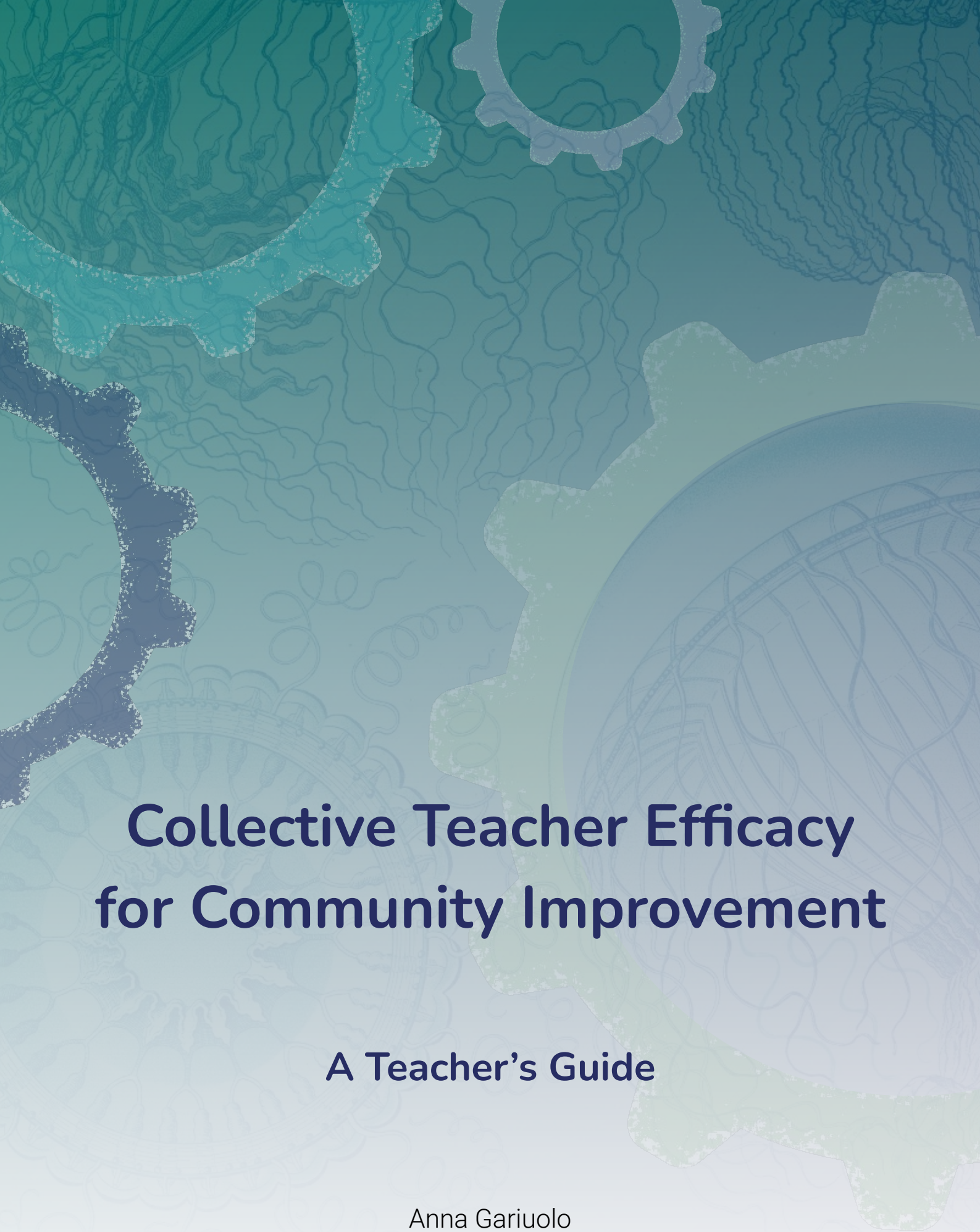

Collective Teacher Efficacy for Community Improvement

A Teacher's Guide

Anna Gariuolo

This guide has been created as a collaboration between the department of Comparative Cultural Psychology at the Max Planck Institute for evolutionary anthropology and the University of Leipzig, with the support of the John Templeton Foundation (Grant number 62318).

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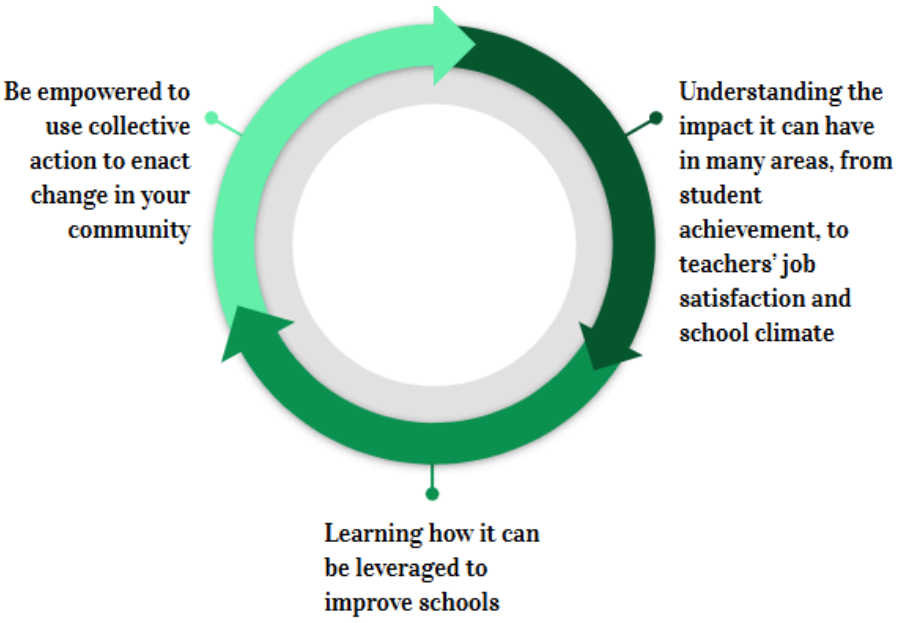
Contents

Introduction: how to read the guide

What is this guide about

This guide explores Collective Teacher Efficacy (CTE), a powerful concept that centres on the shared belief among educators in their collective ability to positively impact students' learning. Recognized as a critical factor in fostering a collaborative school environment, CTE empowers collective action within the school community, creating a united front to address challenges and pursue common goals. This unified approach doesn't just benefit students—it significantly influences teachers and school administrators across various domains, such as improving work conditions, boosting job satisfaction, and encouraging effective teaching behaviours. Research shows that CTE can lead to improved student outcomes, making it a key driver in school-wide transformation efforts. Understanding and building CTE is essential for educators who aim to create meaningful, lasting change in their schools.

Why Collective Teacher Efficacy?



The guide is divided in the *two foundational concepts* that drive Collective Teacher Efficacy: beliefs and collective action.

The power of beliefs

Teachers' beliefs about their capacity to impact student success shape their behaviours and approaches in the classroom. When educators share a strong sense of collective efficacy, they inspire one another, persist through challenges, and continuously refine their teaching practices. This belief is often nurtured or hindered by the broader school culture, which affects how teachers perceive their potential for impact. A supportive school culture can uplift teachers' confidence, while a restrictive one may undermine it.

The power of collective action

When educators join forces with shared objectives, they amplify their impact and can achieve more. This collective action is grounded in strategic collaboration, problem-solving, and a shared commitment to growth. By thoughtfully managing group dynamics and fostering a culture of trust and cooperation, leaders can harness the combined strengths of their teams to effect positive change across the school.

What you will learn

This guide provides you with key insights and practical tools to empower your school community as agents of positive change. Here's what you'll discover:

- *How Collective Teacher Efficacy can improve schools:* Understand the concept of collective teacher efficacy and its power to elevate teaching quality, boost student outcomes, and foster a more supportive school environment.

- *The Impact of thoughts and beliefs on behaviour:* Delve into how teachers' beliefs about their own and their colleagues' abilities influence their day-to-day behaviours, classroom approaches, and perseverance.

- *How school culture and norms influence teachers' behaviour:* Explore the role of school culture in shaping teachers' attitudes, practices, and collaborative spirit, and see how positive norms can drive more engaged and resilient educators.

- *How collaboration works and how to explore strategies to help groups work more effectively together:* Discover strategies for fostering effective teamwork and alignment, so educators can unify around shared objectives and drive meaningful, collective progress.

- *Using educational research to strengthen your school:* Gain skills in interpreting and applying educational research to your specific context, allowing you to make informed, evidence-based improvements.

- *Educational practices around the world to enact change:* Identify tools and resources that can help you implement changes in your school, from strategies for building collective efficacy to methods for strengthening school culture and collaborative practices.

Four types of Learning goals

1. *Knowledge Goals*

- Develop a thorough understanding of collective teacher efficacy, its components, and its influence on teaching effectiveness and student outcomes.
- Recognize the role of school culture in shaping teachers' beliefs and fostering an environment conducive to shared efficacy.
- Explore the research foundations of collective efficacy, including key studies, frameworks, and evidence-based strategies.

2. *Application Goals*

- Apply knowledge of collective efficacy to your specific educational setting.
- Implement practices that support positive beliefs and collaborative culture within your classroom, school, or professional community.
- Reflect on ways to adapt teaching methods, leadership approaches, or professional development initiatives to enhance collective efficacy in your school context.

3. *Transfer Goals*

- Teach students the value of collective effort and mutual support as they work together, helping them develop a collaborative mindset that benefits their academic and personal growth.
- Use insights from collective efficacy research to inform and improve your communication, decision-making, and problem-solving in educational settings.

4. *Meta Goals*

- Build scientific literacy by engaging with educational research and policies, gaining a better understanding of how to evaluate and apply evidence-based practices.
- Increase awareness of how educational policies and school leadership practises influence teacher beliefs and group dynamics.
- Cultivate a critical mindset toward educational research, assessing the credibility of sources and the relevance of studies to your own professional context.

For each audience:

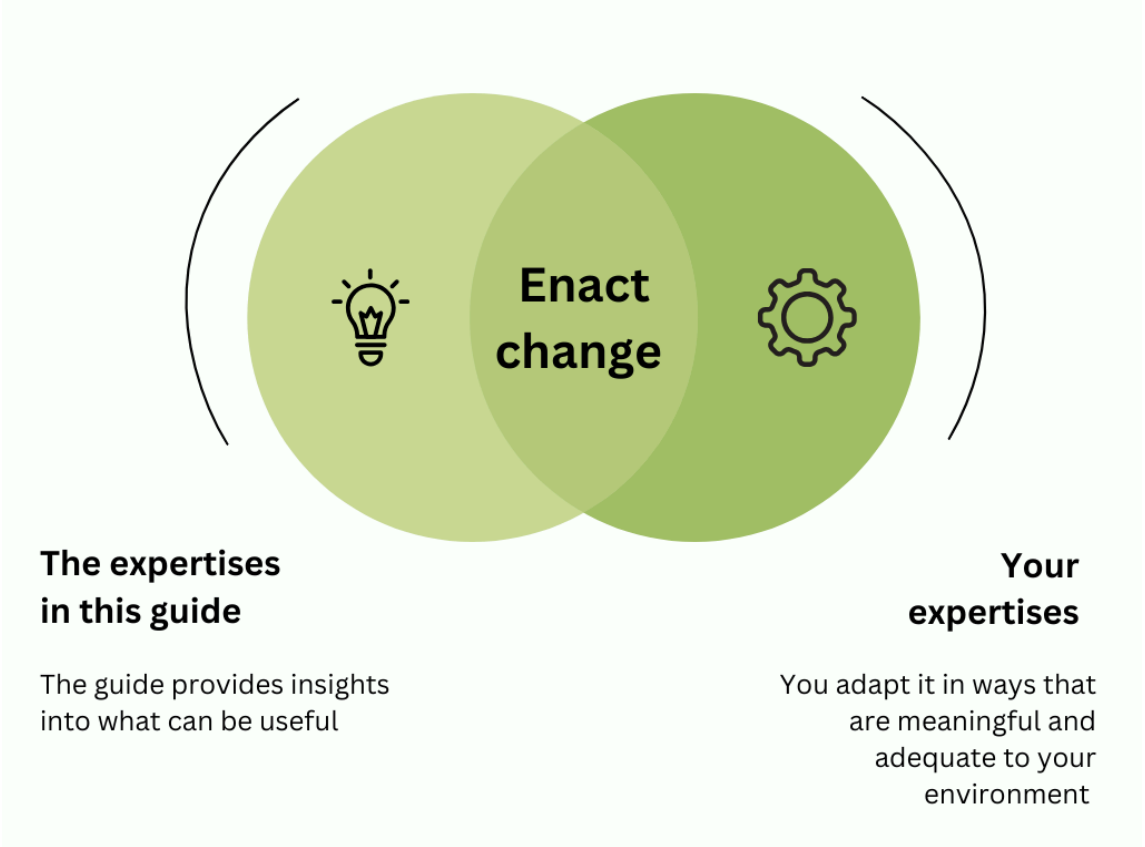
Teachers will learn how to reflect in their own practice and how to utilise individual and collective beliefs and collaborative efforts to enhance teaching effectiveness, foster resilience, and improve student outcomes.

School Administrators/Leaders will gain insights into how fostering a strong, positive school culture can enhance teacher collaboration and support a shared vision of success.

Professional Development Teams can use this understanding to tailor programs that strengthen both individual teacher confidence and collaborative skills, creating a more impactful professional learning environment.

How to use this guide

This guide is designed to complement and interact with the knowledge you already have about your school and community. Think of it as a Venn Diagram where research-based insights intersect with your community expertise — the overlap is where meaningful, context-specific strategies emerge.



Research Expertise: This guide draws on research-based insights into collective teacher efficacy and collaboration, presenting strategies proven to foster shared beliefs and boost educational outcomes. These findings provide valuable direction, but may not cover the full range of your community's specific needs.

Community Expertise: You are the expert on your school or community. You understand its unique strengths, challenges, and culture. This guide aims to empower you to use that expertise to adapt research-based practices, making them relevant and effective for your context.

Using this Guide to drive Community Change

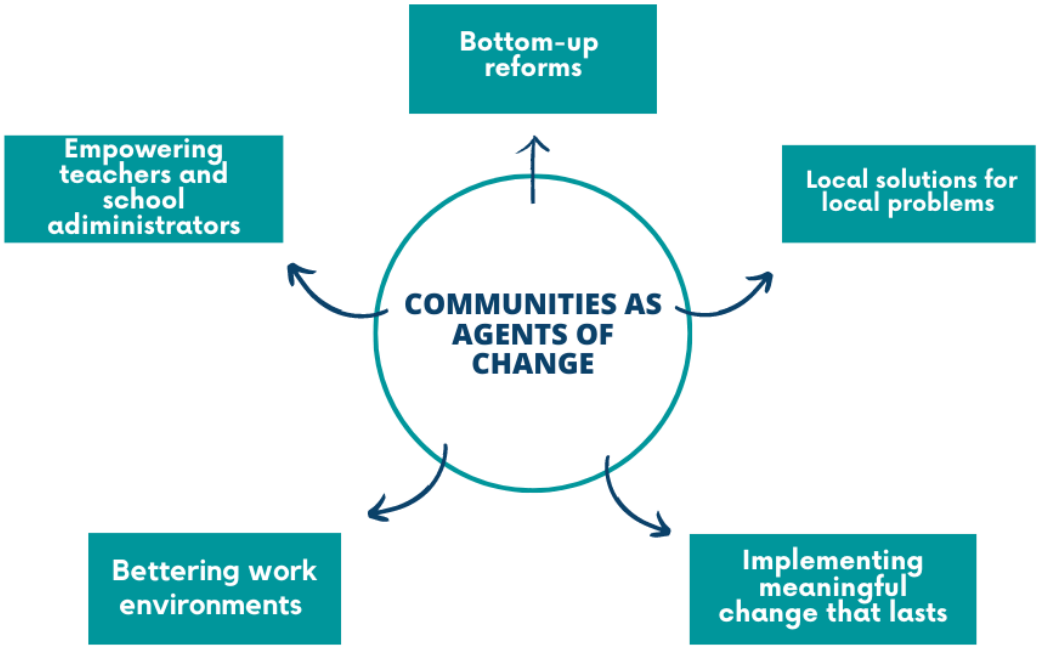
Find common ground: Start by identifying areas where research insights naturally align with your community's goals and needs. This intersection represents ideas that may be readily adapted to your context.

Adapt for impact: Use the knowledge of your community to modify the guide's recommendations to suit the realities of your school's environment, resources, and goals.

Act as Agents of Change: This guide encourages you to lead transformation from within. By combining research insights with a deep understanding of your school community, you become agents of meaningful, self-directed change.

Communities as Agents of Change

The concept of Communities as Agents of Change emphasises the critical role that educators, administrators, and local stakeholders play in driving improvement from within. As shown in the diagram, fostering community-led change involves five key elements:



Bottom-Up reforms: Encouraging initiatives that arise from the needs and insights of teachers and school staff, rather than top-down mandates.

Local solutions for local problems: Empowering communities to address their unique challenges with tailored solutions, rather than relying solely on generalised, one-size-fits-all strategies.

Implementing meaningful change that lasts: Focusing on sustainable practices and structures that promote long-term growth, rather than temporary fixes.

Bettering work environments: Improving the conditions in which teachers and staff work, recognizing that a supportive environment is essential for meaningful collaboration and effectiveness.

Empowering teachers and school administrators: Building the capacity and confidence of educators and leaders to take initiative and drive change within their schools and communities.

How to read this guide

This guide is designed to be navigated flexibly, allowing you to explore topics in a way that best suits your needs and interests. By engaging with the guide in a certain way, you can create a personalised learning experience that is both meaningful and effective. Here's how to make the most of it:

Blocks of Content/Text

Interconnected topics: The guide is structured in blocks of content and chapters that cover various topics. Feel free to browse through these blocks, as they are designed to connect with one another. Arrows are used throughout the guide to indicate relationships between different ideas and chapters.

Self-Reflection Exercises

Protocols for teachers: Each chapter includes self-reflection exercises aimed at helping teachers assess and enhance their practices. These protocols can be used individually or in group settings, fostering a deeper understanding of your teaching methods and encouraging personal growth.

Group Activities

Facilitating collaboration: The guide provides protocols for running group activities that focus on reflecting on practices and building better cooperation among team members. These activities are intended to create a supportive environment for sharing insights and developing collaborative strategies.

Resources to learn more

Expanding your knowledge: While the guide touches on a wide range of topics and areas of research, it cannot cover every aspect exhaustively. Each chapter includes recommendations for further readings, allowing you to delve deeper into subjects of interest.

What is behaviour

CORE MESSAGE: It's important to develop an explicit understanding of behaviour to be better educators

Why does a particular student never hand in their homework on time? Why is another always late? How can we explain the fact that some students seem to be more prone to aggression and violent reactions than others? Can we sufficiently explain these behaviours merely in terms of individual agency and goals, or are there more complex causes and effects to investigate?

An important tool for educators is an explicit understanding of behaviour. A better understanding provides teachers with better tools for redirecting unwanted behaviours and encouraging positive ones. In recent years, some researchers in the educational community have pushed to make psychology and other fields concerned with the nature of human behaviour a more important part of teachers professional development, but also for the introduction of different behavioural interventions in schools.

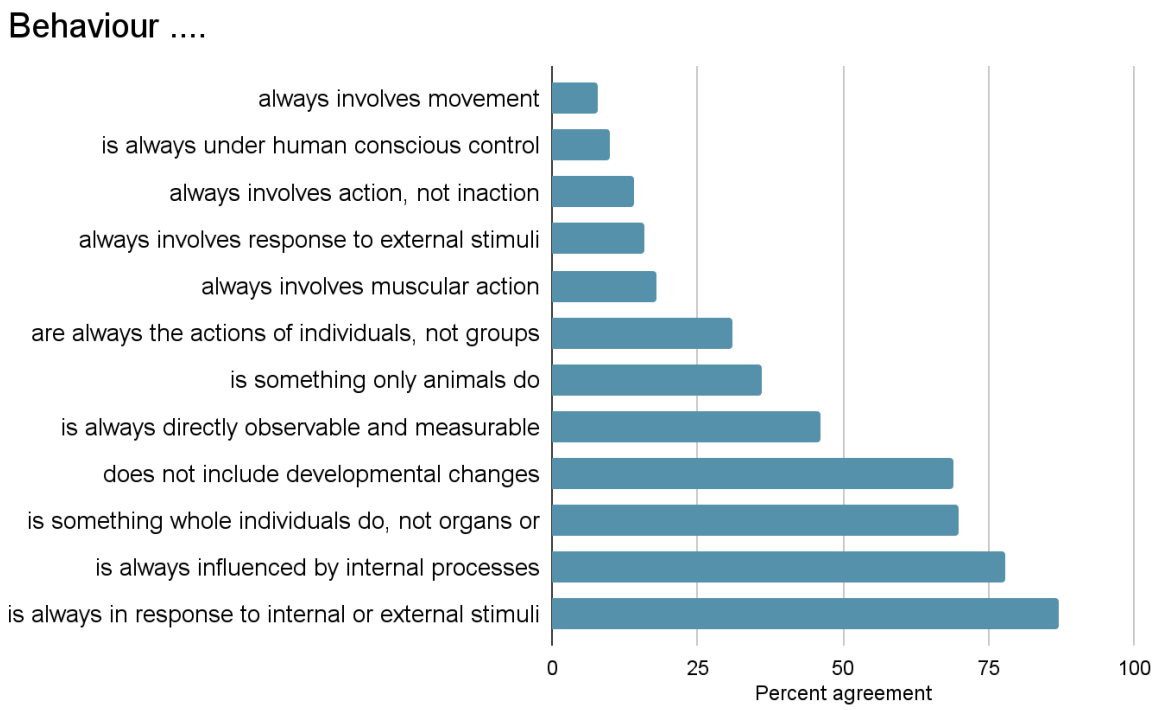
Content of the chapter:

- Defining what is behaviour is difficult
- Inner and outer behaviours are both important
- Humans have implicit theories of behaviour
- We can learn to understand behaviour explicitly
- The causes of human behaviours are complex

Defining behaviour is difficult

Behaviour is a word and a concept that we refer to habitually in everyday life, but defining and describing it can reveal uncertainties or disagreements among us about its precise meaning. For example, everyone would probably agree that the activity of running as a voluntary action that can be observed from outside falls under the category of behaviour. But can feeling sad be considered a behaviour? In general, are thoughts and feelings and other things that happen "inside" of us, without any body movement, behaviours? Does growing-up fall under the banner of behaviour? How about other states experienced by our body, such as injuries, disease, developmental changes, heartbeat and other physiological processes? Do behaviours require voluntary action, or can sneezing be considered one?

Even among scientists who study behaviour as their main field of expertise, there is often no agreement on a definition. In a 2009 study, behavioural biologists were surveyed on their understanding and definition of behaviour. The study found that even among experts there was no agreement. Presented with a list of animal actions and asked to indicate which could be considered a behaviour, not a single item achieved a hundred percent agreement among scientists. And when asked to agree with various statements defining behaviour, the agreement proved to be even lower (Levitis et al., 2009).



Source: Levitis et al., 2009

This graph shows the level of agreement of scientists with statements about what constitutes behaviour in Levitis and colleagues study.

Are thoughts, feelings and sensations behaviours?

In particular, whether internal processes such as thoughts, emotions, and sensations can be categorised as behaviours, is a significant debate among scientists. Some behavioural scientists claim that behaviour exclusively includes observable actions performed by organisms in their interactions with the environment, and that internal processes are merely influences that shape actual observable behaviours.

However, many psychologists and behavioural scientists, particularly those focusing on human behaviour, consider behaviour to encompass not only observable actions but also the internal activities of organisms. These could include thoughts, memories, emotions, sensations, dreams, urges, preferences, and goals, which are hidden from external observation and therefore more difficult to define and study.

Behavioural scientists call these “covert” behaviours (as they are “covered” or “secret” and not visible to others), as opposed to the “overt” behaviours, which are public and visible. These “inner” and “outer” behaviours of organisms influence each other.

A case for considering both outer and inner behaviours

There are several reasons to consider both types of behaviour as important, especially for developing a deeper understanding of human behaviour. Both types develop through learning throughout our lives - we learn to think in the same way we learn to walk. Both Inner and outer behaviours can also range from being somewhat automatic, occurring without much conscious control, to being consciously managed or modified.

The crucial distinction, however, lies in who can observe them. Inner behaviours are hidden from others, but they hold importance as they are directly “visible” and accessible to the individual experiencing them. They are invisible to others, but they are fundamental to the individual’s experience and influence a person’s outer behaviour through their central role in shaping perceptions, decisions and personal understanding.

Implicit theories of behaviour

Scientists are not the only ones who reflect on the mechanisms of behaviours. To function in everyday life and within everyday interactions, each of us develops an intuitive understanding of human behaviour over the course of our lives. A fundamental function of these implicit theories is to help us predict each other's actions, particularly in terms of goals and outcomes. This is because we understand ourselves as actors with agency, and we attribute the same agency to other humans. For example, if we observe someone opening a fridge, our intuitive understanding of that person as an agent who behaves in a way to pursue goals and reach outcomes, will lead us to intuitively think: “that person wants something from the fridge” and then to predict: “they will take something out of the fridge”. If this doesn’t happen - the person might close the fridge without taking anything - our instincts lead us to revise the previous theory to still make sense of the behaviour we have witnessed (“they wanted something, but they couldn’t find it in the fridge”, “they changed their mind” or “they didn’t want anything, they were just checking the fridge to write a grocery list”, etc...).

Scientists refer to this human propensity as folk psychology, or also “common-sense psychology” and “naïve psychology”. There are many theories to explain the mechanisms of this form of thinking, but the main takeaway is that humans tend to adopt a rather simplistic perspective of human behaviour, in which goals drive actions leading to outcomes. While this is a fundamental part of human thinking and can sometimes be sufficient as a cognitive short-cut, we often make many mistakes applying it, especially in the context of more complex behaviours. Behaviours that are ambiguous, for example - you could raise your hand to harm somebody, to ask a question or to attract attention - require complex contextual interpretations. In addition, cultural context plays an important role in many social behaviours such as eye contact and needs to be understood not only in context, but also in relation to the culturally specific information it carries. Lastly, thinking of behaviour only in terms of the individuals’ goals and agency often obfuscates the role that external causes also play in determining a specific behaviour.

Agency = even though a definition of agency might vary greatly between different fields of study and frameworks, it can be broadly understood as an individual's ability to act independently and take purposeful actions. Moreover, recognizing and understanding that other individuals possess agency is a fundamental aspect of human cognition and human development.

Folk psychology = the informal, intuitive understanding humans have about behaviour, emotions, and thoughts. It includes culturally specific beliefs individuals use to interpret human actions and mental states, and its purpose is to navigate social interactions.

BOX 1. Humans have an intuitive understanding of human agency since infancy

Infants understand very early in their life that other people's behaviour has a purpose and is goal-oriented. This is a fundamental developmental milestone that enables children to learn about the world and social interactions by observing and imitating the behaviour of others, not only in the action, but also in their purpose.

An important experiment by Amanda Woodward (1998) demonstrated the existence of this early intuition of human agency in children as young as 6 months. Infants were shown either a human hand or a mechanical claw repeatedly reaching for the same object. Analysing the infants' anticipatory gazes, 6-months-olds seemed to expect the hand to move with the goal of reaching the target object, attributing agency to it. This was not the case for the mechanical claw, underlining infants' understanding that the human reaching motion was the product of an agent with an inner motivation. These findings have since been reproduced many times using different methods and age groups. Some studies have further investigated the depth of infants' understanding of agency, producing evidence that they not only understand goal-oriented behaviour, but also the intentions behind it and that they are displaying a preference for actors that were considered "helpers" over others perceived as "hinderers" (Hamlin et al., 2007).

These studies also supported the idea that there might be an innate component to humans' ability to view others as agents. Many evolutionary theories propose that this ability has helped humans to evolve and thrive in social groups.

A more explicit understanding of behaviour

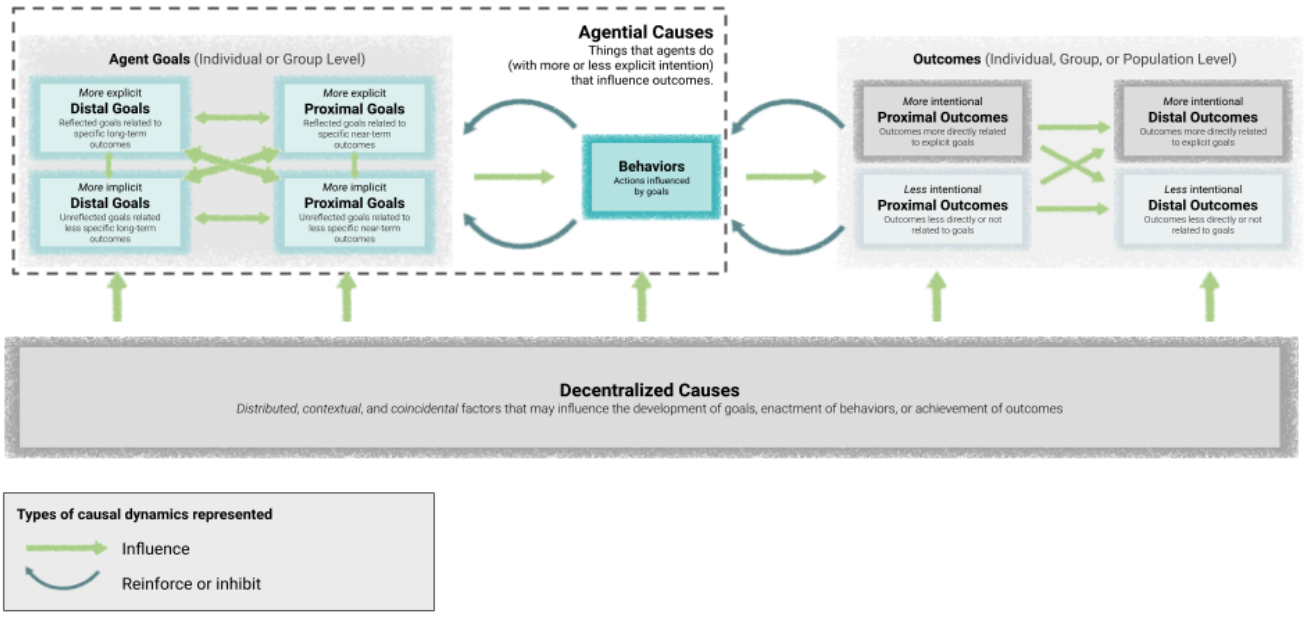
If folk psychology is based on an intuitive everyday understanding of behaviour, a scientific understanding of it has been developed through the decades thanks to extensive research, which has led to a more comprehensive way of thinking about behaviour. The graphic below for example introduces complexities in the simple sequence of:

goals → behaviour → outcomes

to provide a more comprehensive representation of the causes and consequences of behaviour.

For example:

- goals can be both distal (long-term) and proximal (short-term) and they can differ in the nature of their articulation (more or less specific);
- outcomes, similarly, can be both distal and proximal, and they can be different in terms of their intentionality (more or less intentional);
- even though we tend to focus on causes related to the agent, many other causes like contextual and coincidental factors exist. All of these potentially affect each of these components: as shown in the graphic below, all these elements are in complex relationships, through which they influence, reinforce or inhibit each other.



The causes of human behaviour are also complex

Similarly, our understanding of the causes of behaviour tends to be rather simplistic. The most common mistake is that we often attribute the cause of a behaviour to one single factor. Imagine for example, a teacher observing a student who is slower with reading assignments. Based on their previous experience with similar situations, their implicit understanding of behaviour or contextual clues they have gathered, the teacher might attribute this behaviour to several causes:

- *innate tendencies and genes*: the student might have a lower IQ, which makes them slower in all cognitive tasks;
- *the brain*: a learning disability might explain why reading and writing is more challenging for them;
- *intentions and thoughts*: they are not motivated enough, don't enjoy reading or don't believe in their abilities when it comes to this kind of schoolwork;
- *culture and social environments*: the family doesn't value reading, and this has influenced the student's perception of it.

The reality of human behaviour is that multiple of these hypotheses may be true at the same time and, more importantly, that they are in complex relationships with each other. A student with an undiagnosed learning disability may have developed a low sense of ability through repeated failure. At the same time, their motivation to improve may be influenced by a social context that doesn't value that particular skill. All these processes influence and reinforce each other. Equally, a factor could influence these processes in the opposite direction. It might happen that one day the student finds a particular literary genre that interests them so much that they are willing to spend the extra time reading. An observant teacher might use this opportunity to encourage and motivate the student, perhaps also involving the family in supporting this new interest or planning support lessons around it. Practitioners and researchers alike have recognized in the last few decades that, since the cause of behaviours are complex, educational and psychological interventions must aim to be as comprehensive as possible, intervening at all possible levels.

To gain deeper a deeper insight into the causes and effects, let's look again at the list of potential factors:

- ***innate tendencies and genes*** → genes can have an important influence on behaviour, for example several mental illnesses and developmental disorders are believed to be at least partially caused by genes - but having a gene doesn't necessarily result in the same expression in everyone. Gene expression is a complex phenomenon that is not yet entirely understood, but thanks to fields of research such as epigenetics we are confident that genes are modified by factors outside of DNA modification (like environmental influences, behaviours, lifestyles, etc...). Moreover, in the majority of causes, genes interact with each other to produce different outcomes, in ways that science is still exploring. When we attribute a genetic or hereditary component to a behaviour (and especially a disorder) we have to be careful not to assume that certain forms of behaviour are inevitable, beyond modification, or that they will appear the same in all individuals carrying a particular genetic make-up.

- ***the brain*** → although we have studied the human brain extensively, its complexity makes it hard to give definitive answers on how brain function influences behaviour. However, there is one fundamental characteristic of the human brain we must always consider: the ability to learn and be modified by this learning all the way up to a person's death, its plasticity.

- ***intentions and thoughts*** → psychology and other fields that study the inner life have developed many theories about the influence of inner states on behaviours, for example in the realm of motivation, self-efficacy or other types of beliefs. Additionally, understanding the inner workings of cognition gives us insights into the effect of thoughts on behaviour. One example is the distinction between fast and slow thinking, or in other words, the fact that humans possess both a type of thinking that is implicit and almost automatic and one that is explicit and more voluntary. These types of thinking create the opportunity for different behavioural expressions.

- ***culture and social environments*** → The same behaviour might be viewed differently in different environments or according to different cultures or social situations. Human beings are inherently social and their existence cannot be considered in isolation from the groups and communities they

belong to. Every individual's behaviour has the power to both shape and be shaped by their social environments and the behaviour of others within groups and communities. Social scientists have shown many times how the cultures and the social environments we experience shape us on several levels: our understanding of the world and ourselves, the way certain parts of our cognition work, even the expression of our genes.

So, are behaviours learned or innate? Are they a result of nature or nurture? The truth is, it's a combination of both. Behaviours have an inherent component, for example in our genetic make-up. But most importantly, human behaviour is heavily influenced, learned, and shaped by the environments we live in. Experiences and the way we learn to process them play an important role in shaping behaviour, and can either reinforce or discourage them.
Moreover, through the process of evolution, human behaviour has evolved gradually over long periods of time, adapting to the changing circumstances. Our environment has influenced our innate characteristics, predisposed us to certain behaviours, and vice versa. Not only that, but, we also have learned to transmit part of this knowledge from one generation to the other as a component of our accumulated culture.

Our accumulated culture allowed us to build up a lot of knowledge and is according to some researchers one of the key differences to other species. However, some behaviours that were once adaptive (useful and appropriate to achieve a goal) might no longer serve the same purpose in today's context, they have become maladaptive (harmful and potentially leading to negative consequences). This phenomenon is often referred to as a “mismatch” between what our ancestors needed to survive and what we need in our everyday life. As already mentioned above, this shows again why the context of behaviour is so important. Only in context can we understand whether a behaviour is adaptive or maladaptive.

Brain plasticity = also known as neuroplasticity, refers to the ability of the brain to adapt, change, and reorganise its structure, function and connections throughout an individual's life in response to experiences, learning, and environmental influences. These changes can for example involve the synapses or modifying the strength of the connection between neurons. It can also involve the brain's structure, such as the creation and destruction of neurons or the creation of new neuron pathways to compensate for lost ones. This concept stands in direct contrast to the previously held belief that the brain is unchangeable after a certain age. While brain plasticity tends to decrease with age and scientists believe that certain skills (like language development) need specific developmental windows to be acquired, the brain still retains extraordinary powers to change, even in old age and in case of damage.

Resources to learn more

Hanisch, S. & Eirdosh, D. (2020). A Teacher's Guide to Evolution, Behavior, and Sustainability Science. 2nd Edition. GlobalESD. http://guide.GlobalESD.org

Thinking Tools. (n.d.). OpenEVO. https://openevo.eva.mpg.de/teachingbase/thinking-tools/

What is community science

CORE MESSAGE: You are the expert of your community and school. Combining this knowledge with insights from research can help you better your school.

Have you ever read a book, heard recommendations for practice or attended a professional workshop and thought “this does not apply to me, my class, my school, my school system, my culture or my country?”
Educational science occupies a unique and often challenging position. On one hand, it strives to generate scientific knowledge, bound by the slow, methodical rigour of research. On the other hand, it seeks to produce practical insights that can be applied in the real world, which is more complex and dynamic than scientific processes can always accommodate.
However, the quality of the knowledge produced is highly dependent on how generalisable the insights are. In some cases, evidence-based practices can be useless or even detrimental to understudied communities. One way to face this issue is to engage critically with evidence-based practices and educational research, as it does not always represent all contexts or all people, and relate the knowledge provided by experts to what you know about your own context.

Content of the chapter:

- How is community science different
- How is community science conducted
- We need to understand a community to improve it
- Why educational research is not enough

What is important in science

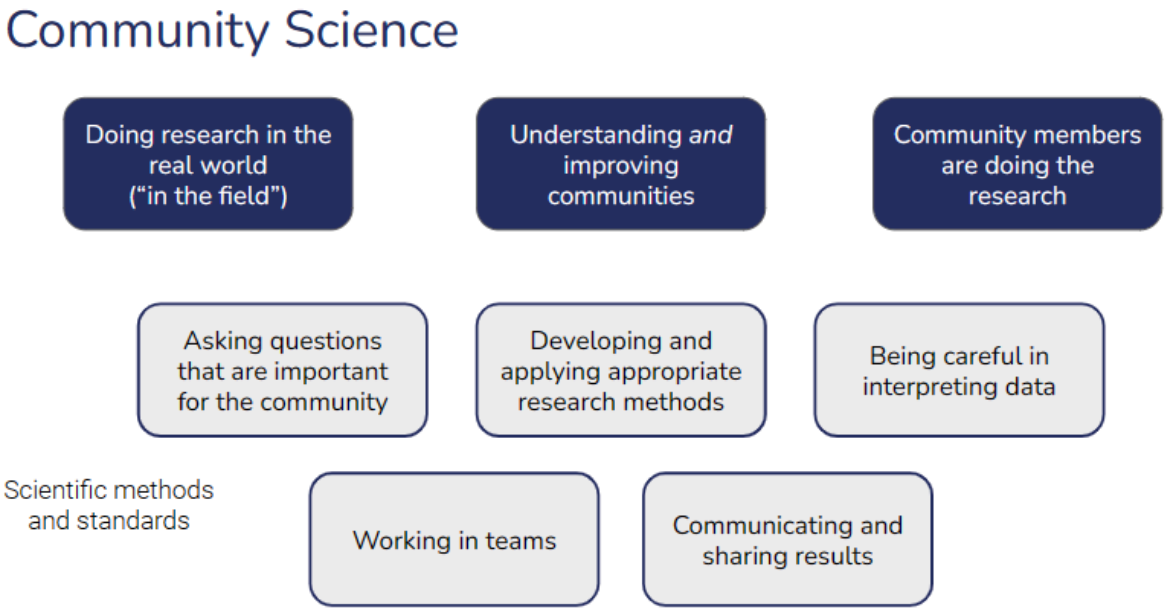
The goal of science - no matter the field, the nature of the questions, or the methodologies used - is to understand, with the ultimate aim of using this knowledge to guide progress and improvement. To investigate these questions, scientists have developed methods aimed at producing reliable and comparable results. These include laboratory experiments as well as research conducted in real-world settings, such as observations, surveys, and interviews. A great emphasis is placed on methodological rigour, because the production of knowledge is not an immediate result of a singular study, but the accumulation of multiple pieces of evidence over long periods of time that all converge to refine, expand or correct larger theories.

In fields like the medical and social sciences where the object of research is humans, people are the object of study, which creates a hierarchical relationship between researchers and the individuals or groups being studied. This raises not only ethical concerns, but also important questions in the knowledge produced.

How is community science different

Community science, as an approach, shares with traditional science the broader goal of trying to understand the world in order to improve it. The community component, however, marks a fundamental difference in who does the research. Members of the community become both the researchers and the participants. As a result, the relationship between the researcher and participant becomes less hierarchical. In addition, thanks to the community focus, the research is shifted from large interrogatives and theories, to local questions and issues in the community being studied.

Since the goal is not to build broad theories but to explore specific local cases, and the research is often conducted by individuals without formal scientific training, there is less focus on strict scientific rigour. However, the methods used should still produce evidence-based, verifiable conclusions. Methods are then usually tailored to suit the needs and resources of the community and serve as practical tools to better understand itself.



BOX 2. Science is always the product of community work and Open science

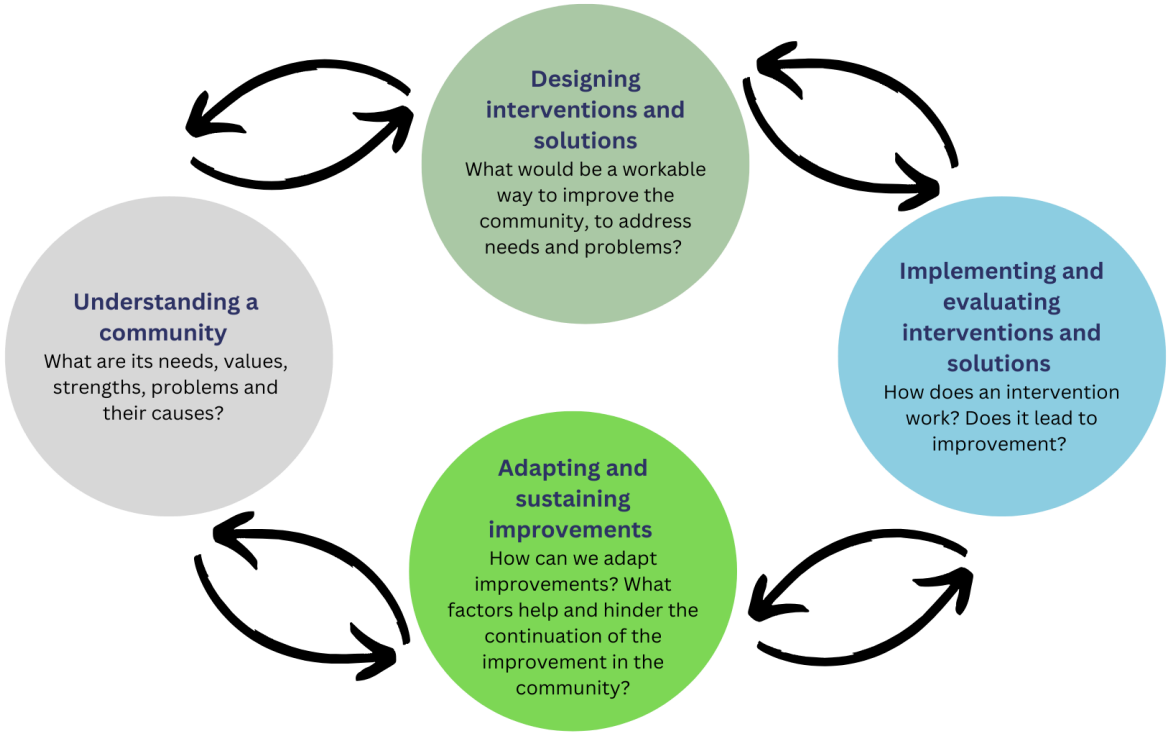
Science needs collaboration: no isolated individual could by themselves generate the knowledge to answer big and complicated questions. Scientific efforts and methods are fundamentally built as a collaborative endeavour: sharing knowledge, methods, and discoveries, but also existing as a tight network of cooperation between scientists. However, collaborative practices are not always perfect and systems could always be improved or changed. In recent years an important movement inside the scientific community - Open Science - has led a revolution to make these collaborations more transparent, fair and fruitful for the whole community. It encourages the open and public sharing of research results, methods, data, and tools. The main goals are to accelerate scientific research through practices that reduce structural barriers to knowledge, to increase the accuracy of results by reducing incentives and opportunities for dishonest behaviour, and to make science more easily accessible to all parts of the public.

This shift has meant not only a change in practices, but also, and more importantly, an evolution of the culture surrounding science. Well established norms about, for example, the nature of collaborative relationships between scientists or norms about the ownership of methods and findings, have had to be discussed and slowly changed inside the community to allow for these new practices to work. Community science aims to learn from these practices and apply them to a more local level. It extends the principles of collaboration and knowledge sharing to better understand communities.

Understanding a community to improve it

The main purpose of conducting community science research is to understand the complexities and challenges existing within communities, in order to carry out effective improvements. The goal of this kind of research is not to produce knowledge for knowledge's sake, but to improve these communities by clearly identifying problems, their causes and effects and implementing solutions.

Educational science, like all other fields of science, seeks to generalise its findings and, consequently, its solutions. However, this approach does not always produce effective outcomes, as some local challenges necessitate localised solutions. Moreover, even well-intended solutions may not work as expected. This insight emphasises the need for a continuous cycle of improvement: studying the community, planning interventions, studying the impact of these interventions, and readjusting strategies accordingly. When these *improvement cycles* are led by outside investigators like researchers, the effectiveness of the process can suffer from all the barriers that come with being an outsider to the community. Empowering communities with the tools and knowledge to apply improvement cycles themselves is a crucial aspect of promoting sustainable progress within these communities. The graph below summarises the four main phases of the improvement cycle.



Generalisability = the extent to which findings, results, or conclusions derived from a particular study, experiment or research can be validly applied or extended to a broader population, setting, or circumstances beyond the specific conditions studied. It assesses the extent to which the results of a study can be relevantly applied to other situations, groups, or contexts. Generalisability can be influenced by many factors, such as sample size of the study, the methods used to collect and analyse data, the choice of population and so many others.

BOX 3. WEIRD: the biggest generalisability problem in research

In 2010, Henrich and colleagues published the paper "The Weirdest People in the World?", which sparked a meaningful conversation in psychology about the limited number of cultures that were being studied while making claims about universal human characteristics, encouraging a major rethinking of methods and research practices. The paper discussed how psychological research, due to convenience of these kinds of samples, had focused on studying western populations, particularly a subset of these cultures, referred to with the acronym WEIRD (Western, Educated, Industrialised, Rich, and Democratic). The argument is that the collection of limited data, representing only a small portion of the human population - and therefore of the human experience - limits our understanding of human behaviour and thought. This discussion highlights the need for broader representation and inclusion of diverse populations in research to ensure that findings are more applicable and relevant across different cultural, socioeconomic, and geographical contexts. Moreover, research whose ultimate aim is to develop interventions and guide policy, like educational research, needs to be as inclusive as possible before making claims about what works and what is not effective.

Many names and many ways to do community science

The practice of community science has been explored in various forms under various names. While different frameworks emphasise different aspects, they all revolve around the same fundamental principles. Here are a few examples:

- *Citizen science* is the practice of public participation in science. Usually based on a collaboration between scientists and community volunteers, it is both a practice for increasing and improving data collection and a way of engaging the public in the production and dissemination of science.
- *Participatory action research* is a collaborative process where researchers and participants collaborate to understand a problem together. This approach is focused on the context, and targeted to address the specific needs of a particular group.
- *Improvement science* is a community science methodology that focuses on small inquiries or case studies with the goal of applying and testing solutions. The improvement cycle is central to the methodology.

Similarly, various pedagogical approaches can help improve how the learning process is guided in community science projects. Here are some:

- *Inquiry-based learning* includes methods in which learning is initiated and guided by questions or inquiries.
- *Service learning* aims to combine traditional academic learning with practical learning in the form of community work or service (e.g. volunteering or internships)
- *Cooperative learning* is a learning strategy where students work together to achieve a collective learning goal. The task should be structured to focus on collaboration both as a method and a learning goal.
- *Project-based learning*, like inquiry-based learning, is a learning strategy that falls under the umbrella of active learning. In this case, however, the focus is on real-life learning and the development of projects as the learning process.

From a question to interpretation: the scientific method

To conduct a study, researchers typically follow a sequence of steps that take them from formulating a question to arriving at an interpretation. These elements that should be included in a scientific study:

Research question(s) are the starting point of any study. It's the problem or specific aspect that one wants to investigate or explore. Research questions can vary in their scope and specificity. Depending on the interest of the study, one can ask specific questions, test hypotheses or propose exploratory questions that are more broad.

Research method(s) are the strategies used to collect relevant data to answer the research questions. Methods are usually divided in two big categories:

- Qualitative methods tend to produce more in-depth data, but they are also more labour-intensive to collect and analyse. Therefore, they can usually only be carried out with smaller samples
- Quantitative methods produce numerical values that are easier to collect and analyse, usually allowing for larger samples. At the same time, this reduces the depth and complexity of the data collected.

Every method has its pros and cons, and the choice of one (or more) methods should strike a balance between the appropriate method for answering research questions and what can realistically be carried out in the community.

Data collection involves determining what resources, tools or materials one will need to implement the data collection plan. It also involves identifying potential challenges or pitfalls that might arise during data collection, such as biases, errors, or limitations of the chosen methods. Besides practical concerns, it is also important to consider and anticipate ethical issues that may arise during data collection. It is essential to conduct data collection in the most ethical way possible and to show respect for the participants.

Data analysis involves the use of appropriate methods to analyse the information that was collected, according to a standard of objective data evaluation. Of course, complete objectivity is not an achievable goal. Any analysis will be biassed by the choice of methods and by the biases of the individuals carrying out the analysis, so it is important to implement measures to check and quantify how objective the analysis is.

Results interpretation involves making sense of the data, identifying patterns, trends or relationships, and drawing conclusions based on the evidence obtained. Interpreting the results should happen in relation to the research question(s): Were the hypothesis confirmed or not? What conclusions can be drawn? What were the limitations of our research, and what study could be conducted in the future to address them?

Resources to learn more

Hanisch, S., Eirdosh, D., & Atkins, P.W.B. (2020). Community Science Field Guide for School Culture: Tools for learning better, together. GlobalESD. http://CommunityScience.GlobalESD.org

McKenney, S., & Reeves, T. (2018). Conducting educational design research. Routledge.

Jason, L., & Glenwick, D. (2016). Handbook of Methodological Approaches to Community-based Research: Qualitative, Quantitative, and Mixed Methods. Oxford University Press.

The power of beliefs: agency

CORE MESSAGE: It's important for teachers to recognize how their beliefs and thought patterns influence both their actions and the behaviour of their students. In particular, through developing a sense of agency, educators can create a more positive and effective learning environment, but also have better tools to face their professional challenges.

In professions like education, beliefs play a particularly crucial role, with many interacting at once: the belief that one can be a competent teacher, teachers' beliefs about education, their views on the world, and their perceptions of their schools. Particularly important are the beliefs about agency: the belief that we can make choices and influence outcomes. A sense of agency has a significant impact on how teachers and students act, and how they approach the difficult task of teaching and learning.

Content of the chapter:

- What is agency
- The importance of agency for students and teachers

The importance of agency

The opportunity and ability to influence the world around us is important. But psychological research has also highlighted that the beliefs about this possibility are just as crucial. If we do not believe that we have *agency* in a certain situation, we are less likely to take action or less motivated to persevere in the face of obstacles (Skinner, 1996). In the same way, if we don't believe we have the capacity to succeed, we will try more rarely and give up more easily (Bandura, 1997). Among the various types of beliefs studied in psychology, two related but yet different concepts exist that help us understand how our thinking can impact on our sense of agency and control over our actions, and both have been studied in relation to teachers and the influence on their profession: *locus of control* and *self-efficacy beliefs*.

→ Locus of control, from pp. 33
→ Self-efficacy beliefs, from pp. 46

Although definitions of agency vary widely across different fields of study and theoretical frameworks, it can be broadly understood as an individual's ability to act independently and take purposeful actions. However, the concept of agency has always been complex and contentious (Sokol et al., 2015).

Here are several perspectives on agency from different fields:

Sociology

Agency is often analysed through the lens of social constructs and institutions that shape and constrain individual actions. Sociologists might explore how family, education, economy, and politics influence personal choices and opportunities. They examine how societal norms, values, and power dynamics impact an individual's capacity to act autonomously. This perspective highlights the importance of understanding the broader social context in which individuals operate, emphasising that personal agency cannot be fully understood without considering the influence of social structures.

Philosophy

It engages deeply with the ontological and moral dimensions of agency. In particular, the question of free will versus determinism addresses whether individuals have true autonomy or if their decisions are predestined by factors

beyond their control. This philosophical inquiry explores the nature of human freedom and responsibility, questioning the extent to which people can be considered authors of their own actions.

Psychology

A sense of agency has been regarded as fundamental for well-being and healthy human functioning, but it has also been widely studied for its importance in human development. Key milestones in infant development include the recognition of themselves as active agents and the subsequent recognition of others as agents. This second shift in particular - referred to as the "9 month revolution" - allows infants to observe, learn and imitate others, and it's believed to be a fundamental mechanism of socialisation and learning (Tomasello, 1999).

→ BOX 9. The importance of models for the young minds, pp. 60

A common theme across these views is the difference between internal and external forces. Is agency something individuals naturally have, or is it shaped by outside influences and structures? Some views oversimplify this, either by seeing people as just products of their environment or by ignoring the role of external factors. The nature versus nurture debate is an example, exploring whether behaviour is driven more by genetics or by the environment.

A more balanced view sees agency as something shaped by both individuals and their surroundings. It's influenced by relationships, social structures, and cultural norms. In this view, social capital is key to understanding human behaviour, as the networks and relationships people have, which provide them with resources, support, and opportunities that affect their ability to act.

This approach also recognizes that agency is flexible and changes based on the context. It evolves over time and varies in different social settings. For example, someone might have more agency in environments where they have strong support systems, but less in places where these are lacking. This perspective also highlights how power dynamics shape agency, acknowledging that not everyone has the same access to opportunities and resources, and social inequalities can limit one's ability to act independently.

→ Social capital, from pp. 160

BOX 4. Student agency for 2030

The significance of agency in education has been a central focus in discussions and policy initiatives. An important instance is the central role that student agency has in the learning compass developed by OECD as part of Future of Education and Skills 2030, a learning framework for the future.

Even though the concept of "student agency" lacks unanimous consensus due to differences in language translations and cultural interpretations - e.g. collective societies prioritise collective harmony over individual autonomy - according to the OECD, student agency should be both a learning method and a fundamental learning goal for the future. Agency as a skill that must be learned is about the capacity to have a positive impact on one's life and the surrounding world, a sense of responsibility and participation in society, the ability to face adversity, and concerning the learning process, the meta competencies related to learning how to learn.

Moreover, the OECD emphasises another fundamental educational concept: "co-agency." This term highlights the importance of mutually supportive relationships among students, parents, teachers, the community, and peers, all working collaboratively toward the shared educational goal of empowering students.

Resources to learn more

Greene, S., & Nixon, E. (2020). Children as agents in their worlds: A Psychological–Relational Perspective. Routledge.

The power of beliefs: locus of control

CORE MESSAGE: Feeling a sense of control over actions and outcomes is an important prerequisite for agency. It's essential for both teachers and students to reflect on their sense of control and to have a healthy relationship with it.

In education, many factors can seem beyond one's control, student behaviour, their willingness to learn, educational policies imposed on teachers and schools, limitations in resources and time. It can feel as though creating positive change or making an impact is unattainable. Sometimes it's truly not possible to change some of these circumstances, however, to be effective educators, it's essential to focus on what can be influenced, starting with maintaining a healthy perspective on one's sense of control.

Content of the chapter:

- What is locus of control
- Advantages and disadvantages of internal and external locus of control
- What control means for teachers and students

What is locus of control

As the name suggests, locus of control refers to where an individual's sense of control is placed. According to Rotter's Attribution Theory, individuals generally attribute the causes of events either internally, such as factors related to themselves (e.g., ability, personality traits), or externally, referring to elements in the environment or factors beyond the individual (e.g., luck, characteristics of the environment, or other people's actions). People's perception of control can have a significant impact on their beliefs, feelings and behaviour. Placed in the same situation, people with an external and internal locus of control can act and respond very differently based on the degree to which they believe they can impact their environment or the outcomes of actions.

Objective and subjective control

Believing you have control can frequently have as much significance as the actual possession of control. However, a fundamental distinction to understand when looking at how control influences behaviour is between *objective control* - the actual control an individual has in a situation - and *subjective control* - the perceived control the individual thinks it has. More often than not, our perception of control does not entirely reflect the objective control available, but is instead the product of our past experiences, the role that our actions played in them and how we have interpreted them. Humans seek causal explanations for events and past experiences, and these explanations shape future expectations and influence behaviours. Social learning theorists, in particular, emphasise the concept of *reinforcement*: our comprehension of the connection between behaviours and positive or negative outcomes (the reinforcers) shapes our beliefs about causality and, consequently, our future behaviours.

Our understanding of how much control we possess in a situation can be biassed in the two opposite directions: we feel we have less control than we actually have or we feel we have more.

For example, the concept of *learned helplessness* is valuable in comprehending how we acquire the feeling of a lack of control over a situation, even when some degree of control might exist. Research has shown that when people are consistently exposed to situations where their actions seem to have no impact or influence, it can shape their thinking, motivation, and emotions in ways that then transfer also to situations where they objectively could have control (Seligman, 1975; Skinner, 1996). The result is that we learn our actions have no impact. Learned helplessness

can manifest as apathy, feelings of worthlessness and low motivation, and it has often been studied in relation to depression, as depressive states and mindsets are also associated with a perceived lack of control.

On the opposite hand of the spectrum, perceiving a high sense of control in situations where it is objectively lacking can lead to an *illusion of control*. While usually, healthy people tend to overestimate the amount of control they possess in a situation - a mechanism that is believed to benefit individuals in a self-serving way (Shapiro et al., 1996; Yarritu et al., 2014); research has also highlighted the negative effects that can derive from a mismatch between perceived and objective control, like for instance a sense of overconfidence, but also the emphasization of personal failures, increase in anxiety and self-blame (Lindsley et al., 1995; Shapiro et al., 1996; Skinner, 1996).

(Dis)Advantages of an internal or external locus of control

A vast portion of the research has focused on understanding how internal and external sense of control influence an individual's behaviour and, especially, what effects this influence can have on an individual's well-being. Most research seems to indicate that an internal locus of control is associated with better psychological and physical health outcomes (Shapiro et al., 1996; Skinner, 1996) and it has been identified as a source of motivation and as a protective factor in stressful situations (Wang et al., 2021). Feeling we have control over our life, a situation or simply the results of an action generally empower us to act in ways that usually lead to positive outcomes.

However, drawbacks of an internal locus of control have also been extensively documented. For example, the idea of having control could impact individuals differently: it can empower some and put pressure on others, depending on their interpretation of what control means. For Instance, although control is associated with stress reduction for most participants in most studies, up to twenty percent can exhibit an opposite trend, where a sense of control elevates stress instead of diminishing it (Averill, 1973).

The advantages of an internal sense of control are also dependent on the context of a situation. Having an internal sense of control regarding future events can be extremely productive, prompting us to act in proactive ways to achieve the desired outcomes. But thinking of past failures through the lens of internal locus of control can be a little more tricky and its effects depend on the kind of interpretation we attribute to the failure: an opportunity to improve, projecting our thinking to the

future (“It was my fault, but I can do better next time”), or the cause of negative emotions like regret, sense of guilt and remorse, with a fixation on the past (“It was my fault, I should have done better”) (Nowicki & Duke, 2016; Skinner, 1996).
In the same way, an external locus of control doesn’t always carry negative effects. In particular in extreme situations, like life-threatening illness, a belief about the control of external factors, like for example the competence of doctors and nurses, can be beneficial (Skinner, 1996). Similarly, believing in external forces like chance or fate can help us face events over which we have absolutely no control, like the death of a spouse (Specht et al., 2010).

Be aware of biases

As per every belief we hold, our causal attribution can have biases - a systematic error in our judgement - and oftentimes do not entirely correspond to reality (Pintrich & Schunk, 2008). However, being aware of these biases can help us to be more mindful of our thoughts.

The following are some of the most common biases regarding locus of control:
1. *Fundamental attribution error*: when individuals overemphasise internal explanations (like a person's ability or characteristics) for other people's behaviour, while underemphasizing the influence of situations and external factors. For example, a teacher might jump to conclusions and assume that a student is lazy because they did not complete a task, without considering other factors that might have prevented them from doing so, like sickness.

2. *Self-serving bias*: when individuals attribute their own successes to internal factors, such as ability or effort, while attributing their failures to external factors, such as bad luck or other people's actions. This bias allows individuals to protect their self-esteem and maintain a positive self-image. A student for example might think they performed well in a test because they are smart, but did poorly in another because the teacher graded them unfairly.

3. *Actor-observer bias*: when individuals attribute their own behaviour to circumstances, while attributing others' behaviour to a person’s characteristics. For example, a teacher may attribute their own failure to complete a work task to the size of the task, while attributing another teacher’s failure to their laziness.

Bias	Student perspective	Teacher perspective
Fundamental attribution error	Students attribute all teachers' behaviours to their characteristics *"That teacher is always mean"*	Teachers attribute all students' behaviours to their characteristics "That student is lazy and never tries"
Self-serving bias	Students attribute their success to themselves but their failures to external factors *"I did well on the Maths test because I'm smart, but poorly on the English test because the teacher is not good"*	Teachers attribute their success to themselves but their failures to external factors *"I did a great unit in Maths, but students are not motivated to learn English"*
Actor-observer bias	Students' attribute their own behaviour to circumstances, but the teachers' behaviour to personal characteristics *"I was disrespectful because I had a bad morning, the teacher reprimanded me because they are mean"*	Teachers' attribute their own behaviour to circumstances, but the students' behaviour to personal characteristics *"I was late because of traffic, the students are late because they are lazy"*

This table exemplifies how these biases can manifest in school for students and teachers (adapted from Pintrich & Schunk, 2008).

BOX 5. Locus of control and the influence of culture

The formation of locus of control beliefs can be influenced by a variety of factors, such as previous experience or parenting. However, a factor of particular interest to psychology is culture, especially on the topic of biases: are these “mistakes” or shortcuts our brains take merely a product of cognition, or are they influenced by cultural norms and beliefs?

Notably, since attributional biases often centre on the relationship between oneself and the other or the outside world, it’s interesting to look at them from cultural perspectives that have different understanding of this connection. For instance, even though the self-serving bias has been observed in many cultures, its presence and frequency differs according to the level of individualism of the context: it is more prevalent in the U.S. and other Western nations compared to Asian countries, and seems almost absent in Japan (Dean & Koenig, 2019). The hypothesis is that collectivist cultures, and some in particular, might encourage a self-critical bias instead, that tends to prefer the presentation of a “modest self” and to direct blame to oneself in favour of the group. Another example of differences in attribution comes from academic achievement. Researchers have tried to look into psychological factors that might contribute to the consistent difference in academic achievements between Western and Eastern countries, finding that Eastern cultures - both in general and specifically regarding schooling - consistently emphasise more effort as a reason for success rather than ability or external explanations (Dean & Koenig, 2019). This stress on effort might produce behaviours that lead to higher results in general, although it’s important to keep possible pitfalls of such an emphasis in mind.

It’s also relevant to remember that the distinction between Westerners and Easterners cultures is a broad generalisation, that simplifies the complex interaction between individuals, contexts and cultures.

Locus of control and teachers

Do teachers believe that they are the cause of their students' learning? Or do they attribute more influence to external factors, like for example students' home environment? Researchers from the RAND foundation asked these questions when evaluating the success of various reading interventions in a study in 1976 (Armor et al., 1976). To measure teachers' locus of control, they asked them how much they agreed with the two statements:

> Statement 1: "When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment." (*external control*)
>
> Statement 2: "If I really try hard, I can get through to even the most difficult or unmotivated students." (*internal control*)

Results showed that agreeing more with the statement about internal control was linked to better student performance, and other positive indicators like the amount of project goals achieved and continuing to use the materials and methods after the end of the project (Berman et al., 1977).

Consistent with the research on well-being, internal locus of control has been pretty consistently associated with better outcomes for teachers. In fact, teachers possessing an internal locus of control tend to exhibit reduced anxiety and increased self-esteem, and they are less impacted by workplace stress, possibly due to their inclination to actively address and change stress-inducing factors (Bevis, 2018). On the contrary, teachers experiencing higher burnout rates tend to possess an external locus of control, and they feel limited in their coping strategies (Bevis, 2018). In light of these results, some researchers have argued that to reduce burnout rates and its severity, interventions for teachers should focus not only in addressing the contextual and work factors but also on teachers' emotion management and attributions (Chang, 2009).

Burnout = despite having become a common use word, in psychology it specifically refers to a state that manifests in three major symptoms regarding one's work: chronic emotional exhaustion, cynicism and detachment, and reduced efficacy. Typically, it's the result of repeated and prolonged stress and high work demands, especially when an individual's efforts seem to generate little or no positive outcomes.

Locus of control and students

Locus of control has been frequently studied in association with performance (Findley & Cooper, 1983), also in educational research, with a vast literature investigating the relationship between control and academic achievement. In particular, internal locus of control has been found generally to have a small but measurable positive effect on academic achievement (Çoğaltay, 2017; Findley & Cooper, 1983).

At the same time, some researchers question the simple view of this relationship. Some studies suggest that locus of control might work as a middle factor, influencing student performance along with other factors like motivation and self-confidence (Haidari et al., 2023). An important aspect, in fact, seems to be the interaction between locus of control and characteristics of the environment (Anderson et al., 2005). For instance, in a 2005 study Anderson and colleagues compared the relationship between locus of control, motivation, self-efficacy beliefs and academic achievement in three schools with differences in the presence and strictness of rules, competitiveness and collaboration. Overall, the study found a relationship between students' locus of control and academic achievement, but the differences in the pattern of relationships were better characterised as a negative relationship between external locus of control and achievement, rather than a positive between internal control and achievement. Moreover, both high scores - high internality and high externality - were linked with lower performance, further reinforcing the idea that neither extreme is actually beneficial. Most importantly, however, the authors emphasised the importance of environmental factors that were found to have actually a more powerful effect on academic achievement than locus of control.

Another interesting perspective in educational literature comes from understanding locus of control related to agency, and in particular in the case of minority groups and at-risk populations. The aim is to understand ways in which a sense of control could potentially empower students in marginalised positions. For example, Flowers et al. (2003) found that African American high school seniors in the US with an internal locus of control were more likely to manifest high aspirations regarding their future education, than those with an external control.

BOX 6. Are we losing control?

Cultural shifts and other societal changes can influence individual perceptions and modify trends in the presence of psychological traits in a population. Thanks to the large amount of data available on locus of control, researchers have noticed an apparent trend that indicates a shift of locus of control towards a more prevalent external control in a span of forty years between the 60s and early two-thousands (Sherman et al., 1997; Twenge et al., 2004).

Rotter had already noticed an emerging shift towards increasing externality in his own data in the decades between the 60s and the 80s, but Twenge and colleagues meta-analyses in 2002 proved a steady linear increase in externality for US college students, to the point that "the average college student in 2002 had a more external locus of control than 80% of college students in the early 1960s" (Twenge et al., 2004). This finding was then replicated in school children, showing a similar trend in locus of control scores for children as young as nine. The hypothesis put forward byTwenge and colleagues to explain these results is the Alienation model: a societal increase in distrust and cynicism, higher individualism, alienation from one's own communities and lower civic and voter participation, could lead to a greater and generalised societal feeling that one's life is outside of one's own control.

However, these conclusions are exclusively based on data from the USA and should be generalised with caution to other populations. For instance, a Chinese replication study found no significant increase in external locus of control in the college Chinese population between 1997 and 2019, despite a general increase in individualism in China (Wang & Xin, 2023).

Reflection exercise: what can teachers do

Let's have a look again at the two statements from the RAND study.

> Statement 1: "When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his or her home environment." (*external control*)
>
> Statement 2: "If I really try hard, I can get through to even the most difficult or unmotivated students." (*internal control*)

In the conceptualization proposed in the study, the first statement refers to the idea of general teaching efficacy (GTE): the beliefs about what teachers in general are actually able to achieve, considering what are the common external obstacles and influences that have an effect on every teacher and students. The second statement

instead is about personal teaching efficacy (PTE) and it's intended to measure the individual teacher's beliefs about their own capacity to succeed in spite of challenges and obstacles.

What can teachers do and what can I, as a teacher, do? Do you think these two questions are related? How? Try to answer these questions, reflecting on your experience and on your ideas of teaching as a profession. You can use the table below as a prompt.

Teachers can ...	1 = Strongly Disagree; 2 = Disagree; 3 = Neither agree or disagree; 4 = Agree; 5 = Strongly Agree	**As a teacher, I can ...**	1 = Strongly Disagree; 2 = Disagree; 3 = Neither agree or disagree; 4 = Agree; 5 = Strongly Agree
... adapt their lessons to different level of competence		... adapt lessons to different level of competence	
... make students passionate about learning		... make students passionate about learning	
... influence school policies		... influence school policies	
... manage disruptive behaviour		... manage disruptive behaviour	
... have fruitful partnership with parents		... have fruitful partnership with parents	
... advocate for their students' needs		... advocate for my students' needs	
... advocate for their own needs		... advocate for my own needs	
... pay individualised attention to students		... pay individualised attention to students	
... collaborate well together		... collaborate well with my colleagues	

SHARE IT IN A GROUP! You can use this exercise also for a group activity, either by brainstorming the answers together or by filling out the table individually and then sharing it with the group. Remember to establish rules for sharing at the beginning of the activity that are comfortable for everybody.

DO IT WITH STUDENTS! Consider areas or tasks in students' academic and school lives where it might be valuable for them to reflect on their sense of control. Create a list yourself, or work with your students to brainstorm one together, and encourage them to try this exercise to deepen their awareness of how their beliefs about control influence their learning and overall student experience.

Group activity: the causes of student behaviour

Dealing with students' behaviour is a common and important concern for teachers, and often is also the area of their profession where teachers feel they have the least control and perceive the lowest efficacy. It is often the first cause cited by teachers for burnout (Chang, 2013). Where do these perceptions come from? What are the experiences that lead some teachers to hold these beliefs?

This is a protocol for a group activity to reflect together on attributions teachers make about students' behaviours and to develop a more complex and better understanding of their causes.

Present the group of participants with these two opposite statements about the agency of teachers in controlling disruptive behaviour:

> A.1: If a student misbehaves in class, it is usually because of influences outside the teacher's control, such as home environment, innate tendencies and school policies.

> B.1: If a student misbehaves in class, it is usually because the teacher has not found the right methods, or they have not been implemented in a way that works for that particular student.

Ask participants to choose the sentence they agree with more (they might not agree completely with just one, but they should choose the one they agree with the most). Divide the group in the two subgroups A and B accordingly and ask them to discuss together the reasons why they agree more with that sentence. Ask participants to take notes.

Present them now with the two new opposite statements:

> A.2: If a student behaves well in class, it is usually because of influences outside the teacher's control, such as home environment, innate tendencies and school policies.
>
> B.2: If a student behaves well in class, it is usually because the teacher has found the right methods, and they have been implemented in a way that works for that particular student.

Ask participants if they want to remain in their group (A or B) or if they agree with the opposite statement now, and request them to move group accordingly. Take notes of the participants that switch groups. Ask again to do the same exercise and to take notes. After the separate brainstorm, bring all the participants together.

Causal attributions

Ask participants what's the difference between statements A and statements B. Once participants reason that the difference is in the attribution of causality (external or internal), if it hasn't been done before, introduce the concepts of agency and locus of control.

Bias in causal attribution

Ask participants to think about the difference between the two sets of sentences (1 and 2): who moved groups and why? Did somebody feel like switching but didn't and why? (Be aware of the possible effect of reputation management in this discussion). Introduce the group then to biases in causal attribution (e.g. Fundamental attribution error)

Internal and external causal attribution

Discuss what does it mean to have an internal or external locus of control: e.g. an internal locus of control empower people more to act than an external one, but what happens if the external forces are too strong for our actions to have a positive impact? Try to always bring the conversation to concrete discussion/examples based on the prompt (students behaviour).

Complex causes of behaviour

Ask them to think about their subgroups discussions: did everybody agree one hundred percent with the statement they chose? Are there any circumstances they could think about where the statement wouldn't apply?

Through this discussion, introduce the idea that causal attributions that are either internal or external are usually simplifications of reality. They can be useful, but they are also reductive: behaviour has many causes that exist in complex relation with each other. Ask the participants to look now at their notes: what are the causes of students behaviour they have brought up during their discussions? Encourage the collective sharing/discussion.

Resources to learn more

Nowicki, S. (2016). Choice or chance: Understanding Your Locus of Control and Why It Matters. Prometheus Books.

The power of beliefs: self-efficacy beliefs

CORE MESSAGE: Teaching is a very demanding profession, and it's not rare for teachers to doubt their own abilities. Feeling that they are capable is an important aspect of well-being for teachers, and to help them work better.

A lesson that doesn't go to plan, work deadlines piling up, a particularly difficult student, an evaluation from a superior: there are many occasions for teachers to feel inadequate, or like they lack the ability to perform their job well. Feeling you are competent however, is not only a fundamental aspect of well-being, but also the prerequisite to perform well, try harder and try better. It's important for teachers to learn how they can foster in themselves and in their students a healthy sense of efficacy.

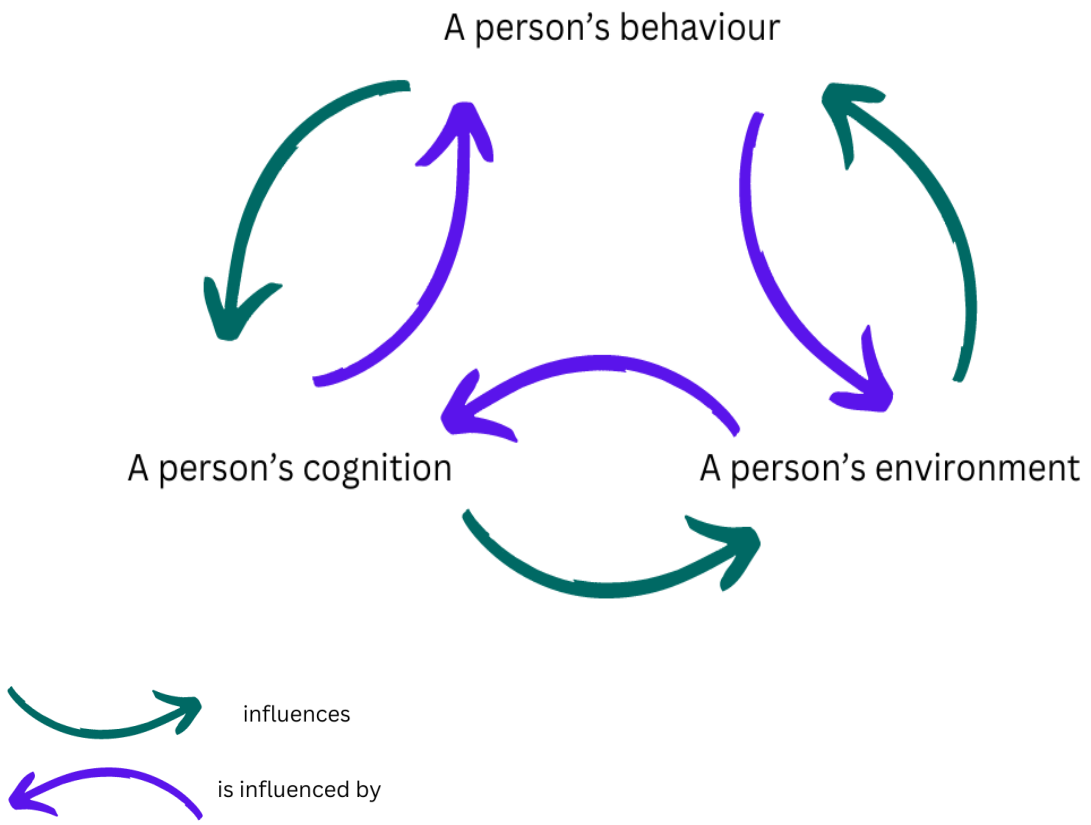
Content of the chapter:

- What are self-efficacy beliefs
- Benefits and pitfalls of self-efficacy beliefs
- Self-efficacy beliefs in schools
- How to foster healthy self-efficacy beliefs

What are self-efficacy beliefs

Psychologist Albert Bandura began studying self-efficacy beliefs, which are the beliefs people possess about their ability to perform tasks needed to reach a goal, through experiments with people afraid of snakes (Bandura, 1997). He found that people with high self-efficacy were more likely to confront their fears and handle more challenging tasks, like being close to or touching snakes (Bandura & Locke, 2003).

Self-efficacy beliefs are central to Bandura's work and, in particular, to Social Cognitive Theory, which is one of the most important frameworks in psychology to understand how a person's behaviour, cognition and environment influence each other. This theory also highlights the social aspect of learning, and places a particular focus on processes like imitation. In his theory about human behaviour, Bandura emphasises three relationships that all work in both directions to explain the way we act: the one between the environment and a person's behaviour, between a person's behaviour and their cognition and finally between the environment and person's cognition. It's important to note that, differently from other perspectives, Bandura highlights the role of environments and contexts in influencing human behaviour.



Benefits of self-efficacy beliefs

According to Bandura's theory, self-efficacy beliefs have a generative capability, in the sense that they activate cognitive and motivational processes that play a role in transforming knowledge and capabilities into actions. In other words, it's not enough that I am capable, it is also really important that I believe I am capable of taking action towards a goal. Self-efficacy beliefs influence individuals' thought processes and therefore also their behaviour. In this sense, the explanation of the positive effects of self-efficacy is mainly motivational. For example, people who believe in their abilities approach tough tasks as challenges, not as impossible problems. These individuals are more likely to work hard on difficult tasks, to commit to them and to show a positive and resilient attitude when faced with difficulties (Bandura, 1997; Bandura, 2011).

Self-efficacy and performance have a reciprocal relationship: increased beliefs in one's capability often leads to better performance, and at the same time performance outcomes influence beliefs in one's abilities (Bandura, 1997).

Another way to explain the link between high self-efficacy and performance, based on Bandura's theory, is that people with high self-efficacy are more likely to use self-regulation techniques, which help to regulate and guide actions. One key behaviour related to self-efficacy is goal-setting. People who believe in their abilities tend to set higher goals and persist in reaching them. However, goal setting behaviours can also influence self-efficacy: setting realistic, progressive goals can build self-confidence over time, by breaking a large task into manageable steps and making us feel empowered as we accomplish each one (Bandura, 1997; Hagger et al., 2020). On the other hand, if we keep setting unrealistic goals and never reach them, we might start doubting our abilities.

Another set of behaviours related to self-efficacy are coping behaviours, which we employ to face difficulties. One example is being able to revise and change course of actions when they don't seem to lead to our preferred outcomes (Bandura, 1997; Hagger et al., 2020). People with confidence in their abilities usually utilise these strategies more often. At the same time, being aware of available coping behaviours reinforces the positive beliefs in our abilities.

(Some) pitfalls of self-efficacy beliefs

Believing that you have the ability to succeed is undoubtedly very important. Research has consistently suggested that optimistics beliefs are not only better than pessimistic ones, but generally more productive (Bandura, 1997). At the same time, it's always necessary to recognise that these types of beliefs and thoughts are not positive in absolute, but they need to be viewed relative to circumstances. Psychologists use the phrase "too-much-of-a-good-thing-effect" to refer to negative effects that can occur where a usually positive disposition or trait becomes detrimental if present in excessive levels. Sometimes, believing you can do it can be harmful.

In the last few decades in particular, results that seem to indicate that there is also a negative effect of self efficacy on performance helped us develop a more nuanced understanding on how this kind of thoughts work on human behaviour (Sitzmann & Yeo, 2013; Vancouver & Purl, 2017; Vancouver et al., 2002).

First of all, the same positive behaviours that are attribute to high self- efficacy, like a greater persistence and setting higher goals, might be a double-edged sword in certain situations, leading to negative outcomes when the circumstances don't allow for greater results or the endeavour is unproductive (Bandura & Locke, 2003)

The most relevant pitfall of excessive self-efficacy is a sense of overconfidence. For example, a prominent hypothesis suggests that self efficacy beliefs might influence how we allocate resources to achieve a goal: if we are overconfident in our abilities (e.g. we possess a level of efficacy beliefs that exceed too much our actual capacities), it can lead us to invest less time and effort than we should to achieve our goal (Yeo & Neal, 2013). A classical example might be a student that is overconfident in their knowledge about a subject and doesn't spend enough time revising for a test.

An additional resource we might fail to allocate successfully when self-efficacy is very high is attention. In fact, the effect of overconfidence can also be observed on repeated trials or when the same tasks are performed again and again over time (Vancouver et al., 2002). In this case, increased beliefs in abilities reinforced by past experiences can cause people to try less, underestimate the task or pay less attention throughout time. For example, professionals that have repeated the same procedure many times and are confident in their execution might fail at it because they are not paying enough attention and are not prepared to face sudden issues or an increase in difficulty.

Another circumstance where having a high sense of self efficacy might be a negative rather than a positive are the ones where the person misjudges the task - especially

in cases in which the task is ambiguous (Bandura, 2011; Vancouver & Purl, 2017). In fact, also according to Bandura, having a clear idea of the task and its difficulty is fundamental for us to make good assessments about our abilities (Bandura & Locke, 2003). It is more difficult to produce these assessments accurately when the task is new, presented in an ambiguous way, too complex or we receive unclear feedback about our progress (Vancouver & Purl, 2017). In these cases it's not uncommon for people to approach the task with an inflated sense of efficacy based on inaccurate information, usually leading to worse performance.

BOX 7. Differences between locus of control and self-efficacy beliefs

Even if locus of control and efficacy beliefs both refer to an individual understanding of their own agency, the two present some differences with important implications. Above all, locus of control refers to a general belief about control over outcomes, while self-efficacy beliefs is about an individual perception of their own abilities in a specific task. Moreover, locus of control are generally more stable over time and in different contexts, while efficacy beliefs can change depending on many factors, and so psychologists believe they can be more easily influenced. For these reasons, teacher efficacy beliefs have been more intensively studied and addressed by educational research, not just in how they influence teachers' behaviour but more importantly in what ways they can be increased and leveraged (Hagger et al., 2020).

Self-efficacy beliefs in school

Self-efficacy beliefs have been extensively studied in relation to both students and teachers and it has been for many years one of the most important areas of research in education.

Student (or academic) self-efficacy

Research on self-efficacy beliefs with students has primarily focused on understanding how self-efficacy influences student performance. Over the years, many studies have investigated if higher academic self-efficacy beliefs can help students achieve better results, finding a consistent positive and reciprocal relationship between performance and self-efficacy (Multon et al., 1991; Talsma et al., 2018). This effect could be explained by the fact that students with higher self-efficacy beliefs are more likely to engage in patterns of behaviours that lead to better outcomes. For instance, high levels of perseverance - or how long a behaviour

will be sustained - is a trait that is usually exhibited in relationship with self-efficacy (Multon et al., 1991). Students that believe in their capabilities might persevere more in the face of difficulties and in this way achieve better results over time. Self-efficacy has also been related with measures of students' effort: if they believe that they can obtain success, students engage in tasks with greater effort (Zimmerman, 2000). Self-efficacy can also impact performance indirectly through student agency. Positive beliefs about one's abilities can in fact empower students in engaging in positive learning behaviours, like setting goals in a productive way and better utilise learning strategies (Zimmerman, 2000).

All these elements can also contribute to an overall more emotionally positive learning experience, and help alleviate negative feelings and mental states sometimes experienced by students in relation to learning and academic performance, like stress, anxiety and depression (Zimmerman, 2000).

A key point, however, is that these positive effects depend on students' ability to accurately assess their own capabilities. As we already established, both overly positive and overly negative assessments can be harmful, and lead to behaviours that do not help students engage with learning productively. Assessing our own capabilities though is a complex task that requires both a certain level of cognitive development, and metacognitive tools like self monitoring and self evaluation.

In fact, it's often the case that a positive relationship between performance and self-efficacy is stronger with age, with college students showing the most benefits and primary school children showing the least (Multon et al., 1991; Talsma et al., 2018). This is usually a product of young children's tendency to overestimate their abilities (Schunk & Pajares, 2002). With age and more experience in academic settings, students are generally able to assess more accurately their capabilities, and this reflects in a stronger influence of self-efficacy beliefs on performance. Similarly, children with learning disabilities tend to overestimate their abilities and have inflated sense of efficacy, even in areas when there is a certified difficulty (e.g. dysgraphic and dyslexic children might overestimate their ability in writing and reading a text) (Klassen, 2002). This could be again attributed to reduced metacognitive abilities, very common in children with learning disabilities (Klassen, 2002), but it could also be the product of self-protective behaviours, in order to preserve their self-esteem (Bergen, 2013).

Academic self-efficacy is not only relevant for academic achievement however, but in the broader contexts of students' future. Different studies have in fact found a link between academic self-efficacy and students' decisions about pursuing higher education or their aspirations for future careers (e.g. Bandura et al., 2001). Additionally, the academic areas of students' self-efficacy tend to reflect gender

stereotypes and norms, with male students that report on average higher self-efficacy beliefs for STEM subjects like mathematics, science, and technology than female students, while on the other hand, female students tend to express higher self-efficacy for humanities subjects like art and languages, with this gender divide becoming stronger with age (Huang, 2012; Schunk & Pajares, 2002). In this sense, academic self-efficacy can in part be implicated in the way it shapes students' futures and as a consequence, also how our societies look.

Teacher self-efficacy

Teacher self-efficacy refers to "the teacher's belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context." (Tschannen-Moran et al., 1998). In over thirty years of studies, researchers have found many associations between these beliefs and a variety of outcomes and practices. Studies have reliably found that teachers' high sense of efficacy regarding their ability to teach is associated with higher academic results for students, but also other outcomes like for example student's motivation (Henson, 2002; Zee & Koomen, 2016). As in the case for student self-efficacy, educational research suggests that this relationship is caused by the fact that teachers with strong self-efficacy beliefs are more likely to engage in positive teaching behaviours, resulting in improved results for students (Fives & Gill, 2014; Zee & Koomen, 2016).

Teachers with high self-efficacy beliefs in fact, exhibit more positive teaching practices and attitudes towards their work: they are typically more open to try different methods and tend to participate more in professional development, they show higher levels of planning and organisation and are usually more efficacious in creating a positive classroom environment; they are also more likely to use students centred approaches and tend to be better at managing behaviour (Fives & Gill, 2014; Henson, 2002; Tschannen-Moran and Woolfolk Hoy, 2001; Zee & Koomen, 2016). However, it's essential to remember that this connection is not unidirectional (or necessarily causal), as beliefs influence behaviour just as much as behaviour influences beliefs. Therefore, it's also acknowledged that understanding and correctly implementing effective teaching practices can enhance a teacher's performance and, in turn, raise the confidence in their abilities (Fives & Gill, 2014; Wheatley, 2005).

Teachers' efficacy beliefs have also been extensively studied in the context of teachers' work experience and attitudes toward their job. Teachers with a high sense of self- efficacy are generally more likely to display enthusiasm for teaching, show a strong commitment to their job and to remain in the teaching profession (Zee &

Koomen, 2016). Teacher sense of efficacy seems to also be consistently related to job satisfaction (Caprara et al., 2003; Kasalak & Dağyar, 2020). One key factor explaining these relationships could be the consistent discovery that high self-efficacy tends to serve as a protection against burnout: teachers with high self-efficacy tend to have lower burn out level across grades and countries (Skaalvik and Skaalvik, 2007; Zee & Koomen, 2016). On the other hand, as burnout generally stems from a feeling of powerlessness, there seems to be a negative feedback loop in which low self-efficacy reinforces teacher's burnout and vice versa (Zee & Koomen, 2016). But reduced levels of burnout could also be linked to the fact that teachers with high self-efficacy usually experience lower levels of stress (Zee & Koomen, 2016).

However, as per the students, these effects are more relevant when teachers are able to make accurate assessments about their abilities. For example, new or pre-service teachers tend to overestimate their capacity and underestimate the difficulties of teaching. As a result, many inexperienced teachers enter the profession with a very high sense of efficacy that usually drops in the course of the first year of teaching (Fives & Gill, 2014). Experienced teachers, on the other hand, have the knowledge to make accurate assessments of both the difficulties of teaching and their ability in facing them, and so they are usually more stable in their beliefs (Tschannen-Moran et al., 1998).

At the same time, researchers have also cautioned against the idea that high self-efficacy beliefs are always positive or have only positive effects. In a profession that requires constant professional and personal development like teaching, too much confidence in one's abilities could also close a person to opportunities of growth (Wheatley, 2005). Doubts, in this sense, are also important to always re-evaluate if our methods and attitudes are the most effective or could instead be improved (Fives & Gill, 2014).

Self-efficacy beliefs depend on task and context

Self-efficacy beliefs, differently from other concepts regarding the self like self-worth or self-esteem, are linked to a task, and in relation to the context taken into consideration. In fact, while self-efficacy refers to individual judgement about their own capabilities in a specific area, self-esteem or self-worth are about whatever one likes or dislikes oneself and encompasses the entirety of the person. Though self-efficacy and self-worth might be related, a person can also feel low self-efficacy towards a specific task, but still maintain a positive level of self-worth if, for example, the task is not particularly relevant to the individual's life or sense of identity.

Self-efficacy and tasks

It is intuitive that teachers can have a general sense of self-efficacy regarding their job, but that they also have higher or lower self-efficacy when thinking about a specific aspect of teaching: planning a lesson requires different capacities than actually executing it, and the skills to manage class behaviour are not the same needed to collaborate with other teachers or build fruitful relationships with parents. For instance, research has shown that an individual teacher's self-efficacy beliefs can vary significantly between subjects or from class to class (Raudenbush et al., 1992; Ross, Cousins, & Gadalla, 1996). To understand teachers' beliefs towards different areas of their jobs, researchers have tried to distinguish between different teaching tasks, for example differentiating between three aspects: efficacy for instructional strategies (the ability of teachers to plan and conduct lessons and use a variety of methods for learning and assessment); efficacy for classroom management (the ability to manage students behaviour in classroom, especially disruptive behaviour); efficacy for student engagement (the ability of teachers to engage students and help foster creativity, critical thinking and appreciation for learning) (Tschannen-Moran & Hoy, 2001). Research has often found that teachers seem to generally struggle more with classroom and behaviour management, and it can often be the most important predictor of either high or low self-efficacy, and indirectly the largest impact on outcomes like burnout or job stress (Aloe et al., 2013; Zee & Koomen, 2016).

Additionally, teaching is a profession that continuously evolves with culture and so teachers might be required to perform new tasks and adapt their attitudes towards education based on changing standards. An important example is the one of inclusive education and the teaching of students with disabilities, that has been increasingly relevant as an everyday challenge for teachers. To face it, teachers have

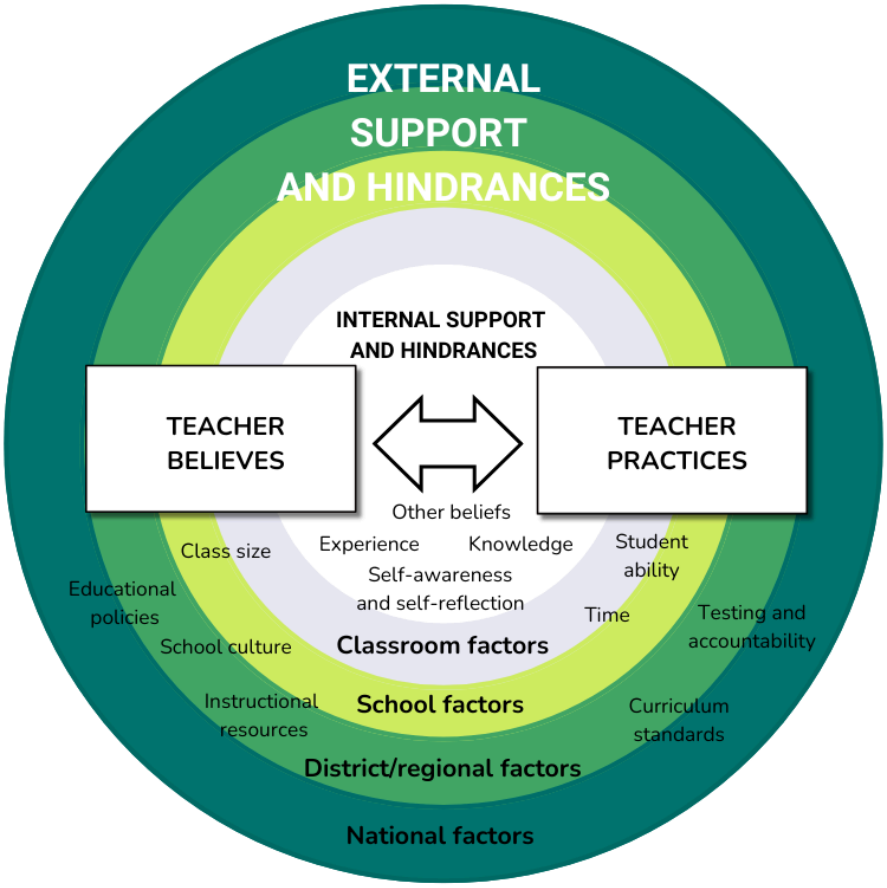
to not only acquire the necessary competencies, but also adjust attitudes. Research, for example, has shown that teachers that have a higher sense of self-efficacy regarding teaching children with disabilities also possess more positive attitudes towards inclusive education (Yada et al., 2022).

Self-efficacy and context

Another significant factor influencing self-efficacy beliefs is context. A teacher might have exceptional skills, but if external factors, like for example an unsupportive work environment, are consistently interfering, their confidence in their ability to perform effectively will likely decrease. In the same way, a supportive environment is likely to boost teachers' confidence and efficacy beliefs (e.g. Hoy & Woolfolk, 1993). The graph below illustrates what factors could have an influence in a teacher's practice or efficacy beliefs: in the circle at the centre we find internal factors, but as we move towards the outside we identify external factors that are usually outside a teacher control like class size, school culture, resources or curriculum standards (Fives & Gill, 2014). One of the fundamental external factors influencing both students and teachers is the socio-economic status (SES) of students. SES stands out as a consistently strong predictor of numerous educational outcomes such as academic performance, student motivation, and self-efficacy. For instance, a study examining PISA 2015 data revealed a correlation between students' self-efficacy and SES in almost all the 69 countries included in the study (Tan et al., 2023).

All of these factors however do not influence teachers and students unconditionally, but interact with the internal resources of individuals in ways that, for example, empower some to maintain high standards of practice and high efficacy beliefs even in circumstances that are not supportive. These internal resources can for example include individual differences in attitudes and personality: studies have highlighted how personality traits, such as conscientiousness, can significantly influence self-efficacy and its connection with performance outcomes (Caprara et al., 2011; Judge et al., 2007).

The broader goal of educational and psychological research in this case is to understand to what extent external negative factors impact teachers and students, and how individuals in turn can utilise their internal strengths to counter these effects.



Adapted from Fives & Gil (2014)

BOX 8. How students' socio-economic status is measured in research

Quantifying and measuring socio-economic status presents challenges, particularly when comparing across countries. Despite this difficulty, much of educational research and reports have to address it because it has such an important impact on students, teachers and schools. Understanding how socio-economic status is measured in specific studies or reports is crucial for interpreting research findings accurately. Various methods can be employed, including:

- Direct assessment of family income, although this approach is less common due to challenges in obtaining and comparing income data across countries.
- Relative income measures, such as self-placement on a scale relative to the wealthiest and poorest individuals within one's country.
- Proxy measures for income, which vary across cultures, such as number of rooms in one's home, being recipients of welfare programs or valuable material possessions.
- Indicators of parents' status, such as their level of education and occupation.
- Composite measures like ESCS, employed by PISA's reports, which combine into a single number measures of parents' education, parents' occupation, household possessions and amount of books at home.

The influence of culture and norms on self-efficacy

Often, contextual factors that significantly shape our beliefs are intangible, and as a result difficult to pinpoint or quantify. Social norms and cultural standards, for instance, play an important role in how we view ourselves, but they remain in the unsaid or as intrinsically shared understanding.

Some evidence of how teachers self-efficacy beliefs develop suggests that teachers do not hold these beliefs about themselves in a vacuum, but rather in reference to a norm, or the standards they have experienced before: their perception of themselves as a good or bad teacher is shaped by the teachers they've encountered and worked with, as well as by the standards and values upheld by groups and cultures that surround them.(Ashton et al., 1984).

Similarly, we reference cultural norms to understand our experiences. Being a teacher doesn't look the same in every culture, but there are differences that influence both practices and teachers' sense of identity and beliefs. For instance, a study comparing Chinese and Australian teachers found that Australians differentiated between their efficacy in guiding students and in disciplining them, while for their Chinese counterparts these two aspects collided, showcasing two different ways of interpreting their roles as educators (Ho & Hau, 2004).

Another study, involving teachers from the US and Taiwan, revealed that Taiwanese teachers placed more importance in relationships with parents, while American teachers felt more efficacious than Taiwanese one in teaching children with diverse backgrounds and educational needs, probably in both instances reflecting differences in teacher training and formation (Lin et al., 2002). Differences in beliefs influenced by different national standards for education can be interesting also to compare practices: for instance, a 2018 study found that Finnish teachers' efficacy beliefs regarding teaching inclusive education was significantly positively influenced by their training, while the same was not true for a group of Japanese teachers, that seem to not benefit positively by their training. This might be due to the fact that Finnish teacher education includes significantly more training hours, and Japanese curricula for teaching students include less information on the topic of inclusive education (Yada et al., 2018).

Another interesting and repeated finding across studies that have compared teachers from Westerns and East Asians cultures, is that East Asians teachers seem to consistently report lower levels of self-efficacy, even when their school systems produce students outcomes at a similar or higher standard than in Western societies. This might be a product of cultural differences, rather than an actual reflection of abilities: Easter Asians culture tend to value modesty as important,

while Western cultures typically place an emphasis on self-confidence (e.g. Ho & Hau, 2004; Lin et al., 2002; Yada et al., 2018).
It is crucial to understand and acknowledge these cultural and educational differences when adapting teaching methods or policies from one country to another, and when promoting the significance of specific psychological mechanisms in teachers' mindsets.

Where do self-efficacy beliefs come from

How we develop our beliefs is a key question in psychology. Regarding efficacy beliefs, Bandura's theory suggests that what is important is both the experiences we have (either firshand or vicariously), but also the ways in which we think and feel about them. In other words, it focuses on the importance of cognitive sources for the formation of self-efficacy, and in particular, identifies four of them (Bandura, 1997; Hagger et al., 2020; Tschannen-Moran et al., 1998; Usher & Pajares, 2008):

1. *Mastery experiences* are our first-hand experiences with a particular task, our successes or failures, and what ideas about our capabilities we have inferred and internalised because of it. The importance of the experiences is usually related to the strength of the related beliefs and is believed to be the most influential and direct source on self-efficacy beliefs. For this reason it is of particular importance, for example, that young teachers are supported in their first teaching experiences, and are given numerous possibilities to gather experience in a safe way. Similarly, students' first experiences with a subject could strongly impact how they think about their abilities in relation to it.

2. *Vicarious experiences* are instead our second hand experiences, in other words witnessing others perform a task. This offers us the avenue to, for example, collect information about the difficulty of the tasks, or the best way to approach it. This can help give us the confidence that the task can be done. The importance we place in vicarious experiences is usually related to who we are observing, or more specifically we tend to learn best and internalise beliefs about efficacy more when observing people we feel similar to or we have an affinity for. For teachers in particular this could manifest in the relationship with a more experienced faculty member, a mentor or simply by observing other teachers approach teaching difficulties in different ways. For students, an important source of vicarious

experience are peers: learning from peers in certain situations proves not only to be easier, but also to help build the confidence of students.

3. *Social persuasion* usually manifests in different means of persuasion (e.g. verbal encouragement or discouragement) that influence the perception of our capacities from the outside. As per vicarious experiences, it is as influential as the importance we give to the source of the persuasion: for example, people or institutions with a certain authority, or that we look up to or have a personal relationship with can exert greater influence on us. In a school setting for example, positive feedback and encouragement coming from staff members in positions of leadership can have an important impact on teachers' self-efficacy beliefs. In the same way, the way parents and teachers, as authority figures, talk about and to students can significantly affect them.

4. *Emotional and physiological states* refers to the emotions we feel when performing a certain task or when recollecting it: if negative emotions are constantly associated with handling a certain task, this would likely affect our beliefs about our abilities and our performance. Teachers that experience a significant amount of negative emotions or states regarding aspects or the whole of their job tend to face higher rates of burnout and to rely on dysfunctional coping mechanisms like avoiding the uncomfortable situations that generate the negative emotions, without fixing the underlying issues. Likewise, repeated experience of negative emotions can greatly affect students, impacting their sense of self, their ability to perform in school, but also in the long run their beliefs about what they can achieve and their choices for the future.

As already suggested in the examples above, these processes can either be functional - producing positive outcomes and beliefs - or dysfunctional - resulting in negative beliefs about one's abilities. Moreover, these four sources influence each other: for example external factors, like what others say, can interact in different ways with internal factors, like our emotions (Usher & Pajares, 2008). At the same time, the way we filter the information coming from these sources is often influenced by factors that might be completely unrelated to the task at hand (e.g. parenting and home environment), that might have taught us broader ways in which we understand what failure or success means and how it relates to ourselves, or how outside inputs and inside states affect us (Schunk & Pajares, 2002).
Another way in which sources can interact differently is through individual differences. For instance, studies have found gender differences related not only to

the domains of students' self-efficacy, but also what type of sources seem to have a greater influence. Some evidence suggests, for example, that social persuasion might be an important source of self-efficacy for girls but not as much for boys (Usher & Pajares, 2008).

BOX 9. The importance of models for the young minds

A 2000 study found that women successful in STEM careers mentioned that exposure to competent models were crucial to fostering the beliefs about their career choice (Zeldin & Pajares, 2000). The importance of models for women in a male-dominated space like STEM is just one example of the role that models play in young people's understanding of themselves. But more than that, models are an invaluable teaching and educational tool thanks to humans' general propensity to learn through imitation.
As a social being, humans are in fact predisposed to observe and imitate the behaviours they see in their own environments: infants reliably imitate the people around them already in the second half of the first year (Siegler et al., 2017). This drive is so important for children that often results in a phenomenon known as over-imitation: the imitation of actions that are redundant or seem to serve no function (Hoehl et al., 2019). Overimitation has been observed in humans more than any other animal, and researchers hypothesise it might play an important role in the transmission of cultural and social norms, functioning as an underlying mechanism for the socialisation of children. Imation in fact also presents an important social function: children learn through observation and consequently reproduce behaviours that are socially accepted or preferable (Schuhmacher et al., 2018). But another social aspect of children's imitation lies in the choice of models. As they grow older, children become more selective of the people they chose to imitate, preferring to imitate the actions of models they perceive as competent or successful, or that they view as similar to them. For the school environment, teachers and peers become important models in different ways. Modelling is an important aspect of learning theories (such as social cognitive theory), and is present in many teaching methods, also with a focus on peer-to-peer education or collaborative learning. The use of these methods tend to increase student self-efficacy, especially in the case of younger children (Schunk, 1989). In particular teachers modelling is important for the acquisition of effective learning strategies and methods to successfully perform a task, while peer-to-peer learning might also have an important motivational element through model similarity: if my peers can do it, so can I (Schunk & Pajares, 2002).

Self-efficacy spirals

Another important effect of the two-way relationship between self-efficacy and performance is known as self-efficacy spirals (Lindsley, 1995). This process describes the cyclical nature of the relationship between self-efficacy and performance, and how it can result in either a descending spiral, characterised by reduced self-efficacy and performance, or an ascending spiral, marked by heightened self-efficacy and performance.

The cyclical pattern of the efficacy-performance relationship can produce two potential trajectories:

> *Downward Spiral*: This occurs when experiences lead to a decrease in self-confidence, consequently diminishing one's sense of agency. The lack of confidence perpetuates a cycle of declining performance.
>
> *Upward Spiral*: On the other hand, an upward spiral emerges when positive outcomes increase self-efficacy, leading to feelings of overconfidence. This overconfidence can hinder the ability to learn and adapt to new challenges, ultimately impacting performance negatively.

Both these spirals are considered dysfunctional, as they progressively reinforce fixed ideas about one's self that don't allow for progress. One important way out for the spiral is in fact through the process of learning and self-correcting cycles.

> *Self-Correcting Cycle*: In contrast to the amplifying loops of the descending and ascending spirals, a self-correcting cycle occurs when individuals critically evaluate their past performances, for both failure and success. This introspection allows for adjustments to be made in future efforts, with the goal of either maintaining or improving performance levels.

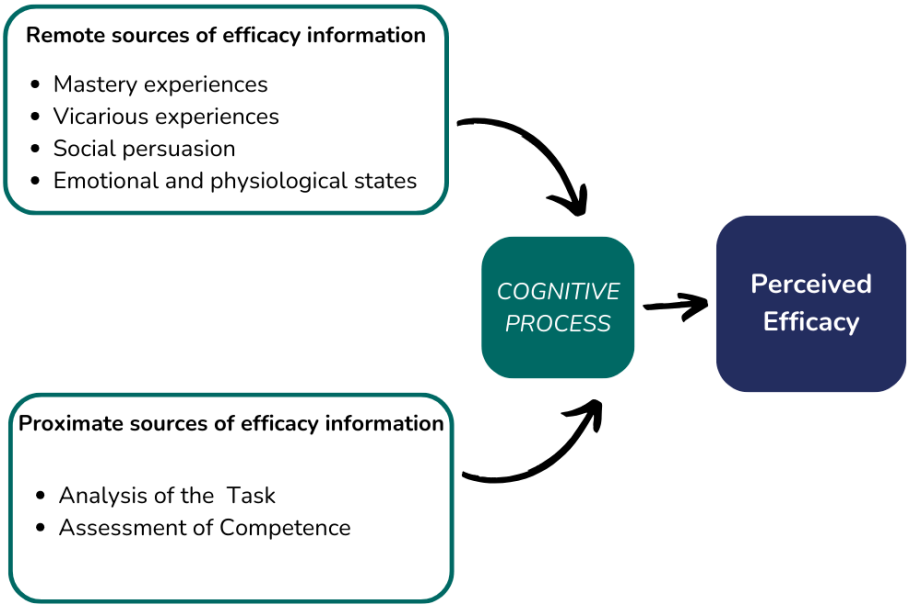
To make self-correcting cycles possible, accurate and clear feedback plays a vital role: feedback and self-reflection help us learn and to avoid self-reinforcing spirals.

Promoting students' self-efficacy

If we acknowledge the significance of self-efficacy beliefs in fostering students' well-being and performance, it becomes crucial for teaching as a practice to go beyond the simple transmission of knowledge. Instead, teaching should also involve actively supporting students in developing a belief in their own capabilities.

At the core is the idea that to really make an impact, you have to address both what students think and what they do. But many teaching methods only focus on changing visible behaviour, rather than what's happening in students' minds. Moreover, influencing beliefs can be a complex and difficult endeavour, especially because these are inner behaviours that are often visible only to the individuals. However, there are methods we can use to encourage functional beliefs in students (Artino, 2012; Constantine et al., 2019; Hagger et al., 2020; Schunk, 1989; Schunk, 1995).

There are two critical areas where intervention plays a role in influencing students' learning and performance (Adams and Forsyth, 2006). The first area, referred to as "proximate" is closely tied to the specific task or activity being undertaken. It can be further broken down into two components: analysis of the task - that involves students' comprehension of the task's complexity, difficulty level, and requirements - and assessment of competence - which involves students evaluating their own abilities and competence related to the task. The second area instead consists of "remote" or distant sources, which encompass the four cognitive sources mentioned before, that shape general beliefs about abilities.



Adapted from Adams and Forsyth (2006)

Proximate sources

There are a few methods we can use to help students make more accurate and helpful assessments of both the tasks and their competences. As previously mentioned, these assessments are dependent on the development of cognitive and metacognitive abilities, so all methodologies used should take into account age, development and potential deficits.

Task clarity → It should be very clear to students what is asked of them - by having for example very transparent and understandable standards for assessment - but also the steps to get there. Complex tasks can be difficult to approach and to assess, so a way to help is to divide the task in smaller, more approachable steps. Another important tool is the identification of barriers to success: what are the most common struggles while learning this topic or mastering this skill? Making students aware of the hurdles and preparing them to overcome them can make difficult tasks feel less taxing.

Goals → goals can have both a motivational component, increasing commitment and pushing students to persist until they reach a specific end, but can also be used to make hard things feel easier: the goal of learning a whole unit can feel too overwhelming for some students, but having specific smaller goals instead could help them take it a step at a time. Moreover, goals should not just be based on performance (e.g. passing the test), but also hold meaning for students and include the mastering of content (e.g. being able to present yourself in a second language). The more students are invested in these types of goals, the more meaningful learning will become for them and the greater the motivational value they will hold. Often, teachers include these goals in their lesson planning without sharing it with the students. It might be beneficial instead to involve students, not just by sharing goals, but also by teaching them how to effectively set goals for themselves. Another important aspect in fact, is that goals should also be as individualised as possible, especially for students that fall below the average: negotiating goals with students that are facing difficulties can motivate them to persist even if they are struggling.

➔ The importance of goals, from pp. 143

Feedback → as mentioned before, feedback is crucial to avoid downward and upward spirals of performance and efficacy, as they both can become dysfunctional. So, to promote learning, feedback should be provided in a way that helps students understand how they can improve. Numerical grades for example contain no information about how to do better, and can be detrimental to self-esteem by

offering a direct measure of comparison between students. There are three main areas teachers can provide feedback on: performance feedback (e.g. what was achieved in relation to what was expected), attribution feedback (making clear the causes and effects that generated an outcome) and strategy feedback (e.g. what students have done and what could have been done differently). Most importantly, however, feedback shouldn't just be about results but also the process: providing positive feedback on effort can be very beneficial to maintain motivation.

Remote sources

These four cognitive sources provide us with information about our capabilities and influence the way we think about them. These thinking patterns can either be dysfunctional or functional, and even though there are many factors at play in shaping them, as teachers there are several tools one can use to foster students' self-efficacy.

1. *Mastery of experiences* is believed to be the most influential source. Moreover, it is often true that the first experience might become the most influential or memorable for students. It is important then that teachers provide students with the possibility to experience a particular task, subject or topic in a positive way, e.g. without valuation, allowing for warm-up practice or presenting the solution in gradual steps. It is also important to foster active learning and to introduce learning strategies to make students feel they have the necessary tools to master the ability or the topic. Another important aspect of experiences is the way we remember, or how elaborate them. Past failures can be beneficial when framed through the lens of future learning. Guiding students in reviewing past performance is for example a good method to reframe failures as an opportunity for learning, but it is also important to highlight successes as a source of self-efficacy.

2. *Vicarious learning* is the second most important source, and it's of particular importance for younger students. In the classroom there are two main kinds of individuals that students interact with and can observe: teachers and other peers. As per the role of teachers, it's important they model both good and imperfect/flawed performance. They should model the task, but also self-correct with a positive attitude (e.g. think aloud method can be a useful modelling technique). Regarding the peers instead, peer-to-peer learning and collaborative learning are only two of the many methods that encourage students to share knowledge with each other and to function as models for

each other. Of course, to foster self-efficacy these methods must be used effectively, especially regarding students' characteristics: e.g. pairing students with widely differing skills might not generate positive results for both if, for example, the more skilled student is not willing to help the other. Sometimes peers that are slightly older can also be important models, and mentor/mentee relationships between students can help boost self-efficacy for both parties. Moreover, models can also function as inspiration, and we do not necessarily need a personal relationship with a person to take it as a model. Success stories for example can help students imagine themselves as successful, and it might especially be important for students belonging to marginalised communities.

3. *Social persuasion* in the classroom usually manifests in the form of encouraging speech: pointing out successes and praising effort and attention. An important aspect is for teachers to focus not only on the results but also on the processes. Students might try and still fail: to avoid discouragement, it is important to also acknowledge and praise the efforts that are unsuccessful. On the other hand, it's not rare for teachers to feel like there is no effort put forward by some students. In these cases it's important to reflect deeply on these behaviours and try to understand the causes behind them.

4. *Mental states and feelings* at school are massively important, especially for students who, at different times of their development, are learning how to deal and regulate their feelings. Fostering an open and listening environment is one approach in enabling students to communicate both positive and negative feelings in an appropriate way. Another approach to help students is to provide them with tools for self-regulation and, when appropriate, co-regulation. For example, verbalising possible emotional responses (e.g., "It's normal to feel worried or stressed when learning something new"), can assist students in identifying these emotions and can help normalise them. It is important to encourage self-regulation using developmentally appropriate strategies: e.g. for younger children physical activity is usually effective in regulating negative emotions or to calm down, but it might not be as effective for older students. Similarly, what is effective in regulating emotions is usually very dependent on the individual: some might need silence, others prefer music, some students might want to be left alone while others to be comforted or stay with peers. It is important then, to give students different choices, and when necessary guide them through them. Classroom

management should include different approaches to help students self-regulate. It might be useful to discuss and negotiate these approaches with the students themselves, in order to foster a positive and understanding environment. This is especially important for students with developmental disorders or learning difficulties. A greater difficulty in emotional regulation is a relevant part of these disorders, and it's vital to know both the characteristics of the disorder and the child, to know what are potential triggers and viable solutions. These solutions might also be relatively easy to implement, but they should be readily available. For example, stim or sensory toys are usually very helpful for students with higher emotional regulatory needs - e.g. younger children, students with developmental or mental disorders - and having some at hand might help in avoiding or reducing the experience of severe negative emotions. Feelings are also deeply connected to motivation: experiencing positive or negative emotions can have a great impact on the amount of motivation. *Motivation* is usually divided in two types: *intrinsic* - that comes from inside, linked to something deeply personal about the individual and it's usually more difficult to influence - and *extrinsic* - that comes from the outside, usually in the form of punishments and rewards and so is easily controllable from the outside. Rewards for example, can be powerful tools to create positive emotional association with reaching goals. Teaching methods like gamification for example, rely on this association. At the same time, if implemented incorrectly, rewards might also generate dysfunctional behaviours, for example by transferring the motivation completely outside, so that when the reward is not present any more the behaviour (e.g. putting effort to learn a topic) is no longer performed, or, if the reward is not valuable enough, it discourage the behaviour altogether. Teachers should, as much as possible, try to encourages intrinsic motivations to learn, by making it valuable in the eyes of the students.

Co-regulation = refers to the process by which caregivers and children interact to influence each other's emotions. The role of the caregiver in this case is to help regulate the child's emotional and behavioural responses. This is especially important with infants and younger children, and can be achieved through different and developmentally appropriate methods, for instance physical contact (e.g. hugs or skin-to-skin contact in the case of infants), redirecting attention (pulling the attention away from the stimulus that is generating the negative emotion, or providing a distraction from the distressing experience), or verbalising emotions (helping children recognise their feelings and guide them on how to deal with them, e.g. "Are you angry?", "Do you want to be left alone until you have calmed down or do you want to talk about why you are angry?").

Stim or sensory toys = toys that have been designed to address the sensory and attention needs of children with developmental disorders, like ADHD and autism, or psychological disorders like anxiety. They are especially helpful to help children regulate emotions, as for these disorders sensations and feelings are amplified and can get overwhelming. They come in many forms, and often children will prefer a specific sensory stimulation provided by a specific toy.

Gamification = the integration into educational activities and materials of game-design elements and principles, such as points, levels, challenges, rewards, and competition. The aim is to use game elements to increase engagement, motivation, and learning outcomes among students.

Reflection exercise: increasing students' self-efficacy

What could you do in your day-to-day to help increase students' self-efficacy? Think about a previous lesson plan, classroom management or assessment method that you have used in the classroom, and how they could be improved to foster self-efficacy.

In your reflection, try to answer these questions:

- Which proximal sources of self-efficacy am I addressing? How?
- Which distant sources of self-efficacy am I addressing? How?
- How can I understand if students' self-efficacy is improving?
- How can I avoid downward or upward self-efficacy spirals?

SHARE IT IN A GROUP! You can use this exercise also for a group activity, either by brainstorming the answers together or answering individually and then sharing it with the group. Remember to establish rules for sharing at the beginning of the activity that are comfortable for everybody.

Reflection exercise: reflecting on teacher self-efficacy

There are two recurring patterns of decline in teacher self-efficacy identified by research:

- after the first year of teaching (Fives & Gil, 2014);
- at the beginning of school reform or a change in methods (Cantrell & Callaway, 2008).

However, research also shows that these drops in efficacy are not inevitable. Young teachers retain a high level of self-efficacy when they are supported through their first teaching experiences (e.g. having the possibility to collaborate with senior colleagues, having supportive supervisors, receiving useful feedback) (Chester & Beaudin, 1996). Similarly, when teachers are adequately supported through reforms and changes or, more importantly, when they are actively involved in the changes, their sense of self-efficacy tends to decline less (Gordon et al., 2022). Being aware of the importance of these transitory stages for teachers' self-efficacy can help both teachers and school leaders focus their resources in order to help alleviate potential negative consequences.

Thinking about your work experience, identify either a moment at the beginning of your career or a moment of change and write a letter to your past self:

- How did you feel?
- Did your self-perception and beliefs as a teacher change or not? How?
- What resources did you have and how could you have been better supported?
- How would you face the same situation today?

Alternatively, if you haven't experienced such a moment in your career, imagine how it could manifest and write a letter about it to your future self.

SHARE IT IN A GROUP! You can use this exercise also for a group activity, either by brainstorming the answers together or answering individually and then sharing it with the group. Remember to establish rules for sharing at the beginning of the activity that are comfortable for everybody.

DO IT WITH STUDENTS! Beginning to learn something new or going through transitional periods, such as moving to a new grade, can significantly impact students' self-efficacy. The questions above can help students in reflecting on these experiences. Encourage them to choose a meaningful experience related to a subject or task, and guide them in reflecting on their experience.

Resources to learn more

Bandura, A. (1995). Self-Efficacy in changing societies. In Cambridge University Press eBooks. https://doi.org/10.1017/cbo9780511527692

Bandura, A. (1997). *Self-Efficacy in changing societies*. Cambridge University Press.

The power of beliefs: Collective Teacher Efficacy

CORE MESSAGE: Teachers don't work in isolation. The schools, teams, and collaborative environments they belong to significantly impact their work. Collective efficacy plays a vital role in empowering teachers and enhancing their effectiveness in the classroom.

Why do some schools consistently perform better while others fall behind year after year? Educational researchers have devoted considerable effort to understanding what characteristics might make a difference between schools that seem to support students learning effectively and others that might struggle. One of the most important factors investigated has been the concept of collective efficacy. These shared beliefs have many powerful effects. They shape teachers' work environments, influence individual teachers' perceptions of their own abilities and as a consequence also students' learning.

Content of the chapter:

- What is collective teacher efficacy
- How collective efficacy influence schools
- How collective efficacy influence teachers and students

What are collective efficacy beliefs

In Social Cognitive Theory, collective efficacy is a group's shared belief in its ability to work together and take the actions needed to achieve specific goals (Bandura, 1997).

Collective beliefs held by groups about their abilities can have a great impact in the way groups function. For example, in an experiment designed to simulate a group cycling competition, participants were split into two teams and given fake feedback about their performance. One team was told they were “highly efficient”, while the other was labelled a “low-efficiency team”. As the competition went on, the team receiving negative feedback set lower and lower goals and put in less effort. In contrast, the team labelled as "highly efficient" continued to put in strong effort throughout the competition (Greenlees and Maynard, 2000). This shows how powerful collective beliefs can be, even when they are not really connected to actual performance.

Collective efficacy can be seen as an extension of self-efficacy at the group level. While it shares many similarities with self-efficacy, it applies to groups rather than individuals. Like self-efficacy, collective efficacy is valuable because it predicts group performance: the stronger a group's shared belief in their ability to succeed, the more likely they are to achieve their goals. Numerous studies in many fields have demonstrated a positive correlation between a group’s collective efficacy and its overall performance (Elms et al., 2022; Gully et al., 2002; Stajković et al., 2009). It’s important to note however, that collective beliefs refer to the shared beliefs of a group or organisation, not just the sum of individual members' self-confidence. These beliefs reflect how the group as a whole feels about its ability to work together and succeed. Moreover, like self-efficacy, collective efficacy is about the group's belief in its ability to succeed at a specific task in certain situations, so it can change depending on the circumstances.

Collective efficacy is most important in settings where the interdependence of the members is relevant to the success of the group, that is on how much the group members rely on each other. The more a group needs to work together to achieve a goal, the more important their shared beliefs are for success (Stajković et al., 2009).

And it’s becoming increasingly more important as jobs require higher and higher levels of competencies and rely on teamwork to meet higher demands. A similar shift has also happened to teaching, that has in the last few decades changed from a largely “private profession”, to a job requiring intense collaboration (Little, 1990).

Moreover, as already discussed for self-efficacy, high collective efficacy prompts positive behaviours that are functional to good results. When a group has high

collective efficacy, it encourages members to engage in productive behaviours that improve performance. On the other hand, low group efficacy influences the members in disengaging from the group work, evoking negative emotions and less trust in group members and ultimately leads to worse results (Elms et al., 2022).
One of the most important behaviours for groups to perform well is probably positive goal setting (Gully et al., 2002). More so that for individuals, goals become fundamental for groups because they allow members to understand the scope of the work and to coordinate action towards a common result. An important difference between self-efficacy and collective efficacy is the level of agency involved. Self-efficacy directly affects an individual's actions and choices, while collective beliefs influence how individuals behave in the context of a group, by shaping group norms, such as performance standards, goal-setting, and commitment levels. These norms, as a result, influence group behaviour and performance through the individual, and vice versa. A person can have beliefs about themselves and then act accordingly in a rather straightforward way, but members of a group hold individual beliefs about the group and their actions coordinate and contrast with that of all the other members. Positive collective agency is achievable, but it requires purposeful vision and coordination to influence those norms.

→Interdepence, from pp.131

(collective) efficacy pitfalls

Blind or overconfidence are not always positive, on the contrary they can be detrimental in many circumstances. Research has in fact found that the relationship between collective efficacy and performance is not a straight line, but instead looks in general curvilinear as a product of the “too-much-of-a-good-thing” effect: that is to say, it is positive to a point, but after a certain mark, the higher the collective efficacy the lower the performance (Elms et al., 2022).
This effect is again linked to having too much confidence, which often causes teams to neglect monitoring their progress or to ignore feedback. As a result, they may become complacent or lose motivation (Elms et al., 2022). As the antidote for overconfidence is learning, the question of in which ways teams learn has become of remarkable importance.

→Pitfalls of self-efficacy, from pp. 49

BOX 10. Collective efficacy in many fields

Collective efficacy beliefs, as an aspect of collective action, have been studied extensively in various fields, particularly in psychology and sociology. While social psychology focuses on the individual, and social science on society, both provide different perspectives that help understand how collective efficacy works for people and groups (Bandura, 1997). In particular, studies investigating collective efficacy in neighbourhoods have demonstrated its protective role against violence, property crime, domestic violence, and adolescent delinquency, and its positive connection with a range of physical and mental health outcomes. Similar research on collective efficacy has been carried out in the context of activism, political engagement and organised civil action.

Focusing on smaller groups, collective efficacy has also been studied in the context of families, examining the effect of family collective efficacy on health and well-being and family functioning.

Finally, collective efficacy has also been studied across a range of applications related to work environments, including organised team sports and work teams in a variety of settings and industries.

Overall, this extensive body of research, spanning multiple fields and different methodologies, continuously highlights that humans have a tendency to work together in all aspects of life, and that they thrive in social groups and function better as a collective rather than as individuals in isolation. The research also shows that collective beliefs have an important influence on the way groups view themselves and on the behaviour of individuals within them.

Collective Efficacy in school

The simple but potentially powerful assumption that collective behaviour is shaped by collective beliefs has been explored across various organisations and forms of collective action. In education, particular emphasis has been placed on Collective Teacher Efficacy (CTE). This refers to “the perception of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students” (Goddard et al., 2000).

Educational researchers consider Collective Teacher Efficacy (CTE) important for its potential to influence on a variety of aspects in school, but in particular on three areas:

- student achievement,
- teacher behaviour and beliefs,
- teachers’ work environments.

The impacts of these effects have been thoroughly investigated using a variety of methods and models. It can be challenging to understand the complex web of effects to identify the most significant factors or to understand how they relate to each other, but the most important pre is that higher collective efficacy promotes better teaching practices and creates a more supportive work environment, ultimately leading to improved student achievement.

Teachers' behaviours and beliefs

In order to understand why schools with high collective teacher efficacy (CTE) produce better results, researchers have tried to understand how CTE might shape teaching practices and influence educators' beliefs. To investigate this question, they have looked at potential differences in the behaviour of teachers within high and low CTE schools.

In particular, teachers in schools with high collective efficacy:

- tend to hold higher self-efficacy beliefs (Calik et al. 2011; Ciani et al., 2008; Gibbs and Powell, 2011; Goddard and Goddard, 2001; Skaalvik and Skaalvik, 2007), confirming the assumption that group beliefs create norms that influence individual beliefs and behaviours;
- have higher expectations for student achievement and are more persistent in achieving it (also in combination with high academic press) (Chong et al., 2010; Goddard et al., 2004; Hoy et al., 2002);
- are more willing to try new teaching approaches and show higher levels of implementation when they do (Cantrell & Callaway, 2008; Parks et al., 2007; Wilcox et al., 2014);
- show increased commitment to teaching (Ahuja, 2007; Lee et al., 2011).

Academic press = the intellectual demands and educational challenges faced by students within an educational environment, particularly in terms of the expectations, and challenges associated with the academic curriculum. A high academic press denotes an environment that provides consistent challenges and fosters motivation for students to attain academic excellence and intellectual development.

Teachers' work environments

Researchers have also been interested in the notion that Collective Teacher Efficacy (CTE), as a group construct, could have a substantial influence on schools as working environments and on teachers' working conditions.

A high level of Collective teacher efficacy in schools:

- has been consistently associated with higher levels of job satisfaction for teachers (Caprara et al., 2003; Klassen et al., 2010),
- has been found to play a mediating role in teacher stress (Klassen, 2010; Avanzi et al., 2013) and teacher commitment (Ross & Gray, 2006),
- has been linked to the probability of early-career teachers to remain in the profession (Tiplic et al., 2015).

Mediating role = in research, a mediating role refers to a variable that helps explain the relationship between two other variables. It acts as a bridge that shows how one variable affects another, clarifying how changes in the first variable lead to changes in the second.

BOX 11. Teacher Shortage Crisis: why we need better working environments for teachers

Although there are many issues to tackle regarding teachers' working conditions, their work environments are not trivial: they are essential to teachers' overall well-being. This issue is of critical importance due to the alarming rate at which teachers are leaving the profession.

The so-called “Teacher Shortage Crisis” in fact, is the significant and persistent scarcity of qualified educators, caused by high turnover (the frequency with which old teachers leave the job and new teachers begin) and low retention rates (the percentage of teachers that remain in the profession over time). This shortage has led to widespread difficulties in meeting the demand for teachers in schools worldwide. Several analyses of the crisis have emphasised the need to improve teachers' working conditions, not only regarding aspects like salaries - a political issue that can’t be addressed by educational research - but also concerning the working environment.

For instance, the Economic Policy Institute’s 4th Report Series on the Teacher Shortage Crisis in the US identifies school climate as a critical factor (Garcia and Weiss, 2019). Additionally, a 2022 UNESCO report highlights the necessity for increased teacher involvement in decision-making processes and the creation of supportive environments as essential measures to address this crisis. Moreover, the 2020 EU report titled "Teachers in Europe" identifies the lack of well-being at work and stressful working environments as significant factors worsening the crisis.

Student achievement

Collective Teacher Efficacy has consistently shown a strong relationship with student achievement (Eells, 2011). This implies that students attending schools with higher levels of collective teacher efficacy tend to achieve better academic results overall. Typically, researchers investigate such relationships by using questionnaires to estimate teachers' perceptions of collective efficacy within a school and standardised measures to estimate student outcomes (e.g., standardised exam results). This approach helps determine the relation between these two measures and the percentage of student achievement that can be statistically attributed to the level of Collective Teacher Efficacy in a school.

In 2016, educational researcher John Hattie ranked Collective Teacher Efficacy as the number one factor influencing student achievement with an effect size of d=1.57 (Hattie, 2016).

Effect size = a statistical measure used to quantify the strength of the relationship between two variables or the magnitude of an effect observed in a study. It helps to understand the practical significance or real-world impact of a phenomenon or intervention being studied. The interpretation of what constitutes a "large" effect size can vary depending on the context, the field of study, and the specific measurement used. However, there are some general guidelines that can help provide an understanding of effect sizes. In the social sciences and educational research, a common benchmark is Cohen's d, where an effect size of around 0.2 is considered small, 0.5 is considered medium, and 0.8 or more is considered large.

BOX 12. Hattie's ranking

Hattie's ranking, also known as Visible Learning, refers to the work of educational researcher John Hattie. It involves a comprehensive analysis of various influences on student achievement based on their effect sizes. Hattie synthesised a large body of research to identify factors, interventions, or strategies in education and ranked them according to their impact on student learning outcomes. Hattie's work has had an important influence on shaping research in school improvement and school reform efforts, particularly in relation to student achievement. However, there are some important criticisms regarding his one-size-fits-all attitude to school improvement. Furthermore, the widespread adoption of Hattie's recommendation has been characterised by some as the result of a "cult of personality" (Eacott, 2017).

BOX 13. Reclaiming control: CTE and students‘ socio-economic status

“Since Coleman’s seminal study of schools (Coleman et al., 1966) found that social factors, such as socioeconomic status, were more influential than school characteristics on student achievement, educators and researchers have been looking for ways to reclaim control, working to overcome the educational challenges presented by poverty and community.” (Eells, 2011)

Collective Teacher Efficacy could be an important tool for addressing the influence of students' socio-economic status, supported by a series of studies on this topic. For example, Bandura's initial research provided early indications that Collective Teacher Efficacy (CTE) might serve as a more influential predictor of student achievement than socio-economic status (Bandura, 1993). Subsequent studies have supported and expanded on these findings:

- CTE was found to have a greater impact on student achievement than any other demographic control (Goddard et al., 2000),
- both socio-economic status (SES) and CTE were found to play a role in student achievement, but neither of the factors had an effect by themselves (Parker et al., 2006),
- SES and CTE were both found to have significant, direct effects on academic achievement (Hoy et al., 2002),
- CTE was found to have a positive association with language achievement, surpassing the influence of SES, although it did not have a similar effect on maths achievement (Moolenaar et al., 2012),
- CTE was found to help narrow the persistent achievement gap between white and African American students in the USA (Goddard et al., 2017).

While it is important not to understate the impact of social factors on developmental and academic outcomes, these results are encouraging for practitioners since there is evidence that CTE can partially mitigate the negative effects of low SES on student achievement. This means that while educational tools may not be able to directly change students' socio-economic status, improvising schools through Collective Teacher Efficacy could be one approach to reclaim control.

Where do Collective teacher efficacy beliefs come from?

> "Schools where teachers' conversations dwell on the insurmountable difficulties of educating students are likely to undermine teachers' sense of efficacy. Schools where teachers work together to find ways to address the learning, motivation, and behaviour problems of their students are likely to enhance teachers' feelings of efficacy (p 221)." (Tschannen-Moran et al., 1998)

A fundamental aspect of collective beliefs is an understanding of their sources. Why do collective beliefs change between groups? Why did a group come to hold these collective beliefs? Regarding Collective teacher efficacy, two areas of sources have been identified as important: cognitive sources and behavioural sources.

Dwelling → the cognitive sources are the same as those previously discussed for self-efficacy, but they are now applied to groups:

- Mastery experiences: how do groups think about their experiences as a collective, what are the narratives about them and what do they learn them,
- Vicarious learning: how can group learn from others,
- Social persuasion: how does social persuasion work inside a group, in particular regarding leadership,
- Emotional states: what are the common emotional experiences shared in the group.

Working together → the behavioural, group conditions and practices that promote or inhibit collective action and influence the way groups work together. Differently from self-efficacy, collective efficacy isn't just about the behaviour of an individual, so it's important to understand it in the context and peculiarity of collective behaviour.

→ Sources for self-efficacy, from pp.58

→ Practices and conditions for Collective Teacher Efficacy, from pp. 140

Reflection exercise: reflecting on experience

As mastery experience is the most influential source of self and collective efficacy, it's important to reflect intentionally on your experience, both as an individual or a group.

Think about an episode/situation in the last year when you felt efficacious as a teacher (self-efficacy) or when you felt efficacious as a school or a group of teachers (collective efficacy). Write down some notes about it: what was the circumstance? What actions did you take? Why did you feel efficacious? How did you feel before and after the situation? What have you learned from it? WHat has changed in your practices since?

SHARE IT IN A GROUP! You can use this exercise also for a group activity. Remember to establish rules for sharing at the beginning of the activity that are comfortable for everybody.

As vicarious learning is also important to foster efficacy, if you are in a group, you can share your experiences to learn from each other. In pairs, tell each other your efficacious experience. Then retell your partner's story to the group: what action did the other person take? What can be learned from it? What did the story make you feel?

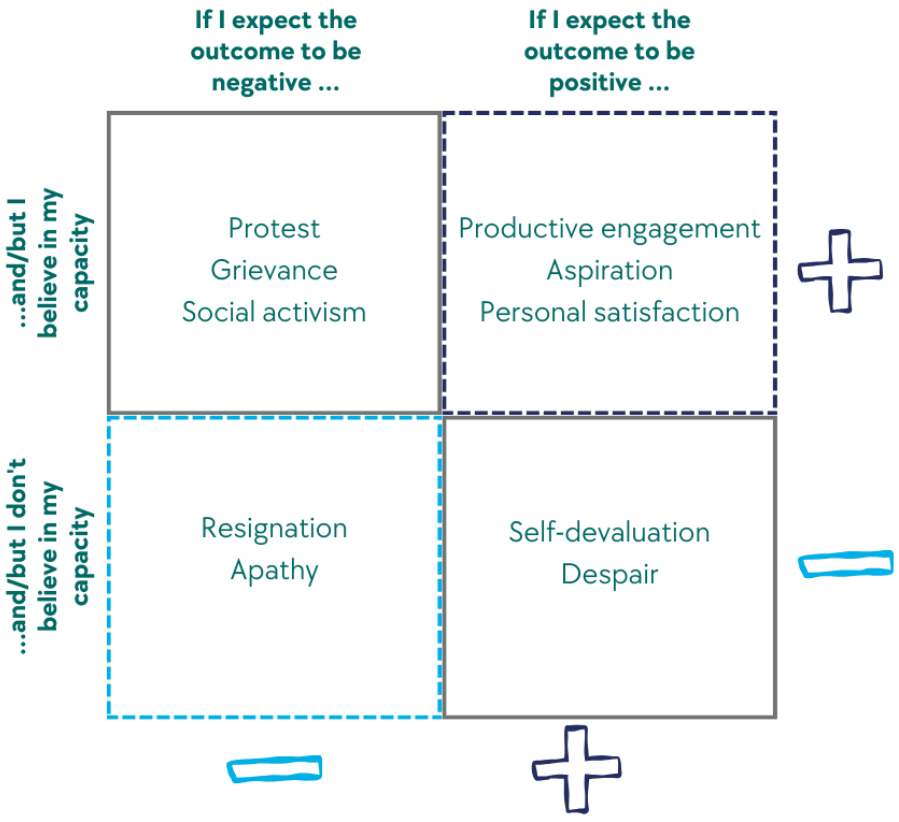
In a group setting, it could also be useful to have a debriefing session, trying to answer these questions together:

- Did the exercise help you think about your own experience? Do you usually stop to reflect on it in this way? What benefits do you think it can bring to practise and what cannot?
- What did other teachers' experiences make you think about? Did you find it interesting or useful to listen to these stories? When can it be useful and when can it not?

Reflection exercise: expectations of outcomes

Our behaviours are shaped not only by our beliefs in our abilities, but also by our anticipation of whether our actions will lead to positive or negative results (Bandura, 1997; Hagger et al., 2020). These beliefs are not strictly about personal control, but rather our general expectations about outcomes based on a number of factors, some out of our control. To make these predictions we often rely on our past experiences and information we have gathered through them. These expectations - being negative or positive or about the short or the long term - interact with efficacy beliefs and consequently influence behaviours. For instance, if past experiences have consistently resulted in unfavourable outcomes, this awareness will impact our expectations and thus influence our willingness to take action. Our expectations for outcomes consider the context around us, showing both the strength and limits of our beliefs, especially in challenging situations. The way our self-efficacy beliefs interact with our views on possible outcomes can influence our behaviour, mindset, and emotional state.

The matrix below can be used as a discussion tool to reflect on these different patterns.



Adapted from Bandura (1997)

To understand the matrix better, you can use the following vignettes. Based on these examples, think about a current or past work experience where you found yourself in one of the two quadrants with - capabilities (“I don’t believe in my capacity” or “If I expect the outcome to be negative”). Write down some notes, in particular regarding the affective states, feelings, emotions and mindset you experienced during the situation.

Teacher’s vignette:

Vignette1:(-capacity / + environment) A young teacher in their first year of practice is hired to a fairly good-performing school. Teachers around them are fast and prepared. While they are still slow and clumsy on the job and seem to continuously underperform. Even though the environment is supportive of high performance, they don’t seem to benefit from it. On the contrary, comparing themselves with the rest of the teaching staff makes them believe they must be the problem and that they simply lack the ability to be a good teacher.

Vignette2:(+capacity/-environment): A very competent and well-prepared educator starts working for an educational program that is poorly organised and run. The educator identifies many problems and knows how to solve them thanks to their previous experience. Even though the management is not very responsive, they push for these solutions in the hope of improving the service and the work environment. When the leadership doesn't seem to want to enact change, they engage other educators, and begin self-organising to find solutions.

Vignette3:(-capacity/-environment) A young educator joins a special education service and gets immediately assigned to a very complicated case. They don’t feel capable and experienced enough to deal effectively with this challenge. The management of the service insists that, due to a lack of staff and resources, there are no other solutions. The educator also doesn’t seem to find help in other colleagues, who instead appear resigned to the idea that doing better work or in better conditions is just not possible.

Student's vignette:

Vignette1:(-capacity/+environment) A student has a history of struggling with maths. Previous negative experiences with the subject and past teachers have solidified in them the idea that they are not and will never be good at it. A new teacher notices these difficulties and tries to meet the student halfway by simplifying their coursework, without addressing the student's underlying lack of confidence in the subject. Over time, this approach reinforces the student's beliefs in their inability, and the student gradually stops putting in the effort.

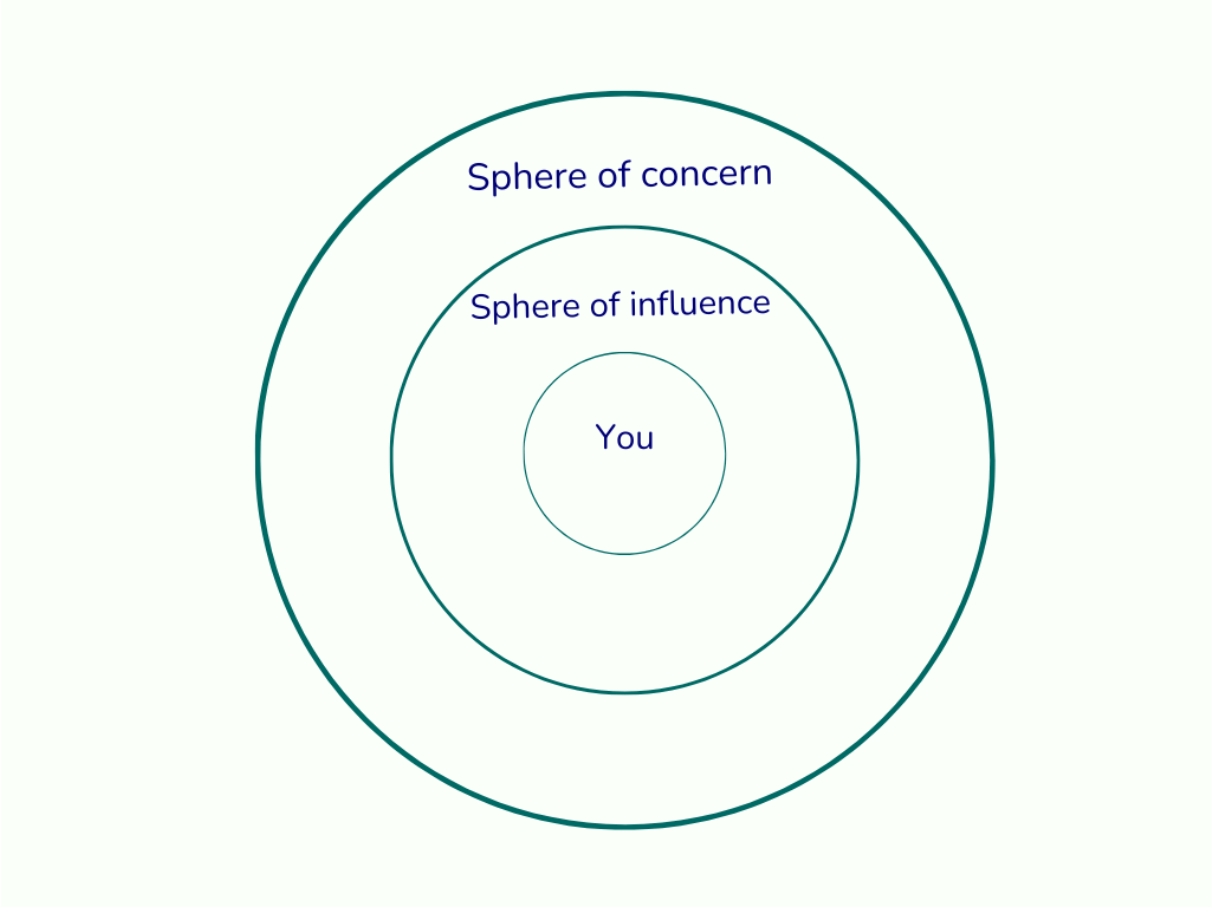
Vignette2:(+capacity/-environment) A brilliant student excels in humanities subjects and, in particular, essay writing. They are aware of being above average in that regard, and often question teachers' methods and even the merits of what they are learning. They can often get provocative, and some teachers do not respond well to what they view as an attack on their authority. Despite the student insistence, some teachers stop engaging with their comments and contributions to class discussion.

Vignette3:(-capacity/-environment) A student comes from a first-generation immigrant household. At his arrival, the school did not provide enough resources to help with their language acquisition, and even though they are now orally fluent, they still struggle with reading complex texts and writing. Since the student appears fluent, teachers do not offer individualised help for the specific difficulties of studying in a second language. As a result, the student underperforms in almost every subject and, with the passage of time, develops the conviction that "studying is not for them" and gives up on pursuing higher education.

Afterwards, you can also reflect on your influence in the situation. The following is a graph that could help you think about your sphere of influence. With the previous situation in mind, place yourselves at the centre of the circles and then fill in the "sphere of concern" (e.g. what are the issues present) and "sphere of influence" (what are the actions you could take or areas you could influence). The objective of the exercise is to see if in this situation there is/was room to increase your sphere of influence based on an increase of self-efficacy, and to understand what can't be influenced. To highlight it, underline in different colours what you wrote down in the two spheres based on if you think they can be addressed by an increase in self-efficacy or not.

Then try to answer these questions:

- What is in the sphere of concern and what is in the sphere of influence? What stands out?
- What issues do you think can mostly be addressed by an increase in self-efficacy? What do they have in common? Is there a sphere where they are more present?
- What issues do you think cannot be addressed by an increase in self-efficacy? What do they have in common? Is there a sphere where they are more present?
- Do you think that working on the issues in your sphere of influence can help you address something in your sphere of concern? How?



Adapted from Donohoo (2013)

SHARE IT IN A GROUP! You can use this exercise also for a group activity, either by brainstorming the answers together (choosing a situation that happened to the group) or by carrying out the exercise individually and then sharing it with the group. Remember to establish rules for sharing at the beginning of the activity that are comfortable for everybody.

DO IT WITH STUDENTS! You can propose this activity to students to encourage reflection on their sense of agency in their academic lives. The vignettes above can serve as examples to help explain the tool and make it more relatable for them.

Resources to learn more

Hite, S. A., & Donohoo, J. (2020). Leading collective efficacy: Powerful Stories of Achievement and Equity. Corwin Press.

Fisher, D., Frey, N., & Smith, D. (2020). The Teacher Credibility and Collective Efficacy Playbook, grades K-12. Corwin Press.

The power of beliefs: limits and challenges

CORE MESSAGE: Teachers beliefs are important, but beliefs have their limit. Blaming success or failures completely on the content of our thoughts can be counterproductive.

While changing beliefs is a crucial first step in modifying behaviour, it is effective and healthy only when it enhances well-being and leads to meaningful behavioural changes. It's essential to acknowledge the influence of beliefs on behaviour, while also recognizing their limitations. Not all issues can be resolved by merely changing our thoughts and mindsets.
This is particularly relevant for teachers, who often face interventions and school reforms that place the entire burden of change on them, overlooking critical contextual factors that may hinder improvement, such as school climate, available resources, national policies, and student behaviour. All of these factors should always be considered.

Content of the chapter:

- Dark side of "just believing"
- Dark side of "just positive thinking"
- Psychological flexibility against avoidance

Dark side of “just believing”

When talking about how our thoughts influence behaviours, there is the tendency sometimes to focus on the act of believing as a miracle solution. However, extreme versions of "just believing" can sometimes manifest as dysfunctional thinking patterns, like for instance manifestation, the belief that one has the ability to cosmically attract success in life through acts like positive self-talk, visualisation, and symbolic actions.

A study about manifestation for example found that individuals that believed in it, tended to be more prone to also believe that one can get rich quick, were more inclined to say they could achieve unrealistic level of success faster, and they were more likely to engage in risky financial behaviours, to have declared bankruptcy and to have been the victims of fraud (Dixon et al., 2023).

One of the main issues with manifestation is that it doesn't really involve engaging in productive behaviours to reach the desired outcome. Instead, it relies primarily on the act of believing as the main action. This approach can lead individuals to be more prone to passivity, waiting for results to materialise without putting in the necessary effort, or on the other hand, engaging in risky behaviours because they believe the universe will reward them. By focusing solely on belief, people might neglect the practical steps and hard work required to achieve their goals, in this way hindering real progress and personal development. Ultimately, relying on manifestation alone can result in missed opportunities and unfulfilled potential, as belief without action is insufficient for success, or can lead to dangerous situations, as beliefs that are not based in reality can put us in difficult situations.

Dark side of “just positive thinking”

Positive thinking is helpful only when it matches a person's circumstances and sense of agency. Otherwise, it can turn into toxic positivity. In fact, both positive thinking and positive psychology have been sometimes criticised for encouraging attitudes that may lead to unhelpful or harmful results (Ciarocchi et al., 2016):

- *decontextualization and coercion*, that is ignoring or oversimplifying the external factors that shape a person's situation, resulting in the blame of individuals for their circumstances without considering external factors;
- *harmful experiential attachment*, where individuals cling to positive emotions while ignoring other vital experiences;

- *inadequate handling of negative feelings and encouraging experiential avoidance*, preventing individuals from addressing and processing genuine issues.

Decontextualization and coercion

Positive psychology and positive thinking must be applied within the context of an individual's circumstances, taking those conditions into account. Encouraging people to adopt a more positive outlook in a context that lacks opportunities for action—meaning the basic agency to act on those beliefs—can lead to negative consequences.

It is crucial to recognize that individuals do not act in isolation but are influenced by and can influence systems much larger than themselves. These encompassing systems can for example be social like family dynamics, community networks, systems of discrimination or subjugation, cultural like shared beliefs and values, and material as for instance economic and environmental factors. In this sense, decontextualization can lead to coercion by oversimplifying complex situations and pressuring individuals to conform to unrealistic standards.

In particular, focusing exclusively on the individual can lead to a cognitive bias known as *fundamental attribution error*, where people tend to overemphasise personal characteristics and ignore situational factors when explaining others' behaviours. This error leads to the assumption that actions are exclusively driven by inherent traits of a person (e.g. laziness, incompetence) rather than also by external influences.

The understanding of this pitfall has led to calls within the field of psychology to consider and accommodate context, especially in school interventions (Ciarrochi et al., 2016; Cann et al., 2023). Educators and psychologists are recognizing the need to tailor positive psychology practices to reflect the diverse social, cultural, and material conditions students and teachers face. For this reason, Bandura's Social Cognitive Theory, in which context plays a crucial role in shaping behaviour and learning, can be an extremely useful framework.

→ Be aware of bias, from pp. 36

→ Self-efficacy and context, from pp. 55

Harmful experiential attachment

Harmful experiential attachment refers to the psychological phenomenon where individuals become overly attached to certain experiences, emotions, or memories, even when these experiences are harmful or detrimental to their well-being.

When interventions are designed to encourage positive thinking, there is a risk of fostering an unhealthy attachment to positivity and the relentless pursuit of it. It is crucial, in fact, to recognize that negative emotions and thoughts also play significant and adaptive roles in our lives: they are important and they need to be felt and understood as much as positive emotions. Focusing exclusively on positive experiences can be highly maladaptive (harmful and potentially leading to negative consequences). For instance in the case of an emotion like happiness,—its adaptive value is contingent on being experienced in the right amount, at the right time, and in the right context (Gruber et al., 2011). Moreover, the more individuals strive for happiness, the more likely they are to feel disappointed with how they feel, which paradoxically decreases their overall happiness. Efforts to enhance positive emotions can inadvertently lower well-being (Gruber et al., 2011), with studies showing that people who place a high value on happiness often experience lower levels of it due to the disappointment of not achieving the desired level of happiness they seek (Mauss et al., 2011).

Experiential avoidance

When we focus on thinking positive or believing, we can sometimes incur into the pitfall of experiential avoidance: escaping or avoiding unpleasant thoughts, feelings, memories, or sensations. This behaviour protects us from negative and uncomfortable states in the moment, and it is reinforced by the immediate relief we feel when acting on it, but in the long-term it can often lead to negative consequences by not letting us deal with the source of the negative feelings. For example, experiential avoidance is quite common in anxiety and phobia disorders, and exposure therapy (a type of therapy where the person is forced to face the source of their negative feelings) is a frequently used method to treat some of these disorders. Moreover, some evolutionary scientists also believe that experimental avoidance is such a common human behaviour because it was useful to our ancestors to avoid danger, but in the contemporary era it doesn't fulfil the same survival purpose and it's not as adaptive anymore.

In a 2021 paper, researchers reported the results of a year-long qualitative case study following a first year teacher, who self-described herself as a "positive person". The researchers found that as difficulties during the school year increased,

the teacher employed a variety of strategies to uphold her positive self-identification, but these tactics helped her avoid the need to confront emotionally charged situations and negative feelings instead of actually processing emotions, for instance by focusing on an imaginary future instead of dealing with the issues of the present:

> “I think it means I like my job because I’m thinking about next year, and I’m like eager to think about how to improve. And rather than dwelling on what I’m doing wrong, like, okay, I get a fresh start every year. And like, this is what I’ll do next year . . . It’s nice to think, okay, I have my screwed-up thing on this, but I get another chance next year.” (Stump and Newberry, 2021).

But without reflecting on what went wrong during the current school year and understanding why, how can one ensure they won’t repeat the same mistakes or face the same difficulties next year? Since learning is essential for building a sense of efficacy and competence, avoiding our failures prevents us from gaining the insights needed to improve.

→ Self-efficacy spirals, from pp. 61

Psychological flexibility against avoidance

A different approach to behavioural change and believes that instead emphasise the importance of facing the challenges within your context is psychological flexibility.
Defined as "the ability to contact the present moment more fully as a conscious human being and to change or persist in behavior when doing so serves valued ends”, this approach emphasises the acceptance of circumstances and thoughts rather than trying to suppress, change, or avoid them, making it the antithesis of experiential avoidance. Additionally, it focuses on pursuing valued goals, encouraging individuals to strive toward their personal values even in the presence of distress, focusing on how a person responds to their situation rather than trying to change the specific thoughts or feelings they have. This approach emphasises understanding the bigger picture—how those thoughts and feelings fit into the person’s current environment and circumstances. It’s about adjusting behaviour

based on the situation, rather than trying to control or change the internal experiences directly.

Psychological flexibility has been shown to aid in various situations, such as quitting smoking, accepting grief, and achieving weight loss amongst many others. It is also effectively applied in therapy for psychological conditions like depression and anxiety (Kashdan et al., 2020; Kashdan & Rottenberg, 2010; Zettle, 2016). This approach enhances well-being by (Zhang et al., 2018):

- increasing commitment to behaviours based on a person's values,
- fostering a willing, open, and accepting attitude toward one's feelings and thoughts, which reduces barriers to behavioural change,
- improving awareness of internal thoughts and external circumstances through mindfulness, allowing for behavioural choices that better fit the situation.

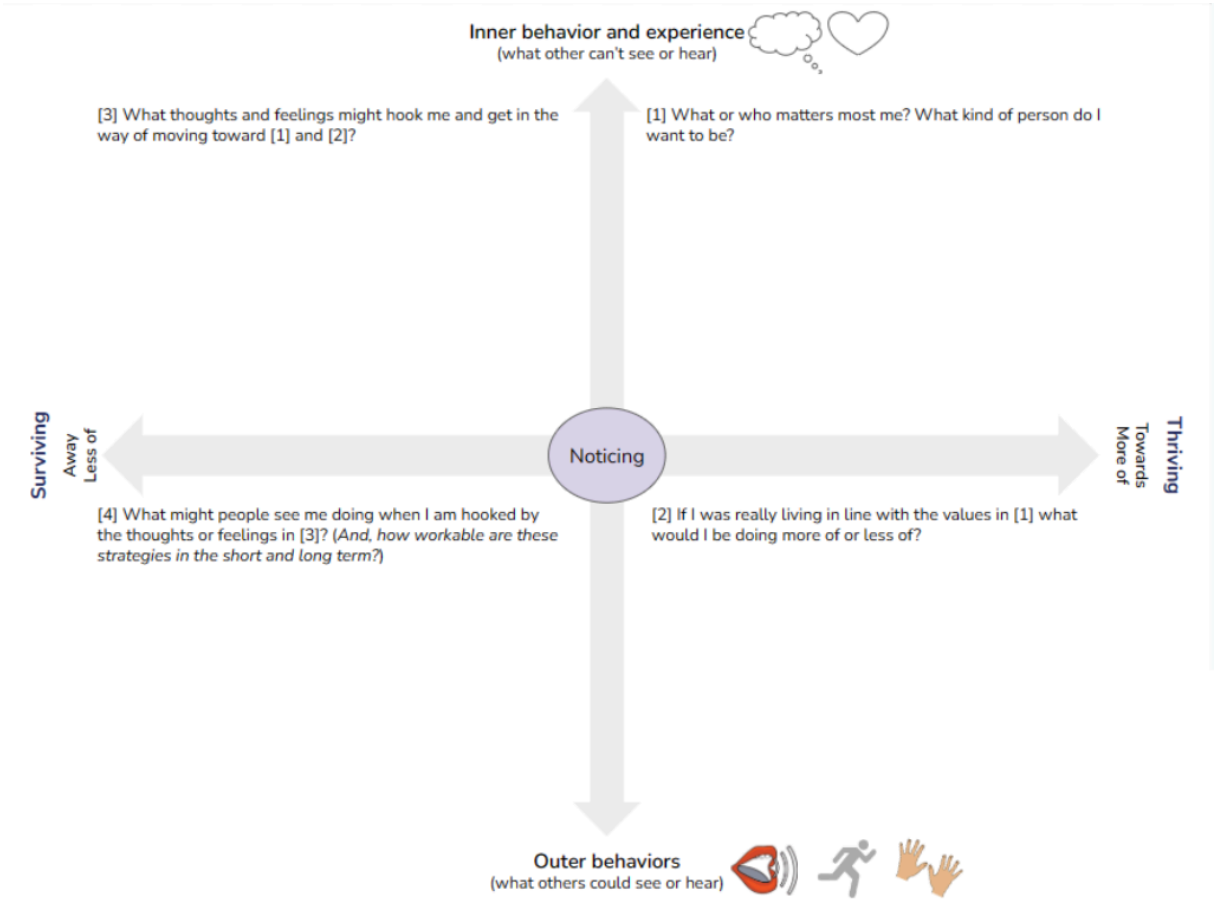
The model of psychological flexibility integrates philosophical and psychological elements, including mindfulness, and is structured around six core processes (Zhang et al., 2018):

1. *Acceptance*: an alternative to experiential avoidance, and involves embracing one's emotions or sensations without attempting to change or control them.
2. *Cognitive Defusion*: techniques aim to alter the impact of unhelpful thoughts without changing their form or frequency, instead by altering how individuals relate to their thoughts and reducing their unhelpful effects, e.g. not taking one's thoughts literal or as the absolute truth, but developing a more flexible observer view to the content of one's thoughts.
3. *Attention to the present moment*: encourages non-judgmental contact with events and feelings as they occur. This ongoing mindfulness helps individuals respond to current situations rather than being consumed by past regrets or future anxieties.
4. *Self-as-context*: being able to see your own behaviour and experiences from a steady point of view, which helps you maintain a stable sense of who you are, beyond just your changing thoughts and feelings.
5. *Values*: chosen qualities of action that guide behaviour, acting as personal reinforcers. By focusing on their own values and what is valuable for them in life, individuals can enhance their persistence and motivation and direct their action in a meaningful way.

6. *Committed action*: taking steps that reflect your values by setting and achieving small, manageable goals. These small actions help you gradually build up to living in a way that aligns with what truly matters to you over the long term.

Reflection exercise: the noticing tool

An important tool for fostering psychological flexibility is the Noticing Tool, designed to help individuals reflect on and align their actions (outward behaviours) and thoughts and feelings (inward behaviours) with their core values. By mapping out these aspects, it encourages awareness of both internal experiences and external actions, guiding individuals toward more behaviours based on their value.

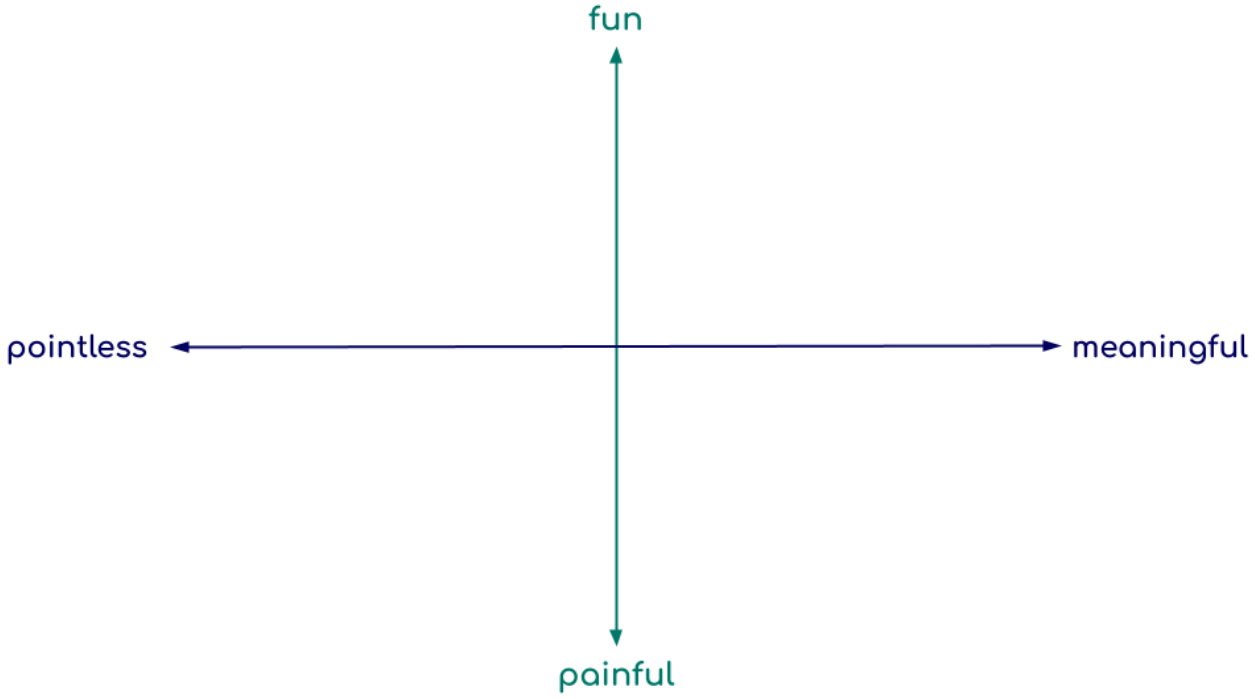


The tool consists of four quadrants arranged on two axes, with each quadrant presenting a question to answer. You can fill in the matrix by reflecting on your life as a whole or focusing on a specific aspect, such as your role as a teacher.

The quadrants are organised along two axes: the upper part of the quadrants relates to inner behaviours, such as thoughts, feelings, and beliefs, while the lower

part addresses outer behaviours, which are our actions. The horizontal axis ranges from “surviving” on the left, representing behaviours and feelings we experience when we don’t live according to our values and avoid situations, to “thriving” on the right, where we are able to align our lives more closely with our values and face challenges head-on.

Before filling in the matrix, you can also focus on identifying what values are important to you as a teacher. To do that, you can use the matrix and list below. Try and sort the list of activities of a teacher’s job in different quadrants between fun or painful and meaningful and pointless. If you want, you can also add other tasks from your day-to-day. Then focus on the meaningful-painful quadrant: what values can be derived from the tasks in that quadrant? Try to make a list. Starting from the values you have identified, fill in the noticing tool matrix.

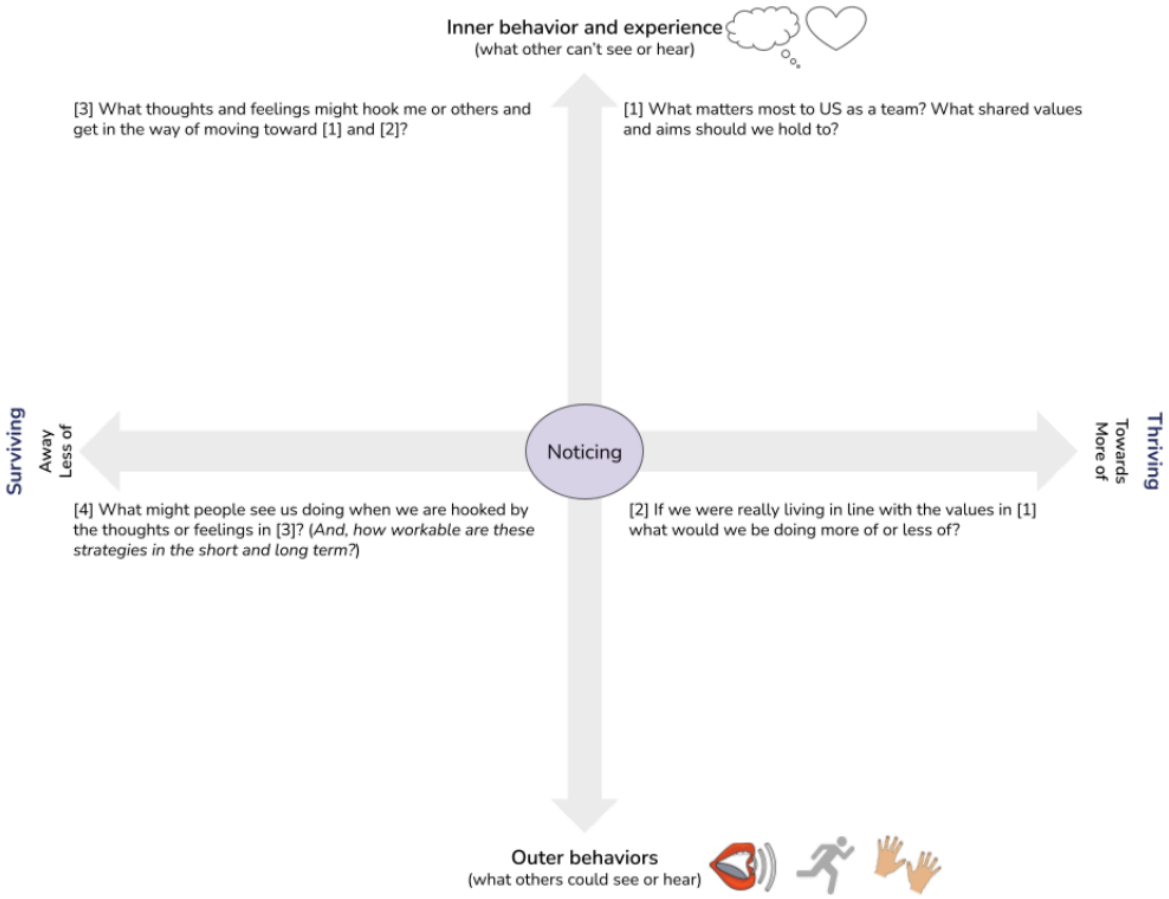


Lesson planning	Managing behavior in class	Personalizing teaching instruction	Doing paperwork	Participating in parent-teacher conferences	Participating in work meetings
Collaborating with colleagues	Creating and grading assessments	Organizing extracurricular activities	Handling parental concerns	Engaging in professional development	Building rapport with students
Addressing student behavioral issues	Assessing and promoting student creativity	Supporting and accommodating students with disabilities	Creating educational materials	Mentoring and supporting new teachers	Evaluating the effectiveness of teaching practices

Debriefing questions:

- What did you find difficult / easy in doing the matrix?
- Do you think it helped you think / notice your behaviour in a new way?
- Transfer of learning: how can you incorporate what you have learned in your teaching?

SHARE IT IN A GROUP! You can use this exercise also for a group activity. One possibility is that every member of the group fills in their matrix. Remember to establish rules for sharing at the beginning of the activity that are comfortable for everybody. Otherwise, the Noticing tool can also be utilised to understand the behaviours and values of a group. The following matrix is used to discuss the psychological flexibility of teams.



Resources to learn more

Freymann, J. (2024). Embracing Complexity - A guide to exploring the mind in educational settings through evolutionary and contextual behavioral science. 1st Edition. Leipzig/Berlin, Germany. https://openevo.eva.mpg.de/teachingbase/embracing-complexity-guide/

Kashdan, T. B., & Ciarrochi, J. V. (2013). Mindfulness, acceptance, and positive psychology: The Seven Foundations of Well-Being. New Harbinger Publications.

Noticing Tool. (n.d.). OpenEvo. https://openevo.eva.mpg.de/teachingbase/noticing-tool/

The power of collective action: collaboration in schools

CORE MESSAGE: Teachers are increasingly required to collaborate with each other. While posing a lot of challenges, collaboration can also bring many benefits under certain conditions.

A teacher's job has changed significantly over the years, with collaboration becoming increasingly important. This shift reflects a growing need for specialisation in various roles, which in turn requires people to work together. Additionally, policy reforms, interventions, and educational research have pushed for greater collaboration among educators. While collaboration can bring many benefits, it can also become complicated. It's essential to understand the unique challenges and characteristics of collaboration in schools.

Content of the chapter:

- What teachers think about collaboration
- How does collaboration look like in school (and around the world)
- What is important for collaboration in school

Encouraging a (collaborative) culture in schools

> “Since Dan Lortie In his influential book School teacher (1975) exemplified teachers’ work as often isolated (“the egg-crate structure“ of schools) and characterised by individualism, uncertainty and the lack of a shared “technical” culture, many authors have started looking at collaboration as the solution for problems in schools and as a powerful tool and perspective for school improvement.” (Kelchtermans, 2006)
>
> “To deal with the impact of globalisation and rapid change, new ways of approaching learning seem to be required. Learning can no longer be left to individuals. To be successful in a changing and increasingly complex world, it is suggested that whole school communities need to work and learn together to take charge of change, finding the best ways to enhance young people’s learning.” (Stoll et al., 2006)
>
> “The educational sector is confronted with an increasing pressure towards collaboration: teachers need to be proficient collaborators in order to successfully perform their job.” (Vangrieken et al., 2015)

Educators with a bit of experience might have observed a shift in school dynamics in recent years (Figure1). The quotes presented above exemplify a broader trend in educational science and reform aimed at transforming school culture towards increasing collaboration. Frequently, educational reforms and their implementation strategies are introduced to teachers without sufficient teacher participation in the decision-making process or adequate explanation of the rationale informing them. This top-down approach often leaves educators feeling disconnected from the reforms they are expected to enact. To effectively navigate and leverage these changes, teachers should be made aware of:

- *the cultural elements being promoted*: recent educational reforms and research have emphasised and encouraged shifting school cultures towards increased collaboration, interdependence, and trust among educators
- *the rationale behind these changes*: educational research has consistently proved that that collaboration can be beneficial to both teachers and students
- *advantages and potential disadvantages and challenges*: embracing collaborative school cultures offers significant benefits, but it's essential to consider potential drawbacks as well

- *optimal conditions for implementation*: identifying the circumstances under which these reforms are most effective, to actually see a positive change and avoid pitfalls

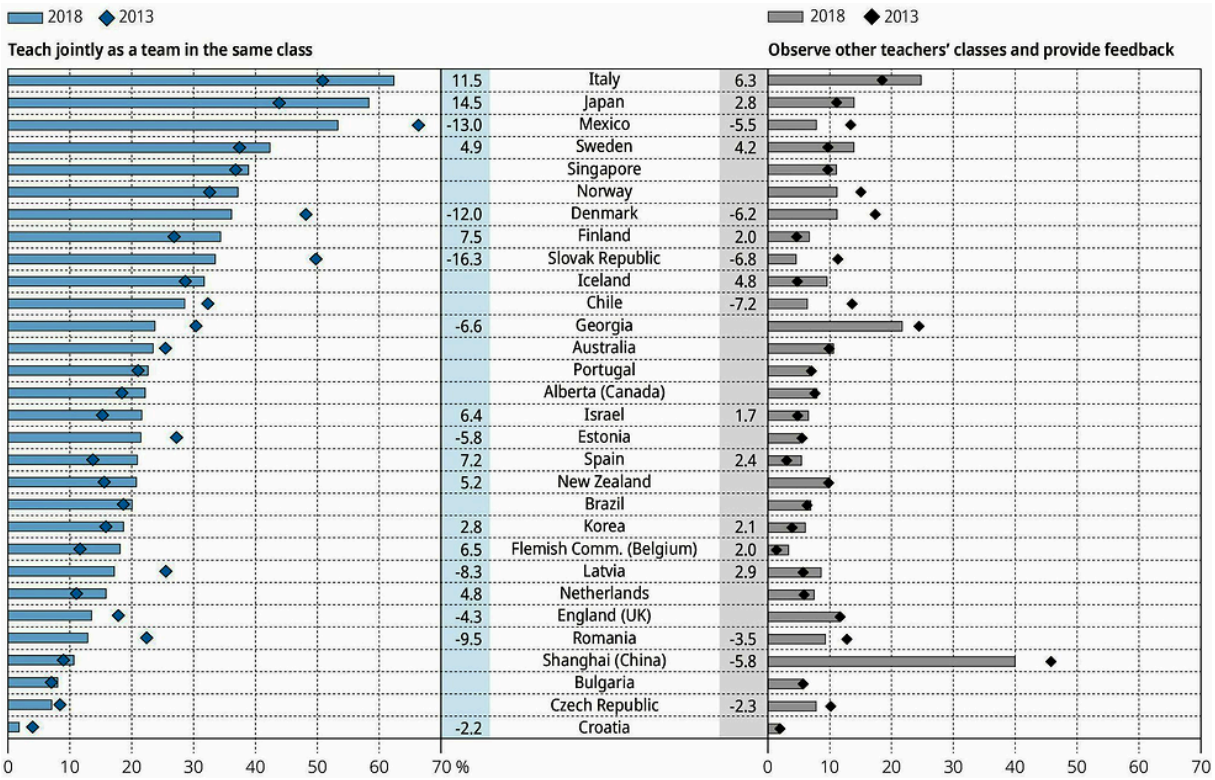


Figure 1. Change in teacher collaboration from 2013 to 2018: percentage of lower secondary teachers who report engaging in the following collaborative activities in their school at least once a month ("TALIS 2018 Results (Volume II)," 2020)

Teachers' perspectives on collaboration

Teachers' perspectives on collaboration are crucial for understanding the real-world impact of these cultural shifts. A 2001 Canadian survey by Leonard and Leonard, involving 565 educators, provides valuable insights into this matter. Interestingly, most teachers that took part in the study perceived their colleagues as less inclined toward collaborative practices than themselves (Leonard & Leonard, 2001). While respondents overwhelmingly acknowledged the importance of high collaboration among teachers, they reported a significant gap between the ideal level of collaboration and what actually occurred in schools. Time constraints emerged as a major barrier, with teachers feeling they lacked sufficient opportunities for professional collaboration. Additionally, the survey revealed that teachers believed

school diversity—including varied values, beliefs, conflict resolution methods, and consensus-building approaches—was not adequately valued or recognized.

A 2021 qualitative study in the US revealed another nuanced perspective on teacher collaboration (Visone et al., 2021). Teachers reported that collaboration effectiveness varied within the school, using terms like "pockets" or "cliques" to describe the phenomenon of groups of teachers that were better able to collaborate. The success of collaborative efforts often depended on individual teachers' initiative and willingness to engage, with some educators noting a lack of structured time or common planning periods to facilitate collaboration. The study also highlighted how certain US policies, particularly teacher evaluation systems, can inadvertently hinder collaboration. Some teachers reported that these evaluations fostered a competitive environment, undermining teamwork and creating a negative atmosphere. Additionally, the research identified specific groups of teachers who often felt isolated from collaborative efforts, including non-academic subject teachers (e.g., physical education, art, music) and special education teachers. Moreover, the relationship between administrators and teachers emerged as a significant factor influencing collaboration. Supportive leadership was seen as crucial for fostering a collaborative culture.

But how do these views compare to those of educators in other countries? Are these challenges universal, or do they vary across different educational systems and cultures? And how have they changed throughout the years? Figure 2 illustrates teachers' perceptions of collegiality in their schools worldwide, based on the OECD's 2018 TALIS report. Collegiality, defined as positive interpersonal relationships among teachers, is considered an important environmental element for collaboration. The data reveals a generally positive outlook:

- on average, across OECD countries, 87% of teachers either "agree" or "strongly agree" that they "can rely on each other" in their schools.
- similarly, 81% of teachers "agree" or "strongly agree" that their school has "a collaborative school culture characterised by mutual support."

These findings suggest that a majority of teachers perceive a collegial and supportive atmosphere in their schools, which is favourable for collaborative practices. However, it's important to note that there is variation among countries participating in the TALIS study. This variation raises intriguing questions: what factors contribute to these differences between countries? Could cultural norms, educational policies, or school leadership practices play a role in shaping these perceptions?

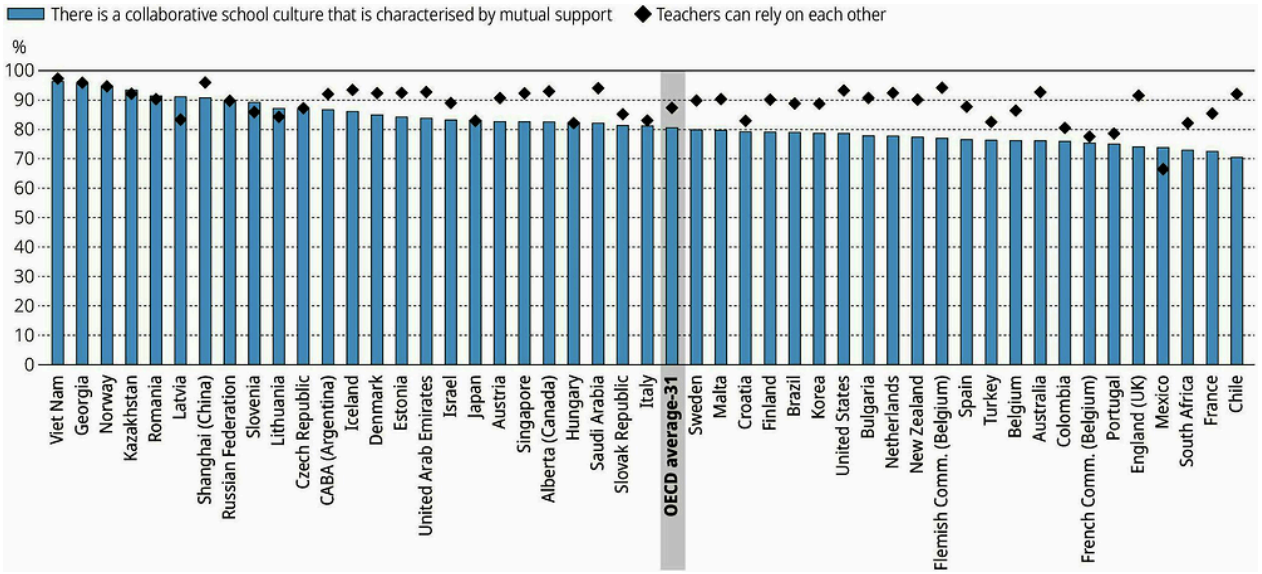


Figure 2. Teacher collegiality: percentage of lower secondary teachers who "agree" or "strongly agree" with the statements: "There is a collaborative school culture that is characterised by mutual support"; "Teachers can rely on each other" ("TALIS 2018 Results (Volume II)," 2020).

Collegiality = research on teacher collaboration has highlighted the importance of collegiality, defined as the mutual trust, support, and sharing among teachers. Collegiality can be expressed in staff meeting, peer observation, collaborative planning, selecting or designing materials, and joint learning.

Effects of teacher collaboration

Research into teacher collaboration reveals a nuanced picture, highlighting both positive and negative effects at various levels—students, teachers, and schools (Vangrieken et al, 2015; Vescio, 2008). On the positive side, when the collaborative efforts are focused directly on enhancing educational results, it can significantly improve student learning and achievement. This outcome is possible because teachers' collaboration fosters increased effectiveness, better communication, and a more enjoyable work environment. It helps reduce isolation, boosts motivation, and promotes a more student-centred approach. At the same time however, the challenges of collaboration, if not faced properly can bring about negative effects such as increased competitiveness, interpersonal conflict, and a sense of diminished autonomy. Collaboration can be time-consuming and may inadvertently lead to a heavier workload. Additionally, there is a risk of enforcing conformity and higher levels of monitoring, which can stifle individual creativity.

In terms of collective effects - either at group or school level - collaboration can lead to a cultural shift towards greater equity, a flatter power structure, and a more innovative and adaptable environment. These benefits can however, truly manifest only when collaboration does not remain superficial (e.g. everyone just going along with the majority) or creates new power imbalances (e.g. unbalanced level of effort put in between individuals). Moreover, on the school level, it can happen for collaboration to become a control mechanism, aligning teachers more closely with standardised performance expectations and potentially hindering necessary changes.

Some benefits of teacher collaboration

STUDENT LEVEL	TEACHER LEVEL	ORGANIZATIONAL LEVEL
• improve student learning, achievement and success (but collaborative efforts should specifically centre around student learning to produce positive outcomes)	• improved teaching effectiveness, • increased communication, • a sense of decreased workload, • increased teacher motivation, • enhanced instruction, • a more student-centred approach, • a reduction in personal isolation, • fostering of a more enjoyable work environment	• school culture shift toward more equity, • flattened power structure, • adaptation and innovation, • culture of intellectual enquiry

(adapted from Vangrieken et al., 2015; Vescio, 2008)

Some negative effects of teacher collaboration

TEACHER LEVEL	GROUP LEVEL	ORGANIZATIONAL LEVEL
• competitiveness, • interpersonal conflict, • loss of autonomy, • time-consuming, • increased workload, • collaboration as a means for enforcing conformity of practice and monitoring the professionalism of the individual teachers	• cultivating groupthink, • social loafing, • contrived collegiality	• collaboration as a control mechanism by which teachers can be tied stronger to standardised performance expectations, • collaboration as a servant of centralised control (discipline teachers and constrain autonomy), • some forms of collaboration can impede school change

(adapted from Vangrieken et al., 2015; Vescio, 2008)

Autonomy and collaboration on a spectrum

It is useful to think about teacher collaboration along a spectrum from maximum independence to maximum interdependence (Little, 1990). As interdependence increases, there can be a perceived loss of individual autonomy and a growing need for teachers to act in a way to sustain the collaborative effort. Along these lines, we can identify four distinct forms of collaboration, each with potential benefits and issues:

Storytelling

This form of collaboration involves quick, informal sharing of stories among teachers, reflecting the "ordinary reality" of sporadic and casual exchanges commonly found in schools. While narration is an important practice for reflection and the building of relationships among staff members, it can reinforce negative attitudes and mindsets if the exchanges focus solely on complaints and lack constructive content. As a result, relying exclusively on storytelling as a form of collaboration is likely to maintain the status quo rather than drive meaningful change.

Aid and Assistance

Teachers offer and seek help, exchanging feedback in both informal settings (such as discussing students and teaching methods with colleagues) and formalised ones (such as mentor-mentee relationships). This form of collaboration can have many benefits, especially regarding the sharing of knowledge regarding practices and the support of new teachers. However, there is also the risk of blurring the line between assistance and judgement, potentially affecting self-esteem and professional boundaries. Asking for help opens the possibility of scrutiny and can have social, personal, and psychological costs. The effectiveness of this collaboration depends on the school's culture, with some being more open to help-seeking while others may value competition more. Additionally, giving advice, though helpful, can be challenging in settings where privacy and equal status aren't strongly upheld. More importantly, the success of one-on-one support depends greatly on how it's provided and whether it feels genuine. Occasional check-ins might offer some reassurance, but without regular and meaningful feedback, they may miss the chance to address ongoing issues effectively.

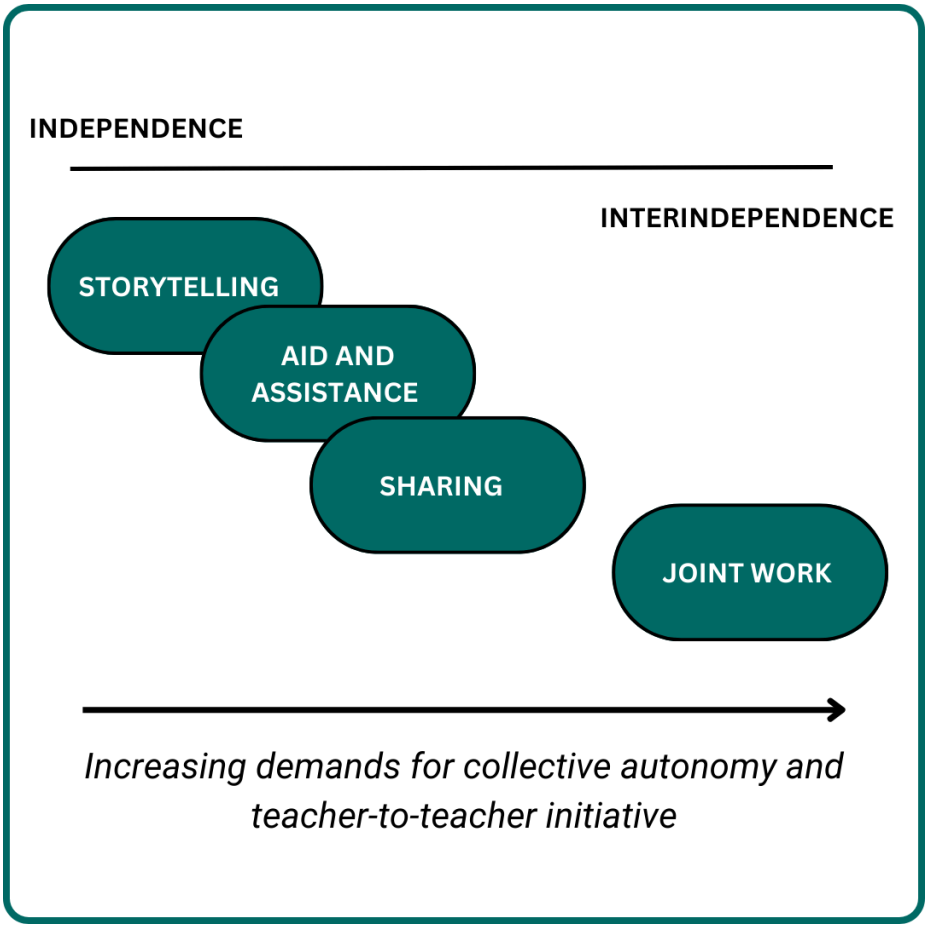
Sharing

Involves the exchange of materials and methods, ranging from informal sharing to structured activities like collaborative lesson planning. Sharing exposes teachers' ideas, intentions, and beliefs about education, and so it can be sensitive, as it can expose to criticism and can create conflict among teachers with different views about education. Nevertheless, when conducted appropriately, the sharing of methods and materials can be extremely helpful for a profession that requires constant, often very demanding, preparation. However, this type of collaboration works best when supported by a truly collaborative school culture. It struggles to thrive in competitive school environments, where teachers may feel that helping others could put them at a disadvantage, or in schools that prioritise norms of non-interference, subtly discouraging teachers from engaging in each other's work.

Joint Work

As the most interdependent form of collaboration, it requires a structured approach and substantial allocation of resources. Some examples include joint teaching, team meetings, school conferences, and professional learning communities (PLCs). While potentially the most impactful, joint work demands substantial time, energy, and resources and its success depends on teachers' collective commitment and the structural support provided by the school. Moreover, the shift from individual to collective professional autonomy can provoke conflict: even though moderate levels of social conflict are essential for developing meaningful change, increased teacher-to-teacher interaction makes school micropolitics more visible.

Professional Learning Communities (PLCs) = groups of educators who regularly collaborate to improve their teaching practices and enhance student learning. PLCs are characterised by the gathering and analysis of student data, through which teachers share strategies, set goals, and support each other's professional development to develop better teaching strategies and improve students' learning.



Adapted from Little (1990)

Tension between autonomy and collaboration

The tension between collaboration and autonomy is one that is difficult to resolve. Research shows that while working together more can boost professional growth and student success, it might also reduce personal freedom. Teachers often find themselves balancing the need to work together with the desire to maintain their independence. Moreover, while most educators usually recognize the importance of collaboration, deeper forms of cooperative work are less common in practice (Talis, 2018; Leonard & Leonard, 2001).

Both independence and collaboration have advantages and disadvantages. On one hand, working independently and making decisions without much interference allows for creativity and flexibility, but can limit sharing ideas and support. It can also result in the duplication of work—such as in the creation of teaching materials—leading to a loss of time for other tasks. Conversely, teachers working closely together, influencing each other and shaping school practices as a team can benefit students as well as teachers. This teamwork can create a supportive environment and shared expertise, but can limit individual creativity and freedom, and can prove difficult to manage for its interpersonal nature. There are pros and

cons to both increased collaboration and greater autonomy. Researchers argue that different levels of collaboration bring distinct benefits and challenges. Balancing these aspects is essential to maximise the positive impacts on teaching and learning.

For example, in a 2010 study about teacher collaboration for innovation, highly interdependent teacher teams were able to align their collaboration goals successfully, leading many teachers to change their beliefs about teaching and learning to match the reform's aims To achieve this, the study highlights the importance of encouraging team autonomy to establish their own preferred collaboration methods (Meirink et al., 2010). In contrast, teams that only exchanged ideas or started from problems identified by individual teachers, failed to align their collaboration goals and were less effective in changing beliefs about teaching and learning. Similarly, an Australian study investigating teachers' perspectives on collaboration found both significant pros and cons (Johnson, 2003). Among the perceived advantages, teachers reported important emotional and psychological benefits from working closely with colleagues in teams, with nearly 90% revealing that they gave and received 'moral support' when faced with the 'highs and lows' of classroom teaching. Feelings of collegiality, trust, and openness also developed through personal and professional sharing. Additionally, over 80% of teachers felt that they were part of a “learning community” that shared responsibility for ongoing teacher professional development. This is crucial because learning together as a community plays an essential role in building efficacy, both individually and collectively. On the downside, even though around 60% of teachers reported that 'sharing jobs' with team members reduced their workload, many were sceptical about the positive effects on their workloads because of an overwhelming increase in meeting commitments. Furthermore, 21% of teachers felt constrained when working collaboratively, with a slightly higher percentage feeling pressured to conform within their team. This led 23% to believe that teaming was used as an administrative strategy to enforce conformity. Interpersonal conflict and factionalism were also noted as disadvantages.

Autonomy is one of the most cited factors by teachers in relation to job satisfaction and job retention (Strong & Yoshida, 2014).Often teachers prefer limited forms of collaborations to preserve their professional independence, even though research has often found the best benefits for both teachers and students when collaboration is deep (Liu & Benoliel, 2022), however to be beneficial deep collaboration must not be forced on the teachers. For instance, a German study using questionnaires identified four distinct patterns of collaboration among teachers, revealing significant differences not only in the degree to which teachers engaged in collaborative activities, but also the benefits they perceived (Muckenthaler et al., 2020). Many teachers preferred forms of collaboration that involve the exchange of

materials, professional information, or student-related information, as these interactions minimally impact their autonomy. The teachers that engaged in more deep forms of collaboration yielded the most substantial benefits, including professional development and reduced workload, however the most crucial results is that these benefits were only perceived by teachers that did so voluntarily: teachers who felt pressured to collaborate did not perceive the benefits of it.

Reactive and reflective autonomy

To solve the paradox of autonomy and collaboration, some research suggests that it might be helpful to help teachers recontextualize the meaning of collaboration by distinguishing between two types of autonomy: reactive and reflective (Vangrieken et al., 2017; Vangrieken & Kyndt, 2019). Teachers with a *reactive autonomy* attitude work independently in their classrooms with minimal coordination with colleagues. This approach emphasises freedom from governance and external influence as *autonomy from*, promoting individualism and resistance to collaboration. On the other hand, a *reflective autonomy* attitude involves making informed decisions based on personal needs, interests, and values, as *autonomy to*. This type of autonomy acknowledges the positive role of external influences and values interdependence when working together on a task or goal. Reflective autonomy allows teachers to self-govern while appreciating the benefits of consulting colleagues and engaging in collaborative efforts. This balance helps teachers feel like agents of their own actions.

Moreover, teachers' feelings about their autonomy can vary greatly depending on the domain, with stronger preference for independence in some areas and more openness to collaboration in others. For example, studies have highlighted the sensitivity of didactical-pedagogical autonomy, noting that teachers perceive aspects like teaching methods and managing student behaviour as deeply personal (Vangrieken & Kyndt, 2019). Discussing these elements with colleagues can provoke insecurity, fear of judgement, and conflicts. Consequently, teachers prefer spontaneous or bottom-up collaboration, for example by approaching colleagues they appreciate, over top-down initiatives. This type of collaboration is perceived as more beneficial because it allows teachers to choose partners based on shared professional and pedagogical beliefs. To facilitate meaningful collaboration then, it is essential to provide a psychologically safe environment where teachers can comfortably discuss personal issues. Without this, top-down imposed collaboration tends to result in contrived collegiality and superficial cooperation, rather than fostering genuine, productive collaboration.

Negative group dynamics through collaboration

Negative group dynamics happen when teamwork starts to backfire, making interactions unproductive or even harmful. Instead of fostering creativity and shared goals, poor dynamics can lead to misunderstandings, low motivation, and conflict. To promote effective collaboration, it's crucial to understand when and how these negative dynamics can develop. Some examples to look out for are contrived collegiality and groupthink, both of which can disrupt effective collaboration in subtle but impactful ways.

Contrived collegiality

Research on teacher collaboration has highlighted the importance of collegiality to foster teachers' professional development and students' learning. In genuinely collaborative cultures, teacher relationships are spontaneous, voluntary, and unpredictable, arising from authentic interest rather than imposed structures. While these relationships benefit staff, their spontaneous nature often conflicts with centralised school systems, where curriculum and evaluation decisions are tightly controlled, and accountability measures are high (Datnow, 2011). When teachers are pushed to collaborate through mandatory meetings or collective reports—often impacting professional evaluations—the result is often contrived, driven more by administrative requirements than by genuine engagement. These administrative mandates impose superficial relationships among colleagues rather than fostering genuine collaboration and can lead to a form of collaboration named "contrived collegiality" (Hargreaves & Dawe, 1990), rather than fostering genuine collaboration.

A difficult dilemma for school administrators, is how to foster a collaborative culture in their schools without falling into the traps of contrived collegiality. For example, a common complaint among teachers who wish to engage in more collaboration is the lack of dedicated time and space to do so. The challenge for both teachers and administrators is to create collaborative environments that are both well-organised and somewhat structured - to meet the organisational needs typical of teamwork -, but also leave room for genuine interest and spontaneous engagement (Datnow, 2011).

The tables below outline key differences between genuine collaborative cultures in schools and "contrived collegiality". A common theme is the critical role of teacher involvement and leadership in shaping the structure, methods, and goals of collaboration.

Collaborative cultures are...	Contrived Collegiality is...
supported by administration but sustained by teachers	mandated by administration, not spontaneous
driven by teachers' perceived value and enjoyment	driven by teachers need to comply with administrative requests
characterised by teachers defining their own tasks and purposes	characterised by tasks and purposes that are mandated top-down
expected to produce uncertain and unpredictable outcomes	expected to produce predictable outcomes

➔ teacher participation and distributed leadership

Groupthink

Just as forced collaboration can lead to forms of teamwork that are not genuine, sometimes working in teams can also produce results like groupthink that are not "authentic" or positive. As a phenomenon, groupthink occurs when individuals in a group feel pressured to agree to decisions or shared-views of the group (Rose, 2011). This usually manifests in avoiding raising questions and doubts or discussing controversial topics, and in silencing group members that challenge these norms. Another important feature of groups that engage in groupthink, is that they will often ignore any information that contradicts the views held by the group, potentially leading the group to make mistakes or wrong decisions. For instance, researchers have often investigated cases of failure of international policy as an expression of groupthink (e.g. the Bay of Pigs invasion), as groupthink leads the group to hold a distorted version of reality. As a consequence, groupthink is often difficult to identify and address by the members of the group itself, and it can be more easily seen either by outsiders or after the negative consequences of groupthink have occurred (Rose, 2011).

There are several hypotheses as to why groupthink occurs, but a major one is that high group cohesion leads to members not speaking up, especially in cases where the process with which decisions are made is flawed. Similarly, a pressure towards conformity and unity and closed-mindedness can lead the members to avoid conflict. Another hypothesis also points to collective efficacy - or an overabundance of confidence in the group - as a possible cause (Whyte, 1998), as this will lead members of a group to ignore information conflicting with their beliefs.

To prevent groupthink, research recommends several strategies (Rose, 2011):

- encouraging critical evaluation and open criticism,
- maintaining leader impartiality,
- creating multiple parallel groups or forming subgroups to assess proposals,
- discussing issues privately with trusted outsiders,
- bringing in external experts.

In the context of trying to establish a collaborative culture in school, it is therefore important to consciously try to avoid creating an environment where individuals tend not to raise concerns, either for fear of being sanctioned or ostracised or because they value group harmony over group efficacy.

The impact of beliefs on collaboration

Every individual who comes into contact with the educational system develops intuitive beliefs about the nature and role of education in society. These beliefs, although often subconscious, significantly influence how people perceive and engage with schooling. For teachers, these personal convictions are also actively reflected in their teaching practices and interactions with students and colleagues. When teachers collaborate, their pedagogical beliefs—which are deeply rooted and crucial to their professional identity—are inevitably put in the spotlight. The process of collaboration often requires teachers to expose and scrutinise these beliefs, which can make them feel vulnerable to criticism or judgement from peers, but can also create tension when these beliefs conflict in significant ways. That is why it is so important for collaboration to address the role of beliefs in school.

The presence of differing beliefs within a collaborative group can be productive and it's often necessary for the members of the group to engage in actual reflection about their practices. However, more often than not, these kinds of conflict can hinder the effectiveness of collaboration and impede the development of a cohesive team. To mitigate these issues, it is important for teachers to consciously acknowledge and discuss their pedagogical beliefs openly, in ways that are not perceived as threatening to their professionality. Facilitating discussions where teachers can reflect on and articulate their educational philosophies allows for a deeper understanding of each other's perspectives. This approach not only helps in resolving conflicts but also promotes a more harmonious and productive collaborative environment. By making these implicit beliefs explicit and subject to thoughtful dialogue, educators can work towards aligning their practices and fostering a supportive atmosphere that enhances both their professional development and the overall effectiveness of their collaborative efforts.

A useful framework to engage in these discussions is the Theory of schooling developed by Eirdosh and Hanisch (2023). According to this framework, individuals form beliefs about the schooling process based on a combination of their theories about school as an institution and their theories about human nature and origins.
This framework consists of two main domains of beliefs:

Theories about human origins, diversity, and flexibility

This domain encompasses a wide range of ideas about where humans come from, why people are different, and how they can change. These ideas influence beliefs about education in several ways. Beliefs about how humans evolved include also beliefs about how learning occurs and consequently, for example, if learning can be achieved by all students or not. A relevant example of how teachers' beliefs impact their teaching is found in studies on the influence of teachers' mindsets on the effectiveness of growth-mindset interventions. These interventions aim to boost student achievement by teaching that intelligence is not fixed and that everyone can learn due to the brain's plasticity. Research has shown that teachers' beliefs—whether they support the growth-mindset concept and understand the science behind brain plasticity—affect how well these interventions work, as it influences how they implement the intervention in the classroom (Yeager et al., 2021).

Theories of school improvement

This domain covers a number of ideas related to the development and improvement of educational systems. People hold theories of schools that reflect both the current state of society and their aspirations for its future. These theories encompass ideas about what schools should teach, how they should operate, and the roles they should play in shaping individuals and communities. For instance, some believe that schools should primarily focus on academic excellence and preparing students for the workforce, mirroring a society that values economic productivity and competitiveness. Others advocate for schools to emphasise holistic development, social justice, and critical thinking, envisioning a future society that is more equitable, inclusive, and democratic. These differing perspectives highlight how schools are seen not just as educational institutions, but as microcosms of the larger societal goals and values. A clear example of this is how national school systems often mirror their respective cultures and histories, leading to conflicts when global institutions or educational researchers try to define a universally “ideal” educational system (Anderson-Levitt & Marbas, 2004). These efforts can clash with the cultural and national variations inherent in different societies. Additionally, beliefs about

schooling are historically situated and evolve alongside societal changes and shifting priorities. For instance, the concept of universal and mandatory education in modern societies is a relatively recent development in the broader history of education.

Practices of teachers' collaboration (around the world)

Around the world, various forms and practices of teacher collaboration exist, each offering unique benefits and challenges. These approaches have been studied to understand their impact and explore how they can be adapted to different cultural contexts. Below is a list of several collaboration models that could inspire new ways for teachers to work together in your own school or community.

Lesson study (jugyō kenkyū) (Japan)

Lesson Study (or jugyō kenkyū) is a collaborative professional development practice originating from Japan, where it has been integral to the education system for over a century (Takahashi & Yoshida, 2004). It was originally imported and popularised in the USA in the 90s as it was believed to be a key factor in Japanese high student achievements (Rappleye & Komatsu, 2017). In its original japanese conception, Lesson study is a professional development tool that teachers utilise to refine their teaching methods collectively. It involves teachers working together at the school level to identify long-term goals for student learning and development, planning and conducting a "research lesson" designed to achieve these goals, and carefully observing student learning and behaviour during the lesson. It is a teacher-led bottom-up approach that sees teacher initiative as a key factor. This process takes place in a cycle that unfolds in several key steps:

1. *Goal setting* → define long-term goals for student learning and development, then choose a specific topic or lesson that aligns with these goals and addresses student needs or new curriculum content.
2. *Research and lesson planning* → the team creates a detailed, flexible lesson plan with specific objectives, anticipated student responses, data collection methods, and a rationale, based on best practices and student data.
3. *Conducting the lesson and observation* → one teacher delivers the research lesson in a regular classroom, while team members observe and collect data on student engagement and learning.
4. *Reflection, revision and re-teaching* → after the lesson, the team reviews observations to assess the lesson's effectiveness, focusing on student learning. Based on feedback, they revise the lesson plan and may re-teach it, repeating the cycle of teaching, observing, reflecting, and refining.

Throughout the years, Lesson Study has been adapted and implemented in various educational systems worldwide. However, researchers have noted that cultural and institutional differences between Japan and other countries can complicate its application and may lead to outcomes that diverge from expectations, highlighting the importance of understanding the underlying cultural and pedagogical beliefs that inform practices. For instance, a study on the application of Lesson Study in Uganda and Malawi observed several misconceptions on how the method should work in practice (Fujii, 2014). In particular, lesson planning was often treated as a workshop activity without a focus on specific research questions related to student learning, with topics chosen based on immediate issues rather than deeper pedagogical concerns. Additionally, lesson plans were viewed as rigid scripts, and deviations from the plan were seen as failures rather than opportunities for adaptive teaching, and post-lesson discussions frequently shifted to critiquing the teacher's performance instead of analysing teaching strategies and student outcomes. Similarly, research has highlighted several struggles to implement Lesson study in the context of US schools, for instance in accepting peer criticism, communication issues - such as trying to dominate conversations and a lack of patience in listening - and difficulties in functioning as a cohesive group, preferring individual over collective input. According to Rappleye and Komatsu (2017), these challenges arise from both cultural differences, but also fundamentally different pedagogical understanding. They argue that in the U.S., pedagogical expertise is typically derived from experts, whereas in Japan, it is developed through collaborative efforts among educators, and while American teachers often seek a “perfect lesson”, the Japanese philosophy values continuous, incremental improvement, fostering an ongoing, collective process of refining teaching practices.

Interschool professional collaboration and school turnaround (Shanghai)

Shanghai's school system has been long being studied by educational researchers for its impressive student results, such as being one of the most consistent top ranking school systems according to the Program for International Student Assessment (PISA). One of the most studied aspects of Shanghai's school system is its pioneering adoption of network governance for school turnaround efforts. School turnaround, that is targeted interventions aimed at rapidly improving the performance of low-performing schools, is a common practice for school improvement worldwide. While most countries focus only on involving low-performing schools, Shanghai has adopted an innovative partnering approach that pairs high-performing schools with low-performing ones (Center for American Progress et al., 2013; Tao, 2021).

In particular, the program pairs high-performing schools with low-performing ones to boost the latter's performance, typically over a two-year period, with school-district officials carefully matching the schools to ensure good collaboration. Educators and leaders from both schools then collaborate closely, sharing expertise and best practices to improve the struggling school. The high-performing school is tasked with leading the turnaround effort. The program is closely monitored, with the success of the intervention determining whether the high-performing school receives payment to cover the costs of resources utilised in the program. If the desired improvements are not achieved, the contract may be terminated, and compensation withheld. The improvement efforts focus on several key areas, including school leadership and strategic planning, school culture and organisation, effective teaching, and student-learning behaviours. Moreover, schools can decide the boundaries and focus of their agreement, according to the needs of specific schools. This system relies on the assumption that expertise to improve schools is already possessed by teachers and school administrators themselves, without the need of outside experts, and the best way to better schools is to help the sharing of that knowledge between partners and collaborators.

Mentoring (Shanghai)

Mentoring of young teachers is a commonly used practice of professional development in many school systems around the world. However, what differentiates Shanghai's approach to mentoring is a comprehensive system, an integral part of school life, designed to support all teachers, not just those new to the profession. It is a cornerstone of professional development in Shanghai schools, implemented through both one-to-one and group mentoring (Jensen & Grattan Institute, 2012; Salleh & Tan, 2013).

The mentoring process begins with a detailed assessment of the mentee's strengths, weaknesses, educational philosophy, and ideas for education reform. This diagnostic evaluation informs a personalised development plan that guides the mentoring relationship, with a strong emphasis on continuous improvement. Throughout the program, mentees document their progress in evolving teaching styles, supported by the expertise of their mentors.

In particular, there are three main elements that further characterise this approach:

1. *A hierarchy of teachers based on both their experience and their recognized performance or qualification* → Shanghai's teacher system is characterised by a structured hierarchy based on both experience and recognized performance. Teachers progress through various levels, from Novice to Senior-grade, with promotions depending on rigorous evaluations. Additionally, outstanding

educators are honoured with titles and instead of being promoted outside of teaching positions, they are assigned to further mentoring duties. This hierarchical structure ensures that experienced and high-performing teachers are recognized and given opportunities to mentor others, spreading their expertise across the district.

2. *The importance of routine classroom observation and public lessons* → Teachers regularly observe each other's classes, offering immediate feedback and opportunities for reflection. Junior teachers, particularly those under 35, are required to conduct public lessons as part of their evaluation, receiving constructive feedback to improve their teaching practices. This continuous cycle of observation, feedback, and reflection fosters a culture of ongoing professional growth and high teaching standards.
3. *Teaching-Research Groups as a means of collaborative professional development and group-mentoring* → These groups bring together teachers who teach the same subjects or grades, allowing them to discuss strategies, share best practices, and refine their methods. Meeting weekly, these groups are integral to maintaining a consistent and meaningful exchange of ideas, ensuring that all teachers are engaged in collective learning and improvement. This collaborative approach, combined with a focus on classroom observation and a structured teacher hierarchy, defines the strength of Shanghai's educational system.

It is also important to note that the strengths of Shanghai's mentoring system are deeply rooted in the region's cultural values. The emphasis on accountability, standardisation, and inspection aligns well with the collectivist norms prevalent in Chinese society. Mentors and mentees take their responsibilities seriously, with regular reports and inspections being viewed positively as part of an effective accountability framework. This system might not work with the same effectiveness in cultural environments with different values. At the same time, there are also notable weaknesses in the system. The strong emphasis on performance metrics, such as exam scores and measurable outputs, can create a performative culture that undermines the broader educational experience. This focus on quantifiable results may detract from the intrinsic value of education and limit opportunities for holistic development of students. Additionally, the hierarchical structure and cultural emphasis on conformity may stifle innovation among novice teachers. With limited encouragement to experiment with new ideas, there is a risk that teaching practices become entrenched, potentially hindering the evolution of more effective and creative pedagogies.

Collaborative Inquiry (USA)

Collaborative Inquiry (CI) is a teacher-driven approach focused on enhancing instructional strategies and improving student learning outcomes (DeLuca et al., 2014; Donohoo, 2013). CI serves as a powerful tool for professional learning by engaging educators in identifying and addressing the learning needs of their students. Widely used in the United States, CI operates through a four-stage model. This cyclical process enables educators to refine their practice continuously, leading to meaningful improvements in teaching and learning:

1. *First stage, Framing the Problem*: The program starts with identifying a meaningful focus for the inquiry. Teachers work collaboratively to pinpoint a specific learning need of their students, articulate the problem, and develop goals to reach. This stage culminates in the formulation of a theory of action that guides the inquiry process.
2. *Second stage, Collecting Evidence*: Educators then build a shared understanding of the problem and decide on the types of evidence to gather, including when, where, and how to collect it.
3. *Third stage, Analysing Evidence*: The evidence collected is then analysed, identifying patterns, themes, and drawing conclusions. During this phase, teams revisit their theory of action to ensure it aligns with the findings.
4. *Fourth stage, Documenting, Sharing, and Celebrating*: Finally, it involves sharing the results of the inquiry, celebrating successes, and considering next steps for continued professional growth.

CI's effectiveness is enhanced by cycles of inquiry, which are flexible in timing and length, depending on the team's focus and goals. Supportive leadership from facilitators, school leaders, and teacher-leaders is critical to fostering a culture of inquiry. Equally important are environmental structures that provide the necessary time, space, and a supportive culture for CI to thrive. Challenges such as leadership support, managing time constraints, and developing data literacy must be addressed for successful implementation.

Theory of action = a framework or plan that explains how specific actions or interventions are expected to lead to desired outcomes. It outlines the relationships between the activities undertaken, the resources utilised, and the expected changes or impacts. A theory of action should include goals and outcomes, the actions taken to achieve them, the beliefs and assumptions that underlie both goals and actions, and consideration of the context in which the intervention is carried out.

Instructional rounds (USA)

Instructional Rounds are a structured method for educators to collaborate and enhance instructional practices systematically (City, 2009). Borrowed from the practice of medical rounds used by doctors, this approach integrates classroom observation, an improvement strategy, and a network of educators working together to drive instructional improvement. Unlike traditional supervision or evaluation, where the focus is on assessing individual teachers, Instructional Rounds are about understanding broader instructional practices across classrooms and identifying systemic issues that impact student learning. Through this process, educators collectively learn, hold each other accountable, and take ownership of their professional growth without relying on top-down mandates.

The process of Instructional Rounds involves four key steps:

1. Educators assemble a network of members who meet regularly, building a trusting community that shares a common language and understanding of teaching and learning.
2. The network works together to define the “Problem of Practice”, which is an instructional challenge the school is struggling with, focusing on something that is observable and actionable.
3. Observation in classrooms involves network members visiting classrooms in small groups to collect descriptive data related to the problem of practice. During these observations, the focus is on understanding student and teacher behaviours that contribute to the problem, rather than evaluating individual performance.
4. After gathering evidence, the network engages in a structured debrief to describe their observations, analyse patterns, and predict what students are learning based on the instruction observed. The debrief ends with identifying the next steps, referred to as the “Next Level of Work”, which involves brainstorming practicable solutions that align with the school’s or district’s broader goals.

Instructional Rounds offer multiple benefits for schools and districts, such as building a shared understanding of effective teaching, reducing variability in instruction, and empowering educators to lead their professional learning. By focusing on the instructional core and systematically addressing identified problems, Instructional Rounds can accelerate instructional improvement on a large scale. This process requires a commitment to a disciplined inquiry, a supportive network, and a willingness to engage in deep reflection and collaborative problem-solving, making it a powerful tool for sustainable school improvement.

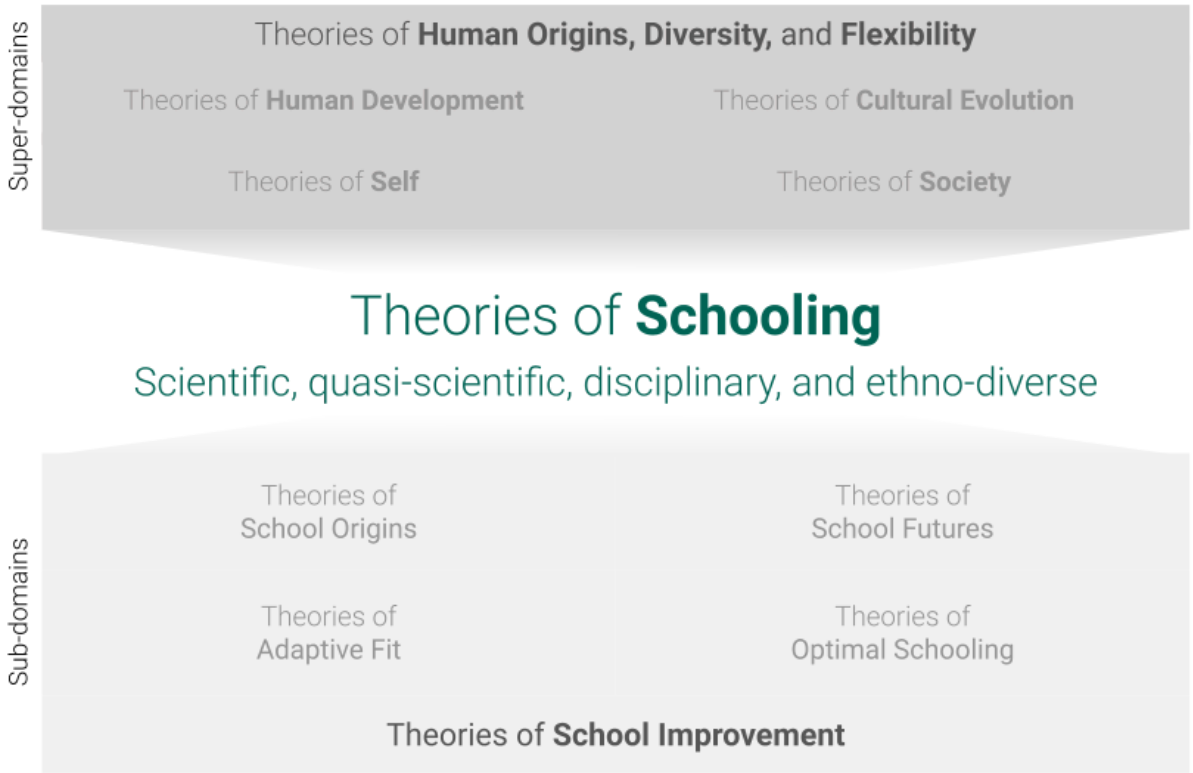
Reflection exercise: beliefs and theories about schooling

Figure 1.

Figure 2.

The two photographs above (Figure 1 and Figure 2) represent two classrooms in two different periods of time and according to two very different visions of school.

Using the Theory of schooling framework and the graph below, try to reflect on the visions of these schools.



Eirdosh and Hanisch (2023)

Theories of human origins, diversity, and flexibility:

- *Theories of Human Development* → how do children develop and learn?
- *Theories of Cultural Evolution* → how do cultures change or not? What is the role of cultures in our lives?
- *Theories of the Self* → What constitutes the self? What causes shape our sense of self?
- *Theories of Society* → how do societies function? How do they influence the individual?

Theories of school improvement:

- *Theories of School Origins* → what's the origin of school? Why did we start going to school?
- *Theories of school Futures* → what would you want the future schools to look like? What purpose should they serve to bring about the future you wish for?
- *Theories of Adaptive Fit* → How does school culture help drive human development?
- *Theories of Optimal Schooling* → what is the ideal school? How should it work?

a) What would be the theories of schooling of the teachers working in these classrooms? You can use the questions above to guide your reflection.

b) Reflecting on yourself, what would you agree and disagree with both approaches? Try to reply to the questions about your own Theories of Schooling. There are no correct answers: they need to represent your honest beliefs about these topics.

c) Finally, reflect on current trends in educational research and policies; e.g.

- a push for individualised learning
- a push for practices of collaboration between teachers (collective teacher efficacy, PLC, school as learning organisation, etc …)
- a focus on student-lead learning

In your opinion, what are the Theories of Schooling that drive these trends? Do you think they align with your own?

SHARE IT IN A GROUP! You can use this exercise also for a group activity. You can share your notes at every stage of it (a, b, c). Remember to establish rules for sharing at the beginning of the activity that are comfortable for everybody.

Reflection exercise: sharing, autonomy and collaboration

Sharing

Try to think about your daily life as a teacher: what aspect of your job would feel comfortable sharing with other colleagues and which you wouldn't? You can use the table below to help you gather ideas.

	Share or not?	Why?	Notes
Lesson plans			
Students results			
Classroom management practices			
Feelings about teaching			
Being observed in class			
Professional anecdotes			

Autonomy and collaboration

What aspects of your job do you think will benefit from collaboration with other teachers and in which others would you prefer to maintain higher autonomy? You can use the table below to help you gather ideas.

	Autonomy or collaboration?*	Why?	Notes
Lesson planning			
Rules for classroom management			
Objectives for students learning			
Students behaviour			
Lesson standards or format			
Teaching methods			

*Indicate the degree of autonomy and collaboration from 1 (complete autonomy) to 5 (complete collaboration/joint work).

SHARE IT IN A GROUP! You can use these exercises also for group activities. You can discuss your notes with other teachers: what observations and feelings do you share? What differs? Remember to establish rules for sharing at the beginning of the activity that are comfortable for everybody.

Rules for sharing: Through the discussion try to gather ideas of what would make sharing aspects of your job safer or easier according to the members of the group: e.g., should sharing of certain aspects of a teacher job be mandatory or voluntary? Can teachers share anonymously? Should it happen in big groups or smaller teams?

Rules for collaboration: Through the discussion try to gather ideas of what aspect would benefit from higher collaboration or higher autonomy and why.

Resources to learn more

Grinberg, R., Mehl, C., Sarrouf, J., & Isbell, D. (2018). OpenMind TM Workshop Facilitator Guide.

Hargreaves, A., & O'Connor, M. T. (2018). Collaborative professionalism: When Teaching Together Means Learning for All. Corwin Press.

The power of collective action: how collaboration works

CORE MESSAGE: Collaboration is beneficial and in some cases essential to reach goals. However, it is also difficult. To engage in effective collaboration, we need to understand what could go wrong and what are the best ways to work together.

Teamwork is valuable, but how often, while working with other teachers, have you also thought: "I could do this faster or better on my own"? It is common to feel frustrated by how teamwork is organised, or by the group dynamics that arise. Students, too, often feel this way about group projects. This is because teamwork isn't just about completing tasks; it involves navigating interpersonal relationships and coordinating between people, which requires additional effort beyond the work itself. Yet, this extra effort pays off when we learn to collaborate effectively. Cooperation not only enhances outcomes, but is also essential for achieving goals that are beyond the reach of any single individual.

Content of the chapter:

- What factors are involved in collaboration
- What it means to be interdependent
- What fairness mean for collaboration

Factors for collaboration

Research has provided examples on several factors that facilitate or hinders effective teacher collaboration, at different levels (Vangrieken et al, 2015; Vescio, 2008).

Organisational characteristics

To foster collaboration among teachers, both administrators and teachers themselves play a key role. Setting aside dedicated time, creating supportive physical spaces, and establishing organised team structures are essential steps. Support from school administration and alignment with district policies are also crucial. A lack of time, resources, and shared workspaces is frequently cited by teachers as a major barrier to effective collaboration.

School culture significantly impacts collaboration, too. A culture that values isolation, privacy, or individual autonomy—and one that has a tradition of working in isolation—makes it even harder for teachers to work together.

Group characteristics

Mandated collaboration can sometimes backfire in forms of team working that do not bring benefits, but effective collaboration still requires a clear structure to succeed. A good compromise to solve this problem is to let teachers self-organise as much as possible. When teachers have input in forming teams, group dynamics often benefit from aligned personalities, mutual choice, and coordinated efforts. Empowering teachers to self-organise helps foster a supportive, equitable environment with shared leadership. To maintain working groups effectiveness however, they should also present other characteristics: a capacity to be flexible and to manage conflict, a strong team identity through clear goals, open communication, trust, and collective responsibility. It is also important to highlight that for teacher collaboration to directly impact students, the focus of collaboration should be on the students.

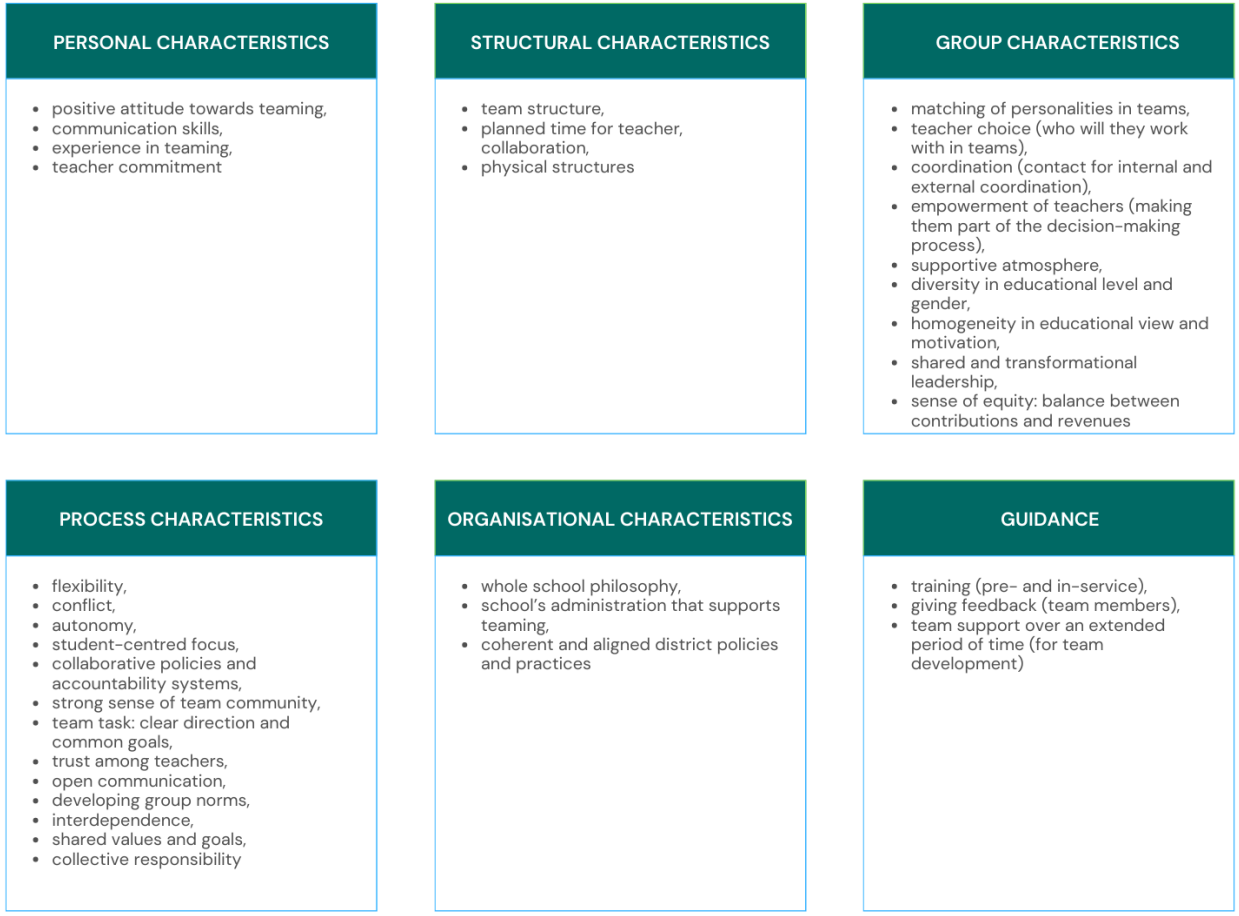
Having well-defined objectives can prevent or alleviate negative group dynamics that often arise from differences in personalities or teaching philosophies, ineffective leadership, poor communication, staff turnover, or unresolved conflicts. To avoid additional issues like unequal contributions, lack of accountability, or large team sizes that obscure individual roles, groups should establish clear organisational systems and norms that ensure balanced participation and accountability for all members.

Personal characteristics

Teacher collaboration can also be influenced by individual characteristics that either support or hinder teamwork. Positive traits include a proactive attitude toward collaboration, strong communication skills, a commitment to shared goals, and prior experience in teamwork. These qualities help build a productive, cooperative environment.

Conversely, some teachers may lack the necessary training for effective collaboration, have limited conflict management skills, or low confidence in their ability to contribute meaningfully. A negative attitude toward teaming can further impede group dynamics. Identifying and addressing these personal barriers through training, mentorship, and support can help create a more collaborative and inclusive environment for all teachers.

Some factors facilitating teacher collaboration



(adapted from Vangrieken et al., 2015; Vescio, 2008)

Some factors hindering teacher collaboration

PERSONAL CHARACTERISTICS	STRUCTURAL CHARACTERISTICS	GROUP CHARACTERISTICS	ORGANISATIONAL CHARACTERISTICS
• lack of necessary training and support, • poor conflict management skills, • vulnerability of teachers and low self-efficacy , • negative attitude to teaming	• lack of time and resources, • lack of communication, • no own working space, • difficult to reach each other	• Differences in personalities and pedagogical philosophies, • lack of clarity or disagreement about the goals/tasks, • lack of structure, • ineffective leadership, • poor communication, • lack of staff continuity, • conflict (if it is not managed properly), • contrived collegiality, • no balance between contributions and revenues, • not holding each other responsible, • the result is not easily measurable, • team size is so that the members cannot deliver a recognisable contribution	• School architecture, • isolation and culture of privacy, • norms of autonomy and privacy, • tradition of isolation

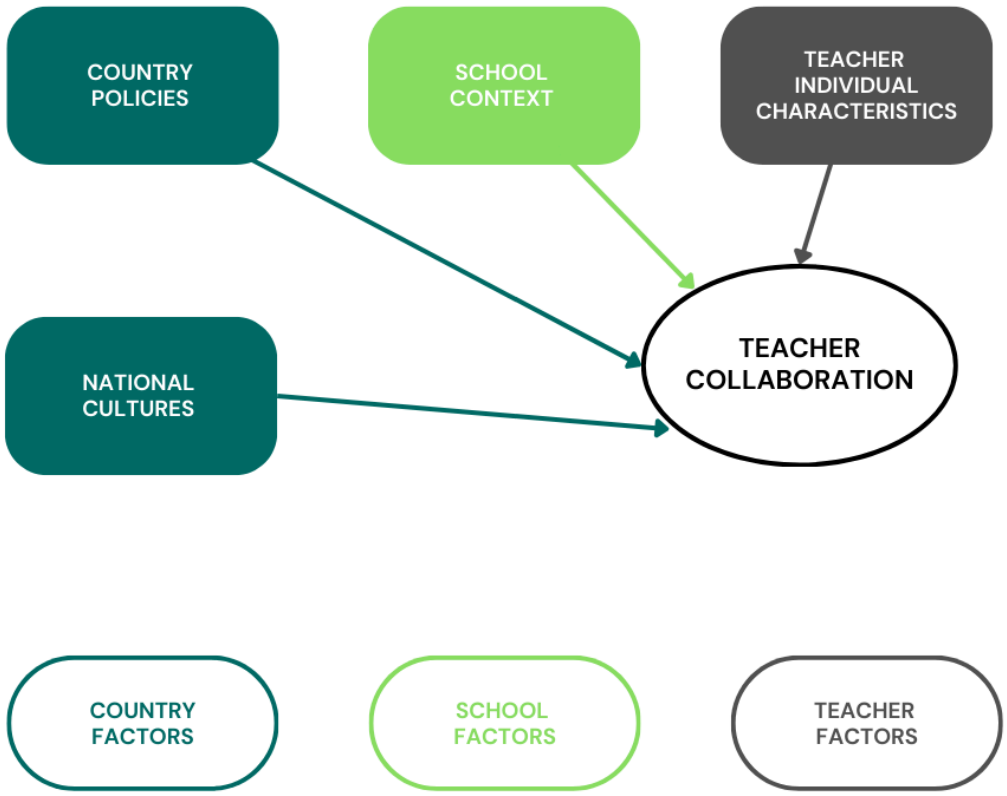
(adapted from Vangrieken et al., 2015; Vescio, 2008)

The importance of context

Does collaboration lead to an increase or decrease in workload? Does it foster or hinder change? These questions highlight the crucial role of the organisational context in shaping the outcomes of collaboration. Collaboration and collegiality are shaped by the school's structure and culture, meaning they are closely linked to the school's environment. For example, the effect of collaboration on workload and change depends on how well it fits into the school's culture, but is also determined by school practices and routines that manage how the workload is shared or not. When collaboration is well-organised and supported, it can balance the workload better and drive positive change by improving teamwork and using everyone's skills. But if collaboration is poorly planned or forced without considering current conditions, it can increase the workload and slow down progress. This is just one example of how establishing practices of collaboration in itself does not lead automatically to positive results, and needs a level of intentionality to have a positive effect on students and teachers alike.

Another less explored but important contextual factor are national differences between school systems and cultures. A 2022 study investigating how national context, school-level factors, and individual teacher characteristics influence teacher collaboration across different countries, using data from the 2018 OECD TALIS and 2018 PISA, found significant national variation (Liu & Benoliel, 2022). In particular, teacher collaboration was significantly influenced by individual teacher factors, but the effect of school-level factors varied widely by country. In countries like Cyprus, Saudi Arabia, Korea, Lithuania, Israel, Portugal, and Shanghai, teacher collaboration showed less variation between schools, suggesting that national standards or policies may help create consistent expectations for collaboration. In contrast, countries such as Alberta, Brazil, Denmark, Austria, the United States, and Norway exhibited more variation across schools, possibly reflecting different regional policies or less centralised guidance on collaboration.

Collaboration was also more prevalent in countries that emphasise collectivism and have lower power distance in their social structures, as these cultural values support teamwork and shared decision-making. Countries with educational policies that sort students by test scores and track teacher performance for development purposes also saw higher levels of teacher collaboration, likely because these practices encourage teachers to work together on targeted student improvement. Strong school leadership and adequate public funding enhance collaboration, especially in schools with diverse needs, such as those serving special-needs or low-income populations. In these contexts, effective leadership and resources are essential for establishing a collaborative culture and supporting teacher efforts to address varied student needs.



Adapted from (Liu & Benoliel, 2022)

Interdependence

According to Johnson and Johnson (2009), “social interdependence exists when the outcomes of individuals are affected by their own and others’ actions”. This interdependence is reciprocal, meaning that individuals are mutually dependent on each other. Understanding interdependence is key to effective teamwork in schools, as it shapes how teachers approach collaboration and support one another. Firstly, interdependence can manifest in two forms: positive or negative. *Positive interdependence* fosters cooperation and is characterised by shared goals and mutual benefits. When teachers experience positive interdependence, they’re more likely to collaborate, communicate openly, trust one another, and support each other’s professional growth. On the other hand, *negative interdependence* often leads to competition, as individuals perceive that their success comes at the expense of others. This happens, for example, if teachers feel their performance is being compared, fostering a competitive culture instead of a collaborative one,

It might also happen that there is *no interdependence* and individuals see no connection between their goal achievements and those of others, leading to an isolated approach to tasks. Teachers may operate independently, viewing their goals as separate from those of their colleagues. This can happen in schools where collaboration isn’t encouraged or where teachers have been accustomed to working in isolation.

Ways to be interdependent

To clarify the concept of interdependence, it's important to also recognize that there are many different ways individuals can rely on one another within a group. Here are some (Gully et al., 2002):

- *Task interdependence*: In a school setting, interdependence refers to the extent to which the tasks or activities performed by teachers, staff, or student groups rely on each other. For example, effective student support may depend on collaboration between classroom teachers, special education staff, and counsellors, with each role contributing to a shared goal.
- *Outcome interdependence*: It involves shared consequences and outcomes based on collective efforts, often encompassing shared rewards, feedback, and sometimes challenges. For instance, if a grade level team collaborates to improve literacy scores, their performance might be collectively evaluated based on student progress data.

- *Goal interdependence*: It refers to the degree to which individual work relies on shared goals within an organisation. For example, teachers could need to work together to meet collective outcomes. It is particularly important because when team members are united by common goals, it leads to higher achievement and greater productivity compared to when their interdependence is based solely on shared resources.

Accountability and responsibility in groups

> "Failing oneself is bad, but failing others as well as oneself is worse." (Johnson and Johnson, 2009)

Positive interdependence fosters a strong sense of responsibility among group members: when each person in the group feels accountable not only for their own contributions but also for the success of the team as a whole, it enhances shared responsibility and drives greater collective effort. This highlights the significance of both individual and collective accountability. In particular, the absence of individual accountability can diminish personal responsibility, resulting in a phenomenon known as *social loafing*, which occurs when individuals exert less effort to achieve a goal in a group setting than they would when working alone.

Social loafing and diffusion of responsibility

Social loafing manifests as a reduction in motivation and effort when individuals work collectively compared to when they work individually (Karau & Wilhau, 2020). Social loafing can be extremely detrimental, because when members perceive it in the group it can reduce group performance and effectiveness, as well as decrease satisfaction with group members.

There are numerous theories that explain why social loafing occurs, but a central theme is the individual's perception of the value and impact of their effort in the context of the tasks or goals of the group. One key aspect is the role of group size: as the number of people in a group increases, the impact of each individual's contribution diminishes, leading to reduced effort. This can be amplified by the difficulty of evaluating individual efforts in a group setting, leading to a diffusion of responsibility. When individuals cannot be easily identified or held accountable for their contributions, they may feel less motivated to work as intensively. Furthermore, if members perceive their efforts as redundant or unnecessary for the group's success, they are likely to decrease their motivation and engagement. The interplay between group size, the ability to evaluate individual contributions, and perceptions of the relation between effort and value collectively influence the extent of social loafing.

Research has suggested several elements that can help reduce social loafing in groups (Karau & Wilhau, 2020):

- *Task Type* → Social loafing tends to occur more frequently in tasks where the final outcome relies on the collective efforts of all group members, and the individual contributions are less visible. This contrasts with tasks that involve each person working on separate, independent parts, where each individual's work has a direct impact on the overall result.
- *Perceived Value of Effort* → Individuals will work harder if they believe their efforts will lead to outcomes they personally value.
- *Positive Self-Evaluation* → Social loafing decreases when individuals believe they make a valuable contribution, when their effort is crucial to group performance, and when they value the task or the group.
- *Feelings of Efficacy* → Social loafing is reduced when individuals feel their skills are important, and they are valued or respected by the group.
- *Uniqueness of Contributions* → Efforts are more likely to be effective when they are unique and non-redundant, particularly when there are fewer members performing similar tasks.
- *Acknowledgment of Contributions* → Efforts and contributions should be recognized or included in the group's final performance in a positive, visible manner.
- *Value of the Group or Task* → Social loafing is lower when the group is cohesive or when individuals strongly identify with it. Task value is enhanced when it is important, meaningful, or intrinsically interesting.
- *Personality and Individual Differences* → Individual differences play a role in how people value tasks, outcomes, and group work, which in turn affects the levels of social loafing. For instance, social loafing tends to be more pronounced in monotonous or redundant tasks, especially among individuals with high individualism. Additionally, research indicates that social loafing is generally lower in women compared to men, and it is also less common in Eastern cultures than in Western cultures.

Fairness in collaboration

As per the issues of social loafing, one major component of collaboration is its relationship with fairness. It is useful to note that research has shown numerous times that humans have a strong bias against inequity, which is to say a rejection of unfairness or injustice in the way things are distributed or treated. This concept can be further divided into two types: Disadvantageous Inequity Aversion (DI), the aversion to situations where we have less than others, and Advantageous Inequity Aversion (AI), the aversion to situations where others have less than us (Blake et al., 2015). Applied to a collaborative effort, we can feel that a situation is unfair both when we contribute more than others, and when others contribute more than us. Both reflect a different sense of fairness, and what it means. Disadvantageous Inequity Aversion (DI) tends to manifest as early as age 4 and is often driven by feelings of spite, suggesting that a sense of disadvantageous inequity is almost intuitive and widespread. In contrast, Advantageous Inequity Aversion (AI) emerges only around age 8, indicating the need for a more sophisticated understanding of fairness and social dynamics. This later development reflects a deeper ability to recognize not only one's own needs but also the needs of others (Blake et al., 2015). So, it is typically easier and requires less effort to recognize when something is unfair to oneself than to identify when something is unfair to someone else.
However, the definition of what is fair is also often culturally mediated (Schäfer et al., 2015). The idea of fairness can have many different understandings, not only at the societal level, but also for the single individual. The following are just three example of how it could be interpreted:

- ***Egalitarianism***, equality (French égalité, from Latin aequalitas: "equality"): all members in a group get equal access to resources and have equal status.
- ***Meritocracy***, equity (Latin: meritum, "merit"): resources and power are distributed according to merit or achievement.
- ***Need-based justice***: the distribution of resources within a group happens to the needs of its members.

Consequently, when trying to maintain a sense of fairness in the group, it's important first to discuss what fairness means to its members, e.g. the difference between the idea that everybody should contribute the same amount and the idea that everybody should contribute according to their ability.

A key question that consequently arises in discussions about collaboration is how we maintain a sense of fairness in the group, and how we react in the presence of unfairness. Can collaboration be influenced by external pressures? For example, can we use rewards and punishments to increase collaborative behaviours?

A fundamental issue, for example, to solve regarding uncollaborative behaviours is the problem of *free riders* — people who benefit from others' efforts without contributing. When some people don't do their part, it can cause frustration and lower motivation among those who are contributing. This can weaken the overall effort and lead to failure. One solution to address unfairness is to apply punishments and rewards for negative and positive behaviours.
Even though in general, *rewards* and *punishments* have shown to both have a positive effect in increasing collaborative behaviour - especially during behavioural experiments -, they can also have negative effects, such as reducing intrinsic motivation, autonomy, and trust (Balliet et al., 2011).
It's important then to understand that both punishments and rewards can have different effects under different circumstances. For example, incentives (both positive and negative) are more effective when they come from within the group, and the members administrating the incentives are also affected by them, as they are perceived as more genuine and aimed at the collective good. On the other hand, incentives from authorities may be less trusted because they are often associated with self-interest and the use of power (Balliet et al., 2011). Furthermore, the effectiveness of incentives is stronger when they are costly to administer and when their focus is on promoting collective interests rather than personal gain (Balliet et al., 2011).
For instance punishments can take various forms, from informal measures like peer pressure, gossip, and social ostracism (Shinada & Yamagishi, 2008), to more institutionalised approaches such as fines or disciplinary measures at work (Balliet et al., 2011). However, the specific type of punishment may have different effects on the same behaviour. For instance, a famous field study conducted in 2000 wanted to see if introducing fines for late pick-ups in a group of day-cares could be an effective way of increasing parents' collaboration with educational staff. However, the opposite happened, with late-pick ups increasing notably and maintaining that same rate even after the fine was removed (Gneezy & Rustichini, 2000). The researchers' argument was that in this case the fine (an institutionalised punishment) worked against collaborative behaviour because it removed the social stigma and shame (an informal punishment) associated with being late, and replaced it with the convenience of a “price to pay” to be late.
The same can be said about the impact of culture on the effectiveness of incentives in promoting collaborative behaviours. For instance, research has shown that in societies characterised by high levels of trust, punishments tend to be more effective in fostering cooperation compared to countries with a lower sense of trust (Balliet & Van Lange, 2013). This suggests that cultural factors significantly influence how different types of incentives are perceived and their subsequent effects on collaborative dynamics.

Behavioural experiments = in social sciences, behavioural experiments are a research method used to study how individuals or groups make decisions in controlled environments. One common framework used in behavioural experiments is the study of social dilemmas, where people must choose between self-interest and collective good. These dilemmas are divided into public goods dilemmas (contributing to a shared resource) and resource dilemmas (taking from a common resource). By studying these, researchers explore how incentives and punishments affect collaboration and cooperation, and what people understand as fair or unfair.

Reflection exercise: experiences and aspirations for collaboration

What are your opinions and experiences with collaboration between teachers?

a) Reflect on your past experiences:

- Can you share a specific instance where collaboration with another teacher was particularly effective or memorable? What made it successful?
- Have you encountered any challenges or obstacles when working with fellow teachers? How did you address or overcome these issues?
- How has collaboration with colleagues influenced your teaching methods or classroom management techniques?

b) Imagine what ideal collaboration would look like for you:

- What key elements do you believe are essential for successful teacher collaboration?
- What support or resources would you need to enhance collaboration with other teachers effectively?

c) The following table is the result of a focus group with teachers from the USA in 2014. Compare with the table, the experience and thoughts you have shared in a) and b): what do you have in common? What is different?

Focus group question: Which images represent your current experience and the ideal state of collaborative professional development?

CURRENT EXPERIENCE	**Lack of engagement** • "Fells like I'm being held hostage" • "I would rather be somewhere else"	**Poor use of time** • "Not another meeting" • "Not one more thing I have to do" • "Don't read PowerPoint presentations to me"	**Poorly planned/executed** • "People might have good knowledge but the pieces don't fit together" • "Need an agenda and rules ... otherwise it's a social hour"
IDEAL STATE	**Energizing** • "Makes me feel fired up" • "Energized to go back to my classroom"	**Supportive** • "Makes me feel supported" • "Feel accountable to show up to help each other" • "Bounce ideas off of each other"	**Hands-on/scenario-based** • "Specific activities to do" • "Brainstorm solutions for a specific teacher" • "Gives me what I need in bite-size pieces"

(Bill & Melinda Gates Foundation, 2014)

SHARE IT IN A GROUP! You can use this exercise also for a group activity. You can discuss your notes with other teachers: what observations and feelings do you share? What differs? Remember to establish rules for sharing at the beginning of the activity that are comfortable for everybody.

Group activity: reducing social loafing

Team members failing to take responsibility for their contributions and leaving others to carry the weight of the group's work, it's one of the major issues of collaboration. That's why it is crucial to establish clear norms and rules that foster individual accountability and discourage social loafing within a group.

Reflect on your experiences working with other teachers. Think about a specific instance where you felt frustration due to an imbalance in contributions among team members. Take notes trying to answer these questions:

- what were the circumstances surrounding the situation
- what was the task at hand,
- what emotions did you feel during that time
- How did this imbalance affect your work and your relationships with your colleagues,
- did it leave a lasting impact.

In your group, take turns sharing these stories and choose one such experience to reflect on how collaboration could have been improved, by trying to reduce social loafing.

- Task Type: was the task designed in a way that individual contributions were visible? How can this be improved?
- *Perceived Value of Effort*: did team members understand the importance of their contributions? How can this understanding be enhanced?
- *Positive Self-Evaluation*: how did team members perceive their value in the group? What can we do to strengthen this perception?
- *Feelings of Efficacy*: did team members believe their skills were adequate for the task? How can we address this issue?
- *Uniqueness of Contributions*: were individual contributions recognized as unique? How can we ensure that each person's work is distinct and appreciated?
- *Acknowledgment of Contributions*: were efforts recognized in a visible manner? What methods can we implement for acknowledgment?
- *Value of the Group or Task*: how cohesive was the group? Was the task meaningful for individuals?
- *Personality and Individual Differences*: were individual differences in work styles and preferences a factor in social loafing? And can they be accommodated to reduce it?

If it is appropriate for the group, you can use this discussion to start the drafting of rules and norms for future collaboration and group work.

Resources to learn more

Tomasello, M. (2009). Why we cooperate. MIT Press.

The power of collective action: practices and conditions for Collective Teacher Efficacy

CORE MESSAGE: Collective Teacher Efficacy is not just a belief; it is built on the experiences and norms that schools share, along with the conditions in which they work. To create effective schools, we need to establish basic conditions that support teachers as a collective.

The concept of Collective Teacher Efficacy has become extremely prevalent in educational research, often being portrayed as a panacea for all challenges faced in the classroom or marketed to teachers as a magical solution. However, it is essential to understand that collective efficacy is fundamentally about collective action. To truly leverage its potential, we must implement specific actions and create conditions within our schools and groups that facilitate collective efficacy. This is particularly important for school leaders, who have the power to influence school climate and school culture. By doing so, we can ensure that it positively influences teachers' behaviours, enhances their working environments, and ultimately improves student learning outcomes.

Content of the chapter:

- What are the conditions and practices for Collective Teacher Efficacy
- How are goals important
- How is leadership important

Teacher practices and work conditions for CTE

In the effort to improve educational outcomes and teamwork among teachers, understanding the factors that contribute to Collective Teacher Efficacy is crucial. One influential framework has identified five key prerequisites for fostering collective teacher efficacy in schools. These prerequisites focus on teacher practices and work conditions that are necessary for educators to develop a strong sense of collective efficacy (Anderson et al., 2023; Donohoo et al., 2020; Hite & Donohoo, 2020).

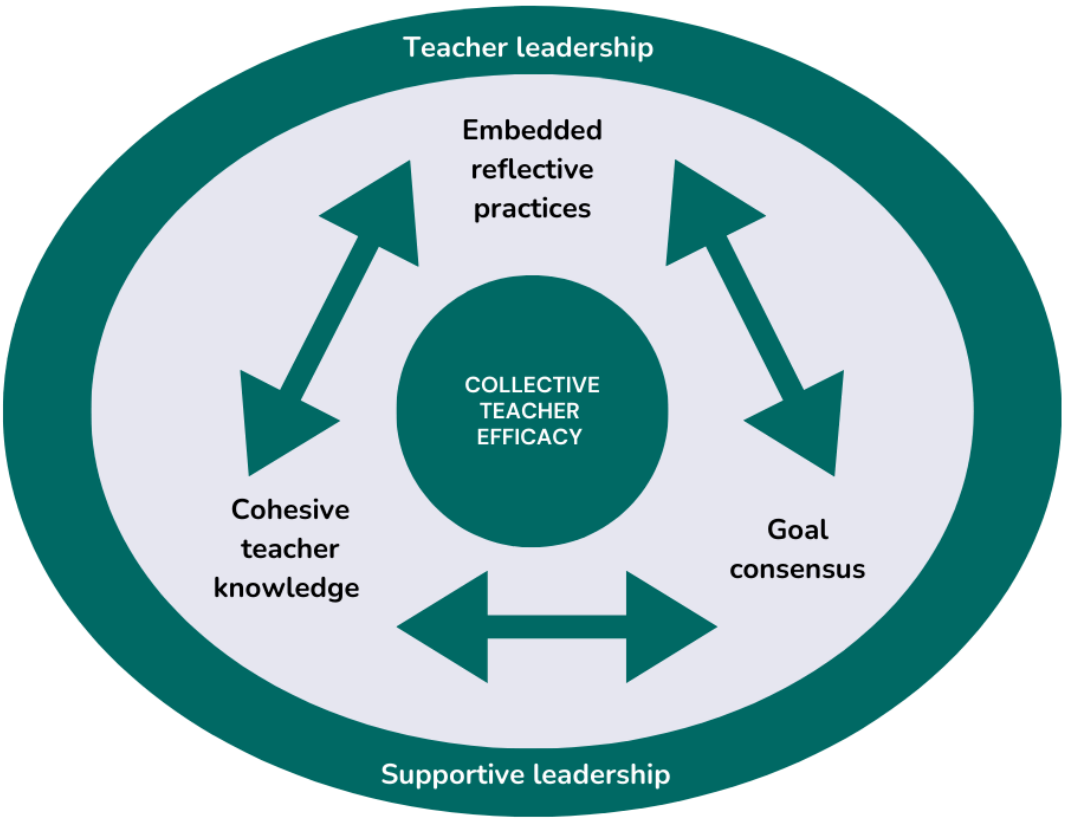
1.Goal Consensus: Achieving goal consensus does not require unanimous agreement, but there should be systems in place that allow teachers to discuss and set goals collaboratively. This process helps to create a shared vision that guides the collective efforts of the staff. This also ensures that every individual teacher understands and values their role in achieving said goal.

2.Teacher Leadership and Influence: Teachers need to feel empowered and to have a say in various aspects of their work, including instruction, school management and working conditions. By giving teachers a voice in these areas, they become more engaged and invested, which strengthens collective efficacy.

3.Cohesive Teacher Knowledge: For teachers to develop collective efficacy, it is crucial that they have knowledge of each other's work. This shared understanding enhances professional development and allows teachers to recognize and learn from each other’s strengths, boosting their belief in the group’s overall capability.

4.Embedded Reflective Practices: Practices through which teachers can reflect together on successes and failures should be embedded within the school culture, as they are essential for continuous improvement. These practices allow teachers to regularly assess and refine their methods, fostering a mindset of growth and shared learning.

5.Supportive School Leadership: Effective school leadership plays a key role in fostering collective efficacy. Leaders must be responsive and supportive, providing the necessary resources and guidance to empower teachers and create a positive, collaborative work environment.



(Anderson et al., 2023)

Along these lines, two critical areas highlighted by Hoogsteen (2020) for fostering Collective Teacher Efficacy are the influence of leadership in goal setting and the role of leadership in fostering collaboration.

1.Leadership and Goal Setting: Effective school leadership is essential in guiding the goal-setting process. Leaders should facilitate discussions that allow staff to collaboratively define clear and meaningful goals, to build together a vision for the school. This shared goal-setting process helps create a sense of ownership and direction among teachers, reinforcing their collective commitment to achieving these targets.

2.Leadership and Collaboration: Leadership also plays a crucial role in promoting a culture of collaboration. Strong school leaders create structures and opportunities for teachers to work together, share ideas, and support each other. By encouraging open communication and teamwork, leaders help to create a collaborative environment that enhances collective efficacy and contributes to the overall success of the school.

The importance of goals

Having goals is important because they have a big impact on how well we perform. Goals help us to focus on what matters most, push us to work harder, motivate us, keep us going when things get tough, and encourage us to find better ways of getting things done (Donohoo et al., 2020).

The connection between goals and performance is strongest when we're committed to them. People are more likely to stick to a goal if they believe they can achieve it, but above all if they see it as important.

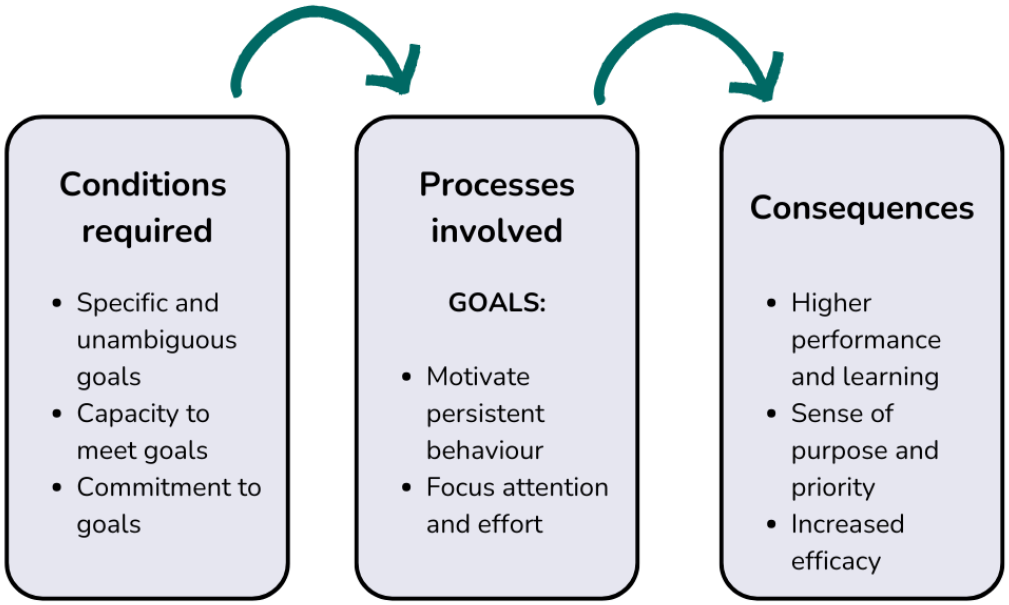
We tend to see goals as important under certain circumstance:

- when they're part of an exciting vision or a larger picture and individuals understand this connection,
- when set together with members of the group,
- if they're assigned, when they're clearly explained to the members,
- when they are tied to a reward.

However, goals can also work against motivation. They can frustrate rather than inspire and motivate if they are:

- not clear,
- too difficult to reach,
- not connected to what is important to people,
- individuals don't have the skills or a plan on how to achieve them.

So it's fundamental to understand what the better and worse ways of setting goals are.



(Robinson et al., 2009)

Many types of goals

There are many ways to set goals and different types of goals to choose from (Locke & Latham, 2002; Hite & Donohoo, 2020). Since goals have such a big impact on performance, it's crucial to set them thoughtfully, keeping in mind the outcomes we want to achieve. Some goals can actually work against certain outcomes, and finding the right approach isn't always straightforward. We can begin to understand the differences between types of goals by looking at what we define as success in achieving them, to help us choose the right kind of goal for the outcome we want to reach.

How do we account for success

Do-your-best-goals → goals that lack clear, measurable targets, providing no specific direction for success. They potentially result in less improvement and focused effort compared to specific goals, but that can offer more motivation when the task is too complex.

Distal goals → represent long-term aspirations or ultimate goals, providing direction and purpose, but may feel distant and more abstract or overwhelming.

Proximal goals → specific and manageable goals, act as short-term steps towards long-term milestones, aiding individuals in achieving smaller, attainable objectives.

What do we value as success

Performance goals: typically centred around meeting external standards, they aim for specific, measurable outcomes and success is usually determined by the final result, often leading to an emphasis on either a binary between success or failure.

Mastery goals: prioritise learning and skills development, often driven by intrinsic motivation to learn and improve, encouraging individuals to tackle challenges and embrace setbacks to enhance their abilities and knowledge.

DO-YOUR-BEST GOAL	Try to raise students results
DISTAL GOAL	Raise the overall students results over the next five years
PROXIMAL GOAL	Implement a mentorship program to support struggling students
PERFORMANCE GOAL	Rank in the 10% best performing schools in the region
MASTERY GOAL	Focus on developing critical thinking skills by encouraging students to explore diverse perspectives and apply problem-solving strategies across different subjects

This table illustrates examples of how teachers could set the goal of raising students' achievement according to different types of goals.

Better and worse goal-setting

Although there is no fixed rule about how to best set goals, research on goal setting has given us some rule of thumbs to guide us (Locke & Latham, 2002; Hite & Donohoo, 2020; Robinson et al., 2009):

- *There should be as few conflicts between personal and organisational goals as possible* → personal goals that conflict with the collective goal can cause friction. Therefore, it is important to explore discrepancies when they arise and make them visible so that they can be addressed.
- *Do-your-best-goals do not usually improve performance; however, goal specificity also doesn't increase performance alone, the impact depends on the difficulty of the task* → goals work best to improve performance when they are clear and precise, so general "do-your-best-goals" might not be enough to create real change. It is important however to set goals realistically: if we set goals that are too difficult to reach, they will not increase performance, even if they are precise, because we lack the skills or the resources to achieve them.

- *Difficult tasks can lead to better performance but this depends on the ability to develop appropriate task strategies, so in this case distal and mastery goals facilitate performance*→ when we set out to do something difficult, it can be inspiring, motivating us to work hard and achieve more. It is however important to back this up with a concrete effort to find ways to achieve the difficult goals, for example by identifying what skills are missing and working on improving them.
- *For goals to be effective, people need feedback that shows progress in relation to goals* → goals are usually achieved over a long period of time. To work towards them effectively, it's important to understand what progress has been made and what can be adjusted to actually reach the goal. Feedback is therefore a fundamental part of goal setting.
- *Rewards as the motivation to achieve goals can be tricky* → Rewards can be effective tools to motivate individuals to work towards a goal, but their use can also backfire. If the goal is challenging and the reward is not appealing enough, it can actually lower motivation, because people start focusing more on the reward than the goal itself, shifting the focus away from the intrinsic value of the task and toward the external reward. This can be extremely detrimental because intrinsic motivation is very important to maintain sustained effort, especially in challenging situations.

In order to facilitate effective goal setting in their group, there are some basic rules for leaders (Robinson et al., 2009):

- establish the importance of the selected goals within the group so that people can be committed to the goals;
- ensure that goals are clear and unambiguous;
- develop the capacity to set appropriate goals, both for the leaders and the teachers, and make sure that teachers, parents, or students feel that they have the capacity to meet the goals.

Goal consensus and decision-making

Goal consensus doesn't necessarily require unanimity. There are various ways for groups to reach decisions, but the group should discuss and decide which methods they consider fair. Empowering groups to create internal routines and decision-making rules that align with what feels fair and equitable for everyone involved is a fundamental part of making decision-making a participative process.

There are three criteria to keep in mind when discussing and evaluating decision-making processes in a group:

1. *Is it inclusive?* → Who is involved? Whose voice counts? Does everyone who is affected by the decision have a chance to make their voices heard?
2. *Is it fair?* → How are final decisions reached? Does everyone consider the process fair and accept the outcome?
3. *Is it efficient?* → Are decisions made in a way that doesn't take too much time or resources? Do the time and resources match the importance of the decision?

To make decisions, groups need to implement two fundamental processes:

- a system to gather and discuss information, ideas and proposals,
- a system to encourage and gather feedback on proposals;
- a system to take final decisions (e.g. voting).

To discuss, groups can choose between many options, according to the preferences of the group and the nature of the discussion. For example, groups can anonymously or non-anonymously gather feedback, use tools like feedback boxes and questionnaires, or they can hold public discussions in meetings.

To vote, groups have the option of voting anonymously or not: votes can be casted through a ballot or online survey or by raising one's hand at a meeting. The most important thing, however, is to establish rules for what constitutes a winning vote. There are many ways to reach a conclusive vote:

- *Absolute majority* → the option that is chosen by at least half of the group members
- *Relative majority* → the option with the most votes (even if the number of votes is less than half the group size)
- *Consensus decision-making* → A decision can only be reached when everyone agrees that it is the best option.
- *Consent decision-making* → A decision is made if there are no significant objections and no good arguments against it and all can live with the decision (the decision is good enough for everybody).

There are drawbacks and benefits to all of these systems and the choice should be based on both what the group thinks is fair and what is most efficient in the particular situation of the decision being made.

Additionally, when establishing how to make a decision there are many factors to keep in mind, and every decision might pose different challenges. Some of these factors might be:

- group size,
- importance of the decision for the group members,
- how expertise regarding the decision is distributed (e.g., do all group members have important insights and knowledge to contribute or is someone in the group considered the expert who should make a decision in the interest of the group?),
- available time to take the decision.

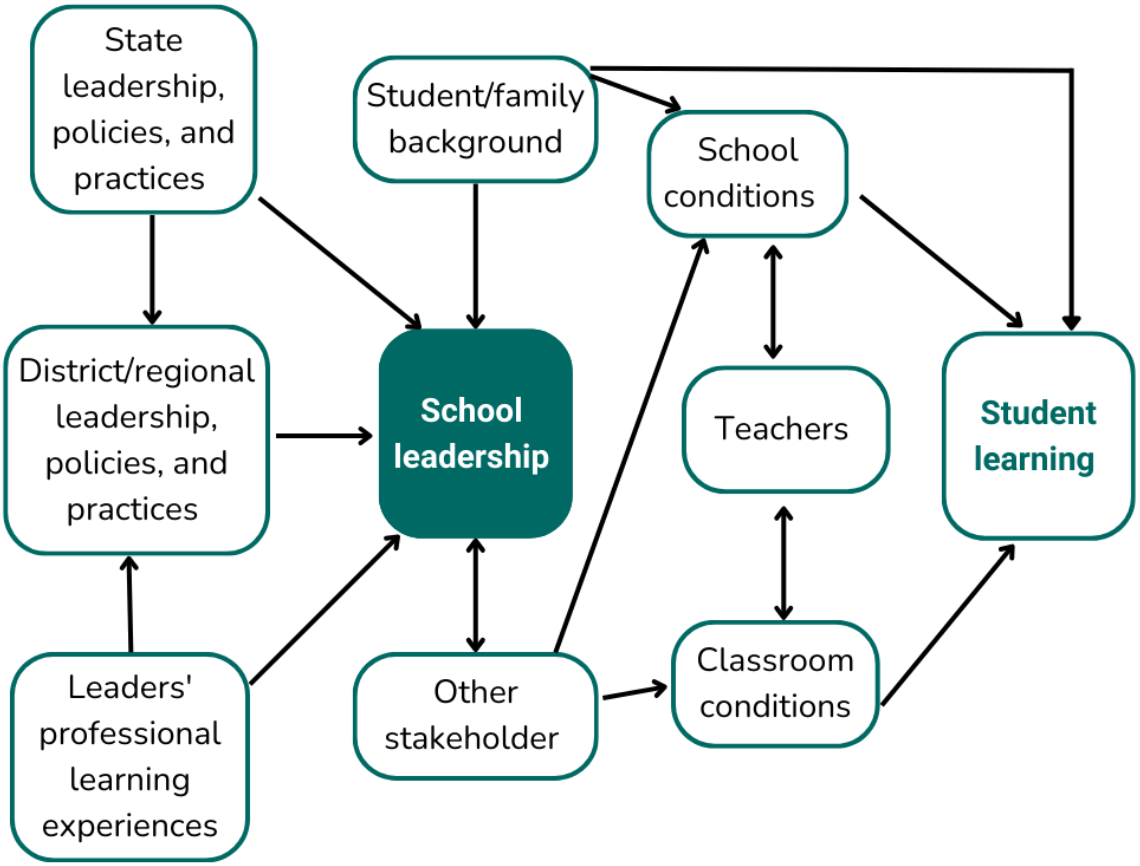
The importance of leadership

School leaders hold a critical position in managing the overall functioning of an institution. They are primarily responsible for managing resources and ensuring that the school runs smoothly on a day-to-day basis. However, the most significant impact comes from the "intangible work" of leadership. Leaders are essential in setting the tone for the group by establishing norms and fostering a particular working culture. This culture can be positive, driven by a clear and coherent vision that promotes collaboration and supports a healthy environment among teachers, or it can work against these goals if not managed effectively.

It is no surprise, then, that school leadership has been shown to influence various aspects of school functioning, such as the level of collaboration between teachers and the overall sense of collective efficacy within the school (Kurt et al., 2011). The importance of school leadership for the future is further emphasised in a 2013 OECD report, which highlights that leadership is essential to drive reform and innovation for the schools of the future. More importantly, school leadership has been shown to have an indirect impact on student achievement, largely through its influence on teachers and their effectiveness (Louis et al., 2010; Robinson et al., 2008), with some researchers placing it as one of the most influential factors for student performance (Leithwood et al., 2004).

The graph below illustrates how school leadership acts as the central factor influencing a number of elements that ultimately affect student achievement. Notably, it highlights how school leadership shapes both school-wide and

classroom conditions, which in turn influence teachers. Additionally, it is important to recognise that school leadership does not operate in isolation, but in relationship with other stakeholders and can be influenced by external factors such as national educational policy.



Adapted from Leithwood et al. (2004)

Research has investigated the effects and characteristics of several types of leadership in educational settings. Three in particular have received particular attention for their potential benefits:

- ***Transformational leadership*** focuses on elevating and aligning individual goals and values with the collective objectives of the organisation (Kurt et al., 2011). This approach emphasises emotions and values, and the ability of a leader to unite the group around a common vision. The aim is to foster the development of higher personal commitment to organisational goals. Research in school leadership has found that transformational approaches positively influence teacher work attitudes and outcomes as well as teacher self-efficacy, in contrast to transactional leadership, which relies on exchanges or rewards.

- ***Instructional leadership*** enhances schools by promoting formal instructional collaboration among teachers and developing their instructional abilities, ultimately leading to increased collective teacher efficacy (Goddard et al., 2015). This approach focuses on the improvement of student learning, through school leaders prioritising the enhancement of instructional practices. By focusing collective school efforts on improving instruction, leaders can effectively direct and support teachers in their professional development, ensuring that the best teaching methods are employed to maximise student achievement.
- ***Distributed leadership*** emphasises the synergistic interactions between leaders, subordinates, and the context (Liu et al., 2016; Liu & Watson, 2020). This model fosters collective leadership practice by involving in positions of leadership individuals with essential expertise. The expectation is that leadership is distributed among teachers, filling both formal and informal roles, according to their skills. Distributed leadership encourages organisational affiliation, enhances teacher efficacy, and strengthens organisational commitment, as it emerges when people come together with a common purpose.

True shared leadership

With its focus on shared responsibility and collaboration among members of a school community, distributed leadership highlights the importance of teachers to participate in the decisions affecting them. For leadership to truly serve the community, members of the community — in the case of schools, teachers and students — must have the ability to collaborate and make decisions that impact their lives directly (Liu et al., 2016; Liu & Watson, 2020). However, for it to be truly effective, distributed leadership must be genuine rather than symbolic or tokenistic. A common issue is that school leaders often perceive leadership as more distributed than teachers do, highlighting the risk of superficial participation. Another important factor to keep in mind is that teacher characteristics influence their involvement in leadership roles. Teachers with more experience and advanced training are often given greater leadership responsibilities or are more up to the task of fulfilling these roles, underscoring the importance of investing in professional development (Liu et al., 2016). For teachers to assume leadership positions and fulfil these roles, schools must invest in teacher professional development, equipping them with the expertise necessary.

Fostering a culture of learning within schools is essential for promoting distributed leadership, a responsibility that school leaders also hold. This ideally leads to a positive cycle: strong school leadership cultivates an environment of continuous

learning, enabling teachers to acquire the knowledge and skills needed to take on leadership roles, thereby facilitating the distribution of leadership throughout the school.

The benefits of distributed leadership are significant. A study conducted across 32 countries found that shared decision-making was positively related to teacher collaboration, job satisfaction, and organisational commitment, while this was not true for principal-driven decision-making (Printy & Liu, 2020). Research has explored the broader impacts of distributed leadership, revealing that it is linked teachers' commitment to the school, increased trust and job satisfaction, and professional collaboration as well as improved teacher retention (Liu & Watson, 2020; Louis et al., 2010; Printy & Liu, 2020). But one of the greatest impacts of shared leadership may be its ability to reduce teacher isolation and increase commitment to the collective goals of the school. By fostering a collaborative culture, distributed leadership not only strengthens individual teacher engagement but also contributes to the overall success and cohesion of the school community.

The purpose of leadership

What does a school leader do? What should be the objectives of leadership? In a review of best practices and case studies by Robinson et al. (2009), eight broad dimensions of effective school leadership were identified as particularly important:

1. *Establishing Goals and Expectations*: Leaders must emphasise the importance of goals, help to set them and ensure that they are clear. It is also important they develop the capacity to set appropriate objectives with their staff.
2. *Resourcing Strategically*: Leaders should handle resources in a way that directly supports the school's teaching goals and educational philosophy. This approach requires setting clear criteria to decide where resources—such as funding, time, and personnel—should go, so they align with the school's educational aims.
3. *Planning, Coordinating, and Evaluating Teaching and the Curriculum*: Leaders play a key role in managing how the curriculum is taught and assessed. This includes organising and supporting teachers in delivering lessons effectively, ensuring that the curriculum aligns with educational standards and goals, and continuously evaluating both teaching practices and student outcomes.
4. *Creating Educationally Powerful Connections*: Leaders should focus on establishing continuity between student identities and school practices, developing coherence across teaching programs and grades, and ensuring effective transitions across educational settings.

5. *Promoting and Participating in Teaching, Learning, and Development*: Leaders must maintain an intensive focus on the relationship between teaching and learning, promoting collective responsibility and accountability for student achievement and well-being.
6. *Engaging in Constructive Problem Talk*: Leaders should create a space for open and honest discussions about challenges. This involves guiding conversations in a positive and solution-oriented direction, encouraging team members to share insights, and working together to find effective, collaborative solutions.
7. *Ensuring an Orderly and Supportive Environment*: Leaders play a fundamental part in establishing a safe, respectful, and structured setting where students and staff feel supported and focused. They are responsible for maintaining this kind of environment, setting expectations for behaviour, promoting mutual respect, and providing the support needed for everyone to thrive academically and socially.
8. *Selecting, Developing, and Using Smart Tools*: Leaders should feel responsible for choosing and creating tools based on solid educational theories and careful design to improve teaching and learning. These tools, whether digital technologies, instructional methods, or assessment techniques, should be thoughtfully integrated to support effective educational practices. Leaders ensure that the tools not only align with the school's learning goals but also genuinely enhance the educational experience by making processes more efficient, engaging, or insightful.

The importance of context

Another important factor to note when speaking about leadership is context. When exploring leadership practices or deciding which leadership approach to adopt, it is essential to recognize that context plays a pivotal role in shaping effective leadership. Different contexts influence how leaders operate, the challenges they face, and the strategies they can implement. Below are several key contexts that should be considered when evaluating school leadership (Hallinger, 2016):

Instructional Context

This refers to the structure of the educational system in which leaders operate. Factors such as the level of centralization or decentralisation of schools, curriculum policies, and the degree of autonomy given to school leaders can drastically affect how principals and other leaders allocate their time and resources. For instance, in a highly centralised system, school leaders may spend more time implementing

top-down policies, while a decentralised system may require them to focus more on localised decision-making.

Community Context

The social environment of the school—whether it is rural, urban, or suburban—plays a crucial role in leadership. The community's characteristics, such as socioeconomic status, cultural diversity, and the presence of community conflicts, can shape leadership priorities. For example, a rural school with limited resources may demand a more resourceful, community-driven leadership approach, whereas urban schools may face different challenges, such as managing diversity and conflict.

National Cultural Context

Leadership is also deeply influenced by the national culture in which it operates. Cultural norms such as power distance (the degree of acceptance of unequal power distribution) and collectivism versus individualism shape how leadership is perceived and practised. For example, leadership models developed in highly individualistic countries may not translate well to collectivist cultures. For instance, research has found that when educators have tried to implement distributed leadership in Thailand, educators have adapted to fit the country's hierarchical cultural norms (Hallinger, 2016).

Economic Context

Economic factors significantly impact leadership decisions, affecting critical areas such as teacher quality, class size, access to technology, school facilities, and levels of parental involvement. In economically disadvantaged areas, leaders might have to prioritise resource management and equity, focusing on improving infrastructure and ensuring that students have access to basic educational tools. In wealthier contexts, leadership might focus more on innovation and enrichment.

Political Context

Leadership is also influenced by national political goals and policies regarding education. The government's stance on educational priorities — whether focused on improving student performance or more holistic approaches to education for example — will drive the actions of educational leaders. School leaders can be mandated to align their strategies with national education agendas, which are often shaped by political ideologies, funding, and reforms.

School Improvement Context

The history and trajectory of a school's improvement journey is another vital factor. This history shapes the school's culture and the leadership style that is needed. Leaders in schools with a strong history of improvement may focus on maintaining momentum and fostering innovation, while those in underperforming schools may need to focus on restructuring and boosting morale.

By understanding these different contexts, leaders can better adapt their strategies to meet the unique needs of their schools, ensuring their approach is both relevant and effective in driving positive outcomes.

The importance of organisational culture

When considering how a school or organisation learns and adapts, it's essential to recognize that this learning occurs within the context of a group, which collectively holds shared beliefs and norms. In organisations, these dynamics are reflected in their organisational culture, which is the shared values, beliefs, and assumptions that shape both the formal and informal practices of an organisation. It is the things "taken for granted" that often influence members of an organisation without their knowledge. This culture manifests in the rituals, norms, and priorities of the organisation, perpetuated through the socialisation of new members and the selective recruitment of individuals who "fit the culture".

However, organisations are not monolithic: they often contain subcultures and factions. These subgroups may have their own social ties, perspectives, and agendas, which can influence the larger organisational culture in complex ways.

In the educational context, school culture consists of the tacit assumptions and beliefs that educators develop as they confront the challenges of their practice over time, and as they adapt to the work in their own environment (Fives & Gill, 2014). These assumptions are considered valid when they work well and are subsequently passed on to new members of the organisation as the "proper" way to think, act, and perceive.

Barriers to organisational learning

Organisations do not always engage in continuous learning and improvement; in fact, there are often mechanisms in place that inhibit learning and reinforce the status quo. These barriers to learning are sometimes referred to as "learning disabilities" (Senge et al., 1990) or "dysfunctional learning habits" (Louis, 1994). Here are two common examples of how organisations maintain the status quo:

- *Competency Traps* (Ahuja, 2016; Levitt & March, 1988): Organisations can become overly reliant on their existing skills, practices, or competencies,

making it difficult to adopt new methods or technologies, even when there is an awareness that better alternatives exist. This happens because people often find comfort in familiar practices, and change, although beneficial in the long term, may not bring immediate benefits. The perceived risk and effort of adopting new approaches can keep organisations stuck in their current ways.

- *Organizational Defense Routines* (Argyris, 1987; Argyris & Schön, 1978): These are habitual, often unconscious patterns of behaviour within an organisation that protect it from perceived threats such as criticism, change, or external influence. These routines may be intended to shield the organisation from disruption, but they can also stifle learning and prevent necessary change.

Both of these mechanisms can create significant barriers to innovation and adaptability, preventing organisations from evolving even when there is a clear need for improvement.

→see self-efficacy spirals

→see pitfalls of collective efficacy

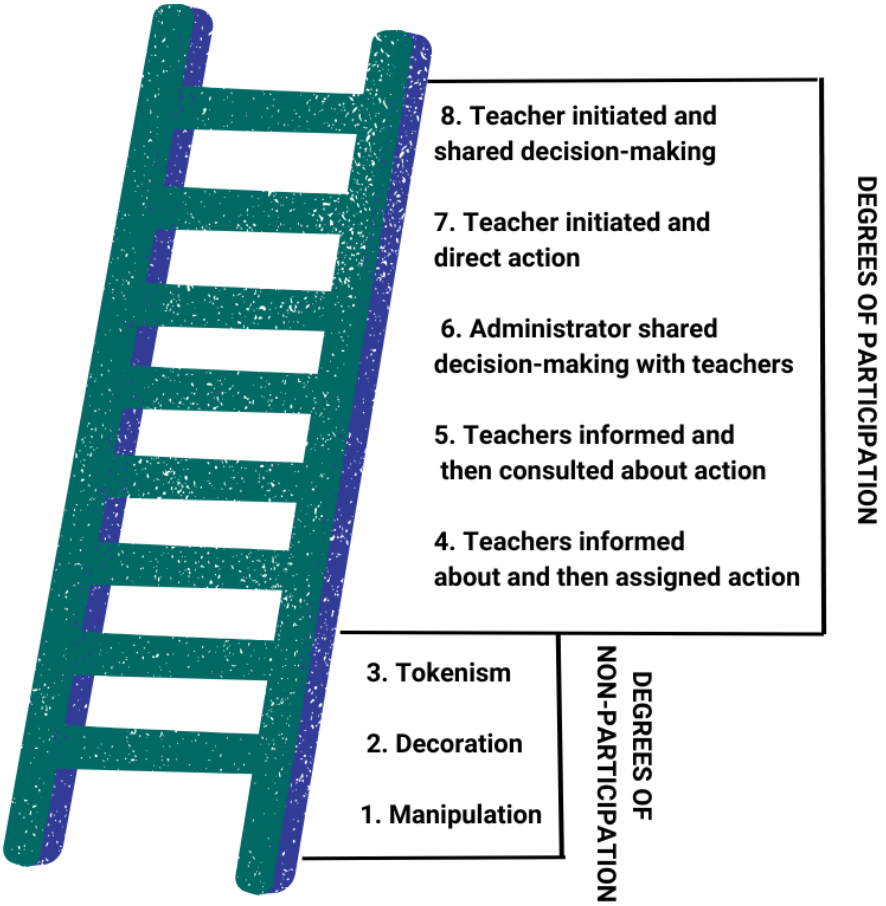
BOX 14. Data collection for teachers

Learning for teachers is a vital component of enhancing educational outcomes, as it involves a continuous process of improving instructional strategies. This improvement can take many forms, including collective inquiry, lesson planning, improvement cycles, and Professional Learning Communities (PLCs). These methods all rely heavily on the ability of teachers to effectively collect and analyse data about student performance and instructional effectiveness. This reliance reflects a broader trend in the educational landscape where data-driven decision-making is increasingly recognized as essential for fostering student achievement and adapting teaching practices. In today's data-centric world, teachers are often expected to utilise a variety of metrics to inform their practice, from test scores, to observation data they have collected themselves. However, the reality is that collecting and analysing this data can be a daunting task for many educators. The processes involved can be complex, requiring not only a significant investment of time, but also a level of expertise that many teachers may not have received during their training.

To address this gap, it is crucial to provide teachers with accessible and user-friendly tools designed to simplify the processes of data collection and analysis. These tools should be tailored to meet the specific needs of educators, enabling them to gather relevant data efficiently and effectively without too many technical complexities.

Reflection exercise: true teacher participation

It is essential that concepts like "teacher participation" and "distributed leadership" move beyond mere slogans and are actively implemented in schools. The graph below serves as a practical tool to initiate conversations about participation within the school community. In this tool, the various levels of participation, ranging from the lowest level of non-participation to the highest level of genuine participation, are visually represented as rungs of a ladder.



Adapted from Donohoo (2016)

To reflect on the topic of teacher participation, consider the levels of participation represented on the ladder and try answering these questions:

- Where would you place teacher participation in your school right now?
- What would be the ideal position on the scale from your point of view, and in relation to which tasks or areas? (For example, research suggests that teacher participation in different areas is no equally beneficial)
- How would ideal teacher participation look like in practice for you?

- What changes would need to occur to achieve this ideal level of participation?

SHARE IT IN A GROUP! You can use this exercise also for a group activity. You can discuss your notes with other teachers: what observations and feelings do you share? What differs? Remember to establish rules for sharing at the beginning of the activity that are comfortable for everybody.

DO IT WITH STUDENTS! This tool is the teacher version of a similar resource designed to foster student participation and leadership, which can be used with students to discuss their role in decision-making at both the classroom and school levels (Adam, 2005). You can introduce this activity to students as well to spark a meaningful conversation about active student participation.

Reflection exercise: norms and organisational routines in school

> "School community members learn to behave according to the manner in which the overall group behaves, and group members evaluate themselves and other members of the group according to the established norms of the environment" (Fives & Gill, 2014)

- Can you think of a norm in your school or group of work? What are the expectations involved in it?
- How well do you think you conform to this norm?
- What do you think this norm says about your work environment?
- What assumptions about teaching and students do you think this norm implies?

Regarding the norms in your school:

- which of them could work as "learning disabilities"?
- in what ways are they preventing change in the school?
- what measures would need to be taken for these norms to change?

SHARE IT IN A GROUP! You can use this exercise also for a group activity. You can discuss your notes with other teachers: what observations and feelings do you share? What differs? Remember to establish rules for sharing at the beginning of the activity that are comfortable for everybody.

Resources to learn more

Woolfolk Hoy, A., & Hoy, W. K. (2020). Instructional leadership: A research-based guide to learning in schools (5th ed.). New York: Pearson.

Senge, P. M. (2000). Schools that Learn. Nicholas Brealey Publishing.

Faddis, T., Fisher, D., & Frey, N. (2022). Collaborating through collective efficacy cycles: Ensuring All Students and Teachers Succeed. Corwin Press.

The power of collective action: schools as Common Good

CORE MESSAGE: Schools play a vital role in building communities. Even though fulfilling this role presents many challenges, schools as communities offer unique benefits when structured and supported effectively.

Over the years, the role of schools has evolved, increasingly emphasising their responsibility to serve as hubs of community and social cohesion. Schools today are tasked not only with educating individual students, but also with nurturing a well-rounded, interconnected society. While schools can serve as powerful drivers of social cohesion, fulfilling this mission is not without challenges. To face them, we can think about schools as a Common Good: a precious resource shared by everybody in the community. Understanding the unique challenges and contributions of schools as part of a bigger social net is essential for schools to contribute to a thriving society, making them a vital element of any community's long-term success.

Content of the chapter:

- What is social capital and how is related to education
- What is the social dilemma of the Common Good
- Schools as the Common Good
- What are the principles to govern the Common Good

Social capital (and schools)

Social capital refers to the networks, relationships, and social ties that individuals and communities possess and is a well-researched area in both sociology and education. This "capital" is valuable because it can be utilised to achieve various objectives and enhance overall well-being. Studies have shown that social capital can significantly impact several aspects of life (Field, 2003). For instance, strong social networks and relationships can provide crucial support in times of need, helping to protect against poverty and unemployment. When individuals are embedded in supportive social networks, they often have better access to job opportunities and resources that can buffer against economic hardship. Social capital has also been found to have positive effects on health. People who are connected to robust social networks tend to experience better mental and physical health outcomes, as they have access to emotional support and practical assistance.
To understand better how social capital functions, we can also look at the difference between kinds of relationships. The two main types are bonding and bridging social capital, both essential for different aspects of social life (Claridge, 2018):

Bonding social capital describes the close-knit relationships found within a group or community. It is built on strong ties between people who share similar characteristics, such as family members, friends, or neighbours. These groups are often defined by shared experiences, values, and a sense of belonging. Within these close relationships, trust and reciprocity are high, and individuals interact frequently, creating a network where most members know each other well. The primary function of bonding social capital is to provide emotional and material support, particularly in times of need. This form of social capital is crucial for "getting by", as it helps individuals and groups maintain stability.

Bridging social capital refers to connections between diverse groups, often crossing social boundaries such as class, race, or religion. These relationships connect people who would not typically associate with each other. Bridging social capital is characterised by more diverse, looser connections than those found in bonding social capital. These relationships may not be as deep, but they offer access to new information, resources, and opportunities that are otherwise unavailable within tightly-knit networks. This form of social capital is essential for "getting ahead", as it expands individuals' access to opportunities such as jobs, resources, or information. Through bridging ties, people can leverage networks that extend beyond their immediate social circles, enabling social and economic mobility. For example, professional networking across industries, collaborations between different cultural or religious groups, and community organisations that bring together diverse members are all instances where bridging social capital is at work. This idea aligns with the concept of "weak ties", which are the relationships individuals have with people they may not know well but who can offer access to new networks and opportunities. Weak ties serve as bridges to new resources, perspectives, and information, making them critical for personal and professional advancement (Putnam et al., 1994).

The study of social capital has been deeply connected to education, with research exploring its influence on educational outcomes, or the connection between social capital and *human capital*, as the skills, knowledge, and competencies individuals acquire. Research has shown a positive relationship between social capital and educational outcomes, with students whose parents are highly connected within their communities often perform better academically (Field, 2003; Dika & Singh, 2002). The networks that parents build can provide access to vital information about school systems, extracurricular activities, and educational resources, as well as emotional and social support. This interconnectedness among parents, teachers, and community members often translates into better educational opportunities and outcomes for students. Some studies have also highlighted the role social capital can play in supporting minority students (Coleman, 1988). When minority or marginalised students have access to strong social networks — whether through family, community organisations, or supportive peer groups — these networks act as buffers, helping students overcome barriers such as discrimination, lack of resources, or inadequate institutional support.

However, not all views are entirely optimistic about the role of social capital in education. Pierre Bourdieu's work offers a more critical perspective, suggesting that social capital can also play a role in reproducing inequalities (Bourdieu, 1986). Bourdieu connects social capital with *cultural capital*, which refers to the knowledge, behaviours, and skills that are valued by society and typically passed down through generations within certain social groups. According to Bourdieu, people tend to build social networks within their own communities, among people with similar cultural backgrounds, values, and social standing. This lack of "vertical mobility" across different social groups means that social capital can sometimes reinforce existing social divides, as people in privileged communities access and share resources that may not be available to others. In this way, social capital can help perpetuate inequality, as students from more advantaged backgrounds are more likely to benefit from networks that support educational success, while students from less privileged backgrounds may be excluded from these opportunities.

In fact, while many sociologists emphasise the positive effects of increasing social capital, others also point to the "dark side" of connectivity (De Lima, 2008). As well as the reproduction of inequality for instance, studies have also explored how close-knit groups can facilitate negative outcomes, such as the spread of teenage criminality or organised crime. In these cases, the strong ties that typically offer support and resources can also reinforce harmful behaviours.

Two key elements for understanding social capital, especially in the context of education, are trust and social networks.

Trust (in schools)

The importance of trust in the context of social capital has long been the topic of debate for its power to build or destroy relationships, especially in the context of collaboration (Ostrom, 2014). For a long time, the prominent view has been that human beings have a natural inclination to always maximise personal gains, sacrificing the collective good.

However, under certain conditions, humans still choose to be prosocial and to collaborate. In particular, a key element is the presence of trust and implicit norms about trust, like the assumption that collaborative behaviours will be reciprocated by other members of the group (e.g. “If I contribute, you will too, assuring that this is beneficial for all involved and there are no free-riders”). For the development of trust, certain conditions have to be met. Repeated interactions are crucial because they provide opportunities to observe others' behaviours, assess their trustworthiness, and develop reputations. When people communicate, they use it to establish norms, estimate trustworthiness, and ultimately increase cooperation, which means that humans are capable of adopting norms of reciprocity and cooperation, particularly in environments where interactions are repeated and trust can gradually form. However, in the same way that trust can build overtime, distrust can develop as well: humans are particularly sensitive to unfairness and the violation of norms of reciprocity can quickly create situations difficult for fostering collaboration.

As trust develops through repeated interactions, it also plays a crucial role in the functioning of organisations. In the case of interdependence, it can help reduce uncertainty, enhancing the productivity and efficacy of organisations, as well as allowing individuals to collaborate more effectively (Ostrom, 2014). Distrust, on the other hand, can be deeply disruptive and costly. A breakdown in trust — whether due to unmet expectations, perceived betrayals, or a lack of communication — can lead to conflict, disengagement, and inefficiency. Repairing trust after it has been damaged is a complex process that requires transparency, accountability, and often a commitment to rebuild through consistent positive actions.

In organisational contexts like schools, trust is not only the product of norms of reciprocity, but also norms about expected roles, which can be set through agreements, contracts or guidelines. Moreover, trust within an organisation is not static: it must be built and sustained over time. Initial trust might come from formal processes, like onboarding or defining responsibilities, but maintaining it depends on regular communication, proven competence, and reliability. The nature of the organisation’s culture is very important in these processes, and administrators and people in positions of leadership have a particular responsibility to create and maintain a culture of trust.

In particular, we can observe a number of factors influencing trust in organisations (Tschannen-Moran & Hoy, 2000):

- *Disposition to Trust*: Some individuals are predisposed to trust others more based on personal history and experiences with fulfilled or broken promises.
- *Moods and Emotions*: Trust judgments can be strongly influenced by emotions, which provide important signals about trust in ongoing relationships.
- *Values and Attitudes*: Trust judgments are often based on shared values like loyalty, fairness, and helpfulness.
- *Trust and Diversity*: People are more likely to trust those they perceive as similar to themselves, so diversity can make trust more difficult due to uncertainty about others' cultural norms.

In schools, trust plays a fundamental role in fostering positive relationships and effective functioning. Trust is crucial among four key groups: teachers, students, parents, and school administrators. A definition of trust that is commonly used in education is the one developed by Hoy and Tschannen-Moran (1999), focusing on trust as an individual's or group's willingness to be vulnerable to another party based on the confidence that the other party is benevolent, reliable, competent, honest, and open. In particular, trust involves:

- *Willingness to Risk (Vulnerability)*: a readiness to be exposed to potential risk or harm, expecting good results in return.
- *Benevolence*: the belief that others will act with goodwill and have the best interests of the individual or group in mind.
- *Reliability*: confidence that others will follow through on their promises and obligations.
- *Competence*: the assurance that others have the skills and abilities necessary to fulfil their responsibilities.
- *Honesty and Openness*: transparency and truthfulness in communication and actions.

Trust has been shown to have a direct impact on student outcomes (Fives & Gill, 2014). When students trust their teachers and school leaders, they are more likely to engage in learning, feel supported, and achieve better academic results. Similarly, teachers that trust their students will better engage with them.

Trust has been shown to have a direct impact on student outcomes. When students trust their teachers and school leaders, they are more likely to engage in learning, feel supported, and achieve better academic results. Similarly, teachers who trust their students are more likely to engage with them.

However, trust is not only an interpersonal dynamic but also an organisational characteristic of schools. This factor, sometimes referred to as Faculty Trust, is the collective trust that teachers, as a group, have in each other within a school setting (Hoy & Tschannen-Moran, 2003). Since teachers operate within similar roles and share common experiences, they develop a sense of collective trust that can shape the school's climate and culture. This phenomenon of faculty trust emphasises trust at the organisational level, where shared values and social processes foster a unified belief in mutual reliability and integrity among staff members. Schools with a culture of trust also support higher student achievement, as the better relationships between teachers, with administrators, students and parents have cascading effects on the effectiveness of teaching (Goddard & Goddard, 2001; Lee et al., 2011). A positive climate built on trust leads to better collaboration among teachers, stronger relationships with students and parents, and improved overall outcomes for students. It influences the way people engage with one another and contributes to the overall effectiveness of the school.

On the school level, a particularly important factor that has been shown again and again to impact teachers' level of trust is students' socioeconomic status (Van Maele & Van Houtte, 2009). Lower SES in fact has been consistently associated with lower overall Faculty Trust, and this association becomes stronger as the size of schools increase. This suggests that school climate and culture also plays a role in the often observed association of SES and student outcomes.

→ Fairness in collaboration, from pp. 134
→ Negative group dynamics through collaboration, from pp. 109
→ The importance of organisational culture, from pp. 154

Social Networks (in schools)

Social networks are a crucial element of social capital, as groups of people or institutions connected by relationships. The networks however are measured not only in the number of relationships, but also in the quality and configuration of these connections. In education, social networks are explored through two key lenses: (1) how these networks facilitate knowledge sharing to drive innovation and school reform, as well as how they function as support systems, including understanding how the informal network of relationships among teachers can assist them in their profession; and (2) how to purposefully build networks among teachers or schools for professional development (Rincón-Gallardo & Fullan, 2016). Effective social networks allow teachers to exchange information, practices, and experiences that foster continuous professional growth and collaborative problem-solving (Moolenaar et al., 2012).

Research has identified four key dimensions that enhance the effectiveness of teacher networks for building social capital (Coburn & Russell, 2008):

1. *Structure of Social Networks*: The strength and configuration of ties between teachers influence the transfer of knowledge. Strong ties, with frequent and emotionally close interactions, support the exchange of complex or sensitive knowledge, while weak ties are important for spreading new ideas and technical advice. Additionally, ties that reach different groups or schools are crucial for accessing different information than the ones in one's own environment.
2. *Trust*: Trust between teachers forms the foundation for effective collaboration and to build networks. High levels of trust foster openness, shared expectations, and a sense of safety.
3. *Access to Expertise*: Teachers within networks often act as valuable resources based on their expertise. Networks that provide access to diverse expertise are more effective, as teachers can draw on a variety of knowledge to improve practices.
4. *Content of Interaction:* The content of conversations within networks also matters. Discussions that are deeply rooted in educational reforms drive professional development, while those that reinforce conformity can hinder innovation. It is important to focus on content that promotes learning and reform, ensuring that interactions are constructive.

Several key factors shape the development and functioning of teacher networks. Teachers tend to form connections with colleagues who share similar professional values, beliefs, or areas of expertise, leading to natural clusters within schools or departments. Additionally, formal organisational structures, such as departments, grade levels, or teams, influence the patterns of interaction, often determining how and with whom teachers regularly communicate. Lastly, school leadership is crucial in cultivating an environment that supports trust, open communication, and shared norms of collaboration, providing the conditions necessary for networks to thrive and effectively contribute to professional development and school improvement.

While most of the research has focused on the benefits of social networks in education, there are important downsides to point out (De Lima, 2008). For instance, managing networks can become complex and time-consuming. Power imbalances pose another issue, as reliance on certain members or schools as "experts" can create dependence, stifling the development of independent problem-solving. Networks can also reduce teachers' autonomy in decision-making and lead to conflicts between different educational philosophies; or on the other extreme of the spectrum they can reach over-integration, where tightly-knit groups reinforce their own ideas and become insular, limiting innovation and openness to new perspectives.

→ The importance of leadership, from pp. 148

→ Practices of teachers' collaboration (around the world), from pp. 113

→ Groupthink, pp. 110

BOX 15. A network for European teachers

As the role of social networks in sharing best practices and supporting teachers has gained recognition, school systems around the world have increasingly focused on intentionally building teacher networks across various levels. These networks are being developed within and between schools, nationally, and even internationally. One example is eTwinning Europa, "a community for schools, an online space for teachers and school staff to collaborate and develop national and international projects" (European Commission, n.d.). Teachers are connected through the online platform eTwinning (www.etwinning.net), where they can connect from teachers around the EU, develop projects together and take part in different offers for professional development.

A (social) dilemma about collaboration: the Common Good

Interdependence means that people in a community rely on one another for support and resources. This idea is closely related to the Common Good: the resources and conditions that benefit all members of a community. If we are all connected, we all share the same resources. This idea is evident for example on a global scale with the Earth's ecology, but it also holds true for smaller communities, including schools. In schools, the shared resources among teachers and staff include not just money, but also time, energy, and physical space.

For many years, the prevailing view was that humans are inherently selfish and that collaboration is difficult because in a situation where common resources need to be shared, individuals will try to maximise their personal gain without considering the good of others, potentially leading to disastrous consequences for everyone. This perspective was largely based on Garrett Hardin's theory on the Tragedy of the Commons (Hardin, 1968). Hardin illustrated this with the example of a shared village pasture, where each herder seeks to increase their herd size for personal benefit, ultimately resulting in destruction of the pasture.

This model highlights an important social dilemma: actions that benefit individuals in the short term can result in collective negative outcomes in the long term. To resolve the dilemma, every member or at least the majority of the community should prefer the benefit of everybody over their own, and even though this is not an easy task, it is not impossible to achieve.

An important shift in perspective was introduced by the work of economist Elinor Ostrom. Through a series of studies on self-governed communities, Ostrom demonstrated that humans can successfully collaborate to share and simultaneously preserve the Common Good (Ostrom, 1990). She found that, under certain circumstances, communities can effectively self-organise and manage shared resources sustainably. These conditions were then developed by Ostrom in a series of principles to help communities to self-governance.

Thanks to the adaptability of Ostrom’s principles, they can be easily implemented also in school settings. Here they can help teachers and administrators to establish clear expectations and responsibilities, promote open communication, and encourage a sense of shared purpose. All of these elements are important to create an environment where cooperation thrives.

For instance, teachers can coordinate their schedules and curricula to reduce workload overlap and enhance the learning experience for students. Volunteering for school duties, such as hall monitoring or serving on committees, can be more evenly distributed and managed effectively when everyone understands the collective benefit. By viewing the school as a Common Good - something that we all collectively own and should feel responsible for - , we can ensure that our collective resources—time, energy, and money—are managed in a way that benefits everyone. Moreover, creating a strong community within the school can help overcome the social dilemmas that often hinder collaboration. When teachers and staff feel a shared responsibility and see the long-term benefits of working together, they are more likely to engage in cooperative behaviours. By aligning individual motivations with the Common Good, schools can create a sustainable and positive environment that enhances both teaching and learning.

Ostrom's core design principles (in schools)

Core design principle	*Description*
1. Shared group identity	It is clear who belongs to a group, and all members have a shared sense of common goals and identity.
2. Fair distribution of costs and benefits	The costs incurred by members for cooperation are distributed in proportion to their benefits.
3. Fair and inclusive decision-making	Most individuals in the group can participate in decisions that affect them and set or change the rules of the game.
4. Transparency and monitoring	The community observes and monitors whether everyone behaves according to the rules and whether common goals are achieved.
5. Graduated responses to helpful and unhelpful behaviours	Rewards for valued behaviours and punishments for misbehaviours start at a low level (e.g., friendly discussion) and are increased in proportion to how helpful or unhelpful the behaviour is.
6. Fast and fair conflict resolution	There are mechanisms for resolving conflicts among members in ways that are efficient and perceived as fair by those involved.
7. Autonomy to self-govern	The group has a minimum of rights and the freedom to set its own rules without interference.
8. Cooperative relations with other groups	The group has collaborative relations with other groups, according to the previous principles.

The Ostrom's core design principles (CDP) listed above were originally developed through the economist's research to manage shared resources, but they have demonstrated to be highly intuitive and adaptable across various systems (Ostrom, 1990). These principles can be effectively applied in different contexts, including schools, and at multiple levels, such as teams of teachers, individual schools, or networks of schools. A key concept within these principles is the idea of *self-governance*, which emphasises the importance of autonomy and self-determination of groups. While the principles serve as a valuable guideline, each group has the flexibility to tailor them according to its unique circumstances. For instance, defining what constitutes a "group" in a school context is essential to applying the first core design principle (CDP1). In the same way, monitoring (CDP4) can be done through different methods: for example, hiring a designated person or rotating responsibilities among group members.

CDP1: Shared group identity

A group thrives when its purpose and mission are clearly understood and valued by its members, and when it fosters a strong group identity that makes members proud to belong to the group. This sense of identity and purpose is strengthened by establishing clear boundaries, which define who belongs to the team, community, or organisation and outline their responsibilities. When members feel connected and share a sense of belonging, they care for each other and the broader group. Research shows that when individuals define themselves through group membership, they are more willing to use fewer shared resources and contribute more to the Common Good. However, some critics argue that rigid boundaries may limit flexibility, suggesting that in certain systems, more fluid, adaptable boundaries are needed for effective collaboration. As we've discussed earlier, shared values and the culture within a school are essential for fostering collaboration among teachers. While values and culture often go unspoken, it's important to intentionally define and articulate what values are shared and what type of culture the school aims to cultivate. This process requires purposeful dialogue and deliberate action to ensure alignment and understanding within the school community.

CDP2: Fair distribution of costs and benefits

Most people have a strong sense of fairness, which is disrupted when someone in a group receives benefits disproportionate to their contribution. To maintain fairness, it's important to allocate resources in a way that meets everyone's needs and ensures benefits are distributed as equitably as possible. This raises the question: how can we ensure fairness within the group and create a situation where everyone benefits? First of all, what is fair can have different meanings and applications, so it is important to discuss and come to an agreement about it. In schools, these discussions should involve those directly affected by them, such as teachers, students and school leaders.

CDP3: Fair and inclusive decision-making

Decision-making processes need to involve all those affected by the outcomes of the decisions. This does not necessarily only involve complete consensus, but rather a process that takes into account various perspectives and needs, even if the final decision isn't agreed upon by everyone. In a school, where a large number of people with diverse opinions are involved, this means developing practical solutions that allow everyone — both students and teachers — to feel heard and valued. It also requires implementing structured systems for decision-making that everybody recognizes and agrees upon as fair. Additionally, because school systems impose certain constraints and regulations on individual schools, students and teachers may not be able to influence every aspect of school life. These limitations should be clearly communicated during decision-making to ensure that students and teachers understand and can work within the possible boundaries.

CDP4: Transparency and monitoring

Groups need effective coordination and protection from disruptive behaviours, both internal and external. In hierarchical organisations, monitoring behaviours is usually the responsibility of a manager or authority figure. However, this top-down approach is often seen as controlling and tends to prioritise the interests of those in power rather than the group members. It can also lack transparency, leading to an increase in self-serving behaviours. Peer monitoring, where group members monitor each other, integrated into the group's regular interactions, tends to be more effective and transparent. In schools, this raises questions about how these systems could be implemented. In particular, what would transparency look like? What would need to be shared and what to remain private?

CDP5: Graduated responses to helpful and unhelpful behaviours

Groups use a range of responses to handle unwanted behaviour, from friendly conversations to penalties or even exclusion if needed. It's important to combine sanctions with appreciation, kindness, and understanding. This principle isn't just about punishing bad behaviour, but also about encouraging good behaviour. Members should feel valued and supported so they stay committed to high performance and address issues with fairness and compassion, even if they make mistakes. An environment that is too harsh might lead people to feel overly watched. With this in mind, how well can we address unhelpful behaviour and reward positive actions in schools? What tools do we have in schools for teachers and students, and could we work together to find better tools to encourage cooperation and discourage unproductive behaviours?

CDP6: Fast and fair conflict resolution

Groups require effective processes and skills to resolve differences in perspectives and goals. A key aspect of group success is the ability to manage conflict constructively. To maintain a sense of harmony, conflict resolution should address issues in a way that restores relationships and trust, reserving punitive measures for only the most serious transgressions. Conflicts can arise for a number of different reasons and require different tools to deal with them appropriately. For example, a violation of expectations, obligations or norms as a cause of conflict could be addressed by systems of monitoring, punishment and reward, already mentioned in the previous principles. However, as mentioned above, professional collaboration in education is unique in that it involves fundamental personal beliefs. Conflicts that arise from a difference in values can be tricky to navigate, but they are an inevitable part of education as a profession.

CDP7: Autonomy to self-govern

Every group exists within a broader society, which can sometimes limit its ability to self-govern. These external constraints may make the application of core principles like decision-making, conflict resolution, and fair decision-making processes difficult. For groups to be effective, they need enough local autonomy to manage these internal processes without excessive interference from outside entities with different agendas. So, even if limited, it's important to ask in what areas the group has the authority or at least more room to govern itself without external influence. Curricula might be designed at the national level for example, but what room do teachers have to self-organise around teaching instructions and lesson planning? And what space can the students reclaim for themselves? Budget limitations might restrict investments that a school can make, but how can a more inclusive decision-making allocate funding in a way that is best for the community?

CDP8: Cooperative relations with other groups

A group must maintain healthy relationships with other groups, guided by the same principles that shape interactions among its own members. Just as we aim for fairness, cooperation, and sustainability within our group, these values should also extend to how we connect with other groups. Good relationships with others can help us achieve more that we could on our own. In the school context, the last decades have seen a multitude of initiatives to create connections between schools and between teachers, even at the international level. Through these networks, professionals can share information, best practices and support each other beyond their local contexts.

BOX 16. The Good Behaviour Game: an application of Ostrom's principles for students

The Ostrom principles are useful because they're easy to understand and apply in different situations. They are based on common-sense ideas, and it's not rare to find these principles echoed in other practices. For example, the Good Behavior Game, used in many U.S. schools as a simple method for managing classroom behaviour, contains many elements that reflect Ostrom's principles about self-governance.

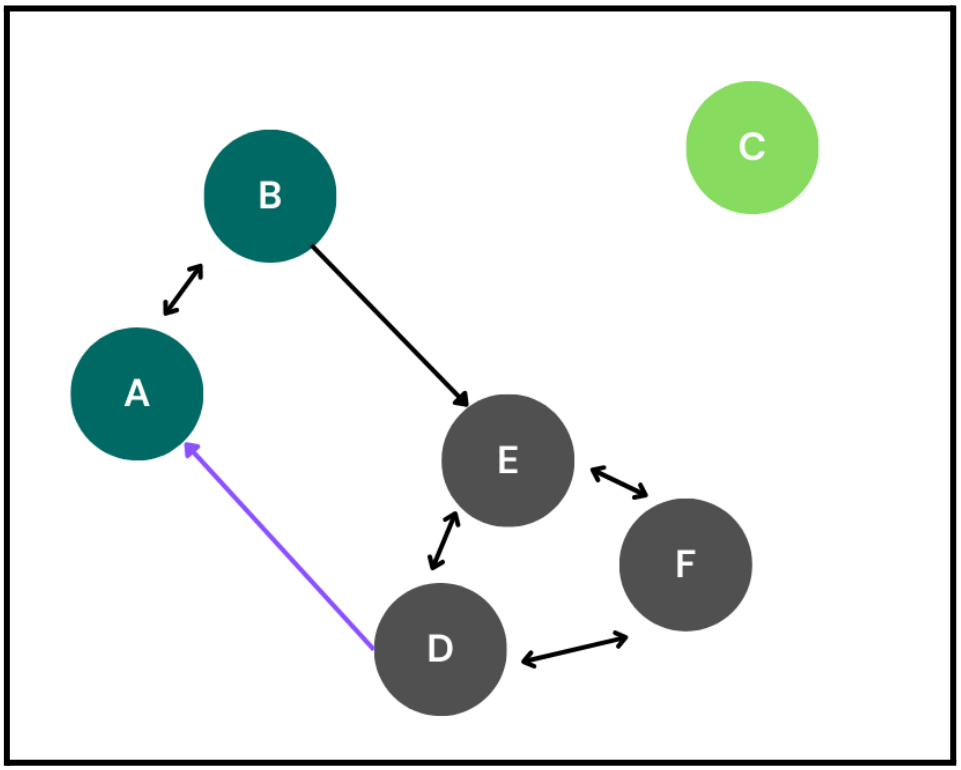
The game is designed to help students self-manage their behaviour. The game is structured around four core elements: clear classroom rules that set expectations, team memberships to encourage peer support, monitoring of both student and teacher behaviour, and reinforcement that encourages or discourages specific behaviours (Embry, 2002). The game has proven highly effective not only in managing classroom behaviour but also in enhancing student performance, particularly benefiting boys. Remarkably, its positive impact extends for years after its implementation in areas outside of school achievement, like reduced negative mental health outcomes and reduced or delayed engagement in behaviours like smoking, anti-social behaviour and drug use (Evidence Base, The Good Behavior Game at American Institutes for Research, n.d.).

As the first step, the teacher engages in a discussion with the class about what the ideal classroom climate would look like for them and what behaviours would be desirable or discouraged in that classroom, essentially treating the classroom environment as a Common Good and compiling a list of rules that need to be followed for managing this resource. Afterwards, the class is divided into teams that will play the game competitively against each other, initially for a brief period of time (e.g. ten minutes three times per week), that can be increased over time. Teams lose points when students engage in a behaviour that was agreed upon as undesirable, and can gain points when engaging in a positive behaviour. The winner team(s) get access to special benefits or rewards that can also be discussed with the class. This simple game setup can help students self-regulate their own behaviour by making them more aware of how it affects others in a group.

Reflection exercise: visualising (educational) networks

Visualising social networks can be a powerful tool for teachers, offering valuable insights into the dynamics of their classroom and educational environment, or as a self-reflection tool about their own relationships. By visualising networks, teachers can map out relationships between students, identify key influencers, and understand how collaboration and communication flow within their class or school. For instance, understanding how students interact can help a teacher identify potential conflicts, opportunities for group work, or gaps in social connections that need addressing. Moreover, network visualisation can also be applied to understand interactions with parents, other educators, and stakeholders, providing a comprehensive view of the broader educational ecosystem.

Visualising networks involves drawing a map of relationships and interactions. Each person or entity in the network is represented as a node (a dot), and each connection or relationship between them is shown as a tie (a line connecting the dots).



Here are some simple instruction to drawing a network:

Decide What to Visualise

You can use network visualisation for various purposes, e.g.:

- Self-reflection: understand your own connections and interactions.
- Student relationships: see how students interact with each other.
- School and stakeholder connections: map out relationships between schools and other stakeholders.

Identify Your goal and start with a clear question

What do you want to learn from the network? According to your goal, you can ask different questions. Examples might include understanding collaboration among students (e.g. Who would you like to work with on a group project?), identifying key influencers in a school (e.g. Who would you ask for help?), or mapping communication channels with stakeholders (e.g. What institution/office do you need to contact to carry out this task?). You can also ask for additional information, for example to rank the relationships based on particular criteria or to assign a score based on closeness or importance. If applicable, you can leave open how many/which persons to mention or you can give a specific list of students, teachers, or stakeholders. The choice depends on the purpose of your questions and how much you already know about the network. Leaving options open-ended is useful if you're still exploring and don't yet have a clear idea of which individuals or nodes are part of the network. In this case, open-ended questions can help you identify and learn more about the different people or roles involved. On the other hand, providing a specific list is beneficial when you have a defined group in mind—such as a set number of individuals, a particular subset of nodes, or when you're seeking insights about specific people.

Collect data

To collect data, you need to find appropriate ways to ask your questions (e.g. through questionnaires). If asking directly is not appropriate, you can change your question to be answered through observation. For example, to draw a network about friendship in your classroom, you could ask students to reply in writing to the question "who do you like to spend time with during the break? / who do you usually spend your time with during the break?" or, you could collect the same information by observing students' interaction during a couple of breaks and noting which students choose to spend time together. Questions can also be posed in negative terms (e.g. "Who would you not want to spend your break with?"). This

type of network can give information about negative relationships between students or teachers.

Draw the Network

On a piece of paper or using a software (e.g. Kumu, Gephi, NodeXL, Polinode) draw the nodes and connect them with ties. Depending on the purpose of the network, ties and nodes can be customised in many ways to include different information: dots can be coloured, have different shapes or be bigger/smaller accordion to a specific characteristic; ties can also have different colours or styles, but can also indicate the direction of the relationship (both ways, only one way or unspecified). Example: Imagine you have a network of students working on a group project. Each student is a node, and lines connect those who work together frequently. Thicker lines could represent stronger, more frequent interactions.

Analyse the Network

Look for patterns: identify key players, clusters of closely connected people, or any gaps in connections.

Use insights: apply your findings to improve interactions, foster collaboration, or address any issues.

You can start to practice by making a network about you. These types of networks, that focus on the relationships of one person instead of the relationships between many people, are called ego-networks and can give useful insights into how the social world of one specific person looks like. The following are two example questions you could start with to visualise networks about yourself.

- *Helpful network*: in your school, who would you go to for professional advice? Is that also someone outside of your school? Would you ask for help from different people for different tasks?
- *Friendship network:* in your school, who would you prefer spending lunch or a break with? Name at least 5 people and rank them from most to least preferred.

You can transform this ego network into social networks by gathering insights from other teachers, asking these questions and merging the collected data.

SHARE IT IN A GROUP! You can use this exercise also for a group activity. This could become the template for a first research project in the school as part of a community science approach.

Group activity: discussing the CDPs

The following is a list of the Ostrom's principles, each illustrated with examples in the school context. To provide a broader perspective, both successful and poor implementations are illustrated.

Core design principle	*How this principle could be implemented well*	*How this principle could be violated or be implemented poorly*
1. Shared group identity	Students and teachers reflect and share regularly on what is important to them about going to/working in school.	Students and teachers are 'just following the rules' without reflection on what they care about and why they are in school.
2. Fair distribution of costs and benefits	Students who work hard and are trying their best are receiving recognition for their effort. Teachers and students who work hard to help others and make their school an enjoyable place, receive recognition for their efforts.	Some students feel that group work is unfair because they often have to do all the work and other students benefit from it. Some teachers feel that their commitments and hard work are exploited by other teachers, students, school administration or parents.
3. Fair and inclusive decision-making	Students and teachers are able to have some choice about the kinds of things they want to learn about, and the kind of examination method they prefer.	Students are not represented in school governance. Teachers and students feel that the curriculum is imposed on them without them having any say in it.
4. Transparency and monitoring	Everyone in the school is encouraged to report any problems that they notice, such as bullying or discrimination. Students pay attention to each other and notice if someone has problems.	The principal and the teachers are constantly monitoring all the students, and some students find that coercive. Teachers and students don't notice or ignore bullying behaviour.
5. Graduated responses to helpful and unhelpful behaviours	Students know that if they are caught cheating in exams, they will fail the exam. When a student forgets an important assignment, the teacher tries to talk to the student to find out what happened and to discuss how it can be prevented next time. If undesirable behaviour from a student or teacher persists, stronger consequences are implemented.	A teacher gets angry and punishes a student harshly for forgetting homework one time, and the teacher does not try to understand the possible reasons for the student's behaviour. Students are only evaluated in a single, high-stakes exam, so that any mistakes in that test have big negative consequences for their future. Teachers notice bullying behaviours or discrimination in their school, but they don't do anything about it.

6. Fast and fair conflict resolution	Students and teachers have the opportunity to learn about and practice skills of active listening, perspective taking, self-regulation, and developing awareness of the wider context of a situation. There is a clear process for conflict resolution that all school members know about and consider fair.	School administration thinks that conflicts between groups of students are not their responsibility, and there is no system to support students in managing and solving their conflicts. Conflicts between a teacher and a student always end in favour of the teacher, which makes students feel that the system is unfair.
7. Autonomy to self-govern	A classroom is encouraged and allowed to set their own rules about classroom management. Schools have some freedom to decide which subjects to specialise in, or which kinds of extracurricular activities and learning opportunities to provide to their students.	A teacher is made accountable for improving test results, but she is not given the authority to change the way she teaches. A school principal wants to encourage his teachers to teach across disciplines, but the state education system demands that his school just achieve high test scores in individual disciplines.
8. Cooperative relations with other groups	A school has partnerships with community organisations so that they can improve their school and their community together. Teachers work with researchers and with teachers from other schools and disciplines in order to improve and innovate their teaching.	The teachers of a school compete with each other for resources and for the approval of students and the administration.

To begin the exercise, each participant should read the list provided individually to familiarise themselves with the content. Then divide into small groups to encourage collaboration and discussion. Groups can be divided according to the principle(s) that are of most interest to the members. Alternatively, the principles can be divided equally to all the groups, according to the number of groups. In these groups, discuss how to implement the principles effectively by identifying best practices and strategies for successful execution. Additionally, explore what to avoid in order to prevent poor implementation by highlighting common mistakes and pitfalls. Once the discussion is complete, summarise your group's key insights and prepare a brief presentation. Finally, present your group's conclusions to the entire plenary session, allowing for further discussion and feedback.

Here are some questions that might be useful for discussion:

- Why do I think this principle is important (or not) for my school?
- Do I see this principle already fully or partially implemented in my school? What are the effects?
- In what way would this principle help my school?
- What conditions should be met in my school for this principle to be implemented currently? What would that look like?
- What could happen in my school for the principle to not be implemented currently or not work? What obstacles could be faced in its implementation?

Resources to learn more

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