



Brains in Motion: Building Big Thinking through Assault Course Play

Supporting self-regulation and executive function skills

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Why the Humble Assault Course Matters

Most Early Years settings provide opportunities for children to learn to balance, build core strength and coordination using the simple assault course. Here we'd like to share how we use the evidence-informed approach of **creating and navigating challenge** to maximise learning opportunities when setting out basic climbing equipment outside.

How can an outdoor assault course help young children develop *executive function* and *self-regulation*?

According to the Education Endowment Foundation (EEF):

"Self-regulation involves a complex range of skills and abilities that enable children to monitor their emotions and thoughts and choose how they adapt their behaviour in different circumstances." EEF Evidence Store

The EEF explains that:

"Executive function refers to a set of skills that are often used together... they require teaching and modelling, practice, and repetition to develop." EEF Evidence Store. When

children **plan, problem-solve, persist and adapt**, they are practising the very executive-function processes that underpin learning.

Building and navigating an assault course offers exactly that kind of challenge — in a joyful, active context.



Checking for safety and stability

Challenge Grows the Mind

Educational research shows that adding *developmentally appropriate challenge* helps children strengthen:

- **Problem-solving**
- **Prediction and planning**
- **Organisation of thoughts**
- **Working memory**

These are all executive-function skills vital for later academic success.

The EEF summarises this first approach as:

“Creating and navigating challenge... providing opportunities for children to practise their skills in different contexts.”

EEF Evidence Store

From Planks to Planning

Outdoor assault courses are full of natural learning moments.

Invite children into every stage of the process:

1. **Plan together** – “Where should this plank go?”
2. **Risk assess together** – “How can we check it’s safe to walk on?”
3. **Adjust for everyone** – “How can all of us have a go?”

These shared decisions stretch thinking, develop social awareness, and help children practise regulating attention and excitement.



Risk-assessing before using

The learning is in the build

The construction stage itself offers rich opportunities for executive-function growth.

Children might:

- Carry heavy blocks together — coordinating movement and teamwork;
- Test bridges for safety — predicting outcomes and adapting designs;
- Negotiate where things should go — practising communication and flexibility.

Adults can gently scaffold:

“If we put the tyres here, will it be stronger?”

“Let’s test it before we walk on it.”

This kind of modelling and questioning mirrors what the EEF describes as “**promoting talk about learning**”, approach 5 — encouraging children to plan, monitor and reflect on their thinking.

Start Low, Grow High

At our lead setting, we introduce assault courses progressively:

- **Stage 1:** Floor-level balancing and short jumps — building confidence and safety awareness.
- **Stage 2:** Planks on low blocks — adding early balance challenges.
- **Stage 3:** A-frames or higher obstacles — once children demonstrate secure control, landing safely and self-regulating excitement.

Progressive challenge keeps children in the “*stretch zone*” — engaged, not overwhelmed — and supports both physical and emotional regulation.

Reflect, Review, Revise

After the activity, reflection can offer additional learning opportunities. Gather children together and ask:

“Which part was tricky?”

“How did you keep your balance?”

“What could we change next time?”

These short conversations help children notice their own thinking and effort — a crucial step in building metacognition (Talking about your own learning).

As the EEF highlights:

“Promoting talk that enables children to plan, monitor and reflect on their learning” is a core way to strengthen self-regulation.

EEF Evidence Store

More than Just an Obstacle Course

Through the communal making of an assault course, children do much more than balance and jump.

They plan, reason, remember, cooperate, manage emotions and persist — the foundations of lifelong learning.

The EEF reminds us:

“Supporting the development of these skills may mean children are more likely to do better later in school.”

When we invite children to *create and navigate challenge*, we offer them more than an adventure — we give them a chance to practise the thinking and self-management skills that will help them thrive long after they leave our setting.

Try This:

Next time you're setting up outdoors, hand over part of the design process. Let children position the planks, test for wobbles, and decide the route. You'll see focus, reasoning and persistence come alive!

How Vivienne Lambert at Charles Dickens Nursery Uses the Assault Course to Support Those Children Who Avoid Outdoor Play.

“Once I have observed and assessed where the children are with their physical development, I'll set up an assault course to support them with the skill they need to develop. I demonstrate how to use it and then let the children have a turn observing their use of the course. I support the children who have the widest gaps in their physical

development. Over time I will add challenges as the children demonstrate greater confidence”

Daniela Jamois

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“When children design, build and test their own challenges, they don’t just climb and balance — they plan, reflect, and grow.”

If you’d like to join the London South Early Years Stronger Practice Hub’s Executive Function Network join our hub [here](#)

Further Reading:

- [EEF Evidence Store: Self-Regulation and Executive Function](#)
- [Mini case study what does challenge look like.pdf.pdf](#)
- [EEF | Self-Regulation and Executive Function](#)
- [Develop children's self-regulation and executive function with... | EEF](#)
- [Supporting Self-Regulation and Executive Function in the Early Years | Education Endowment Foundation](#)
- [RS Network | Fostering Executive Function Skills in Early Years](#)

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