section are located mainly at the within-school interprofessional level (Figure 2.1). These examples show how professionals with different skills and knowledges can collaborate together within a school setting. This can, however, be facilitated by the policy level. Examples show that systems to a varying degree expect these staff categories to work in schools (e.g. Anderberg's (2020^[77]) review on social pedagogues), or support them actively through government grants. In the Swedish context (Lindqvist et al., 2020^[75]), the government allocates funds to the local decision makers facilitating the employment of task-alleviating staff (National Agency for Education, 2022^[78]). Collaboration at the organisational level is not a feature in any of these examples, since they are about collaboration between different professions working in the same school. However, organisational *support* for collaboration and good leadership at the school level is important.

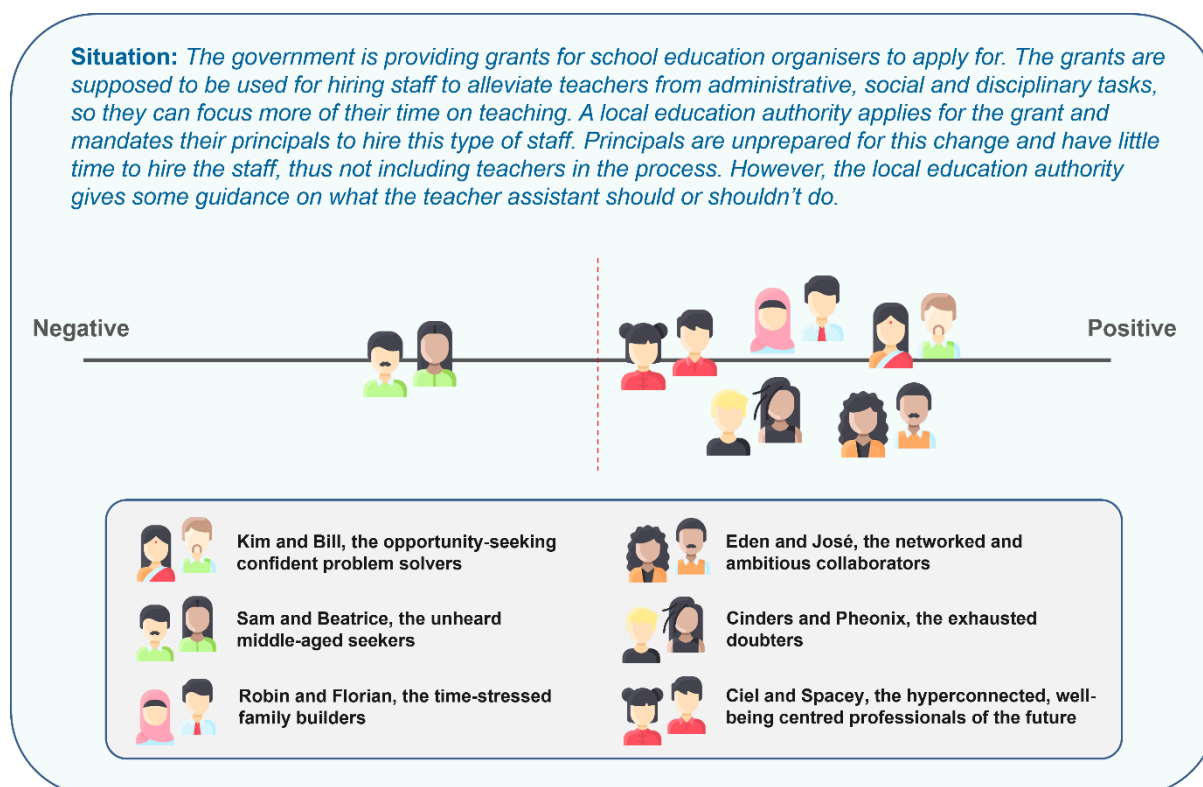
In the first example where TAs are hired for inclusivity reasons, the organisational support should focus on aspects related to the deployment of the TAs in the best way possible (Butt, 2016^[74]; Main, 2015^[72]; Masdeu Navarro, 2015^[70]; Webster and De Boer, 2021^[73]), and allowing for collaborative practices between the TA and the teacher (Butt, 2016^[74]; Main, 2015^[72]). Tending to aspects relating to personal affinity, professional compatibility and providing time for the collaboration to develop (Jardí et al., 2022^[71]) also seem to be important for this kind of interprofessional collaboration. Since these positions already are prevalent in several systems, focus ought to be on how to tweak the position and its deployment at the school level, to improve its outcomes for the inclusion of students and support for teachers in the classroom.

In the second example of introducing TAs, social pedagogues, or other similar positions not currently existing in schools, focus needs to be on how to make the introduction of these new colleagues and the redistribution of tasks work as well as possible. A common issue seems to be related to a lack of clarity regarding roles and boundaries to other professions, including teachers (Anderberg, 2020^[77]; Borg and Drange, 2019^[76]; Lindqvist et al., 2020^[75]). Researchers advocate for an active leadership who ensure organisational and structural support and institutionalise patterns of action to increase the clarity (Lindqvist et al., 2020^[75]). Furthermore, the issue of status and power imbalances is raised (Anderberg, 2020^[77]), which can be offset by clear responsibilities, roles, authorities, a trusting environment and reflective practices. Involvement from the different staff categories in the delineation of roles seems to be important too (Masdeu Navarro, 2015^[70]). Additionally, good interpersonal treatment and the facilitation of personal affinity, a sense of belonging, open communication, and professional compatibility seems to be important, at least in the cases where a TA and teacher work together often in the same classroom (Jardí et al., 2022^[71]).

5.1.4. *Applying the personas: Different reactions to teaching assistants for task alleviation*

In Figure 5.1, a consideration is made of how the personas (Box 4.1) may be affected by a policy choice where teacher assistants are introduced to alleviate teachers from administrative, social and disciplinary tasks.

Figure 5.1. Personas 1: Introducing teacher assistants to help with administrative and social matters



As shown in Figure 5.1, the change from TAs for the purpose of alleviating teachers from administrative and social tasks is expected to have a positive impact on most personas' willingness to stay in the profession. This is, however, expected for different reasons.

- Eden and José, the networked and ambitious collaborators, who are placed furthest to the right, are expected to appreciate the change because of their ambitious traits – they realise that the change will give them more time to focus on teaching-related tasks. They like to collaborate and see great potential in benefits for the students from the new role. Since they are not as stressed as other teachers, the redistribution of tasks, roles and responsibilities will not be as emotionally hard on them as some other teachers.
- Cinders and Pheonix, the exhausted doubters, are expected to experience the change positively despite their exhaustion. Since they are experiencing increasing work demands, they acknowledge that the introduction of TAs to alleviate them from certain tasks would be beneficial and the opportunity to have closer contact with another adult can reduce feelings of isolation. However, they already experience high levels of uncertainty, so the non-inclusion of the teachers in the process is demanding for them.
- Sam and Beatrice, the unheard middle-aged seekers, have been placed on the negative side mostly because of their history of experiencing extensive change without being heard. Once again, a policy change is imposed on them, without the opportunity to have a say, despite that the change will entail a very tangible change to their roles, responsibilities, and day-to-day tasks. Furthermore, they have found ways to handle their stress, so they would not see great benefits from the change to their workload.

The policy initiative would likely yield increased benefits if it would have been implemented differently. A general shift to the right would likely occur if the principal had had the time to involve teachers and other staff members in the discussion about roles and responsibilities, and how the collaboration between teachers and the assistant would take place. Furthermore, when implemented as described in the fictional situation, initial resistance is likely to take place due to an uncertainty related to what the change will entail. The guidance from the education authority regarding what the TAs should do is likely to reduce some of this feeling of uncertainty, but an involvement of teachers at the school level in the shaping of the roles would have been better. As time goes by, more teachers are expected to perceive the change positively. Reduced administrative work, and the feeling that they can focus more on tasks related to planning, conducting, evaluating and collaboratively developing their teaching practices, is very likely to affect teachers' willingness to stay in the profession positively in the long run, since they will get more time to do what they are trained for, and gain increased job satisfaction from deeper collaboration with colleagues.

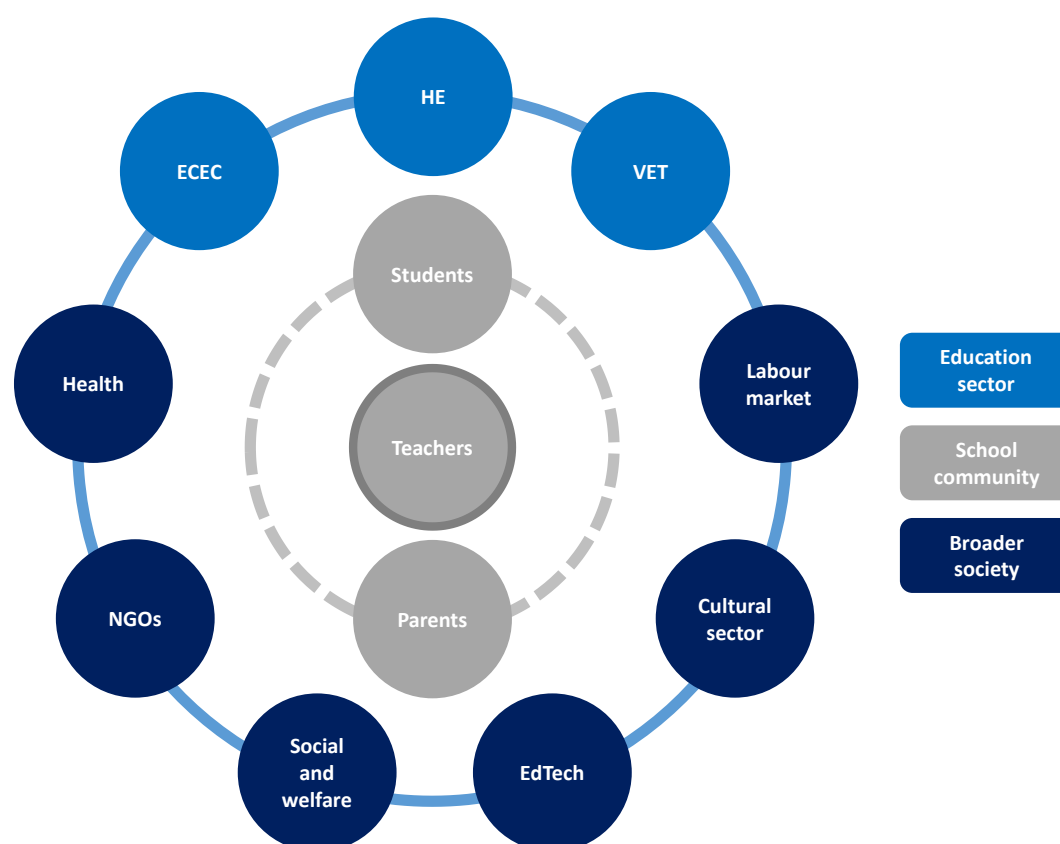
5.2. Expanded cross-sector collaboration at different levels

This section illustrates expanded cross-sector collaboration at the school and policy levels. First, expanded collaboration between the school, actors in other sectors, and the community is explored. An example of cross-sector collaboration between schools and various other actors in Norway is provided (Box 5.1). However, this section primarily focuses on the “community school” model, which is explored as an approach to coordinating collaborations across a variety of needs within schools. While this is a clear example of collaboration at the organisational level, features related to policy level support, and interprofessional aspects are also addressed. The second part of this section highlights the value of bridging several public sectors through cross-sectoral collaboration at the policy- and ministry level. This is illustrated through another Norwegian example where ministries collaborated to support children and youth from birth to the age of 24 (Box 5.4). The personas are used to explore how different teachers may respond to a certain introduction of the community school model.

5.2.1. Expanded collaboration with the local community at the school level

Collaboration between the school and the broader society, as shown in Figure 5.2, may include social,- welfare,- and health organisations, NGO's and local charities, local businesses and the cultural sector.

Figure 5.2. Teachers at the heart of a collaborative ecosystem to empower learners



Note: HE stands for “higher education”, ECEC stands for “early childhood education and care”, VET stands for “vocational education and training”.

Source: (Mezza, 2022, p. 34_[1]), “Reinforcing and innovating teacher professionalism”, Figure 5.2, <https://doi.org/10.1787/117a675c-en>.

It is possible to imagine endless opportunities for collaboration between schools/teachers and these sectors that have the potential to strengthen the teaching profession and empower students. Examples include raising funds and rallying competences for extracurricular activities or excursions, introducing specific health interventions, enhancing social family support, or facilitating career guidance. Box 5.1 features a Norwegian example of collaboration between the education sector and others.

Box 5.1. Cross-sector and interprofessional collaboration: Lessons from Norway

The Norwegian education sector has recently been showing an increasing focus on interdisciplinary collaboration. It involves both internal collaboration among different occupational groups, as well as collaboration with external services in the health sector and social services, such as the Educational and Psychological Counselling Services (PPT), psychiatric services for children and young people (BUP), child welfare services and school nurses.

The Directorate for Education and Training commissioned research on how it is appropriate to use interdisciplinary competence in schools for the benefit of both pupils and teachers. Based on earlier research projects, two randomised controlled trials were

initiated to investigate the effects of two models of interdisciplinary collaboration in Norwegian schools.

One model involved the assignment of additional school nurse resources to work systemically with schools to improve the school environment and reduce bullying (academic performance was studied as secondary outcome). The other model involved improving interdisciplinary collaboration in schools and municipalities through the LOG-model. LOG is a Norwegian acronym for “Leadership, Organisation and Implementation”, and the model comprises of meeting structures and implementation support for strengthening collaborative practices. The study evaluates whether and how the LOG-model improves interdisciplinary collaboration and pupils’ learning environments, as well as the effect on teachers’ and collaborators’ perceptions of interdisciplinary collaboration. Some important shared findings from these two research projects are:

- Involving and anchoring with leaders is crucial for fruitful interdisciplinary collaboration.
- The role of school leadership may be obvious, but it is also key to involve the leaders of other relevant sectors and services in the municipality.
- Enough time and resources must be set aside by all participating collaborators to ensure their capacity to participate in the collaboration.
- All appropriate actors must be included, and actors must be familiar with the competency and services provided by the other participants (time and resources must be set aside for this work)
- Generating new structures or arenas for interdisciplinary collaboration is not adequate, the development and continuous work on a culture and practice for collaboration is necessary.
- There is a need for adaptation to the local context, to anchor collaboration projects and make them appropriate and useful.

Sources: (Federici et al., 2019^[79]). “Can school nurses improve the school environment in Norwegian primary schools? A protocol for a randomised controlled trial”, *International Journal of Educational Research*, <https://doi.org/10.1016/j.ijer.2019.05.008>;
(Hynek, Malmberg-Heimonen and Tøge, 2020^[80]). “Improving interprofessional collaboration in Norwegian primary schools: A cluster-randomised study evaluating effects of the LOG-model on teachers’ perceptions of interprofessional collaboration”, *Journal of Interprofessional Care*, <https://doi.org/10.1080/13561820.2019.1708281>;
(Saltkjel et al., 2018^[81]). “Research protocol: A cluster-randomised study evaluating the effects of a model for improving interprofessional collaboration in Norwegian primary schools”, *International Journal of Educational Research*, <https://doi.org/10.1016/j.ijer.2018.07.001>.

The rest of this section will focus on models where several of the resources available in the different sectors are leveraged at once through deliberate, organisational partnerships with many actors. Here, all three levels of collaborations are present (Figure 2.2) – interprofessional collaboration between professionals working in collaborating organisations, supported by the policy level.

Some of the models where collaboration with many different sectors at once are referred to as community schools, community learning centres, multi-service schools and extended-service schools (Lawson and van Veen, 2016^[82]). In this paper, the term “community schools” is used to refer to these settings. They occur in a variety of different countries, including Canada, Belgium (Flanders), the Netherlands, England and the United

States (Lawson and van Veen, 2016^[82]). The purpose of community school strategies is to leverage resources from a wide range of community partners to improve schools and achieve a turnaround in schools that struggle (Weeks, 2022^[83]). The Coalition for Community Schools defines community schools as: “a public school – the hub of its neighborhood, uniting families, educators and community partners as an evidence-based strategy to promote equity and educational excellence for each and every child, and an approach that strengthens families and community.” (Coalition for Community Schools, 2022^[84]). These differently-named models share the common feature of changing the working relationships between the school and external actors, such as “community health and social service providers, youth development specialists, local neighbourhood leaders, governmental officials, business leaders and community developers” (Lawson and van Veen, 2016, p. 8^[82]). They usually do so by utilising an intermediary – for example a community school coordinator or an organisation bridging the different collaborating organisations and professionals (FitzGerald and Quiñones, 2018^[85]; Galindo and Sanders, 2019^[86]; Lawson and van Veen, 2016^[82]; Quinn and Blank, 2020^[87]; Weeks, 2022^[83]). They have been developed in response to the socio-economic influences in disadvantaged communities on what a traditional school is able to accomplish. Blank et al. (2021^[88]) specifies five characteristics of community schools: (1) Integrated student supports address out-of-school barriers, (2) Expanded and enriched learning time and opportunities, (3) Active family and community engagement, (4) Community-based learning connecting school-day teaching and learning to the community, (5) Collaborative leadership and practices.

Although not implemented system-wide in any context (although one in three schools in the Netherlands is a community school (Doornenbal and Kruiter, 2016^[89])), looking to the community school models is warranted when considering cross-sector collaborations as a powerful tool for the teaching profession. Certain local contexts have experience from decades of development, coupled with quite extensive research on practices. A mapping of these initiatives in the United States found, for example, that 20% of the ones meeting their inclusion criteria of being multi-sector, place-based and centred around collaborative leadership efforts focusing on educational outcomes were launched before the year 2000 (Henig et al., 2016^[90]). Recently, the model has also been gaining political recognition in the country, shown by increasing government grants (U.S. Department of Education, 2022^[91]) and great continued support from the two teacher unions, further establishing its relevance. Box 5.2 elaborates on the rising community schools movement in the United States.

Box 5.2. Community schools on the rise in the United States

The modern community school idea can be traced to John Dewey and his association with Jane Addams and other social reformers in Chicago (United States) at the end of the 19th Century and their “social settlement” (Hull House) initiative to bring educated, activist women middle class families into less advantaged neighbourhoods to improve the lives of the residents (Benson et al., 2017^[92]). John Dewey presented in 1902 “The School as Social Centre”. From that date until 1997, the community school movement tended to rise and fall. In 1997 a national organisation was formed, the Coalition for Community Schools. The Coalition emphasised partnerships with organisations outside the school, the integration of services for children and adults at the school site, and that community and partner organisations needed to be resources for teaching and learning. The Coalition reached out to teacher, school principal, and superintendent

organisations, as well as to the teachers' unions. They were partners from the very beginning.

Recently the model has gained increased interest because of a recognition that partnerships are necessary. Schools cannot realise their goals alone. Narrow approaches simply have not accomplished what needs to be done. A comprehensive approach is required. Community Schools take into account student, family, and school needs. In addition, studies by RAND (Johnston et al., 2020^[93]) and by the Learning Policy Institute (Maier et al., 2017^[94]) with the National Education Policy Center have demonstrated positive impacts of community schools on students, teachers, parent and community engagement, school climate, integrated supports, and collaborative practices.

Today the community schools movement is growing across the United States: over 8 000 schools in urban, suburban, and rural places. The Coalition for Community Schools has over 200 partners across health, employment, and education sectors as well as local and national governmental engagement. In 2021, President Biden asked Congress to significantly increase the federal budget for full-service community schools. States and school districts across the country are also fuelling this growth. For example, California launched a new USD 3 billion community schools programme, and Florida increased funding for its existing one. The two largest teachers' unions, the American Federation of Teachers and the National Education Association, not only enthusiastically support the development of community schools but also dedicate their own funding to develop them.

Moreover, community schools provide teachers with necessary support so that they can focus on their core job of student learning. In University-Assisted Community Schools, university faculty and students across the disciplines (e.g. sciences, engineering, arts, humanities, nursing, medicine, business, etc. – as well as education) advance their own research, teaching and learning by working in partnership with community school teachers, and students. These partnerships enable teachers to help advance student learning through collaborative community problem-solving where students develop the skills and habits of democratic citizenship and help improve the school and neighbourhood.

All such improvements associated with professionals' work necessitates companion changes in preservice preparation and professional development programmes. Interprofessional education and training is founded on the idea that if we want educators (including superintendents, school principals, and teachers), social workers, psychologists, and nurses to collaborate in community schools, we must prepare them together. Community schools not only create opportunities for supporting the teaching profession but also for improving pre-service and in-service teacher development. Indeed, such improvements are necessary if we expect teachers to take advantage of community school resources.

Note: Original contribution by Cory M. Bowman (University of Pennsylvania) and Hal A. Lawson (University at Albany).

More information:

- The Coalition for Community Schools: <https://www.communityschools.org/> (Accessed on 28 October 2022).
- Support from the unions:
 - American Federation of Teachers: <https://www.aft.org/position/community-schools> (Accessed on 28 October 2022).

- National Education Association: <https://www.nea.org/student-success/great-public-schools/community-schools> & <https://www.neafoundation.org/projects-initiatives/community-schools-initiative/> (Accessed on 28 October 2022).
- University-Assisted community schools (Barbara and Edward Netter Center for Community Partnerships): <https://www.nettercenter.upenn.edu/what-we-do/university-assisted-community-schools> & <https://www.nettercenter.upenn.edu/UACSnetwork> (Accessed on 28 October 2022).

The research points to a wide range of benefits from the community school approach (Galindo and Sanders, 2019^[86]; Lawson and van Veen, 2016^[82]; Maier et al., 2017^[94]; Mayger and Hochbein, 2021^[95]; Weeks, 2022^[83]), while acknowledging that it can also generate uneven results (Mayger and Hochbein, 2021^[95]). From an equity perspective, community schools have improved the lives of marginalised children by expanding their opportunities and removing learning barriers (Mayger and Hochbein, 2021^[95]). Maier et al. (2017^[94]) asserted that programs in many different locations has positive effects on student outcomes “including attendance, academic achievement, high school graduation rates, and reduced racial and economic achievement gaps” (p. 108^[94]). They also noted a few aspects to be particularly important for success. Full integration of the key pillars of the community school model (integrated student supports, expanded and enriched learning time and opportunities, active family and community engagement, and collaborative leadership and practices) into the core life of the school is important. Community school services should not be viewed as add-on features. Evaluation and research about community schools can be developed in several ways, but a strong academic focus is important. They also found that results are much stronger when programs with clearly defined elements and structures are implemented consistently across different sites, in cases where a strong program model exists (Maier et al., 2017^[94]). Students who participate for longer hours or a more extended period in expanded learning time and opportunities activities receive the most benefits. The same applies to programs with engaging, instruction-aligned activities enriching classroom learning, and activities that take a whole-child perspective (Maier et al., 2017^[94]). Finally, strong and clear communication has been identified as important (Daniels, 2011^[96]; Lawson and van Veen, 2016^[82]; Weeks, 2022^[83]).

Galindo and Sanders (2019^[86]) summarise key findings from several articles in a special edition of the *Journal of Education for Students Placed at Risk*. They assert that longitudinal research has found positive effects of (full-service) community schools on student outcomes. They also found that it is vital for stakeholders to have an intentional focus on equity among the stakeholders to reduce the risk of not accommodating the students with the biggest needs. The three other key findings from Galindo and Sanders’ (2019^[86]) summary are used below to frame a deepened discussion about community schools, including both implementation-related lessons for policy development and implementation of community schools.

Finding 1: Principals and community school coordinators (or other intermediaries) play a critical leadership role in effective community schools, where they act as cross-boundary leaders who develop trusting relationship and foster authentic collaboration with various stakeholders (Galindo and Sanders, 2019^[86]).

Weeks (2022^[83]) focuses on the partnership aspect of community schools. He has identified four categories of problems related to the successful development of cross-sector partnerships in community schools. These are related to the complexity of these types of collaborations, differing organisational structures and cultures, and the sustainability of the initiatives. Table 5.1 presents his categories and the main points related to them. As shown, principals and community school coordinators have a vital role to play in overcoming these types of problems and increasing the success of community schools.

Table 5.1. The problems of complexity, structure, sustainability, and culture

Problem category	Main points
The problem of Complexity (pp. 89-92)	Schools, especially in socio-economically disadvantaged communities are complex. If partners lack understanding of the complexities of schools and school districts, collaboration will be hindered. Social problems are also complex, even “wicked”. An intermediary actor with understanding of the complexities can facilitate collaboration.
The problem of Structure (pp. 92-98)	Different sectors have different organisational structures (for example regarding the degree of hierarchy or level of outsourcing/specialisation), which informs the ideas about how collaboration should be organised. A lack of understanding of the differences in organisational structures may lead to a frustration. The complexity of schools and school districts, and the role of different actors at different levels is confusing to partners from other sectors in cross-sector collaborations in community schools. Furthermore, partners may struggle in organising their cooperation in a way that works for all actors, regardless of size and organisational structure. Power imbalances between actors needs to be addressed. An intermediary actor with experience and understanding of how various actors, including schools and school districts, are structured can help in the cooperation.
The problem of Sustainability (pp. 98-103)	It's hard to sustain cross-sector collaborations in community schoolwork. Many efforts last only 2-3 years. It's hard to define sustainability due to the varying nature of collaborations – some are informal, ad hoc and small scale while others are large, long-term and institutionalised efforts. Inspired by (Donahue, 2004 ^[97]), Weeks (2022, p. 102 ^[83]), however, proposes the following description of sustainability: “If an effort, whether a community school or other cross-sector education initiative, can continue to exist, if it can continue to meet the needs of its partners, and most importantly, if it can continue to make a significant difference, then it is sustainable.”
The problem of Culture (pp. 103-119)	Cultures vary across many different dimensions. Weeks (2022 ^[83]) points to Schein and Schein's (2017 ^[98]) 16 considerations for cultural challenges in cross-sector collaborations. These include cultural differences in ontological and epistemological views on reality and knowledge, looking to past experiences or being forward-looking, how physical space is organised, its views on people, activities, relationships, and authority. Furthermore, they regard the use of language, mission of the organisation, how decisions are made, its systems and processes, how progress is measured, and how problems are dealt with, its rules for inclusion. He argues that ethnographic methods may be useful to increase cultural understanding among partners, and to use a “culturally adept bridge organisation, or intermediary, to help the cultures mesh together in productive and positive ways” (Weeks, 2022, p. 119 ^[83]).

Source: Adapted from Weeks (2022^[83]), *Cross-sector partnerships in community schools*, <https://digital.library.txstate.edu/handle/10877/15712> (Accessed on 12 December 2022).

To be able to build collaborative relationships, principals need strong interpersonal and communication skills and an adaptable mindset (Mayger and Provinzano, 2022^[99]). They need to have the ability to align the efforts of stakeholders around a cohesive, student-centred vision which address the core academic program and the ability to build trusting relationships (Mayger and Hochbein, 2021^[95]). They also need to be fully aware of what the community school strategy is to be able to implement it, and enact the comprehensive approach that the most successful initiatives entail (Maier et al., 2017^[94]; Mayger and Provinzano, 2022^[99]). The comprehensive approach includes integrated student supports, expanded learning time and opportunities, family and community engagement, and collaborative leadership and practice (Maier et al., 2017^[94]). Principals need to have the characteristics, skills and knowledge required to successfully reform systems at various levels (Mayger and Provinzano, 2022^[99]), since changes have to be made to existing structures, practices and partnerships at school sites to take the comprehensive approach (Maier et al., 2017^[94]). Furthermore, principals need to operate

keeping equity in mind, to ensure the highest impact for the students they serve (Galindo and Sanders, 2019^[86]; Mayger and Provinzano, 2022^[99]).

The community school coordinator, or the intermediary, is needed to coordinate, bridge organisational and cultural gaps, and bring people and organisations together (Lawson and van Veen, 2016^[82]; Weeks, 2022^[83]). They are usually hired by a community partner or the school district (Quinn and Blank, 2020^[87]). FitzGerald and Quiñones (2018, p. 272^[85]) have identified three roles for the community school coordinator: a bridge-builder who connects and promotes trusting relationships with multiple stakeholders, a collaborator fostering a sense of collective responsibility and joint work, and a leader supporting the “emergence of decision capital”. In addition, they enable principals to focus on responsibilities related to their role as instructional leaders, which is important since a good student support system cannot compensate for a weak core instructional program (Quinn and Blank, 2020^[87]). It is vital that their role and relationships with other professionals inside and outside the school, and central accountability is clearly specified (Lawson and van Veen, 2016^[100]).

Finding 2: The responsibility is shared across educational and community-based organisations and where there is an alignment in goals for the different stakeholders (Galindo and Sanders, 2019^[86]).

Community-oriented cross-sector collaborations need to meet the needs of all partners involved in the collaboration (Lawson and van Veen, 2016^[101]; Weeks, 2022^[83]). They are stronger when they develop a variety of structures and practices that bring educators, partner organisations, parents, and students together to make key decisions about how to continuously develop and govern the school (Maier et al., 2017^[94]). Collaborative and committed local leadership is described as fundamental to the effectiveness, growth and sustainability of community schools (Quinn and Blank, 2020^[87]).

Involving these actors in the initial community school needs assessment, design, planning, and implementation processes, and allocating sufficient time for planning is important for the outcomes (Maier et al., 2017^[94]). A focus on overarching goals of creating school conditions and practices characteristic of high-performing schools, as well as ameliorating out-of-school barriers can be facilitated through using a framework, in the initial process of community school development (Maier et al., 2017^[94]). It is important that the collaboration is built on utilising the strengths of the participating actors (Quinn and Blank, 2020^[87]).

Lawson and van Veen (2016^[82]) point to several aspects related to the support and involvement of the (local) policy level. Clear role/responsibility protocols are needed to determine when the different collaborating partners are expected to collaborate, and when they are expected to work alone (Lawson and van Veen, 2016^[100]). This can be done through forming an executive leadership council consisting of the superintendent or designated officials and top-level government officials, agency leaders and community development specialists. The council can then formalise the partnerships using contractual agreements and memoranda of understanding, which also include details on the allocation, generation and evaluation of resources. Furthermore, it is important to assess priorities for professional development and organisational capacity-building needs to align the partnership with the needs of the students. They also suggest distinguishing between short-term, intermediate, and long-term outcomes, where the short-term ones are tuned to getting the conditions right for learning (Lawson and van Veen, 2016, p. 50^[82]). Since it takes time for community schools to have substantial effect on learning- and wellbeing outcomes for the students, the short-term outcomes focus on aspects related to process.

Finding 3: Trusting relationships and a sense of community is vital in planning and implementation and to achieve authentic relationships with families and communities (Galindo and Sanders, 2019^[86]).

Several researchers in the community school literature use Bryk and Schneider's (2002^[102]) work on relational trust to discuss the importance of trust (Doornenbal and Kruiter, 2016^[89]; Mayger and Hochbein, 2021^[95]). The theory explicates four core values of trust: respect, care, competence, and integrity and moral commitment (Mayger and Hochbein, 2021^[95]). The researchers give examples of how each of these core values of trust has been shown in other research on community schools. By establishing an open, two-way communication and welcoming school environments, community school leaders could foster respectful relationships between different stakeholders. When the school recognised and responded to the family's needs, parents described them as caring. Furthermore, if the collaborators show that they are competent, and that they follow through on what has been agreed, trust is gained. Lack thereof reduces trust.

Maier et al. (2017^[94]) give some insights into how implementation-related choices in the community schools model are related to trust and its impact on students and families. First, students benefit from schools offering a spectrum of engagement opportunities for families, since they help establish a trusting relationship supporting culturally relevant learning opportunities. Second, trust is increased when parents who are engaged in grassroots community organisations are invited to participate. The community school needs to target the local assets and needs and with an adaptive mindset to the programming to ensure its continued adequacy as the community changes. A place-based perspective is vital for its success.

In addition to their benefits for students and communities, community schools benefit the work of teachers. Bowman and Lawson (original contribution, Box 5.2) highlight two main aspects of how it may benefit teachers: accessing partners with diverse competences to collectively empower students academically and socially and allowing teachers to focus on their core job of teaching. Similarly, findings from Sibley et al. (2017^[27]) show that different types of increased partnerships between the school and the community have great potential in strengthening the teaching profession (Box 5.3). Benefits include increased focus on teaching, serving as the expert on what the students need from a learning perspective during collaboration with the other partners, and improved mental well-being from knowing that students get the support they need from experts across many domains (Sibley et al., 2017^[27]). Furthermore, when these partnerships are successful, increased student outcomes, particularly the academic ones, may strengthen the teacher's self-efficacy in the classroom when they see that their work pays off.

Box 5.3. Benefits for teachers from City Connects

Sibley et al. (2017^[27]) researched how a specific community school model (City Connects) affected teachers. At the centre of the model was a Master's trained licensed school counsellor or social worker who served as a coordinator. Every year, the coordinator met with each classroom teacher to address the needs of their students across four domains: academic, behavioural/social, family and health. Based on this review, the teacher and coordinator identified a specific set of services for each student matching their strengths and needs. For the students identified to have especially intense needs, the coordinator conducted a targeted individual review with a multitude of professionals, including the teacher and family, to put additional supports in place. Teachers who worked in these schools reported feeling better equipped to deal with challenging behaviour in the classroom. Coordinators helped dealing with behaviour issues and interactions with families which entailed teachers being able to focus more on teaching. Teachers experienced a source of relief from knowing services were secured by the coordinator: "the benefits of lower stress, feeling supported, and understanding students' out-of-school lives may enable teachers to focus on teaching, becoming freer to engage with and enjoy their students." (Sibley et al., 2017, p. 154^[27]).

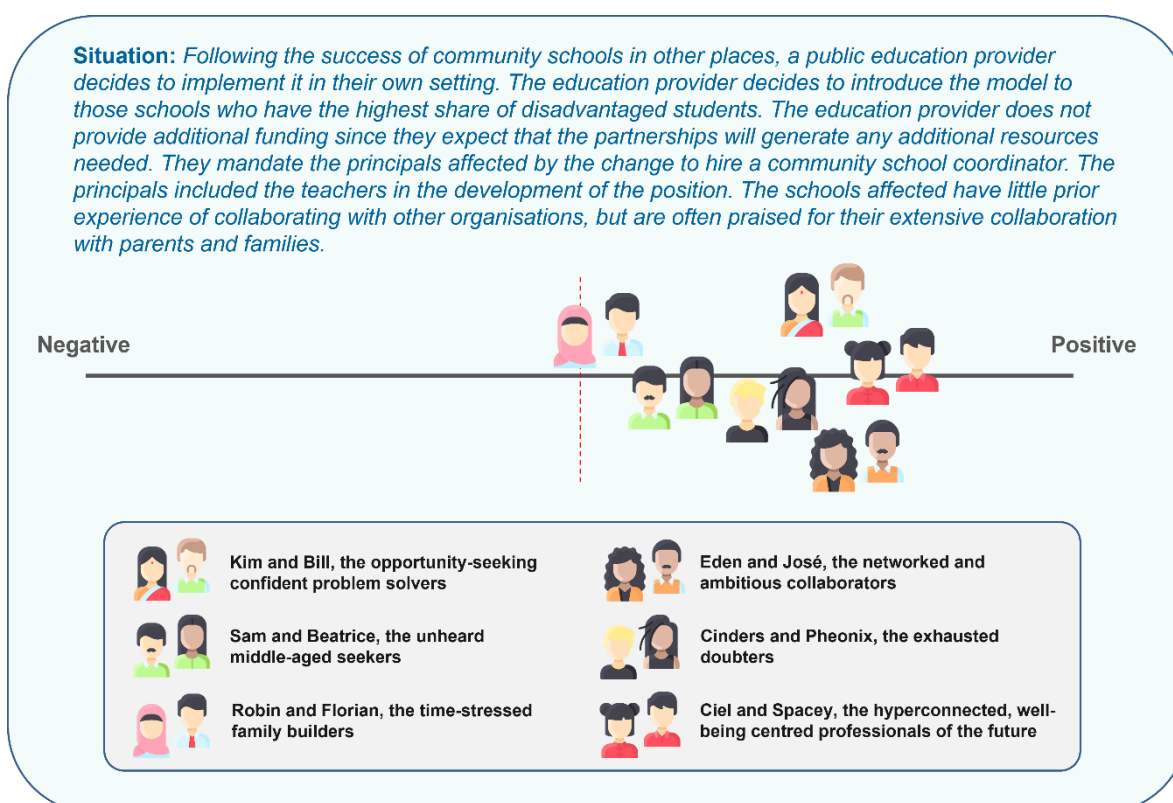
5.2.2. Lessons for collaboration

Clearly, community schools can be a fruitful endeavour for schools, teachers and their surrounding communities to engage in from a multitude of perspectives. They can contribute to more empowered students and families, a stronger community, and strengthened teachers who get necessary support from other actors. However, establishing well-functioning, sustainable, community schools is not an easy task (Weeks, 2022^[83]). Issues related to the complexity in bridging different organisations and professions and make them work well together are particularly emphasised (FitzGerald and Quiñones, 2018^[85]; Galindo and Sanders, 2019^[86]; Lawson and van Veen, 2016^[82]; Mayger and Hochbein, 2021^[95]; Weeks, 2022^[83]). Important parts to succeed seem to be the presence of an intermediary bridge-building community school coordinator (FitzGerald and Quiñones, 2018^[85]; Galindo and Sanders, 2019^[86]; Lawson and van Veen, 2016^[82]; Weeks, 2022^[83]), involvement from the different actors throughout the decision-making process (Maier et al., 2017^[94]), shared responsibility, clear expectations and alignment of goals between the collaborating organisations (Galindo and Sanders, 2019^[86]; Lawson and van Veen, 2016^[82]; Maier et al., 2017^[94]; Quinn and Blank, 2020^[87]), a focus on building trust (Doornenbal and Kruiter, 2016^[89]; Galindo and Sanders, 2019^[86]; Mayger and Hochbein, 2021^[95]) and treating it as a long-term but adaptable form of collaboration (Lawson and van Veen, 2016^[82]; Quinn and Blank, 2020^[87]) rather than a short-term project. Furthermore, it is vital that the collaboration is continuously warranted for all the collaborating actors – it has to meet the needs of all the involved partners, which is ensured through recurring shared evaluations (Lawson and van Veen, 2016^[100]; Weeks, 2022^[83]). Finally, aspects relating to leadership and municipal/district level support seem to be vital for the success (Doornenbal and Kruiter, 2016^[89]; Mayger and Provinzano, 2022^[99]; Lawson and van Veen, 2016^[82]).

5.2.3. Applying the personas – Community schools

In Figure 5.3, a consideration is made regarding how the personas (Box 4.1) may be affected by a policy choice where a community school model is introduced in their local district.

Figure 5.3. Personas 2: Introducing community schools



The community schools model has great potential to provide benefits for students and teachers. In this fictional situation, the change is expected to improve the willingness to stay in the profession for all the personas, but to a different extent and for different reasons.

- For Ciel and Spacey, the hyperconnected, well-being centred professionals of the future, the change will likely affect their willingness to enter the profession positively to a large extent. They are already hyperconnected and expect extensive and flexible professional collaboration within and outside the school. The community school model will allow them to bring in competences from other organisations to a higher extent than before, since they get system support and support from the community school coordinator in making things work. Their focus on well-being also extends to their students, whom they see great benefits for in participating in collaborative initiatives as a part of the community schools model.
- Similarly, Kim and Bill, the opportunity-seeking confident problem solvers, would probably appreciate the change for several reasons: They already work in a school with a collaborative culture and seek out diverse opportunities. Their problem-solving focus probably makes them engaged in seeking out potential partners to collaborate with – when they identify needs they do not hesitate to find solutions, and the community school model gives them an opportunity to extend that beyond the school walls.
- For Robin and Florian, the time-stressed family-builders, the change is expected to have neutral effect on their willingness to stay in the profession. They are expected to appreciate the potential the community school model has for the students, but since they are stressed and feel dissatisfied with the life-work balance, their dedication for the model is neutral. They would have preferred more opportunities

for discussions developing their work; they fear that this may be counteracted by the community school model.

Part of the reasons for the generally positive perception of the teachers are related to the factors described in the situation. The local policy makers chose to focus on the schools with the highest share of disadvantaged students, which is good since the teachers there often are the ones who generally suffer most from stress: They have the most to gain from getting additional support for the students. Furthermore, since they are used to collaborating with families, they already have the mindset that families are important to engage with, and an openness to collaborating with external constituencies. The hiring of community school coordinators is good since they serve as a bridge between the school and the organisations. That is particularly important since these specific schools do not have much previous experience in collaboration at the organisational level.

However, the choice by the education provider to not provide additional funding for the model is problematic. A real-world example of the implementation and development of community schools in the Dutch city of Groningen shows that additional funding is needed to sustain and develop community schools (Doornenbal and Kruiter, 2016^[89]). It is also likely that the principals have to re-adjust their budget to hire the mandated coordinator, which may lead to uncertainty and annoyance among the teachers and other colleagues, especially if it removes other resources close to the classroom.

The main reason for why the community school model is likely to affect all the teachers' willingness to stay in the profession positively is that it can allow them to focus on their core instruction-related tasks, other experts are involved in helping them empower the students academically and socially, and teachers are recognised as experts on the teaching and learning.

5.2.4. Bridging several public sectors through cross-sectoral collaboration at the policy- and ministry level

Collaboration between the public sectors to support students and teachers is not limited to the local level. An example from Norway will be used to show how ministries can collaborate across sectors. Four ministries came together and established the 0-24-years-old program, where the goal was to better coordinate services and initiatives for vulnerable people younger than 24. The project and learnings identified are presented in Box 5.4. Clearly, lessons learnt from the Norwegian example highlight the importance of clarity, a shared understanding and ensuring that the collaboration is warranted for those involved.

Box 5.4. Ministry supported cross-sectoral learnings from Norway

In 2015, the 0-24 years old programme was established in Norway. The goal of this five-year-long program has been to better coordinate services and initiatives for vulnerable children and young people under the age of 24. This assignment was issued by the Ministry of Health and Care Services; Ministry of Children, Equality and Social Inclusion; Ministry of Labour; and the Ministry of Education and Research to their underlying directorates.

The programme was evaluated, and this evaluation showed that for cross-sectoral cooperation to succeed, it is important to have a common knowledge base and a common understanding of the challenges involved. At the national level, it took a long time for each ministry to gain an understanding of the others' sectors, as well as how the different sectors approach individuals who need complex services. The ministries and directorates were largely successful in achieving a common understanding during this period, which also made it easier to see how important a strong, cross-sectoral cooperation is, as well as how measures taken in one ministry/directorate can be relevant for other sectors. With this broader framework for understanding, the relevance of cross-sectoral cooperation became even clearer.

Even though cross-sectoral cooperation has been strengthened at the national level, there are still challenges in improving cooperation among services at the local level. The County Governors reported that their role in the project was unclear: The expectations from the national was not clear enough, which contributed to an underdevelopment of cross-sectoral work at the municipal level.

Source: (Deloitte, 2021^[103]). *Følgeevaluering av 0-24-programmet - Sluttrapport*. <https://www.udir.no/tall-og-forskning/finn-forskning/rapporter/folgeevaluering-av-0-24-programmet/> (Accessed on 4 November 2022).

5.3. Teachers, Collaboration and the EdTech industry

As the global trend in digitalisation continues to influence schools, the need for teachers to engage with educational technology (EdTech) is apparent. Caution is, however warranted, since increased levels of anxiety, symptoms of exhaustion, and perceived stress among teachers can be attributed to the use of EdTech (Fernández-Batanero et al., 2021^[104]). The digital tools available to teachers and schools are plentiful, and not always adapted to the needs (Batty et al., 2019^[105]). If an imposed digital tool, be it for virtual or classroom instruction, for monitoring the academic development of the students, or for reporting sick leave, is not aligned with the needs of the teachers, it may lead to frustration rather than functioning as a useful and/or stress-alleviating tool. The presence of a learning-curve and initial resistance to change is expected in all cases, but if the product is aligned with the needs, the initial resistance is expected to turn to approval among the vast majority of users.

A fruitful way of reducing the risk for a misalignment of the EdTech and the needs is to include teachers and schools in the development of the technology. Burns and Gottschalk (2020, p. 197^[23]) give examples from Finland, Israel and Estonia, where initiatives partnering schools with EdTech companies and/or researchers to better align the development to meet the needs of the education sector. Batty et al. (2019^[105]) provide additional examples from the United States, and a joint effort from European ministries of education. Based on the examples, they propose four archetypical models for including stakeholders (including, among others, teachers and in some cases students) in developing

EdTech to better align with the needs of schools: Co-design, Test and learn, Evidence hub, and EdTech network. For teachers, the models imply different things – in the network model they would be involved in sharing experience, expertise and insights from one’s own setting with others. The other three models involve active participation in testing EdTech products as a part of the design process. The co-design model, however, also includes the active provision of feedback and design ideas to contribute to the creation of a product that addresses their needs.

Lessons learnt from the Finnish “Smart learning environments for the future”-project where the six largest cities in the country were involved, indicate that the support of leading decision makers and school principals is crucial, and that a clear and simple model for co-creation facilitates the effort (Pihlajamaa and Rantapero-Laine, 2020^[106]). Furthermore, they suggest that leaders should be open about aims and methods to avoid misconceptions, that it is important to give teachers tools to actively partake in the process, and to ensure that the internal processes are ready before starting the pilots. They also emphasise the importance to acknowledge that it is a joint effort, to leave enough freedom for the stakeholders to plan and execute the trial, and for the cities to promote the co-creation of success stories to make companies visible.

Estonia is one of the leading nations in involving digital technologies in education. Through their Edulabs programme, schools and researchers are partnered to pilot EdTech and develop related pedagogies (Burns and Gottschalk, 2019^[29]). Since 2005, Estonia has also employed educational technologists, who are experienced teachers and who have completed a Master’s degree to become experts in finding suitable EdTech solutions and guiding teachers in their implementation (Education Estonia, 2021^[107]).

Another example is the Catalyst Lab innovation programme from New South Wales, Australia, which took a bottom-up approach in the development of EdTech with an eye on preparing for the impact of artificial intelligence and other paradigm shifts (Loble, 2019^[108]). In the programme, teachers were the drivers of the development since they developed innovations based on the needs in their practices. Using design thinking, events around the state supported sharing and development of ideas between practitioners, developed thinking about innovation by involving experts in the field of design and provided a process for policy makers to identify projects which could be developed into a prototype through provision of time and other resources that brought together the practitioners responsible for the idea with experts in design. One of the prototypes took the shape of a software platform which, together with substantial curriculum support integrated assessment and recording of student learning in capabilities such as collaboration, creativity and critical thinking. Testing across 115 schools and 400 teachers showed that the software was useful.

5.3.1. Lessons for collaboration

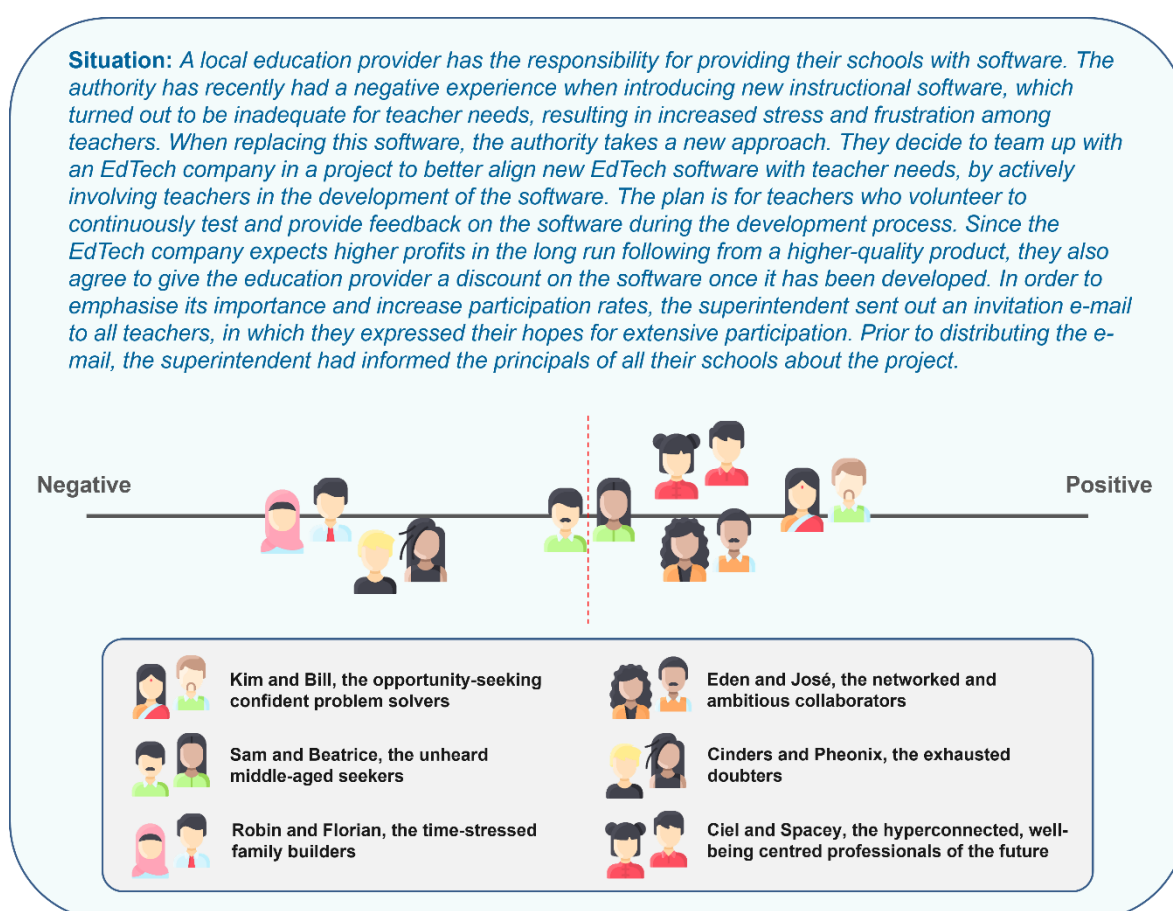
By involving teachers and, in some cases, students in the EdTech development or acquisition processes, potential of increased alignment between the product and the needs of schools is apparent. The collaboration between teachers and EdTech companies, through the school organiser, could strengthen the teaching profession by ensuring that the tools which eventually will be implemented are designed in accordance with the needs of the teachers. In the absence of the collaborative effort, the risk of the technology being considered unnecessary, lacking usefulness or being difficult to use is higher. If it is aligned with their needs, it can help the teachers in their teaching, or help reduce their workload. Furthermore, a development process involving the target group for the product may be warranted for the EdTech companies too, since increased sales and longevity can be expected if it is more aligned with the needs of the intended users. Clearly, collaboration

has the potential to be warranted for both teachers, education organisers and EdTech companies alike. The examples show that collaboration can occur at the organisational level, supported by policy and policy makers. Based on the Finnish project, aspects related to the involvement of the different stakeholders and viewing it as a joint effort, the provision of tools to actively participate in the process, and giving enough freedom for the stakeholders involved in the planning and execution of the work seems to be important (Pihlajamaa and Rantapero-Laine, 2020^[106]).

5.3.2. Applying the personas – Teachers and the EdTech industry

In Figure 5.4, a consideration is made on how the personas (Box 4.1) may be affected by a policy choice where they are invited to collaborate with an EdTech company to develop its software.

Figure 5.4. Personas 3: Collaboration with an EdTech company



A greater spread of the impact on the personas is expected for this type of collaboration compared to the previous two.

- The enthusiastic and confident, challenge- and opportunity-seeking teachers Kim and Bill (the right-most personas) see this as an exciting opportunity. Since they are not digital natives, they view it as an opportunity to be a part of creating software that they would benefit from and learn a lot in the process.
- Robin and Florian, the time-stressed family-builders (the left-most personas) on the other hand, are already stressed in their work life. They value a life-work balance

but are struggling to find it. They feel pressure to participate since the email was sent from the superintendent, but they do not see how participating would be valuable to them. They are digital natives, so even when software is designed poorly, it does not bother them as much – they learn quickly and adapt.

- Sam and Beatrice, the unheard middle-aged seekers, are expected to experience the least change to their willingness to stay in the profession from this initiative. On the one hand, they would probably appreciate the invitation to participate and have their voice be heard, since they feel they have not been able to do so for a long time. On the other hand, they already feel confident in their teaching skills and adapt to new situations because of their problem-solving capabilities. It is likely that they would not perceive the invitation to be the most relevant to their needs and teaching practices.

In this example, it is difficult to judge how the situation could change to shift the personas further to the right. The education provider ensures that it is not mandatory to participate which is good because it respects teacher autonomy. At the same time, since the invitation was sent by the superintendent, teachers may feel obliged to participate despite a lack of interest, time and energy. Alternatively, they might be honoured to get the question, and feel motivated to participate. By distributing the email to all teachers in all schools, the principals may feel sidestepped, and it is likely that their intended focus for development in the school cannot be enacted as planned since the EdTech collaboration is competing for time and energy. Another way to deal with it could have been to identify the schools who have an ongoing focus on digital tools and invite them to participate, and leave the decision to the principals. There are benefits for all the actors to engage in this collaboration: The teachers will benefit from software which is adapted to their needs, the education provider gets a discount, and the EdTech company can expect higher revenues from a better product.

5.4. The broader education sector: Pre-primary and higher education

In this section, collaboration with the broader education sector is addressed. Specifically, some types of collaboration between schools and ECEC, and the HE sectors respectively, are addressed. Collaborative aspects introduced in the section relate to all three levels of collaboration: Interprofessional, organisational, and the policy level. Personas are applied to an example of collaboration between the ECEC and primary school sector regarding transition practices.

5.4.1. Collaboration with Early Childhood Education and Care teachers

Enhanced collaborations between primary teachers and ECEC could strengthen the teaching profession by allowing teachers in both settings to help each other adapt their instruction to best accommodate for the academic and social needs of the students, which in turn could lead to increased student outcomes and better working environment. Well devised collaboration between schools and teachers in ECEC is warranted for several reasons, including to support student transitions, curricula and pedagogical sharing, as well as other professional supports. A large proportion of the ECEC workforce in several countries have less than International Standard Classification of Education (ISCED) level 6 qualification (OECD, 2019, p. 106_[109]). This section, however, assumes that the teachers in ECEC who have an ISCED level 6 attainment are the ones expected to be the primary collaborators with teachers in the primary setting at the interprofessional level.

The most important benefit from collaboration between ECEC and primary school teachers is, arguably, transition support. Research from the United States (Cook and Coley, 2019_[110]), Finland (Ahtola et al., 2011_[111]), and Norway (Cook, Dearing and Zachrisson,

2017^[112]) suggests academic and social benefits for children from collaboration between the ECEC and primary education settings regarding transitions. While Head Start and kindergarten technically are at the ECEC level, Cook and Coley (2019^[110]) suggest that direct meetings between teachers in these settings are predictive of higher language skills as they progress in primary education. Cook, Dearing and Zachrisson (2017^[112]) found that early primary school teachers reported better social and academic adjustments for students when they had received both general information about the preschool's program/curriculum, and specific information about the child. Ahtola et al. (2011^[111]) suggest that collaboration on the curricula and provision of written information about the child from the ECEC to the school, was the most beneficial in terms of increased academical outcomes.

An important aspect of collaboration around transition is the need for educators to learn about each other's professional contexts and develop an understanding of themselves as equal partners during initial teacher education and training (Balduzzi et al., 2019^[113]; OECD, 2017^[114]) – interprofessional education is needed. Balduzzi et al. (2019^[113]) highlight the need for creating boundary spaces for interprofessional collaboration since their pedagogical understandings and practices are rooted in different institutional cultures. Box 5.5 shares two examples from Victoria, Australia that utilise shared professional learning spaces to foster collaboration between ECEC and primary teachers. These examples highlight some ways to enhance collaboration between the sectors as well as identifying some pitfalls to consider.

Another way to ease the transition through collaboration is to have dedicated staff assigned to support them. Slovenia has at a policy level, supported the hiring of professionally trained professionals such as psychologists, special educators or social pedagogues as kindergarten counsellors to, in addition to other tasks, support the transition to school. They work with a variety of stakeholders such as parents and the counselling service of the primary school, social work centres and medical centres (OECD, 2017, p. 120^[114]). The counselling service also helps parents to arrange the documentation in time to facilitate adequate student support from day one of school (OECD, 2017, p. 231^[114]). Transition co-ordinators or counsellors may also be useful to ensure transition flows when children in ECEC move on to a variety of different schools (OECD, 2017^[114]).

Box 5.5. Boundary spaces for improved interprofessional collaboration between ECEC and primary education teachers

Two studies from Victoria, Australia, provide examples of methods to create boundary spaces for improved collaboration at the interprofessional level.

In the first example, researchers collected answers from ECEC and primary education teachers who had participated in a shared Professional Learning Workshop (PLW) on effective transition processes between pre-primary and primary education about the perceived benefits and challenges of participating in such an event (Garner, Nicholas and Rouse, 2021^[115]). They found that when there was a good balance between the two professions among the workshop participants, boundary crossing effects could be seen. The professionals reported that they felt a greater appreciation of each other, and developed shared understandings and insights into the role, practices and pedagogies of the other sector.

However, when there was an imbalance among the participants (skewed towards more ECEC teachers than primary teachers), the disruption of misconceptions regarding

ECEC teachers' profession was hindered. Instead, perceptions of it as being undervalued and professionally misunderstood was, in many cases, reinforced. Furthermore, the authors emphasised that the PLW session was intended to be a starting point to facilitate ongoing collaboration between the two sectors, and that "more work is needed to offset the embedded practices, understandings and perceptions that maintain the established boundary divide between the two sectors" (Garner, Nicholas and Rouse, 2021, p. 776^[115]). They also claimed, with regards to earlier research on interprofessional collaboration, that "Common knowledge is best achieved with consistent interprofessional collaboration, enabling groups to work collectively on specific tasks over an extended period of time." (Garner, Nicholas and Rouse, 2021, p. 765^[115]).

The second example regards the pairing up of early childhood educators and foundational teachers in a multi-step intervention to improve continuity for students' transition between ECEC and the start of primary school (Dunham et al., 2016^[116]). To do so, designers of the intervention tuned it towards facilitating greater shared understanding between preschool educators and foundation teachers through a joint planning activity. Following a discussion on values and beliefs on teaching and learning as well as curriculum, pedagogical and assessment practices, the pairs were tasked with co-designing a shared curriculum plan for implementation with the same cohort in both settings. This was followed by visits to each other's settings, where close observations took place. At a later occasion, the early childhood and primary teachers implemented the curriculum plan in each other's settings. Findings from the intervention indicate that they gained increased understanding of the curriculum, pedagogical, and assessment practices of the other setting. They also indicate that the workshop built relationships between the settings, and facilitated a shared language, which offered a line of communication that was not in place before. This made it easier for the ECEC and primary teachers to communicate in a way that would ease the transition for the students.

A challenge to collaborative transition practices between pre-primary and primary education, is when the educational settings are located in different geographical spaces (OECD, 2017^[114]; Purtell et al., 2020^[117]) since physical distance can hamper time and space for collaboration. One way to mitigate that is for decision makers to ensure physical integration of ECEC centres and schools (OECD, 2017^[114]). Close geographical proximity, however, is not a guarantee for collaboration between the settings. Since ECEC teachers spend much more time with the children compared to primary teachers, time for collaborative work is also a limiting factor (OECD, 2017^[114]). Research on collaborative practices on transitions showed that where there was high levels of coordination and communication between ECEC and elementary teachers, conscious decision making at some level in the school district had been made (Purtell et al., 2020, p. 13^[117]). This is also emphasised by the OECD (2017^[114]) which stresses the need for principals or managers in both educational sectors to be knowledgeable about the importance of early childhood education, since they usually are the ones responsible for transitions and cross-sector collaboration related to them. Another issue related to transitions regards a lack of clarity regarding the mandated or allowed content of written or oral statements about the children as well as its timing (Hopps-Wallis and Perry, 2017^[118]; OECD, 2017^[114]). This is especially worrying since some research indicates that passing on written information was one of the best predictors of initial academic development in school (Ahtola et al., 2011^[111]). The OECD (2017^[114]) argues for countries to ensure accommodating legal environments, such as provisions for the exchange of child records, and allowing staff sufficient time to co-operate, to improve transition practices. By doing so, the policy level may facilitate collaboration between the two settings.

Another form of collaboration between ECEC and primary education settings are the alignment of curricula and practices (Cook, Coley and Zimmermann, 2019, p. 400^[119]; Purtell et al., 2020^[117]). Cook, Coley and Zimmermann (2019^[119]) describes alignment as “Head Start *shares and receives information* about programming, curriculum and assessment to support alignment with elementary schools” (p. 400^[119])², which then leads to a change in programs to align with elementary schools and support children’s school readiness skills. Findings from a qualitative study on actual practices of collaboration in eleven school districts in the United States, however, indicate that practices of alignment (in this case to support transitions) were overshadowed by other practices (Purtell et al., 2020^[117]). Information sharing practices can also influence ECEC teachers to pay increased attention to curricular content students struggle particularly with in the first years of school. For example, if teachers in the second year of primary school notice that children struggle particularly with understanding positionality of objects or entities in a geographical space, they can inform ECEC educators about this struggle so they can focus more on supporting the childrens’ development in this domain. For this to make sense, the curricula for both settings need to be aligned but have a clear progression. Alignment practices, however, warrants caution, considering concerns raised related to the “schoolification” of ECEC settings (OECD, 2017^[114]).

Enhanced collaborations between primary teachers and ECEC could strengthen the teaching profession by allowing teachers in both settings to help each other adapt their instruction to best accommodate for the academic and social needs of the students, which in turn could lead to increased student outcomes and better working environment for the teachers and students in primary education. As some research indicates that good collaborative practices on transitions is a predictor for the initial academic development of children in school, teachers may feel empowered from seeing higher results for their students.

As opposed to many of the previous types of collaboration explicitly mentioned in the paper, collaboration with the ECEC sector is more clearly positioned in all the three levels of collaboration – interprofessional, organisational and the policy level. At the interprofessional level, where ECEC and primary teachers meet to discuss the needs of the students transitioning, several issues relate to them coming from different institutional cultures, talking about children and learning using different professional languages and having misconceptions about each other’s pedagogical practices. This may be mitigated through ongoing collaboration and boundary-spanning activities where they learn more about each other and how to find common words for the same issues. These skills may also be developed in pre-service training. Collaboration at the organisational level revolves around the possibility for principals or managers to create space for collaboration – potentially hampered by less time available for ECEC teachers, geographic distance and a mismatch in timing. At the policy level, policy makers may support transitions and outcome-enhancing collaboration between ECEC and schools by providing a clear legal environment for the transition practices, clearly indicate that both educational sectors are required to engage in transitions, and ensure curricular alignment coupled with clear progression. Some examples on this are provided in OECD (2017^[114]). Countries may also choose to emphasise the educational aspects of ECEC by making the ministry for education and its associated authorities responsible for pre-primary education.

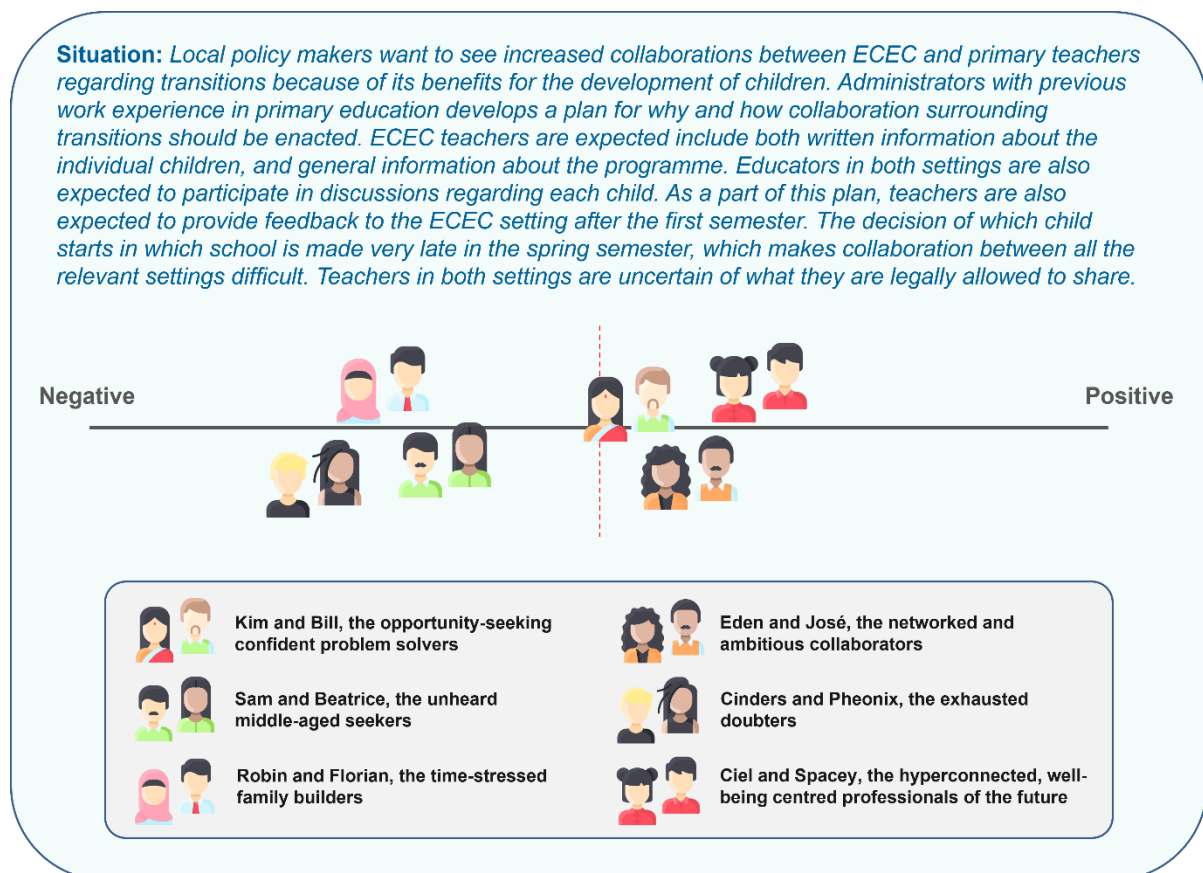
² Head Start programs in the United States target pre-kindergarten aged children from low-income families to promote their school readiness.

More information: <https://www.acf.hhs.gov/ohs/about/head-start> (Accessed on 29 August 2022).

5.4.2. Applying the personas – Collaboration between ECEC and primary teachers

In Figure 5.5, a consideration is made on how the personas (Box 4.1) may be affected by a policy choice where a new plan for collaboration between ECEC and primary teachers is put in place.

Figure 5.5. Personas 4: Increased collaboration between primary and ECEC teachers



In this situation, the personas are placed further away from the positive end-point on the spectrum mainly because of poor implementation and a lack of necessary conditions for the plan to be enacted in practice. The time limitation, uncertainties regarding what they are legally allowed to share, and expectation to provide feedback to the ECEC setting affect the exhausted, stressed, and unheard personas to the left most.

- Cinders and Pheonix, the exhausted doubters, for example, are likely to perceive this increase in workload related to the transitions as something adding to their exhaustion further. They already question their competence, and following the required provision of feedback to the ECEC setting, they are expected to be able to provide good input to the pre-primary teachers, which may increase their doubts further.
- The collaborative, ambitious and problem-solving personas to the right, are likely to perceive the change somewhat positively. They thrive in collaborations and see clear benefits in how increased collaboration with ECEC can be beneficial for both the students and themselves. The lack of time and increased administration shifts them more towards neutrality than what would have otherwise been the case.

Several policy level changes could be made to likely affect the willingness of teachers to stay in the profession positively. A clear legal environment would reduce the feeling of uncertainty and have positive effects on the possibility to collaborate interprofessionally regarding the transitions. If the locally written plan includes clear guidelines based on the clear legal environment, collaboration would benefit. It is beneficial that the plan included information regarding why collaboration is important, and how they are expected to do it. The policy level deciding the process for the division of students about to start school could facilitate collaboration by ensuring that decisions are made earlier than what was the case in the fictional scenario, to allow for more time to collaborate on the transitions. From an ECEC teacher point of view, it would probably be beneficial if administrators with experience from the ECEC setting also were involved in the development of the plan, since administrators with no such experience are likely to not realise some of the difficulties in finding time to enact the plan for ECEC teachers. Finally, engagement in long-term mutual collaboration, which facilitates trust-building and known structures, is expected to allow for increased positive benefits from the effort.

5.4.3. Higher education and collaboration

Collaboration with higher education (HE) stands out compared to the other examples, since it can have several purposes and take a variety of different shapes: Researchers can collaborate directly with teachers and schools, pre-service teachers and other students may collaborate with teachers as a part of their training, and HE can educate the students in interprofessional skills.

Direct collaboration between researchers and education policy makers, teachers and schools

Higher Education is well positioned to support various types of collaborative efforts such as the ones identified earlier. Researchers can get involved in efforts aimed at increasing collaboration between pre-primary and primary teachers, they can support community school development (Harkavy, Puckett and Hodges, 2020^[120]), or act as advisors when new staff categories are introduced in a school. They can also support the development of new or improved collaborative practices at the interprofessional, organisational or policy levels.

Pino-Yancovic et al. (2022^[57]) give an example where researchers were involved in supporting collaboration between headteachers and curriculum coordinators to tackle issues related to the COVID-19-pandemic, using a model called *collaborative inquiry network*. The researchers facilitated, and followed, the network for example through providing methods for collaboration, and the digital structure for following the development of the network. For some of the inquiries tested, a survey was administered to the teachers to collect feedback to the headteachers and curriculum coordinators. Teachers in these schools valued the opportunity to share knowledge with other schools in active networks facilitating their professional development. They also valued that their leaders put time and energy into supporting and nurturing their work during the difficult time of COVID-19. The experience from this example shows that researchers can be involved in direct engagement to support collaboration, which in turn can strengthen the teaching profession. Without the collaborative inquiry network intervention, headteachers and curriculum coordinators may not have engaged in collaboration leading to the specific changes affecting the teachers in a positive way. It shows that cross-sector collaboration at a level where teachers are not necessarily directly involved in the primary intervention, may lead to positive changes for teachers.

The chapter on communication, collaboration and co-production in a recent OECD publication on using educational research in policy and practice (OECD, 2022^[30]) discusses

different types of collaboration between researchers and the school sector, at both a policy, organisational and practitioner level. At the practitioner level, design-based research and research-practice partnerships are given as examples of types of collaboration between universities and practitioners. According to the OECD (2022, p. 169_[30]), Coburn, Penuel and Farrell (2021_[121]) give five distinctive characteristics of research-practice partnerships: They have a long duration, they focus on problems of practice, are committed to mutualism, use intentional strategies to foster partnership and produce original analyses. Furthermore, the OECD (2022_[30]) summarises three different major forms of research-practice partnerships distinguished by Coburn, Penuel and Farrell (2021_[121]):

1. *Research alliances that are typically institutionalised partnerships between research organisations and local education agencies, focusing on “local policy and practice questions”.*
2. *Design partnerships that aim at creating new pedagogical solutions “in real-world contexts” typically focusing on “developing and testing instructional materials”.*
3. *Networked improvement communities that seek “to leverage diverse experiences in multiple settings” and “to understand what change strategies work, where, when, and under what conditions”. (OECD, 2022, p. 169_[30]).*

At the organisational level, the publication mentions school-university partnerships as a common institutionalised form of collaboration between the sectors. They give the Teaching and Learning Research Programme in the United Kingdom as being particularly successful in using school-university partnerships to enhance the impact of research. At the policy level, an example from Hungary is provided, in which researchers and policy makers co-designed research projects.

As all other types of collaboration, the effort needs to be warranted and make sense for all involved actors. Schools and education policy sectors need to feel supported by the researchers in something that matters to them, and research organisations need to have the motivation to devote time and energy to support them. The OECD (2022_[30]) mentions two ways to facilitate this: promote involvement in activities where existing knowledge transfer operations are extended to the social area, which includes education, and also through consultancy where the university is using research outcomes to generate additional resources. Another benefit which warrants participation by the different actors is the possibility for researchers to increasingly align their research and focus on areas that school teachers, principals and education systems may find useful and applicable in their ongoing practices.

Researchers may also be part of a collaborative effort where they provide teachers with research-based evidence that can inform the practices identified as being of most importance to focus on. This allows for evidence-based development and practices for teachers who do not have time to find and digest relevant research themselves that has not necessarily been written with practitioners in mind.

Collaboration with pre-service teachers and other university students

As a part of initial teacher training, undergraduates undergo part-time training in schools. The collaboration between a school and a university regarding this has the possibility to provide great potential synergies both for the students hands-on learning of the profession, and for teachers in the receiving schools. Schools or local education authorities can also take this one step further and hire university students part time. Box 5.6 gives an example from a Swedish municipality which has enabled schools to hire pre-service teachers to co-teach together with an experienced teacher while also receiving continuing professional

learning in an area prioritised for the municipality. This arrangement has the potential to provide an opportunity for the students to practice their pedagogical skills: While not assuming the responsibility of a teacher, there is potential to reduce the practice-theory gap (Ulferts, 2021^[2]) for pre-service teachers as a result of the added experience within schools. For teachers, there is potential to be provided with specific support to allow them to focus on their teaching. The Swedish example has some interesting features. It has a loose collaboration at the organisational level – the university is invited to provide input and feed into the yearly development. Another interesting feature is that the local education authority acts as a facilitator, supporter and boundary spanner, setting the guidelines and aiding schools in the hiring of the co-teachers. Based on their lessons, clearly the initiative is warranted for several reasons, and for everyone involved, which is vital for the success of any collaboration. Something similar can, however, be implemented in different ways compared to the example from Sweden: Student co-workers can have other tasks, for example to host homework help or lead other extracurricular activities, a school or a group of neighbouring schools can try to offer something similar without the intervention of the municipality, or it may be supported by the national policy level.

Box 5.6. Student co-workers in a Swedish municipality

Reducing teacher shortages and strengthening the teaching profession

Teacher shortages are a big issue in Sweden and local efforts are crucial to combatting this. For example, Halmstad municipality, located on the west coast, has roughly 100 000 inhabitants, of which 19 000 are aged 1-15. Pre-service compulsory- and preschool level teachers attending their last year of university can apply for the position as a student co-worker. They are employed for 9 months, 20 hours per month, with a salary slightly below the entry level of a teacher with a diploma. 12 of the 20 hours are allocated to co-teaching a class with a designated teacher who also acts as a coach for the student. 1-2 hours are spent on reflection/discussions with the teacher. The remaining hours are allocated to attending continuing professional learning sessions targeting a knowledge area where the municipality has identified a need for development (such as teaching in a multilingual context) together with the other student co-workers. The student co-workers are hired by the principal, but the funding comes from the local education administration. This has allowed the city to prioritise supporting schools with higher levels of shortages. After the nine month period, and a successful graduation of the student, the school can offer them a permanent contract as a teacher if they have a position available. The participation in the project also gives the student co-workers a competitive advantage of getting hired in other schools run by the municipality.

The model started off as a pilot project in 2019 but it is now part of the municipality's ongoing operations due to its success in attracting teachers: A majority of those hired as student co-workers have been hired as teachers after their graduation. To not undermine the on-site training the students get through their studies, the local university was invited to give input before the project was piloted. Feedback from students, teachers and principals are incorporated in a yearly evaluation and development of the student co-worker position. Benefits for the teachers include support during lessons and the reflective practices with the students give them an opportunity to develop professionally. Benefits for the participating university students include increased self-efficacy, a setting to connect theory with practice outside the specific tasks the

university gives them for on-site training, and the access to an experienced teacher to discuss teaching with.

Lessons learnt from the project is to take time to listen to all the actors involved, to keep the position flexible so the municipality can re-shape it in accordance to changing needs and prerequisites (between one student co-worker cohort and the next), to find different forums to increase the outreach to the students and get a diverse pool of applicants, to have someone coordinating the project both during and after the recruitment process, to ensure that the principal and coaching teacher are on-board and ready to receive the student by involving them early and being clear on expectations. It is also important that the student co-worker knows what is expected of them.

Note: This box is based on input from Katarina Petersson, Halmstad municipality, Sweden.

Other examples from the university-assisted community school movement also show positive benefits for higher education students and schools, where under- or postgraduate students in different fields can act as mentors, support or lead extracurricular activities. The Barbara and Edward Netter Center for Community Partnerships lists a long range of university-assisted community school programs, among which several include the involvement of university level students (Barbara and Edward Netter Center for Community Partnerships, 2022^[122]).

Higher Education as a proponent for increased interprofessional skills

Several researchers, both within the education sector (Beaton et al., 2021^[123]; Geesa et al., 2020^[124]; Lawson and van Veen, 2016^[101]; Ravet, 2012^[48]) and others, particularly in the health and care sectors (Bridges et al., 2011^[125]; Lawlis, Anson and Greenfield, 2014^[47]; Thistlethwaite and Moran, 2010^[126]) point to higher education as a vital actor for promoting interprofessional skills for both pre-service and in-service teachers, school counsellors, principals and other professionals. It is clear that higher education has a role to play in fostering interprofessional skills, both for in-service and pre-service teachers and other professionals. The policy level could choose to expect interprofessional skills being taught to all under- and postgraduates in tertiary education, or in the programmes where it is deemed most important.

5.4.4. Lessons for collaboration

Collaboration between teachers in schools and actors in the ECEC and HE sectors are not unprecedented today. As shown in the section, there are a multitude of reasons for collaborating between these settings: improved learning outcomes for students, support in applying research or learning interprofessional skills being some of them. These collaborations can be supported at the policy and organisational level. The policy level can facilitate collaboration, for example through providing a clear legal environment, mandating the hiring of dedicated staff to take care of it (OECD, 2017^[114]), or by being clear of what is expected at the local level (Purtell et al., 2020^[117]). Engaging in boundary-spanning activities seem to be important (Dunham et al., 2016^[116]; Garner, Nicholas and Rouse, 2021^[115]), as well as having a long-term focus to build trust (Dunham et al., 2016^[116]; Garner, Nicholas and Rouse, 2021^[115]; OECD, 2022^[30]) and ensuring that the collaboration is warranted and mutually beneficial (OECD, 2022^[30]).

5.5. The importance of context, policy choices and implementation

This section has covered some examples of cross-sector and interprofessional collaborations that may have the potential to strengthen the teaching profession. These are examples that may contribute to improved learning outcomes for students, which might lead to greater self-efficacy and job satisfaction for the teacher. They may give the teacher time to focus on core aspects of the teaching profession while feeling relieved from knowing that students' non-academic needs are met from strong support from other professions. They could entail increased job satisfaction when collaborative engagement with others is meaningful and developing. They may allow for the teacher to be the expert on teaching and the learning needs of the student when engaging in collaboration with colleagues from other sectors, strengthening the profession.

While cross-sector and interprofessional collaboration has the potential to strengthen the teaching profession, it is not guaranteed: It is contingent on implementation choices, and on the ability for decision makers at different levels to judge whether it is warranted at any given moment. In addition to describing the examples and their outcomes, *features* seemingly facilitating or undermining the success of the collaboration has been important to address. Personas were introduced and applied to further underline the importance of deliberate policy choices and implementation, and that the diverse teaching workforce will respond differently to the change.

The specific types of collaborations mentioned in this section are a few examples of all potential collaborative efforts that may be beneficial for the teaching profession and for students. Several of the examples addressed are already well developed in many education systems, whereas they are not as prevalent in other contexts. Policy makers need to identify the types of collaborations that are needed to support the teaching profession in their own contexts. For this reason, the next part of the paper proposes a set of guiding principles to guide such choices.

6. Five guiding principles for cross-sector or interprofessional collaboration

The guiding principles proposed in this section build upon shared features of the examples discussed in this paper in addition to the research on cross-sector and interprofessional collaboration in other sectors. They are intended to serve as a guide for policy makers and leaders in the education sector to use as starting points when considering different types of collaborative efforts.

Guiding principle 1: The collaboration needs to be continuously warranted for everyone involved

Teachers should spend their time on tasks expected to influence the learning outcomes of the students they teach. At a time where many teachers report high levels of stress and burn-out is a real problem, partly because of a frequent change in requirements or reforms, it is vital that the tasks principals and policy makers expect teachers to do is related to their core mission of teaching. Any new or increased collaboration needs to solve a problem or improve something that would be very difficult or impossible in the absence of the collaboration, directly or indirectly related to the academic outcomes of students or the wellbeing of teachers. The collaboration must be continuously warranted for everyone involved: The collaboration needs to be adaptable, and evaluation-driven to account for needs as they change over time.

A clear motivation for teachers and other professions to collaborate is to benefit students and their own work. The form and content of cross-sector collaborations needs to develop over time to remain relevant. Decision makers can make funding long-term from the beginning, to convince teachers and/or principals that this is not just another short-term change. It provides the actors with time and possibility to develop and improve the forms of the collaboration, which is vital for success in reaching the long-term goals of the collaboration: Getting processes in place, and bridging cultural/organisational values is vital but it takes time. Funders need to be patient and respect that it will take time before outcomes such as improved student learning or teacher well-being can be measured. The measurement of success should also, therefore, develop over time. Indicators and accountability systems should first focus on *process-related* development, and gradually shift to measuring the outcomes which warranted the collaborative effort.

Guiding principle 2: Teachers and other stakeholders need to be involved in planning and developing the collaborative effort

Policy makers and principals need to respect the autonomy of teachers, which has been identified as a vital part of making the profession more attractive. It is therefore vital to include teachers in the development and implementation of the collaborative effort. Top-down changes, without bottom-up involvement, should be avoided when introducing cross-sector or interprofessional collaboration which directly affect teachers work. This paper has introduced personas as an example of a tool to aid development at the policy and implementation level. It serves as a way for policy makers and leaders to consider how different teachers in their system may respond to certain policies and implementation-related aspects. It is also important that teachers are involved in the school level implementation of different policy changes regarding cross-sector and interprofessional collaboration. If teachers are a part of renegotiating their roles prior to the introduction of a new alleviating profession in the school, there is an increased likelihood of success.

The bottom-up involvement also needs to include the partnering organisations or professionals included in the collaborative effort. While focus needs to be on directly or indirectly supporting the academic outcomes of the students, the other actors in the partnership need to be heard and have a say in the process – to ensure that the effort is continuously warranted also for them. This includes, for example, local leaders of public organisations who are expected to implement parts of an initiative led by a national, cross-ministerial collaboration to bridge public sectors. If these leaders have a say both in the development of the policy, and in the implementation phase of the initiative, it is more likely to succeed. The same applies for leaders and professionals in public and private organisations which have partnered up at the local level without the involvement of the national level.

Guiding principle 3: Trust-building leadership is vital

Good leadership is vital for cross-sector and interprofessional collaboration to be successful. When bridging organisational cultures, structures and goals, to ensure good collaboration towards a shared objective that is continuously warranted for all, many aspects need to be dealt with: Different working languages need to be bridged, hierarchies dealt with, bottom-up involvement facilitated, organisational and institutional settings for collaboration and development of the initiative put in place. These are no easy tasks. In some cases, a dedicated boundary-crosser who can help bridge cultural and organisational differences may be warranted for engaging in cross-sector collaborations effectively. These can function as “translators” who help align the goals of the organisations with each other and ensure that the different actors use common language

when talking about the same things. Furthermore, strong leadership at different levels is necessary for collaboration to take place: It can be mandated or facilitated at the national or local policy level, clear expectations and facilitative initiatives can be set at the local or regional level, and principals can actively support it at the school level through trust-building activities and good organisational structures.

A lack of trust is detrimental to cross-sector and interprofessional collaboration. Trust can be facilitated through creating boundary spaces, or boundary-spanning activities, where the different professionals inside or outside their own settings get to know each other and their professions better. At the school level, trust can be further developed through collaborative practices and discussions revolving around pedagogy. At the organisational level, trust can be gained among the partnering organisations by following through on agreements and showing competence and integrity. Policy makers need to acknowledge that building trust takes time, and have the patience for trust to be built before expecting big outcomes from the collaborative effort.

Guiding principle 4: Clarity facilitates collaboration

Clarity is needed at different levels to support collaboration. National policy makers can provide a clear legal environment and be open about what the policy is aiming to achieve. If policy makers can show how teachers' needs are accounted for, especially if teachers have had a say in the process, more teachers are expected to view the change positively. In organisational partnerships, with or in the absence of policy makers, a clarity on roles and responsibilities, financing and accountability measures, as well as long-term and short-term goals is important.

At the interprofessional level, clarity seems to be particularly important when the teacher needs to be renegotiated. If teachers are not involved in the discussions on how their role will change when, for example, a new profession is introduced, and there is a lack of clarity in the responsibilities of each profession, conflict regarding boundaries between the professions are likely to occur. The other professions affected by changes also need to be involved in the discussion. Furthermore, clarity regarding expectations needs to be present in collaboration with partners from organisations and professionals in different sectors. In such settings, teachers collaborate as *the expert* on teaching and learning-related matters, and/or providing information about how the student functions in the classroom setting. The contribution of, say, a social worker needs to be different to that of the teacher. These distinctions need to be clear. In new collaborations it may take time to find the right division of tasks and responsibilities between professionals and organisations, so even though clarity is needed, the collaborative effort must remain open to learning and adapting as time goes by. It is vital to have shared goals and clear roles and responsibilities for participating professionals or organisations.

Guiding principle 5: Good interprofessional and cross-sector collaboration needs to be learnt

Deciding on a policy framework supporting or mandating cross-sector or interprofessional collaboration, and putting the organisational and institutional prerequisites in place to support it is likely not enough. Organisations and people, including those working in or with schools, will not collaborate well just because they are put in the same room, if they lack the necessary skills. For those in leadership roles, this includes learning specific facilitation skills. For example, leaders need to know how to facilitate trust, how to bridge organisational differences, how to provide necessary clarity, and how to include stakeholders in the decision-making process. Policy makers, too, need to learn how to facilitate cross-sector organisational and interprofessional collaboration.

To facilitate interprofessional collaboration between professionals, countries may want to explore the possibility of including interprofessional education as an element that tertiary level students across a multitude of disciplines, including teaching, are expected to learn during their studies. Interprofessional collaboration can also be provided by universities for in-service professionals, if and when they are expected to participate in new forms of collaboration. In this case, it is important that the training is designed to be relevant for the specific type of collaboration the teachers are expected to engage in at the local setting, to ensure that it is warranted to partake in the training. For example, teachers who are expected to collaborate with professionals in other organisations as a part of the shift to a community school model will need different training to teachers who are expected to collaborate in a new way with TAs hired for inclusivity purposes.

7. Conclusion

This paper has built on an identified need to address cross-sector collaborations in light of how they may strengthen the teaching profession. It examines research on cross-sector and interprofessional collaboration in education and other contexts and identifies common facilitating elements or processes. Based on this, the paper proposes five guiding principles for policy makers and leaders at different levels in the system to bear in mind when developing and implementing cross-sector and interprofessional policy initiatives. The paper concludes that cross-sector collaborations and interprofessional collaborations may be a powerful tool for strengthening the teaching profession under certain conditions, if they are warranted for everyone involved and implemented well.

Furthermore, the highly adaptable persona tool has been introduced for decision makers to use as a part of the policy making process to consider how different teachers may respond to certain policies and implementation-related aspects. This may help policy makers and leaders to devise and implement policy changes in a way that are more aligned with the needs of the diverse teaching workforce.

The implication for researchers is twofold. Researchers are encouraged to join in the development of personas or similar tools, by using a wide variety of methodological approaches, and applying it in various educational contexts, to enhance its applicability in the field of education. Researchers are also encouraged to explicitly research specific cross-sector and interprofessional collaborations that could strengthen the teaching profession, at the policy and implementation levels. In much of the research on cross-sector and interprofessional collaboration that has been identified for this paper, focus has mostly been on the effects on students and their academic outcomes. This is indeed important research, but further research on how teachers may benefit from different types of cross-sector and interprofessional collaborations would be a valuable addition to future work on teachers and teacher professionalism.

The guiding principles have implications at the school- and teacher level too. If policy makers and leaders at different levels manage to involve teachers in the implementation process, and account for their needs when developing policies, they may benefit more from changes than what would otherwise be the case. Furthermore, the examples provided in the paper may be a source of inspiration for collaborations that may be fruitful to initiate or develop, depending on local needs. In addition, teachers may be able to exert an indirect influence on policies, if policy makers use research findings to develop personas, which in turn are used when they consider policy and implementation-related choices. The main implication for teachers is, however, the potential to strengthen the profession, higher support for their core work and to improve the working environment following from well-devised and well-implemented cross-sector and interprofessional collaboration.

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Annex A. Five elements of professionalism

Table A A.1. Five elements of professionalism from *The Future of Teachers and Teaching*

Individual and collective elements of teacher professionalism	Description
Professional knowledge and competences	Professional teachers base their judgements, actions and work-related decisions on a specialised, systematised and scientific body of knowledge and shared professional values. In their practice they also have to build on further professional competences (e.g. attitudes, beliefs, teaching skills, strategies and practices).
Commitment to a high standard of practice as well as lifelong learning	Professional expertise is ensured through standards of access to the profession and entry requirements. Expertise is also built and maintained through quality training, induction and continuing professional learning.
Professional exchange, collaboration and identity	As a professional community, teachers think collectively about important challenges. Constant collaboration and dialogue with peers and stakeholders help them learn and grow professionally. Together they reflect on how to improve and innovate teaching and schools. They provide each other with feedback and share a professional identity.
Responsibility and autonomy	As experts, they have autonomy and responsibilities, both in exercising professional judgement and decision making in practice and in governance over the profession.
Status and standing of the profession	As a consequence of the high standards and expertise that is required, teaching should be valued as a prestigious, intellectually and professionally fulfilling job not only by the teaching workforce but by society as a whole. Overall, certain working conditions and regulations need to apply (such as competitive reward structures and opportunities for career progression) so that teacher professionalism can flourish.

Source: OECD (Forthcoming^[18]), *The Future of Teachers and Teaching*.

Annex B. Data from TALIS 2018 which informed the development of the personas

Table A B.1. Data from TALIS 2018 to inform development of personas

OECD average	LOWER SECONDARY TEACHERS IN TALIS		Table	Volume
32%	Male		A II.B.3	2
68%	Female		A II.B.3	2
11%	<30 years		A II.B.3	2
55%	30-49 years		A II.B.3	2
34%	50+ years		A II.B.3	2
15%	Rural area		A II.B.5	2
50%	Town		A II.B.5	2
34%	City		A II.B.5	2
20%	More than 30% students from disadvantaged homes		A II.B.5	2
PROFESSIONAL COLLABORATION (deeper forms)¹				
It is of note that most variation is within schools (86.8%)			II.4.12	2
<u>Regression coefficient</u>	<u>R squared</u>			
0.453	0.05	Staff participate in school decisions (also positive for students 0.424 and parents 0.134)	II.4.33	2
0.716	0.04	Collaborative school culture characterised by mutual support	II.4.31	2
0.256	0.04	Full-time work	II.4.31	2
-0.794	0.07	Stress lower with collaborative school culture	II.4.32	2
-0.796	0.07	Stress lower with "teachers rely on each other"	II.4.32	2
<u>Percentage point difference</u>				
5.1		Teaching as part of a team is more common in disadvantaged schools	II.4.7	
2.5		Teachers observe other teachers' classes more in disadvantaged schools	II.4.9	
3.2		Collaborative professional learning is more frequent in disadvantaged schools	II.4.11	
<u>Regression coefficient</u>	<u>R squared</u>	JOB SATISFACTION		
0.909	0.05	Receiving impactful feedback	II.4.53	2
0.662	0.15	Receiving impactful feedback (when accounting for school level)	II.4.54	2
1.155	0.15	Collaborative school culture	II.4.54	2
0.969	0.15	Teachers can rely on each other	II.4.54	2
PERSONAL CHARACTERISTICS				
AGE				
79%		Usefulness / appreciation of feedback		
	<30 years		II.4.48	2
70%	50+ years		II.4.48	2
It is of note that age is not a relevant factor in relation to job satisfaction, nor in regressions on deeper forms of collaboration.				
67%		Openness to change ("most teachers in my school are open to change")		
	<30 years		I.2.38	1
81%	50+ years		I.2.38	1
<u>Regression coefficient</u>	<u>R squared</u>	GENDER		
0.147	0.15	For females, receiving impactful feedback is a factor for job satisfaction	II.4.54	2
It is of note that there are no significant differences for teaching jointly as a team, nor any of the regressions on deeper forms of collaboration.				
FAMILY RESPONSIBILITIES				
37%		A barrier to participating in professional development (PD)	Figure Fig 1.5.14	1
54%		Conflict with work schedule is the biggest reported barrier to PD	Figure Fig 1.5.14	1

Note: 1. The deeper forms are to teach jointly as a team in the same class, to observe other teachers' classes and provide feedback, to engage in joint activities across different classes and age groups, and to participate in collaborative professional learning.

Source: (OECD, 2019^[15]), *TALIS 2018 Results (Volume 1): Teachers and School Leaders as Lifelong Learners*, <https://doi.org/10.1787/1d0bc92a-en>.

(OECD, 2020^[5]), *TALIS 2018 Results (Volume II): Teachers and School Leaders as Valued Professionals*, <https://doi.org/10.1787/19cf08df-en>.