



## **Example Strategic Product Review**

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The purpose of this review was to explore how children engaged with the product, how easy it is to use, and the skills it can support. The following report includes the key themes within these areas as well as explanations and recommendations for further development where applicable. You may publish the report in part or in full, but must include full credit to Dr Gummer's Good Play Guide for the content, along with the year the report was published.

### Method

The product was tested in an after school club through our play club partner network. Staff members observed children playing with the toy and completed forms to provide their feedback, including rating fun/level of engagement, skills developed, and ease of use. The product was tested on multiple occasions with 10 children, including a mix of boys and girls, aged four to eight years old.

### Feedback

#### *Age suitability*

We believe the core target market for the product is five to nine years. Extension activities such as competitive games and harder difficulty levels may also make the product enjoyable for older children.

This age recommendation is due to observing that five-year-olds were able to follow instructions from a teacher and recognise the symbols on the toy. They may also be able to complete the easier grids with some guidance. However, the blocks are too large for children aged four and under to manipulate successfully without adult support. For example, they struggled to reach high enough to build a tower and needed help from the teacher. They also occasionally struggled with carrying the blocks. Therefore, we suggest the 'Starter 2/3 Size' set with smaller blocks that you currently produce would be more suitable for this age group.

Meanwhile, eight and nine-year-olds engaged well with the blocks, demonstrating teamwork and showing rapid progress in their computational mathematic thought processes. 11-year-olds were reported to be better able to deliver instructions and complete the advanced grids, with little to no guidance from a teacher. However, the 'soft play' aspect of the blocks made them seem 'babyish' to this age group.

## Engagement

We have awarded this product an engagement rating of 5/5. This means that the product kept most of the children engaged for longer than 10 minutes at a time. Physically moving the blocks to build the walls encouraged children to become immersed in the puzzles and they seemed to really enjoy moving about, which made it seem more like a game than a lesson. Children also loved throwing the blocks around to mix them up again afterwards.

The product was also very adaptable. Teachers were able to use a variety of additions to the basic gameplay, such as getting children to build the wall with the pattern facing toward the teacher, asking them to rotate the wall using the easiest method while keeping the pattern, having them put the blocks in number and letter orders, and establishing patterns across the wall.

***"I think they've enjoyed the hands-on feature... the thinking is quite physical"***  
**- Headteacher**

***"The bright colours and the shapes and just the play side of it has been really exciting for them, so to get them involved when they are learning lots through actually thinking they're playing has been a good start"***  
**- Teacher**

***"They went past playtime by about 15/20 minutes and were still very much engaged, wanting the next task, and actually we had to stop them"***  
**- Teacher**

## Ease of use

The product has been given an ease-of-use rating of 5/5, which means that there were no problems whatsoever with its usage. Although activities may be initiated by an adult, children were still able to easily understand how to use the resource to its full capacity with minimal third-party intervention. An adult could successfully lead the learning activity, where applicable, and facilitate children's engagement with it without prior knowledge needed (e.g. a parent).

Children generally had no difficulties building the walls and the pattern grids were clear and easy to follow. The teacher used these successfully with the seven to eight-year-olds. We believe that younger children would be capable of completing the easy level grids when they have become familiar with using the blocks. As an introduction, the teacher gave ongoing verbal instructions to the four to five-year-olds, such as to build a wall with all the shapes facing in one direction, which they were able to follow.

The teachers reported that the blocks were also easy to use because they were able to watch the children's thought processes play out. This allowed teachers to observe where skills were improving and see when and where mistakes were being made. They could give

the children the chance to recognise and solve the problem themselves, and guide the child if needed to support their learning. For example, one teacher was about to offer help to the four to five-year-olds but, because he was able to see what the children were doing, he noticed the method they were using and allowed them to continue without interruption.

They were also able to give immediate feedback, praising children when they completed the puzzle, encouraging them to think about the problems, and highlighting where they could do things differently. Additionally, the teachers liked that they were able to adapt the game using their own ideas, to develop the skills they wanted to cover in that session. This meant that they could introduce the children to the blocks by asking them to build anything they wanted, then gradually add to the instructions. For example, putting the blocks together without any gaps, and then grouping all of the shapes together. It would be useful if more resources could be made available to guide teachers with this, providing instructions for games that focus on different skills.

***“With (older children) there are challenge cards so the teacher can become more of a facilitator and just stand at the side really - right, this is your challenge, talk about it, go through it”***

***- Teacher, leading the sessions and head of computational mathematics***

The only issue raised in using the blocks was the use of zips to attach the covers. One of these was broken during testing, suggesting the design needs to be more robust. It was also noted by teachers that the zips can easily catch children and injure them. A safer alternative, such as velcro, is strongly recommended.

The teachers were also very interested in the idea of 16 smaller tabletop sets for individual or paired work and suggested that it would be very useful to have these in addition to the larger version for class demonstrations. We recommend considering a package offer for schools that includes the large product and 16 of the smaller tabletop sets, without the expense of retail packaging.

### *Skill development*

We have rated this product 5/5 for skill development, which means that it is exceptionally beneficial for learning and development. It allows children to be actively involved with the learning experience and offers opportunities for children to continually extend and apply their knowledge. It also includes additional guidance for adults, to help them support children's learning to extend their knowledge.

### *Personal, social and emotional skills*

The product clearly supported leadership and team working skills. The children discussed the problems they uncovered, how they could achieve the various goals, and shared their ideas. They praised one another's successes, and also pointed out problems to each other, then worked together to find a solution.

The four to five-year-olds struggled to work together as collaboratively as the older children. For example, they separated themselves into smaller groups, worked on different ideas, weren't involved at all, talked over one another, and one child only wanted to use her own ideas. This isn't surprising based on the stage of development these children will be at. However, with some prompting from the teacher, they were able to work as a team. This shows that this could be a valuable tool for challenging children's ability to collaborate and giving them the experiences needed to improve these skills.

Examples of leadership were also observed. For example, one method the teacher used required the children to only take one block up to the wall at a time. The children organised themselves to make this easier, with one child naturally taking a leadership role and directing the others one at a time to add their block to the wall.

Another challenge created by the teacher had one child give the instructions using the picture grid, while the other children were not allowed to speak or see the grid. This allowed the child to practise her leadership skills. We observed her learning to decide what instructions to give and directing specific members of the group. She seemed to become more confident with this quite quickly.

***"The way the teachers actually used the blocks has allowed children to think for themselves as an individual but then also to have to think as part of a team, which has got to be a benefit to lifelong learning"***

***- Headteacher***

***"Very clearly we've got children that can work well together, but some of the leadership qualities of the children are coming through very strongly."***

***- Headteacher***

The game additionally requires the children to listen to, understand, and follow instructions given by the teacher and their peers. For example, if the teacher instructed them to arrange the blocks so the grid pattern was facing him, the children needed to think about which columns were on his left and right-hand sides. They were also sometimes not shown the grid and had to rely on verbal instructions, which could possibly help four to five-year-olds practice following multiple-part verbal instructions. For example, "find the letter H with the yellow background and put it next to the car with the red background".

The teacher was able to gradually increase the instructions to raise the level of challenge. For example, beginning with "you can build anything as long as you work in a team", then once this was complete, adding that "there must not be any gaps between the blocks", followed by "all the shapes must face one way". The children sometimes had trouble following the multiple-part instructions, instead only completing one or two of the requests. This demonstrates an opportunity for learning.

In addition to this, the children practised giving instructions themselves. For example in one activity, only one child could see the grid and gave instructions to the rest of the group. The child giving the instructions had to be very specific when

describing which block was needed - for example, the block with the blue background, and a small square inside a circle - and where it should go. Often the children giving instructions would only focus on one or two qualities of the block and were very vague about where it should go. For example, they would say “on top of that one” rather than “on top of the yellow block”. They improved significantly during a single session and we could see this becoming more automatic for them with increased practice.

Furthermore, the construction aspect of the product can help support perseverance. For example in one exercise, the teacher asked the four to five-year-olds to build anything they wanted and they decided to build goalposts. After attempting to build goalposts and finding that it wasn't possible, the children wanted to build something different. However, the teacher encouraged them to persevere. This led to the children adopting the goalposts, by putting two blocks in the middle to hold up the top bar. They then began to create their own game around this new design.

### Cognitive skills

The product supported many cognitive skills including symbol and pattern recognition, problem-solving, and concentration. The symbols on the blocks can help four to five-year-olds practise recognising numbers, letters, shapes and colours. For example, one child incorrectly called a square a rectangle and the teacher was easily able to point out the different side lengths on the cube. It can also help slightly older children become familiar with national flags.

Both groups of children were interested in the game and appeared to enjoy the challenges set. The teacher noted that four to five-year-olds would usually only concentrate for 15-20 minutes on an activity. However, they played with the product for over half an hour into their break time, only stopping when asked to by the teacher and seemed happy to continue longer.

The teacher commented that the children engaged really well with problem-solving, and we observed this with both groups of children. The children all suggested ideas, showing that they were thinking about solutions to the goals they were given and the problems they encountered. For example, with some prompting from the teacher, one child realised they had already used the block with the required symbol on it - “We've already used the 'two'!”. They solved the problem by replacing the block in the wall with another one.

***“The year groups I've tried these with have got really heavily involved and got really engaged with problem-solving”***

- Teacher

***“Trying things out, and trial and error has been quite a feature that the children in the older year groups have particularly benefitted from”***

- Headteacher

***“They wanted to make all of the shapes go diagonally which they realised they couldn't do...so they talked their way through it and then came up with other ideas of what they could do next”***

- Teacher

***“They've certainly taken longer in the Year 1 class (than the older children) that we've looked at to get to the problem-solving finish, but they've enjoyed it...and they've been persistent, which is one of our key successes for learning, and we've been really pleased with the fact that they will carry on even if they've got things wrong”***

- Headteacher

***“Their challenge then was to get all the shapes showing in the simplest way, they did then dismantle it all and put it back together, but we did chat about actually was that the easiest way and they came up with the idea that it probably wasn't.”***

- Teacher

To work out how to achieve their goal, the children were able to translate and manipulate their thoughts in a physical setting. They could therefore search for and rotate the blocks, in a much easier way than they could with mental representations. This provides a good foundation for developing logical thinking skills. The puzzles were shown to encourage perseverance because the children used trial and error to find different strategies when one didn't work. In addition, after the children had completed each puzzle, the teacher was able to discuss the results with them. This helped children consider where they could improve for next time.

The pattern recognition and problem-solving required by the product can also support children's understanding of computing, by encouraging them to think about problems in a similar way to using algorithms and debugging.

***“Linking it into the computing curriculum...(the blocks are) actually the same, just without a computer, because they've got to go through each of the steps, and if that step goes wrong – (the children ask themselves) how am I going to change it, how is that going to look if I do this, why have I had to go that way around, is that the simplest way of doing it.”***

- Teacher

To extend learning even further, across a wider range of topics, the blocks could also include interchangeable sides. For example, plastic sleeves for teachers to add additional

symbols, or velcro sheets that can be stuck to the side. This could cover any school subject, from historical figures to verbs and nouns.

Various skills have been demonstrated by children during sessions with the blocks but it could also be useful to research the long term benefits of using the blocks. For example, whether regular sessions improve teamworking skills, particularly for children under five; whether children who practise leadership skills become more confident in class; and if the children who use the product improve their maths skills in class.

## **Conclusion**

For such a simple game, we were amazed at the variety of skills observed, spanning across all three core areas of development. As a flexible tool, teachers were able to incorporate different skills and differentiation to adapt to the children's abilities and challenge them appropriately.

The flexibility of this resource as a learning tool could be even greater by making the sides of the blocks changeable, to allow teachers to personalise their blocks. More teacher guidance to help teachers get started could also be very valuable, such as lesson plans or a game guide.

Overall, the hands-on nature of this product was hugely popular with children and teachers alike. This not only engaged children's attention, who learned through movement and play.