Communication and language approaches
High impact for very low cost, based on extensive evidence.

Digital technology
Moderate impact for moderate cost, based on limited evidence.

Earlier starting age
High impact for very high cost, based on moderate evidence.

Early literacy approaches
Moderate impact for very low cost, based on moderate evidence.

Early numeracy approaches
High impact for very low cost, based on extensive evidence.

Extra hours
Moderate impact for very high cost, based on limited evidence.

Parental engagement
Moderate impact for moderate cost, based on moderate evidence.

Physical development approaches
Moderate impact for very low cost, based on limited evidence.

Built environment
Very low or no impact for low cost, based on very limited evidence.

Play-based learning
Moderate impact for very low cost, based on very limited evidence.

Self-regulation strategies
Moderate impact for very low cost, based on limited evidence.

Social and emotional learning strategies
Moderate impact for moderate cost, based on very limited evidence.
Communication and language approaches emphasise the importance of spoken language and verbal interaction for young children. They are based on the idea that children’s language development benefits from approaches that explicitly support communication through talking, verbal expression, modelling language and reasoning. Communication and language approaches used in the early years include reading aloud to children and discussing books, explicitly extending children’s spoken vocabulary by introducing them to new words in context, and drawing attention to letters and sounds. They also include approaches more directly aimed at developing thinking and understanding through language, such as ‘sustained shared thinking’ or ‘guided interaction’. Approaches usually involve an early years professional, nursery teacher or teaching assistant, who has been trained in the approach, working with a small group of children or individually to develop spoken language skills.

How effective is it?
Overall, studies of communication and language approaches consistently show positive benefits for young children’s learning, including their spoken language skills, their expressive vocabulary and their early reading skills. On average, children who are involved in communication and language approaches make approximately six months’ additional progress over the course of a year. All children appear to benefit from such approaches, but some studies show slightly larger effects for children from disadvantaged backgrounds.

Some types of communication and language approaches appear, on average, to be more effective than others. There is consistent evidence that reading to young children, and encouraging them to answer questions and talk about the story with a trained adult, is an effective approach. A number of studies show the benefits of programmes where trained teaching assistants have supported both oral language and early reading skills.

Most studies comment on the importance of training and professional development, and supporting early years practitioners with the implementation of different approaches. There are indications that settings should use a range of different approaches to developing communication and language skills, as it is unlikely that one approach alone is enough to secure progress.

How secure is the evidence?
There is an extensive evidence base showing the impact of communication and language approaches, including a number of meta-analyses. The evidence is relatively consistent, suggesting that communication and language approaches can be successful in a variety of environments. Little is known about the long-term impact of communication and language approaches, so additional evidence about whether, and how to ensure that, benefits are maintained once children start school would be valuable.

The evidence base includes a number of high quality studies from the UK.

A 2016 randomised controlled trial found a positive impact of four months’ additional progress for the Nuffield Early Language Intervention – a programme designed to improve the spoken language ability of children during the transition from nursery to primary school.

What are the costs?
Overall, the costs are estimated as very low. There are few, if any, direct financial costs associated with the approach. Additional resources such as books for discussion may be required. In a recent UK evaluation, the cost of these additional resources was estimated at between £10 and £20 per pupil. Professional development or training is also likely to enhance the benefits on learning. One intensive communications programme evaluated by the EEF costed around £80 per child for a 30-week intervention, which included professional development.

Communication and language approaches: What should I consider?
Before you implement this strategy in your learning environment, consider the following:

1. How can you help children to articulate and express their ideas and experiences verbally?
2. What training will adults involved receive to ensure they are able to model and develop children’s spoken language skills?
3. How can you link children’s spoken language to the development of their writing and reading skills?
4. Combining a range of communication and language approaches is likely to be more effective than a single approach. How will you ensure that children are exposed to a range of different strategies?
Digital technology

Moderate impact for moderate cost, based on limited evidence.

Digital technology approaches employ computer or digital technologies to support children’s development and learning within early years settings. This includes approaches where:

- children use technology independently, either as part of their planned experiences or as part of teaching activities such as instructional games;
- technology, such as interactive whiteboards or digital cameras, is used by early years professionals to support their interactions with children; and
- technology is used to support the professional development of early years practitioners.

How secure is the evidence?

Overall, the evidence related to digital technology is limited. The evidence for the benefits of digital technology on young children is based mainly on single studies rather than meta-analyses, and is weaker than the evidence that focuses on older age groups. The key messages from the evidence are broadly consistent with evidence about use of technology in schools. It is also important to remember that the pace of technological change means that evidence is usually about yesterday’s technology rather than today’s. For example, no high quality evaluations appear to have assessed the impact of tablets on educational outcomes in the early years. This means that evaluating new approaches is important. The average impact of digital technology programmes has remained relatively consistent for some time, suggesting that general messages are likely to remain relevant, even as specific digital technologies change.

There is a growing literature on the role of digital technology in Australian schools and early years settings. A study published in 2013 used a randomised controlled trial to assess the impact of a computer-based programme for struggling early readers in the Northern Territory. The approach appeared to have a particular impact on the phonological awareness of indigenous children.

What are the costs?

The initial costs of investing in new technologies are high. Once technology has been purchased, it can usually be used for several years, and many early years settings are already equipped with computers, digital cameras and interactive whiteboards. The evidence suggests that early years settings rarely take into account, or budget for, the additional training and support costs that are likely to make the difference to how well the technology is used. Expenditure is estimated at an average of £300 per child for equipment and technical support and a further £500 per nursery class (£35 per child) for professional development. Costs are therefore estimated as moderate.

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Digital technology: What should I consider?

Before you implement this strategy in your learning environment, consider the following:

1. Introducing new technology does not automatically lead to improved educational outcomes. How will you use the technology to support learning?
2. Early years professionals need support and time to learn to use new technology effectively. This involves more than just learning how to use the technology; it should include support to understand how it can be used to improve learning.
3. It is important to evaluate the impact of using new technology. Have you considered how you will evaluate the impact of any new approaches?
“Earlier starting age” refers to increasing the time a child spends in early years education by beginning at a younger age. This would typically mean being enrolled in nursery or pre-school from the age of two or three and experiencing up to two years of early years education before starting school.

For an assessment of the evidence related to increasing the number of hours spent in early years education at a given time, see “Extra hours”.

How effective is it?
Beginning early years education at a younger age appears to have a high positive impact on learning outcomes. It is estimated that children who start to attend an early years setting before turning three make approximately six additional months’ progress compared to those who start a year later. Positive effects have been detected for early reading outcomes in the first year of primary school and moderate to high effects have been detected for early language and number skills. There are some indications that the impact of high-quality early years provision is particularly positive for children from low-income families.

Evidence about the longer term impact of an earlier starting age is mixed. In some studies benefit is detectable into primary school and even secondary school. However, in several US studies benefits do not appear to be sustained for more than a year or two. It appears likely that the quality of provision is the key determinant of sustained improvement, but more evidence is needed in this area to identify which practices are most helpful for different ages.

The existing evidence base relates primarily to attendance at early years centres or nurseries, rather than provision from childminders.

How secure is the evidence?
Overall the evidence related to early starting age is of moderate security. This relates to the quality of the underlying studies, where it is difficult to be sure about the cause of differences in early starting age and for how long effects are sustained.

In the UK, the highest quality study conducted to date is the Effective Provision of Pre-school Education (EPPE) project, which has assessed the impact of an earlier starting age. The study looked at the association between different kinds of pre-school provision and young children’s learning, and involved 3,000 children. It found that earlier starting ages were correlated with increased learning outcomes.

The school starting age is different in different countries, which can also make it hard to assess the applicability of evidence from overseas. For example, though findings related to earlier starting ages from the USA are consistent with those from the UK, pre-kindergarten education in the USA typically involves four and five year olds, and few high-quality studies assess the impact of starting at two or three.

Given the high cost of beginning early years education at an earlier age, it is important to evaluate the impact of any activity in this area.

What are the costs?
Overall, the costs are estimated as very high. A full time pre-school place costs about £8,000 for 40 weeks at about £200 per week.

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Earlier starting age: What should I consider?
Before you implement this strategy in your learning environment, consider the following:

1. What are the challenges of an increased age range among children?
2. How will you evaluate the effectiveness of your provision for younger children?
3. Have your staff been given appropriate professional development to support younger children?

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Early literacy approaches

Moderate impact for very low cost, based on moderate evidence.

Early literacy approaches aim to improve young children’s skills, knowledge or understanding related to reading or writing. Common approaches include:

- storytelling and group reading;
- activities that aim to develop letter knowledge, knowledge of sounds and early phonics; and
- introductions to different kinds of writing.

Early literacy strategies may have components in common with Communication and language approaches and may also involve Parental engagement.

How effective is it?

Early literacy approaches have been consistently found to have a positive effect on early learning outcomes. The early literacy approaches evaluated to date led to an average impact of four additional months’ progress, with the most effective approaches improving learning by as much as six months.

All children appear to benefit from early literacy approaches, but there is some evidence that certain strategies, particularly those involving targeted small group interaction, may have particularly positive effects on children from disadvantaged backgrounds. However, early literacy approaches should not be seen as a panacea. Though long-term positive effects have been detected in some studies, for a majority of strategies these benefits appear to fade over time, suggesting that a single intervention is unlikely to be enough to close the attainment gap.

There is evidence that a combination of early literacy approaches is likely to be more effective than any single approach. For example, some studies suggest that it is possible to develop certain aspects of literacy, such as knowledge of the alphabet or letter names and sounds, without improving all aspects of early literacy. It is likely to be beneficial to put a range of activities in place, and to use these in combination with regular assessments of early literacy skills across both reading and writing capabilities.

Studies indicate that involving parents in developing early literacy strategies can be beneficial, and ensuring that training and professional development is provided for staff when new approaches are introduced is likely to increase impact.

How secure is the evidence?

There is moderate evidence related to the impact of early literacy approaches, including a number of meta-analyses and high quality individual studies. The majority focus on reading. One challenge with the evidence base is that early literacy approaches are often only one part of multi-component interventions or curricula, which can make it hard to attribute changes to the early literacy approach, or to identify which aspects of that approach are most important.

In common with a number of areas of early years education, the most robust evidence collected to date has been collected in the USA. Testing some of the most promising early literacy approaches from overseas in the UK would be valuable.

What are the costs?

Overall, the costs of early literacy approaches are estimated as very low. Research indicates that knowledge of children’s development and current understanding are an important precusor to putting an early literacy strategy in place, and using professional development to support the introduction of new early literacy interventions is associated with increased learning. As a result, some assessment and professional development costs are included in this estimate. Other resources such as books and other print materials are also likely to be necessary.
Early literacy approaches: What should I consider?

Before you implement this strategy in your learning environment, consider the following:

1. How will you ensure that your early literacy strategy is well-balanced, and combines approaches that will support the development of skills, knowledge and understanding?
2. Do you use assessments to identify children’s current level of development, and monitor learning?
3. When you introduce new early literacy approaches, do staff receive sufficient training and professional development?
4. How do you use targeted small group support to help areas of challenge for disadvantaged children?
Early numeracy approaches aim to develop number skills and improve young children’s knowledge and understanding of early mathematical concepts. Activities in this area might be structured, for example through programmes designed to develop children’s ‘number sense’ (their developing understanding of quantity and number), or more informal, such as using mathematical games including computer games (see also Digital technology), or pretend activities involving counting or using other mathematical language.

How effective is it?

On average, early numeracy approaches have a positive impact on learning equivalent to approximately six additional months’ progress for early mathematics outcomes. There is some variation between approaches, which suggests that the choice of approach and the way in which strategies are introduced are important. Approaches tend to produce larger effects when they are designed to develop a particular mathematical skill (such as counting or estimating), commit a regular amount of time to developing mathematics (between two and three hours per week), designed specifically for the early years setting involved and include some specific individual interaction.

Commonly, the most effective early numeracy approaches include individual and small group work, and balance guided interaction with both direct teaching and child-led activities, depending on the age and capabilities of the child. A number of studies also indicate that it is important for early years professionals to understand young children’s mathematical development (such as the typical stages in learning to count) and to understand how to assess this development. This understanding will support the provision of more effective activities.

Early numeracy approaches appear to benefit all groups of children, including children from low-income families. There is some evidence that targeted early numeracy approaches, including small group activities, can help children from disadvantaged backgrounds catch up with their peers by the beginning of formal schooling, though not all approaches appear to be equally effective.

There is some evidence that the benefits from early years approaches can be sustained through primary school, though in a number of studies the effects decrease over time, which underlines that not all numeracy approaches are likely to be equally effective.

How secure is the evidence?

There is extensive evidence related to early numeracy approaches. The evidence base includes three meta-analyses and a number of high-quality single studies, mainly from the USA but also from Greece, the Netherlands, New Zealand and Sweden.

Findings are consistently positive, but there is some variation between approaches. A challenge for evaluations to date has been that numeracy interventions often have multiple elements, meaning that it is hard to definitively state the essential features of an effective programme.

More studies in UK settings would be valuable.

What are the costs?

Overall the costs are estimated as very low. Research indicates that knowledge of mathematics; knowledge of children’s development and development trajectories in mathematics; and understanding of the kinds of activities which support early mathematical learning are all important for practitioners. As a result, professional development is likely to be particularly beneficial in supporting early numeracy approaches, and some assessment and professional development costs are included in this estimate. Additional equipment to support mathematical experiences such as counting, measuring, and using money is also likely to be beneficial.

Early numeracy approaches: What should I consider?

Before you implement this strategy in your learning environment, consider the following:

1. Have staff been provided with professional development to support their understanding of early mathematical development and how to deliver early numeracy approaches?
2. Have you considered approaches that involve a balance of individual, small group and guided instruction?
3. Are you clear which mathematical skills each activity is designed to develop?
4. How will you monitor the impact of your early numeracy strategy?
Extra hours

Moderate impact for very high cost, based on limited evidence.

Increasing the amount of early years education a child receives at a given time. Most commonly extra hours are provided by switching from half-day to full-day provision. For an assessment of the evidence related to starting early years education at a younger age, see “Earlier starting age”.

How effective is it?

Findings from studies that compare full-day early years provision to half-day provision are mixed. Evidence from the Effective Provision of Pre-school Education (EPPE) project in the UK found that, on average, children who received full day provision did not have higher early reading or numeracy outcomes compared to those who only attended for a half-day. However, some studies from the USA indicated that there was a moderate positive effect of attending full-day rather than half-day kindergarten. Across all studies, the average impact is approximately equivalent to three additional months’ progress.

There are also some indications that any learning gains related to extra hours may not be sustained into primary school unless the quality of provision in the extended time is of a high quality. The EPPE study suggested that one of the strongest predictors of attainment in schools at 11 is the presence of an effective reception teacher, and this finding is consistent with a number of US studies where short term improvements related to extra hours appear to “wash out” in primary school.

However, it is also possible that benefits related to extra hours vary between different groups of children. In the US studies, children from disadvantaged backgrounds benefitted more than their peers from full-day provision. Though, on average, the EPPE study did not find full-day provision to be associated with increased learning, for disadvantaged learners increasing the total number of hours in early years education was associated with greater progress.

It is not possible to tell from existing evidence whether providing extra hours is a more promising strategy for three-year olds or four-year olds.

How secure is the evidence?

There is a moderate amount of evidence about extra hours, but findings are not consistent. The most robust evidence in terms of study design comes from trials in the USA. However, in these studies children are most commonly aged 5, which may make it difficult to draw secure conclusions about the impact of extra hours on three and four year olds. In addition, there may be differences between the US and other contexts that could result in different outcomes. Overall, the evidence base is limited.

The highest quality UK evidence comes from the EPPE project. The study looked at the association between different kinds of pre-school provision and young children’s learning, and involved 3,000 children. However, its correlational design means that it cannot rule out some alternative explanations for its finding that half-day provision is as effective full-day provision.

Given the high cost of increasing the number of hours of provision, particularly moving from half- to full-day, it would be important to evaluate the impact of any activity in this area.

What are the costs?

Overall, the costs are estimated as very high. A full time pre-school place costs about £4,000 more than a half-time place for 40 weeks, or approximately an additional £100 per week. Given the high cost and mixed evidence, it is likely that focusing on improving the quality of provision before considering changing the amount of provision within the day is a promising strategy.

Extra hours: What should I consider?

Before you implement this strategy in your learning environment, consider the following:

1. The evidence on full-day versus half-day provision is not conclusive.
2. If you are planning to provide extra hours, how will you ensure that the quality of provision in this time remains high?
3. How will you assess the short and medium term impact of offering extra hours?
4. Are you confident that you have done everything you can to improve the quality of provision in your setting before considering offering extra hours?
Parental engagement

Moderate impact for moderate cost, based on moderate evidence.

Actively involving parents in supporting their children’s learning and development. Strategies include: approaches that encourage parents to read and talk with their children at home or to participate in activities in the early years setting; programmes that focus directly on parents themselves, for example, providing training in parenting skills or adult numeracy and literacy support; and more intensive programmes for disadvantaged families or families in crisis, for example, through schools appointing a family liaison that work with parents through either home visits or other targeted approaches.

How effective is it?

Parental engagement in early years education is consistently associated with children’s subsequent academic success. On average, parental engagement programmes evaluated to date have led to a positive impact of approximately four additional months’ progress over the course of a year. However, there does appear to be some variation in effectiveness between approaches, suggesting that careful thought is needed when developing and introducing parental engagement approaches, and that on-going monitoring and evaluation is essential.

Approaches that aim to increase general parental engagement, for example, by encouraging parents to read with their children can have a moderate positive impact for all children. Impact on disadvantaged families tends to be lower, however. Studies highlight the benefits of reading to children before they are able to read, and then of reading with children as soon as they are able to read. A number of studies have identified the positive impact of encouraging parents to talk with their children.

Approaches that focus on developing parents own skills, for example by providing structured training, can have a moderate positive impact on learning. In general, more intensive approaches, which target particular families or outcomes, are associated with higher learning gains.

How secure is the evidence?

Overall, there is moderate evidence related to parental engagement programmes in the early years. There is a long history of research into parental engagement, and the association between parental engagement and a child’s academic success is well established. However, there is clear need for more high quality evaluations of programmes that have tried to increase involvement to improve learning. Currently, though it is clear that parental engagement is valuable, much less is known about how to increase it, particularly in low-income communities.

Many of the highest quality studies conducted to date are from the USA.

What are the costs?

The costs of different approaches vary enormously, from running parent workshops (about £80 per session) and improving communications, which is often inexpensive, to intensive family support programmes with specially trained staff. The cost of a specialist community or home liaison worker is estimated at about £35,000. Overall, costs per child are estimated as moderate.

Parental engagement: What should I consider?

Before you implement this strategy in your learning environment, consider the following:

1. Have you provided simple guidance to parents about how they can support their child?
2. Home visits can help parental engagement, but aren’t always essential. How can you make your setting welcoming, to encourage regular attendance from parents?
3. How will you monitor the impact of your parental engagement approach?
4. Have you considered the specific needs of the families of your school’s pupils?
Physical development approaches
Moderate impact for very low cost, based on limited evidence.

Physical development approaches aim to improve young children’s physical growth, skills and health. Activities in this area may be focused on a particular aspect of physical development, e.g. fine motor skills related to writing, or be more general, for instance, encouraging active outdoor play.

How secure is the evidence?
The evidence base related to physical development approaches is currently limited. Two recent systematic reviews have been conducted, but the reviews did not identify high-quality evidence related to learning outcomes for young children. No high quality studies appear to have been conducted in early years settings in England.

Given the weak evidence in this area, it is important to evaluate the impact of any new physical development approaches. Early years professionals should be cautious about the claims of new interventions that do not appear to have been evaluated.

What are the costs?
Overall, the cost of introducing physical development approaches is estimated as very low. The provision of outdoor space and play equipment can be expensive, but these are not essential for physical activity and exercises, and costs are likely to be spread over a number of years.

How effective is it?
The evidence base related to physical development approaches is currently limited. Two recent systematic reviews have been conducted, but the reviews did not identify high-quality evidence related to learning outcomes for young children.

Though the overall picture is positive, the evidence base is not well-developed and findings are inconsistent. It is not possible to provide a clear account of the reasons why some physical development approaches are effective, and very few individual interventions have been evaluated to a high standard. There is some evidence that programmes that combine physical activity with strategies to promote self-regulation can improve executive function and have a positive impact on learning.

Evidence relating to the general positive impact of physical activity on cognitive outcomes is currently stronger than that related to specific programmes. There are some indications that physical activity, including outdoor play, can support children’s learning.

No high-quality evaluations have assessed the long-term impact of physical development approaches on learning.

Physical development approaches: What should I consider?
Before you implement this strategy in your learning environment, consider the following:

1. Physical development approaches can have a range of positive benefits, but the existing evidence on their impact on learning is currently limited. How will you evaluate the impact of new approaches?
2. Have you considered introducing approaches that are linked to other, more well-evidenced strategies such as self-regulation?
3. There is some evidence that children are likely to learn more effectively after physical activity. Are regular opportunities for active play and physical development integrated into the day?
4. Is there evidence for the effectiveness of the specific physical development approach that you are selecting?
Built environment

Very low or no impact for low cost, based on very limited evidence.

Changing the physical conditions or built environment of settings, either by moving to a new building, or making physical changes to improve the structure, air quality, noise, light or temperature of an existing learning space.

How effective is it?

Overall, changes to the built physical environment of early years settings are unlikely to have a direct effect on learning, once an adequate building standard has been achieved. Moving to a new building or learning space can be an effective part of a process designed to change behaviour or facilitate the use of new learning approaches. There is some evidence that involving early years professionals and children in the design of new spaces can improve learning. However, it is not clear whether this is because the resulting design is actually better for learning or whether involvement in design encourages participants to adopt new behaviours and take more responsibility for outcomes. There is no evidence that new buildings or particular aspects of their architecture or design improve learning by themselves.

It is clear that, for learning, the quality of interaction between early years professionals and children is more important than the quality of the physical space. As a result, it is unlikely that spending additional resources, such as the Early Years Pupil Premium, on redecoration or other changes to the physical environment of a setting would be a cost-effective way to improve learning.

There is some evidence that outdoor learning environments can change behaviour, for example, by increasing group interaction, but it is not currently known whether this leads to improvements in learning.

Some aspects of the built environment do show a relationship with learning at the extremes, but most of these are already at appropriate levels in most early years settings. Two exceptions are air quality and high noise levels. The evidence suggests that low air quality does have a negative impact on learning (reducing word recognition by 15% in one study of primary school pupils), and that learning spaces often have poor air quality, with carbon dioxide concentrations higher than the recommended levels. If the noise levels are very high (for example, if the setting is under a flight path), there can also be a measurable detrimental effect on learning.

The evidence on playing music in a setting is inconclusive as it appears that people react differently to different kinds of music according to their preferences. The evidence on colour in the learning environment is similar: personal preference is probably more important than any general effect.

How secure is the evidence?

The research on the impact of the physical environment on learning is generally weak; it is mainly based on correlational studies or inferences from wider environmental research. Very few studies have been conducted with rigorous experimental designs, and this makes it hard to establish causal claims about the impact of any physical changes to the learning environment.

What are the costs?

It is difficult to estimate the costs of changes to the built environment precisely, as they are usually part of capital spending, rather than annual budgets. For example, a new purpose-built nursery school for 100 children costs about £1-2 million up front, but is likely to be used by several generations of children. Improving air quality can be done relatively cheaply with better ventilation, filtration and the use of dehumidifiers where necessary. Overall, per child costs are estimated as low.

Built environment: What should I consider?

Before you implement this strategy in your learning environment, consider the following:

1. How does the design and layout of your setting support quality learning interactions?
2. If you are making changes to the built environment, have you considered how you can use this opportunity to encourage new expectations and behaviours from your professionals, the children and their families?
3. Have you tested the air quality in your setting? In some cases improving air quality may be as simple as opening the windows!
Play can be broadly defined as an enjoyable activity that is pursued for pleasure or its own sake. It can be contrasted with activities that have explicitly defined learning outcomes, or games, which are likely to have clearer rules or a competitive element. Play-based activities might be solitary or social, and involve a combination of cognitive and physical elements. Activities might be adult-guided, for example through the suggestion of a scenario for pretend play. In other cases, activities will be largely child-initiated (“free-play”), with adult involvement focused on the provision of props, or the design and management of the learning environment.

Some examples of play-based learning may overlap with Self-regulation approaches or Social and emotional learning strategies. Some play-based interventions have been developed for children with social, emotional or behavioural problems. These programmes explicitly aim to improve social and cognitive skills by teaching children how to play.

How effective is it?
The evidence base for play-based learning is weak and inconsistent, but does indicate a positive relationship between play and early learning outcomes. On average, studies of play that include a quantitative component suggest that play-based learning approaches improve learning outcomes by approximately five additional months. However, there is substantial variation in effects, suggesting that additional, high-quality research is needed in this area.

Positive outcomes have been identified for a range of early learning outcomes including vocabulary, reasoning and early numeracy. Evidence related to early language and problem solving outcomes is mixed. Play-based therapy can have substantial benefits for children who are identified as having social, emotional, or educational difficulties. There is no clear evidence whether play-based learning has a differential positive benefit on children from low-income families.

How secure is the evidence?
There is currently very limited evidence related to play-based learning in the early years. Though one systematic has been conducted, the underpinning studies are relatively low quality, and frequently do not include quantitative impact measures. The majority of studies have been conducted in the United States, and the evidence base is relatively dated, including a number of studies from the 1990s.

Where studies have been conducted, for example, in a randomised controlled trial assessing the impact of the Tools of the Mind curriculum, play is often only one component of a broader programme, making it challenging to isolate its impact. It is important to recognise the methodological challenges of evaluating approaches that are part of multi-component interventions and that are, in many cases, unstructured by definition. However, this is an important area for further research and more can be done to understand the impacts of various play-based approaches.

What are the costs?
Most early years settings are equipped with indoor and outdoor play facilities, so the additional costs associated with play-based learning are likely to be very low. Specific additional resources and materials may be needed, such as those required for dramatic play or play to support early literacy, and training for staff to develop their understanding of how to develop children’s learning from play activities is likely to be beneficial. This includes training to support decisions about when not to intervene during child-initiated play.

Play-based learning: What should I consider?
Before you implement this strategy in your learning environment, consider the following:

1. How does the way you organise equipment in the learning environment support active learning, play and exploration? For example, can children access resources independently?
2. How effectively does your environment encourage and support children to develop their language, literacy and mathematical understanding through play?
3. How does the balance between child-initiated play and more structured activities meet the learning needs of your children?
4. How confident are your staff in effectively supporting learning through child-initiated play?
5. How will you evaluate the impact of any new play-based approaches you introduce?
Self-regulation strategies

Moderate impact for very low cost, based on limited evidence.

Self-regulatory skills can be defined as the ability of children to manage their own behaviour and aspects of their learning. In the early years, efforts to develop self-regulation often seek to improve levels of self-control and reduce impulsivity. Activities typically include supporting children in articulating their plans and learning strategies and reviewing what they have done. A number of approaches use stories or characters to help children remember different learning strategies. It is often easier to observe children’s current self-regulation capabilities when they are playing or interacting with a peer. Self-regulation strategies can overlap with Social and emotional learning strategies and Behaviour interventions.

How effective is it?

The development of self-regulation and executive function is consistently linked with successful learning, including pre-reading skills, early mathematics and problem solving. Strategies that seek to improve learning by increasing self-regulation have an average impact of five additional months’ progress. A number of studies suggest that improving the self-regulation skills of children in the early years is likely to have a lasting positive impact on later learning at school, and also have a positive impact on wider outcomes such as behaviour and persistence.

There are some indications that children from disadvantaged backgrounds are more likely to begin nursery or reception with weaker self-regulation skills than their peers. As a result, embedding self-regulation strategies into early years teaching is likely to be particularly beneficial for children from disadvantaged backgrounds.

More evaluation is needed to identify specific programmes or curricula that have a positive impact on academic outcomes through improving self-regulation for young children. However, the small number of studies that have been conducted in early years settings, and existing evidence from older age groups, suggests that promising approaches are likely to balance explicit instruction with providing scaffolded opportunities for children to practice new skills. For example, early years practitioners might talk to children about how to follow a “Plan, Do, Review” approach for a simple building activity.

How secure is the evidence?

The evidence related to self-regulation strategies in the early years is currently limited. Several studies have established the link between self-regulation and success in learning, but fewer have assessed the educational impact (for example on early mathematics or literacy skills) of approaches that sought to improve self-regulation. In addition, though many interventions include components that seek to improve self-management and self-regulation, it has not been possible to prove that it is these specific components that have been responsible for improvements.

Much of the evidence in existing syntheses of research relates to older children in primary and secondary school (age 5 and older). The evidence is strongest for immediate impact on behavioural outcomes (such as on interaction or persistence).

Overall, self-regulation is a promising area, but one that would benefit from more rigorous evaluation in early years settings to identify how to achieve benefit for young children’s learning.

What are the costs?

The overall costs are estimated as very low. There are few, if any, direct financial costs associated with this approach. However, high-quality professional development is likely to enhance the benefits on learning. Additional resources such as books for discussion may also be required.

Self-regulation strategies: What should I consider?

Before you implement this strategy in your learning environment, consider the following:

1. Self-regulation strategies have high potential, but may require careful implementation. Have you set aside time for professional development prior to putting a new strategy in place?
2. How do you assess children’s current capabilities in managing their behaviour, for example when they are playing or interacting with their peers?
3. How will you monitor the impact of developing children’s self-regulation strategies?
4. How will you manage classroom time to balance explicit teaching with scaffolded opportunities for children to practice and explore new skills?
Social and emotional learning (SEL) strategies seek to improve learning and wider child development by improving children's social and emotional skills. They can be contrasted with approaches that focus explicitly on the academic or cognitive dimensions of learning. SEL strategies might seek to improve the ways in which children interact with their peers, parents or other adults and are often linked with self-regulation strategies. Two broad categories of SEL strategy can be identified:

- Universal programmes that seek to improve behaviour or engagement throughout settings.
- Specialised programmes targeted at children with emotional, behavioural or learning difficulties

In 2005, the national Social and Emotional Aspects of Learning programme was introduced in early years settings to support effective learning, positive behaviour, attendance, and emotional well-being.

How effective is it?
Existing evidence suggests that SEL strategies can have a positive impact on social interactions, attitudes to learning, and learning itself. On average, children who follow SEL interventions make around three additional months' progress in early years settings and reception classes. Though, on average, all children benefit, there is also some evidence that social and emotional approaches can benefit disadvantaged children more than their peers.

However, though universal SEL strategies almost always improve emotional or attitudinal outcomes, not all interventions are equally effective at improving early learning outcomes. Improvements seem more likely when approaches are embedded regularly into activities, and when the introduction of SEL approaches is linked to professional development to support and explain the strategies to staff.

A small number of studies have assessed the impact of specialised programmes for children with emotional or behavioural difficulties. On average, these programmes show a moderate positive impact on learning. Again, there are some indications that programmes involving professional development for staff are associated with greater improvements. In addition, the quality of implementation of the programme and the degree to which early years professionals and other staff were committed to the approach appeared to be important.

How secure is the evidence?
There is very limited research in this area. There are a number of meta-analyses, though more research has been undertaken with children in primary schools than in early years settings, and more studies have evaluated the impact on disadvantaged or low attaining children or those with emotional and behavioural difficulties.

In early years settings, SEL approaches are often part of multi-component interventions so it is difficult to isolate the impact of the different social, emotional and cognitive dimensions.

What are the costs?
Universal approaches that encourage social and emotional learning throughout a setting will benefit from professional development and may require new materials and resources, but these costs are likely to be very low. Social and emotional strategies targeted at specific individuals will be much more expensive. Estimates from the US suggest targeted programmes cost about £2,800 per child per year and involve professional counselling or psychological services. On average, the costs per child are estimated as moderate.

Social and emotional learning strategies: What should I consider?
Before you implement this strategy in your learning environment, consider the following:

1. Have you ensured that the right professional development opportunities are in place to support the introduction of SEL strategies, and explain their value to staff?
2. How will you embed SEL strategies in routine practices, rather than treating SEL as a distinct area of focus?
3. How will you evaluate the impact of SEL approaches?