Case Study and Reviews

TTS Motor Skills Twist & Turn Tall Wooden Tower (EY10995)

In this case study, the Nursery Manager from Kids Planet in Gedling shares how the TTS Motor Skills Twist and Turn Tall Wooden Tower has been used across different rooms within the setting. She reflects on the variety of ways children engaged with the resource and the range of skills it supported and developed through play.	

Brief background and areas we wanted to develop

As a setting, we were looking for a larger, durable resource that could easily be moved but withstand regular use. The chunky, robust pieces make the Twist and Turn Tall Tower ideal for play, reducing the likelihood of items being lost while enabling children to handle and manipulate them confidently.

Recent observations have also highlighted a clear rotation schema emerging with our toddlers. Many children have been showing a strong interest in twisting, turning, and rotating objects. By tuning into this schematic play, we wanted to provide a resource that would both extend their current interests and use this motivation to support key developmental areas. The Twist and Turn Tall Tower offered purposeful opportunities for children to engage in rotation while practising turn-taking, cooperating with peers, and developing the physical skills needed to manipulate the chunky pieces with control and confidence.

How we used the resource

We initially introduced the tower in our toddler room (2-2.5yrs), presenting it within the construction area with all the pieces wound down to the bottom. This immediately provoked curiosity and problem-solving as the children began to pull, drag and push the pieces to work out how to remove them. Their engagement was highly physical, with children squatting, crouching and using their core muscles to maintain balance as they explored how the mechanism worked. This supported Physical Development (PD), particularly developing gross motor skills, core strength and coordination, while also encouraging aspects of Personal, Social and Emotional Development (PSED), such as persistence and confidence in trying new challenges.

As exploration continued, we then presented the tower with the pieces placed on the floor. This reversed the challenge, encouraging the children to work out how to get the pieces onto the tower, promoting further problem-solving, investigation and hand–eye coordination. This aligns with the EYFS area of Physical Development (fine motor skills and coordination) and Understanding the World (exploring cause and effect).

We also invited the preschool children to join the investigation and extend the learning further. Their involvement added a new level of collaboration and challenge, as the older children modelled more advanced problem-solving strategies and language. This mixed-age exploration encouraged shared thinking, turn-taking and communication, while also enabling the younger children to observe and imitate more complex physical actions.

Activity ideas:

- **Twisting and turning pieces on and off:** Supports fine motor development, hand–eye coordination, and problem-solving.
- **Racing to complete either taking on and off:** Encourages turn-taking, concentration, and persistence. Can introduce a stopwatch or sand timer.
- **Making patterns with shapes on the tower:** Promotes early maths skills such as sequencing and understanding pattern.
- **Building and balancing shapes as stand-alone activity**: Develops spatial awareness, core strength, and coordination.
- **Identifying shapes and discussing properties:** Enhances shape recognition, vocabulary, and descriptive language about shapes such as sides and corners.
- **Counting & comparing quantities (more/less than)**: Supports early numeracy and number recognition when asking how many pieces are on the tower? How many does adding one more make etc?

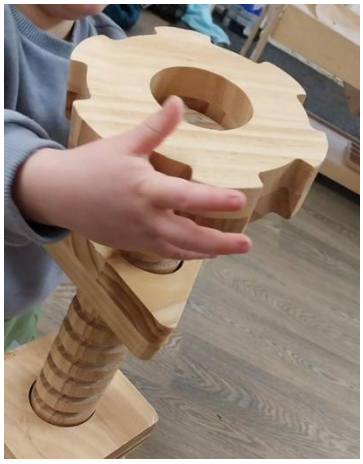
Case Study 1 – Using our Bodies!

One preschooler questioned whether she had to use her hands to engage with the toy. After being told that she was free to explore the toy in any way she chose, she demonstrated creativity and confidence in her approach. She sat on the floor, balanced on her bottom, lifted her hands off the ground, and began twisting the wooden pieces using her feet.

This required significant core strength, balance, and coordination. She maintained focus and determination while adjusting her posture to remain stable. Her innovative approach quickly captured the attention of her peers. Other children observed her actions and were motivated to

try the same technique. This led to a shared challenge among the group, with children experimenting with balance, posture, and problem-solving as they attempted to copy her movements. Some children needed to persist through trial and error, showing resilience as they adjusted their bodies and strategies.

Throughout this investigation, the preschool children demonstrated a range of characteristics of effective learning such as exploring and experimenting. This case highlights the importance of giving children permission to explore materials in their own way. By removing limitations, the child demonstrated innovation and leadership, inspiring others and creating a collaborative learning moment driven entirely by child-led discovery.



Case Study 2 – Exploring Schemas

Within our toddler room, a clear rotation schema has been observed. The twist-and-turn resource provided an ideal opportunity to extend this interest in a meaningful and engaging way.

Younger toddlers squatted to reach the pieces at the bottom of the toy, developing balance as they shifted their body weight to twist and lift the pieces. Through this process, they strengthened control and stability in their shoulders and elbows while building confidence in their movements.

Older children were able to sit or stand while completing the same actions, demonstrating increased coordination and physical control. As confidence grew, simple games were introduced, such as “Who can get them all off?” and “Can we work together to put all the shapes back on?” When older children joined the play, they began to explore patterns, discussing and creating different sequences on the post. This provided varied opportunities for children to explore the rotation schema in new and increasingly complex ways.

We particularly liked the variety of shaped pieces included with the resource, as the smaller sections and cog-style shapes allowed little hands to easily grip, pull, and push. Larger pieces, such as the circular shapes, often required children to use two hands, encouraging them to

problem-solve and adjust their approach. By handling different shapes, including feeling triangle points and straight or curved sides, children were able to explore shape properties in a tactile and meaningful way. This hands-on experience supported early mathematical understanding through sensory exploration, which is always well received with our toddlers.




The open-ended nature of the resource promoted peer learning, collaboration, and challenge, with children motivating one another to try new approaches. This resource has become a valuable tool within the toddler room specifically, supporting both individual and group learning. It has enabled practitioners to observe schema-based play more clearly and to plan meaningful extensions from this.

Case Study 3 – Exploring Shape

In our preschool room, there is a strong interest in building towers and creating structures to represent landmarks from the children's own experiences. This links closely to their schemas of positioning, orientation, and connection.

Once the shapes were removed from the post, two children began stacking them, initially laying them flat to create a stable base. This supported early counting skills, as the children worked on tagging each object. With practitioner support, we explored simple mathematical concepts such as taking one away or adding one more and observing how this changed the total. This learning was further extended by comparing two groups and discussing which had more or fewer objects.

Independently, children continued to stack and compare their structures, talking about whose tower was taller or shorter. Introducing a sense of friendly competition encouraged the children to explore early mathematical concepts in a playful and engaging way.

A further three children focused on exploring their creativity. They stacked the pieces vertically and noticed that the circular shapes rolled away. Through problem-solving, trial and error, and perseverance, the children realised they needed a stable base for the circular pieces. They used the holes in each shape to stabilise the structure and support the next piece. As their creations

developed, children tested which shapes stacked best and which orientation worked most effectively.

The inclusion of an unusual cog-shaped piece—something not typically found in standard building resources—sparked curiosity and discussion. Children questioned what the shape was, what it might represent, and how it could be used within their structures. The uneven edges encouraged experimentation, as children discovered how the cog could interlock, balance, or provide grip when stacked with other shapes. This supported deeper thinking around shape properties, problem-solving, and creative design.

Practitioner-led discussion further supported children's understanding of mathematical language and shape properties, including the number of sides and whether shapes had points, curves, or uneven edges.

With thanks to the Nursery Manager at Kids Planet Gedling for writing and sharing this case study with us.