

What Drives Student Achievement?

Evidence for Policy, Practice and System Improvement

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Introduction

Student achievement is shaped by multiple interacting factors that operate across different levels of the education system and society. Contemporary research emphasizes that improvements in student outcomes are not pre-determined by characteristics of individual families, communities and broader society but depend on the quality of teaching, classroom conditions, school-level practices and broader education system structures ([OECD, 2019](#); [World Bank, 2018](#)).

To better understand these influences, research often distinguishes between two broad types of factors. The first includes factors that schools and education systems can directly influence, such as teaching quality, classroom environment and leadership. The second includes factors that students bring with them to school, such as socio-economic background, community influences, family resources and early learning experiences. This distinction is important because, although out-of-school factors can strongly shape overall achievement, they are not easily changed through education policy. In contrast, school-based factors represent the most direct and actionable areas for improvement within the education system.

Research has strengthened this perspective by identifying the relative contribution of different drivers of student achievement. In particular, research on school quality demonstrates that while contextual factors such as socio-economic background remain important, factors within schools, especially teaching practice and classroom environment, are among the most powerful and actionable drivers of achievement ([Australia Department of Education and Training, 2017](#)). In addition, system-level structures such as provincial and school board policies, curriculum frameworks, and accountability mechanisms shape how effectively schools translate resources into learning.

At the same time, student outcomes are shaped by additional factors co-created by both home and school, including motivation, engagement and self-regulation. For example, classroom practices, teaching practices and the broader school environment all affect student achievement indirectly by shaping students' engagement, perceptions and learning behaviours ([OECD, 2021](#)).

This review synthesizes research on the key drivers of student achievement and organizes evidence according to the relative strength of different drivers, with particular attention to those that can be influenced through policy and practice. Based on research and policy reports, the factors influencing student achievement can be organized into three broad domains:

- Factors within the control of schools and education systems (e.g., instructional quality, classroom environment, leadership and system-level policies)
- Student and family background factors that students bring to school (e.g., early childhood environment, family and community context)
- Co-created factors, such as motivation, engagement and self-regulation, which link home and learning environments with achievement

Factors Within the Control of Schools and Education Systems

Classroom-Level Structures and Policies

Instructional Quality and Teaching Practices

Teaching quality is consistently found to be one of the most influential school-based drivers of student achievement. Evidence shows that classroom practices and teacher–student interactions have direct effects on both academic achievement and social-emotional development, while broader school-level conditions such as classroom climate and school culture shape these outcomes at a systemic level ([OECD, 2021](#)). This is strongly supported by evidence from national and international research that demonstrates that teaching practices and quality, as well as classroom environment, are the most significant contributors to variation in student outcomes among school-based factors, explaining a greater proportion of achievement differences than any other school-level driver (see below for discussion of other school-level drivers) ([Australian Education Research Organisation \[AERO\], 2023a](#); [Centre for Education Statistics and Evaluation \[CESE\], 2025](#); [Hattie, 2017](#); [OECD, 2025a](#); [Woessmann, 2016](#)). Research on teacher effectiveness further demonstrates that variation in teaching quality explains meaningful differences in student achievement ([Rivkin et al., 2005](#)), even after accounting for student background characteristics ([Darling-Hammond et al., 2000](#)). Together, these findings suggest that improving instructional quality represents one of the most powerful and actionable levers available to schools seeking to improve student outcomes.

Recent research also highlights that students achieve better outcomes when instruction is clear, engaging, responsive to their needs and supported by the effective use of assessment and feedback ([What Works Clearinghouse \[WWC\], 2021](#); [CESE, 2025](#); [OECD, 2025a](#)). Research synthesizing findings from cognitive science and classroom studies highlights the importance of structured, explicit and scaffolded instruction for improving student learning outcomes, particularly among students who require additional support ([Rosenshine, 2012](#)). Key practices include modelling, guided practice, questioning, regular review and ongoing checks for understanding. The effective implementation of these approaches depends not only on classroom practice but also on access to professional learning, instructional coaching and leadership supports that promote consistent use of evidence-informed instructional strategies across schools ([Campbell et al., 2017](#); [Kuhfeld et al., 2025](#); [Rosenshine, 2012](#)).

Evidence indicates that effective instructional practices are characterized by a set of core features, including the following:

- Explicit and structured instruction, supported by clear academic language, use of visual representations and models
- Assessment-informed teaching, where ongoing assessment is used to identify and address learning gaps and tailor instruction
- Encouraging collaboration and peer learning
- High expectations and effective classroom management, which create the conditions for sustained engagement
- Scaffolded practice and targeted intervention, particularly for students experiencing learning difficulties
- Timely and actionable feedback, which supports student progress and understanding
- Responsiveness to diverse learner needs, through intentional lesson design and differentiation ([AERO, 2025](#); [Hattie, 2009](#); [Hattie, 2017](#); [WWC, 2021, 2022](#))

Importantly, no single strategy is effective in all contexts. The impact of instructional practices depends on how well they are implemented and how effectively they respond to student needs. Therefore, effective instruction is adaptive and dynamic, requiring teachers to draw on a range of strategies and adjust their practice based on student progress and classroom context. This adaptive approach is widely recognized as essential for supporting diverse learners effectively ([Education Endowment Foundation, 2024](#); [Hattie, 2009](#)).

Teacher Preparation and Professional Learning

Research also highlights the importance of teacher preparation and ongoing professional learning in supporting instructional quality. Teacher preparation, referring to pre-service teacher education, aims to develop teachers' content knowledge, pedagogical skills, classroom practice and capacity for reflective inquiry before entering the profession ([AERO, 2023b](#); [Darling-Hammond, 2006](#)). However, developing instructional expertise is an ongoing process that extends beyond initial teacher education. As curriculum, student needs and evidence-based practices evolve, teachers require continued opportunities to refine and strengthen their practice throughout their careers ([AERO, 2023b](#)). Studies on effective school systems consistently suggest that teachers are more likely to implement evidence-based practices successfully when they receive sustained professional learning, opportunities for collaboration and ongoing instructional support rather than one-time training sessions ([Darling-Hammond et al., 2017](#)). Effective professional learning is generally embedded within teachers' daily instructional work and focused on specific classroom practices, student needs and continuous improvement.

Ontario and Canadian research similarly emphasize that professional learning is most effective when it is collaborative, sustained over time and aligned with school and district instructional priorities. Research on high-performing Ontario districts and system-wide reform initiatives found that successful improvement efforts were characterized by educator collaboration, instructional coaching, shared leadership, professional learning communities, collaborative inquiry and the systematic use of evidence to guide professional learning and classroom improvement ([Boyd, 2021](#); [Campbell et al., 2017](#); [EQAO, 2025](#); [Leithwood, 2011](#)). These findings are consistent with OECD analyses of Ontario's reform, which highlighted capacity building, leadership networks and collaborative professionalism as key drivers of system success ([OECD, 2011](#), pp. 71–77).

Implications for Policy and Practice

- Strengthen professional learning focused on evidence-based instruction.
- Prioritize implementation quality and instructional coherence across schools and boards.
- Expand timely intervention and differentiated supports for struggling students.
- Provide educators with protected collaboration and planning time to support instructional consistency and professional learning.

Classroom Environment, School Climate and Leadership

Students learn most effectively in environments that are safe, supportive, organized and conducive to participation. Classroom environment, school climate and school leadership are crucial school-related factors that can influence students' engagement with learning and their ability to benefit from instruction ([National Foundation for Educational Research \[NFER\], 2024](#)).

Firstly, classroom environment and organization are identified as influential school-level drivers of student achievement, explaining a measurable proportion of variation in outcomes and ranking as the second most important factor after teaching practices ([Australia Department of Education and Training, 2017](#)). Research shows that positive classroom environments and school climate, characterized by clear expectations, a sense of safety and supportive relationships, are associated with higher levels of student achievement and positively shape student attitudes, participation and engagement ([CMEC, 2021](#); [Hanover Research, 2019](#)). This influence extends to classroom organization, where effective time management, structured lessons and smooth transitions contribute to more productive learning environments. In particular, evidence indicates that the effective use of learning time, supported by clear classroom routines, enhances student engagement and achievement ([NFER, 2024](#)).

Additionally, research shows that positive peer relationships are associated with higher levels of engagement, stronger academic motivation and improved achievement outcomes. Students who feel accepted and supported by their peers are more likely to participate actively in classroom activities and persist in learning tasks ([Wentzel, 2017](#)). Conversely, negative peer environments, such as those that include exclusion, conflict or disruptive behaviour, may reduce students' sense of safety and willingness to participate in school. However, the relationship between peer relationships, engagement and achievement is reciprocal. Supportive peer environments can foster engagement and learning, while successful participation in academic activities can also strengthen peer relationships, social connectedness and feelings of belonging ([Wentzel, 2017](#); [Juvonen & Graham, 2014](#)). This suggests that improvements in school climate and peer relationships are most likely to be sustained when accompanied by effective teaching and learning experiences that support academic success ([Mikami et al., 2017](#)).

Finally, beyond peer relationships, school leadership also plays a significant role in influencing student achievement through its impact on teachers, organizational conditions and school culture. A consistent set of core leadership practices has been identified across contexts, including setting directions, developing staff, redesigning organizational structures and improving instructional programmes ([Robinson et al., 2008](#)). These practices operate by strengthening key mediating factors such as teacher motivation,

professional capacity and collaborative working conditions, which in turn influence student engagement and achievement ([Boyd, 2021](#); [Campbell et al., 2017](#); [Leithwood et al., 2020](#)). However, leadership practice remains highly context-dependent, requiring adaptation to local socio-cultural and organizational conditions. Therefore, school leaders must adopt flexible and context-sensitive strategies to respond effectively to changing demands and challenges ([Boyd, 2021](#)).

Implications for Policy and Practice

- Promote high-quality, evidence-based teaching practices.
- Strengthen positive school climate and belonging initiatives.
- Support orderly and inclusive classroom environments that maximize instructional time.
- Support distributed leadership models that empower teachers and middle leaders in decision-making processes.
- Foster culturally responsive teaching practices to ensure inclusion and equity.
- Strengthen peer support, mentorship and anti-bullying initiatives.

System-Level Structures, Policies and Resource Allocation

Policy and Accountability Structures

Provincial policies set the overall direction for the education system by defining priorities, expectations and goals. However, the presence of theoretically sound, evidence-based policies alone is insufficient to drive system-wide improvement. Research consistently shows that outcomes depend on whether policies are coherent, clearly communicated and supported by effective governance and implementation capacity ([OECD, 2023a](#); [Woessmann, 2016](#)).

Ontario's earlier improvement strategy illustrates how policy effectiveness depends on the alignment of accountability and capacity-building mechanisms; the system combined provincial testing, achievement targets and monitoring structures with investments in school board capacity, instructional support and collaborative improvement processes ([Leithwood & Azah, 2017](#)). This “pressure and support” model suggests that accountability alone is unlikely to improve achievement unless schools and boards are also provided with the tools, time and professional capacity needed to respond effectively ([Fullan, 2021](#)).

Accountability structures, such as Ontario's EQAO framework, play an important role in monitoring system performance and identifying areas requiring support. However, research increasingly emphasizes that accountability systems are most effective when they support organizational learning and continuous improvement, rather than relying solely on external pressure, compliance or narrow performance measures ([Campbell et al., 2024](#); [Darling-Hammond et al., 2016](#)). Recent program implementation research similarly highlights the importance of coherence across curriculum, assessment, instruction, intervention and professional learning, alongside the ongoing use of evidence to monitor implementation and inform continuous efforts ([Kuhfeld et al., 2025](#)).

Critically, system improvement depends on collective capacity-building, rather than on accountability mechanisms alone. This includes

- creating coherence across the education system by aligning goals, instructional priorities, professional learning, leadership practices and accountability mechanisms;
- developing teachers' and school leaders' professional knowledge and instructional capacity;
- strengthening collaboration across schools and systems;
- supporting the implementation of effective instructional practices; and
- fostering collective responsibility for student learning and system improvement.

Taken together, this evidence suggests that effective education systems must integrate policy coherence, accountability and capacity-building. Sustainable improvement is achieved not through accountability alone, but through systems that combine clear expectations with the professional capacity required to respond to them effectively.

School Board Practices

School boards play a critical role in translating provincial priorities into school-level practice. Ontario research on high-performing school systems found that successful school boards were characterized by shared goals; coherent instructional guidance; evidence-informed decision-making; job-embedded professional learning; aligned resource use; leadership development; and productive relationships with schools, communities and the Ministry of Education. Recent evidence from Ontario school boards demonstrates that consistent gains in mathematics achievement are supported by coordinated, system-wide approaches ([EQAO, 2025](#)).

Effective boards implement data-informed decision-making, targeted instructional supports and strong alignment between system priorities and classroom practice. A key feature of these systems is the systematic use of multiple data sources to identify learning gaps and guide instruction, alongside the use of assessment to inform teaching in real time ([EQAO, 2025](#); [Farrell, 2015](#)). Job-embedded professional learning such as coaching, collaboration and analysis of student work further supports the translation of evidence-based practices into classrooms ([Boyd, 2021](#); [Campbell et al., 2017](#)). Finally, successful boards prioritize coherence by focusing on a limited number of high-impact strategies and aligning resources to support classroom teaching ([Leithwood & Azah, 2017](#)).

Curriculum Frameworks

Clear and well-organized curricula make it easier for teachers to deliver effective instruction. Effective curricula balance surface knowledge and deep understanding, enabling students to build conceptual clarity across subject areas ([Hattie, 2009](#)). Research on high-performing systems suggests that curriculum, instruction, assessment, professional learning, and data use need to be aligned for curriculum reforms to affect classroom practice ([Fullan, 2007](#); [Leithwood, 2011](#)).

In particular, curriculum effectiveness is strengthened when it includes

- clear learning expectations and success criteria that help students understand learning goals and monitor their progress,
- explicit teaching of learning strategies,
- opportunities to apply knowledge in meaningful contexts,
- development of both foundational skills and higher-order thinking and
- structured and deliberate sequencing of learning.

However, research shows that curriculum reform on its own does not lead to improvement. It must be supported by professional learning, instructional resources, leadership support and time for implementation. Without these supports, changes in curriculum are unlikely to have a strong impact ([Fullan, 2007](#)).

Funding and Access to Resources

Funding models play a central role in shaping whether schools and systems have the resources needed to support high-quality teaching and equitable learning opportunities. Access to educational resources including instructional materials, technology and learning supports contributes to student learning, although its impact is strongly mediated by how strategically and effectively these resources are used in practice ([OECD, 2025b](#)). Research suggests that funding is most likely to improve achievement when it is targeted toward instructional quality, staffing stability, early intervention, specialized supports and equity-related needs ([OECD, 2022](#); [Woessmann, 2016](#)). There is a distinction between equal and adequate funding: equal distribution may still be inequitable if some schools serve much higher levels of need ([Center for Public Education, 2026](#)). Research demonstrates that unequal access to technology, specialized services, learning materials and stable instructional supports can contribute to widening achievement gaps across schools ([Gottschalk & Weise, 2023](#); [OECD, 2023b](#); [Turner, 2024](#)). Evidence suggests that improvements in student outcomes are most likely when accountability mechanisms, resource allocation and capacity-building supports are aligned within a coherent education system. System design can either reinforce or reduce educational inequities depending on how effectively these structures work together to support disadvantaged students ([OECD, 2012](#)).

While access to resources is important, evidence consistently shows that resource inputs alone have limited effects on student achievement unless they are aligned with effective teaching practices ([OECD, 2022](#); [Woessmann, 2016](#)). This is because resources do not directly produce learning; rather, their impact depends on how they are integrated into instructional processes. For example, providing access to technology or learning materials does not automatically improve outcomes unless teachers have the capacity to use these tools purposefully to support instruction, differentiate learning and engage students.

Implications for Policy and Practice

- Align curriculum reform with professional learning, instructional resources, assessment and implementation supports.
- Strengthen school board capacity for evidence-informed planning, instructional leadership and long-term improvement.
- Use funding models that account for varying student and community needs.
- Balance accountability measures with supports for implementation, inclusion and student well-being.
- Reduce initiative overload by focusing on coherent and sustained improvement priorities.
- Embed ongoing program evaluation and monitoring processes to assess implementation, identify effective practices, and support evidence-informed policy and funding decisions.

What Students Bring to School: Background and Contextual Factors

Students' learning and achievement are shaped by how their individual characteristics interact with their family and broader social environments. In particular, research highlights four key areas that students bring to school: parental engagement, socio-economic status, early childhood environment and community context.

Parental Engagement and Socio-Economic Status

Firstly, higher levels of parental engagement are consistently associated with improved academic outcomes ([Barger et al., 2019](#); [Wilcox et al., 2026](#)). Practices such as reading to children from an early age, maintaining high expectations and adopting a supportive yet structured parenting style are linked to stronger student performance ([Jeynes, 2017](#)). Activities that promote learning and enrichment such as discussing academic aspirations or providing cognitively stimulating experiences are associated with positive outcomes. In addition, structured support for learning at home, alignment between family and school expectations, and participation in enrichment activities can further enhance achievement ([Barger et al., 2019](#); [Reschly & Christenson, 2019](#)).

Evidence-based practice also highlights the importance of how schools engage with families ([Epstein, 2018](#)). Research shows that recognizing and supporting learning at home, establishing two-way communication between schools and families, and collaboratively setting learning goals can have a measurable positive impact on students' academic outcomes and engagement ([AERO, 2021](#)). Importantly, this evidence suggests that effective family engagement is not simply about participation in school-based activities, but about actively supporting learning processes and maintaining alignment between home and school environments ([Goodall & Montgomery, 2014](#); [Harvard Graduate School of Education, 2023](#)). Recent Canadian research also suggests that support from both parents and teachers contributes to students' academic motivation and engagement, reinforcing the importance of coordinated home-school partnerships in supporting learning outcomes ([Wilcox et al., 2026](#)).

Beyond parental behaviours, socio-economic status (SES) is one of the most robust predictors of academic achievement, with students from disadvantaged backgrounds generally achieving at lower levels than their more advantaged peers ([Sirin, 2005](#)). However, SES does not influence outcomes directly. Rather, its effects operate through a complex set of pathways, including access to educational resources, parental education and expectations, and the quality of the home learning environment ([Bourdieu & Passeron, 1977](#)). These factors shape both early cognitive development and socio-emotional characteristics, and they reinforce one another over time.

Early Childhood Environment

Early childhood environment plays a foundational role in shaping later learning outcomes, and it is closely connected to socio-economic status. Early cognitive development, exposure to language, and access to early learning opportunities influence school readiness and the development of foundational skills such as early literacy, numeracy and reasoning ([AERO, 2023c](#)). These skills are among the strongest predictors of student achievement, and they support both immediate learning and later achievement, as they continue to shape students' progress over time ([NFER, 2024](#)). Findings from Canada align closely with these results. Recent research using Ontario data shows that children's language and cognitive readiness in kindergarten strongly predict mathematics achievement from Grades 3 through 9, as well as trajectories of achievement over time ([Ameli et al., 2026](#)). Students who experience difficulties in these areas benefit from early identification and targeted support. Multi-Tiered Systems of Support (MTSS) provide a framework for delivering increasingly intensive academic and well-being interventions based on students' needs while monitoring progress over time ([AERO, 2024](#)).

Importantly, these skills are not evenly distributed. Students from disadvantaged backgrounds are more likely to begin school with lower levels of foundational skills. As a result, achievement gaps often emerge early and persist over time, as students who start behind have fewer opportunities to build subsequent learning ([Sirin, 2005](#)). Research on reading development suggests that early differences in vocabulary, oral language and phonological awareness are already evident at school entry and can contribute to persistent achievement differences throughout schooling ([Pfof et al., 2014](#)). This highlights that disparities in early skills contribute to the emergence of equity gaps. Investment in high-quality early childhood education and timely intervention has been identified as one of the most effective strategies for improving educational equity and long-term achievement outcomes, particularly for students from disadvantaged backgrounds ([OECD, 2012](#)).

Community Context, Resources and Expectations

Alongside family and socio-economic factors, community environments and strong community engagement play a significant role in improving educational outcomes ([Bischoff & Rich, 2024](#)). Community resources and expectations influence the opportunities available to students outside the classroom, including access to tutoring, libraries, enrichment programmes, and social support networks. However, access to these opportunities is uneven. Ontario evidence indicates that access to extracurricular activities, arts programmes, clubs, leadership opportunities and professionally staffed libraries and resources varies considerably by income level and geography, with students in lower-income, rural and northern communities often experiencing fewer opportunities for enrichment and educational support ([People for Education, 2017, 2023](#)). For example, while 81% of elementary schools in the Greater Toronto Area reported having a teacher-librarian, only 14% of schools in Eastern Ontario and 11% of schools in Northern Ontario reported the same level of access, highlighting substantial regional inequities in learning resources and supports ([People for Education, 2017](#)).

Students in disadvantaged or unequal communities are more likely to experience poorer educational outcomes due to socio-economic barriers and limited support systems. These disparities are particularly evident in rural and remote contexts, where students often face unreliable Internet access and reduced access to digital learning opportunities and services ([National Center for Education Statistics, 2023](#); [Turner, 2024](#)). The COVID-19 pandemic further exposed these inequalities, as access to online learning and educational support depended heavily on household connectivity and local infrastructure.

Research on rural and northern Ontario schools has identified a range of challenges that can affect educational access and participation. Geographic distance, transportation constraints and environmental conditions may limit students' access to schools, programs and extracurricular opportunities, particularly in northern communities ([Bruner et al., 2024](#)). At the same time, educator recruitment and retention challenges, together with limited access to specialized services and programs, continue to affect educational experiences in many rural and northern regions of the province ([Burleigh, 2016](#)). These factors can negatively affect attendance, engagement and continuity of academic support. For example, [Statistics Canada \(2023\)](#) reports that First Nations, Métis, and Inuit students living in more remote communities experience lower rates of high school completion, largely due to limited access to educational services, longer travel distances to schools and fewer locally available supports. Likewise, rural and northern students continue to encounter barriers during their transition to post-secondary education that are related to accessibility, infrastructure, transportation and student support services ([Ontario Undergraduate Student Alliance, 2024](#)).

Implications for Policy and Practice

- Strengthen early cognitive skills through high-quality early childhood education.
- Implement early screening tools in kindergarten and Grade 1 to assess literacy and numeracy readiness.
- Track student progress over time to identify students who are falling behind.
- Adopt a Multi-Tiered System of Supports (MTSS) to enable early identification, and provide differentiated levels of intervention for these students.
- Expand access to extracurricular arts, science, sports and academic activities and professionally staffed libraries across northern regions and in underserved high-needs communities.
- Invest in teacher recruitment, retention and professional preparation for high-needs and remote communities.
- Improve transportation and digital infrastructure, as appropriate, in underserved areas.

Co-Created Factors: School and Home Interactions

The factors discussed in this section emerge through ongoing interactions between students, schools, families, communities and broader social contexts. Students' beliefs, attitudes, behaviours and learning experiences are shaped by influences both inside and outside the education system, including family circumstances, community environments, social expectations and cultural norms. At the same time, these factors are closely connected to students' experiences in school and can be influenced by the learning environments, relationships and opportunities schools provide. Therefore, this section focuses on how these factors are associated with student achievement and educational outcomes, and the extent to which they may be influenced through educational experiences and school-based practices.

Self-Efficacy and Student Beliefs

Students' beliefs about their ability to succeed, defined as self-efficacy, are strongly correlated with achievement ([Bandura, 1997](#)). Self-efficacy reflects students' knowledge about their current skills and their understanding of opportunities to acquire new skills, and influences how students approach challenges, the effort they invest and their responses to setbacks. Evidence consistently shows that students with stronger self-beliefs demonstrate higher academic achievement, greater engagement and stronger persistence in learning, while lower self-efficacy is associated with reduced academic, emotional and social engagement, particularly in subjects such as mathematics ([AERO, 2024](#); [Martin & Rimm-Kaufman, 2015](#); [OECD, 2019](#)). Evidence from specifically Canadian contexts likewise point to a reciprocal relationship between self-beliefs and achievement, whereby stronger achievement develops confidence, but confidence also contributes to academic success, and both reinforce each other mutually over time ([CMEC, 2019](#); [EQAO, 2024](#)).

Importantly, self-efficacy is not a fixed characteristic but develops through students' experiences in school and in their home and extracurricular experiences. Bandura (1997) identifies mastery experiences, feedback, social modelling and encouragement as key influences on self-efficacy, while subsequent research highlights the importance of teacher expectations, feedback practices, supportive relationships and opportunities for success in shaping students' academic confidence ([Bandura, 1997](#); [Hattie, 2009](#); [Martin & Rimm-Kaufman, 2015](#)). These findings suggest that schools can play an important role alongside families in strengthening self-efficacy and fostering beliefs that support achievement and long-term engagement in learning.

Motivation, Engagement and Well-Being

Motivation and engagement help explain why students with similar abilities achieve different outcomes. Higher levels of engagement are consistently associated with higher achievement, as well as improved attendance and participation ([Hattie, 2009](#); [Lee & Stankov, 2018](#)). A key component of engagement at school is students' sense of belonging, defined as feeling accepted and supported within the school environment. Research shows that a strong sense of belonging at school is linked with higher motivation, more positive learning attitudes and better academic outcomes ([Jerrim & Kaye, 2026](#); [Korpershoek et al., 2020](#); [Zhao et al., 2026](#)). Evidence suggests that these relationships may be mutually reinforcing, with school belonging supporting engagement and achievement while positive educational experiences can, in turn, strengthen students' sense of belonging and connection to school ([Graham et al., 2026](#)).

Research also suggests that motivation and engagement are influenced by school experiences, including the quality of student–teacher relationships, classroom climate, instructional practices and opportunities for meaningful participation in learning ([Fredricks et al., 2004](#); [OECD, 2023c](#)). These findings indicate that schools can play an important role in fostering the conditions that support student engagement and sustained participation in learning. However, recent evidence points to declines in motivation, belonging and engagement following COVID-19-related school closures, with disruptions to peer interaction and classroom experiences affecting students' connection to school ([OECD, 2023c](#); [Volante & Klinger, 2025](#)).

Self-Regulation, Metacognition and Learning Strategies

Self-regulation and metacognitive skills represent a key mechanism linking cognitive and socio-emotional factors. These include the ability to plan, monitor and evaluate one's learning. Students with strong self-regulation skills are more likely to succeed academically, as they can manage their attention, persist through challenges and apply effective learning strategies ([Schunk & Zimmerman, 2023](#); [Zimmerman, 2002](#)). These skills are operationalized through a range of strategies, including cognitive (e.g., rehearsal, elaboration), metacognitive (e.g., planning, evaluation) and behavioural (e.g., time management, help-seeking) approaches, which together enable students to actively manage their learning processes and improve performance ([Lee & Shute, 2010](#)).

Meta-analytic evidence confirms that self-regulated learning is positively associated with achievement, and that embedding strategies such as goal setting, progress monitoring and reflection within instruction significantly improves outcomes, particularly for students facing learning challenges ([WWC, 2017](#); [Zhao et al., 2025](#)). Research also suggests that students' metacognitive knowledge and self-regulation can be taught and strengthened when teachers explicitly teach planning, monitoring and evaluation strategies; provide opportunities for guided practice and reflection; and gradually scaffold students toward more independent learning ([Dignath & Büttner, 2008](#); [Education Endowment Foundation, 2021](#)). These findings indicate that schools can play an important role in developing students' metacognitive and learning strategies, which in turn support achievement.

Implications for Policy and Practice

- Build student confidence through effective feedback and positive learning identities.
- Strengthen student–teacher relationships and classroom engagement.
- Integrate well-being supports, particularly for at-risk students.
- Support goal setting, monitoring and reflective learning practices.
- Provide professional learning and resources to support teachers in explicitly teaching metacognitive and self-regulation strategies.
- Ensure sustainable funding for school-based student engagement services, particularly for students at greater risk of disengagement.

Conclusion

Student achievement is shaped by a complex interaction of factors operating across classrooms, schools, families, communities and the broader education system. The evidence reviewed in this report highlights that achievement is influenced by three interconnected domains: factors within the control of schools and education systems; factors that students bring with them to school; and psychological factors co-created through interactions between students, schools, families and broader social contexts. Student outcomes are strongest when these factors work together to support learning and participation.

Socio-economic circumstances, early learning experiences and community context continue to influence academic outcomes. However, the sources reviewed in this report provide rigorous evidence that schools also influence outcomes and exert very strong positive effects on learning when policies and practices ensure high-quality instruction, supportive learning environments, effective leadership and targeted supports for students.

The evidence also consistently indicates that improving achievement requires action across multiple levels of the education system. Effective teaching and learning are most likely to succeed when supported by coherent policies, strong leadership, meaningful accountability processes, evidence-informed decision-making, ongoing professional learning, equitable access to resources and the effective use of assessment and data. Ongoing monitoring and program evaluation are also important for identifying effective practices and informing future policy and funding decisions. Overall, the findings point to the importance of a coordinated and coherent approach that supports learning outcomes, educational equity and continuous improvement system-wide.

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