



IMMERSIVE PROJECTOR LEARNING WITH LIGHT

“I love the thought of our playful interactions becoming a forever memory”

Catherine L. Clark

Early Years New Product Development Director

IMMERSIVE PROJECTOR

BRING IMAGINATION AND CREATIVITY INTO LEARNING

From providing rich language opportunities and developing mathematical concepts, to scientific exploration and storytelling, this versatile resource offers children infinite learning experiences and different ways to express themselves.



**INSPIRES RICH EXPLORATORY AND
SENSORY PLAY**



**CREATES CAPTIVATING AND EVER-
CHANGING LEARNING ENVIRONMENTS**



**TRANSFORMS THE EVERYDAY INTO THE
EXTRAORDINARY**



**ALLOWS CHILDREN TO EXPRESS THEMSELVES
IN 'A HUNDRED WAYS' AND MORE**



CULTIVATES A SENSE OF CURIOSITY



**A LIGHT SOURCE THAT IS RECHARGEABLE
WITH NO TRAILING WIRES**



ENCOURAGES STEAM BASED LEARNING



**DESIGNED AND TESTED TO BE SAFE FOR
YOUNG CHILDREN**

With the press of a simple switch, this safe, robust light dome can **create magical, atmospheric, immersive light effects and landscapes**. See the joy on children's faces as the walls and ceiling become a canvas for their thoughts and ideas.

Simply place a rich variety of materials, figures, structures or even write on the dome to see **shimmering shades and shadows emerge**. Children can **experiment, explore and discover** with the light effects whilst following their own interests and lines of enquiry. Suddenly, collections of familiar everyday objects and resources can have many visions. The environment constantly changes, revealing new scenarios, along with unexpected twists and turns within their play.

The Immersive Projector can be used to support learning and development across many areas. Used alongside the right materials, it is not only an invitation to play but will also **support children to develop essential learning behaviours**. The landscapes created will encourage children to be active, make choices, experiment, be creative and think critically. It **supports holistic development and brings together the physical, personal, social, emotional wellbeing** of the child, as well as the cognitive aspects of learning.

As children grow and develop, their play with the Immersive Projector will evolve. **Babies and toddlers may delight in the sensory experiences it can provide whilst older children may use it to explore more complex concepts.**

IMMERSIVE PROJECTOR

Children will find many different creative ways to learn and explore with the Projector. In this guide, we highlight and showcase some of the ways different areas of learning will be supported as they play. We also know that one experience may provide learning opportunities across all areas.



COMMUNICATION, LANGUAGE & LITERACY

The Immersive Projector gives children the opportunity and freedom to **communicate and express themselves** in a hundred different languages, for example, through the medium of art, dance, performing, or construction. They may choose to express themselves using **spoken, expressive or creative language**.

- When we think about communication and language, we often think about the spoken word, but it can in fact come in many forms, including non-verbal gestures. As children place objects and materials on/around the Projector, they will begin to **communicate their thoughts and feelings through their actions**. They may make small utterances, or simply clap, laugh or smile as they become **amazed by what they have created**. Children will start to have conversations and ask questions that are raised from their interactions with both their peers and the materials used.
- As children use and manipulate materials to build, construct and create within the light they will naturally begin to use **language of maths and science**. They may use loose parts, building blocks or household items as they explore vocabulary to describe their creations and the different shadows that appear, for example language of size, shape, colour or position.



- Children will **become immersed in the worlds they have created**. Familiar landscapes that represent the interests of the child may be revealed, such as a forest from a favourite story or starry constellations in the night sky. Alternatively, the children may go on a journey where the destination is unknown and be **transported to places they have never been before**. During their travels, stories and narratives will start to unfold, giving children the chance to become the storytellers of their own play. Characters may emerge from the shadows. Puppets may be used or made using their hands or other materials, whilst others will **use their own bodies to act out their adventures**.

THE ONE HUNDRED LANGUAGES OF CHILDREN

The child is made of one hundred.

The child has a hundred languages a hundred hands a hundred thoughts a hundred ways of thinking of playing, of speaking.
A hundred always a hundred ways of listening of marvelling of loving a hundred joys for singing and understanding a hundred
worlds to discover a hundred worlds to invent a hundred worlds to dream.

The child has a hundred languages (and a hundred hundred more) but they steal ninety-nine.

The schools and the culture separate the head from the body.

They tell the child: to think without hands to do without head to listen and not to speak to understand without joy to love
and to marvel only at Easter and Christmas.

They tell the child: to discover the world already there and of the hundred they steal ninety-nine.

They tell the child: that work and play reality and fantasy science and imagination sky and earth reason and dream are things
that do not belong together.

And thus they tell the child that the hundred is not there.

The child says: No way. The hundred is there.

LORIS MALAGUZZI





DEVELOPING MATHEMATICAL THINKING

Using the Immersive Projector, gives children the space and time to discover, develop and experience mathematical concepts and understanding through self-directed play.

- As children play and explore, there will be many opportunities for mathematical enquiry which will help to **secure the foundations of early maths**. They might be sculpting something in a mathematical way or weaving mathematical language into their stories and conversations. Children may be seen sorting, matching, comparing and looking for attributes in the materials that are within their reach.
 - Children will **experience awe and wonder** as they manipulate materials on or around the dome and watch images grow and shrink in the light, depending on the distance from the Projector. These experiences will **naturally lead to mathematical concepts and language being explored and used**, such as the shadows getting bigger, smaller, taller, wider or longer.
 - Patterns will be made and **discovered in the shadows on the wall** or children may carefully curate certain colours that can be used in their evolving landscapes. Children may explore colanders that create spotty patterns or use light up resources to create sequences and shapes.
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- Children will **develop their understanding of length, weight and prepositional language** as they manoeuvre materials and objects around during their play to create marvellous landscapes. Encourage children to talk and share as they make choices about where to place objects, such as next to, underneath or on top of one another.
 - Once they have developed an understanding of mathematical concepts in a play-based way, children may **begin to explore number as a concept**. They may make collections of objects in their play or even count out the objects as they place and position them.



PHYSICAL DEVELOPMENT

Interacting with the Immersive Projector and the space around it will enhance physical movements and **build important motor skills** as children sit, kneel, stretch and reach to construct or create.

- Children will become transfixed and enthralled when they recognise that they can **make shadows move**. They may jump, skip or work with others to create movements and play games such as shadow tig.
- As children navigate and build, they will develop **their understanding of the relationships between spaces**, how people use them and their responsibility in sharing spaces with others.
- Offer children the chance to explore a range of different fabrics such as patterned materials, silk scarves and voiles alongside the Projector (practitioners to risk assess). **The materials will start to change shape as they shimmer and sway in the light.**
- Children may notice that not only do their bodies move in different ways, but so do the different materials. They may choose to **dance around using different movements** with the fabrics or collaborate with peers to billow the materials and watch the changing shapes



- Providing a range of materials for the children to use alongside the Immersive Projector **creates many opportunities for children to develop those all-important gross and fine motor skills** by carrying, lifting and manipulating the different equipment and resources.



DEVELOPING CREATIVITY: EXPRESSIVE ARTS & DESIGN

As children use the Immersive Projector, the **walls and ceiling will become a canvas for their work**. They will be designing, building, manipulating, manoeuvring, connecting, and experimenting with all kinds of materials and loose parts.

- Having a wide range of open-ended materials to use alongside the Projector will **encourage children to investigate and use their imaginations and creativity**. This could include ribbon, voiles, twine, leaves, acetate sheets, coloured cellophane, tissue paper, cotton reels, pinecones etc. The different materials can be reimagined and transformed with the addition of light and shadow, creating ever changing works of art.
 - **Children will be continually making decisions** about what they want to use, and they will start to adapt, modify, and review their creations as they go.
 - Different materials and other sources of light can be used to explore pattern, shape, form, opacity, colour and colour mixing. **Children will be inquisitive, curious, engaged, and motivated**. Their curiosity will encourage them to pose questions such as, how can different coloured shadows be made on the walls? Can the colours or shades be changed? What can be used to create different textures and patterns?
- **Expression of their thoughts and ideas may take on different forms** and change throughout their play. They might dance with ribbons or waft large pieces of card to create a multitude of shadow patterns and movements on the walls and ceiling. They may build amazing sculptures with objects or wire, make marks directly onto the dome with chalk pens, or simply attach some paper to the wall to sketch around the different shadows and shapes.





- Within the worlds they create, different sounds may emerge. There may **be squeals of excitement** when the children see the different effects from the light, **peals of laughter or even quiet reflective pauses and sighs**. Alternatively, children may choose to use their voices to add sound effects or may even create soundtracks by singing, playing or creating music to enhance the environments they've designed.
- If **children's interests in shadows are piqued** and they want to find out more, why not introduce them to artists who use light and shadows in their artwork, for example, the shadow artists Ellis Gallagher who uses chalk to draw around the outlines of shadows, or Kumi Yamashita, who 'sculpts' using the medium of art and shadow.



UNDERSTANDING THE WORLD THROUGH LIGHT AND SHADOW

The light from the Immersive Projector gives children the chance to **experience the magic of darkness** and provides the contrast needed to explore light and shadow properly. It gives them the **opportunity to explore and investigate physical phenomena**.

- Through play and experimentation with different materials such as cardboard boxes, cellophane, transparent objects etc, children will start to understand that shadows are created by the absence of light. They will see that different materials allow varying amounts to pass through or block it completely. You could **begin to explore language** such as transparent, translucent, opaque and reflection, leading to an understanding about the properties of materials and how they behave.
- Children will start to position their bodies and other items around or on the dome to create their landscapes. They will notice how the shadows grow and shrink, move and distort as the distance from the light changes.
- The **curious, independent learner will start to experiment** with how to disperse the light, how to alter the sharpness of a shadow and how to make images larger and smaller. As they play, encourage them to use trial and error as they make predictions, construct, verify hypothesis, and then form conclusions.



- Placing mirrors on the walls at right angles allows the light to bounce around the room, **creating amazing effects that will spark curiosity and interest**. Through play, children will start to experience and encounter real life examples of reflection and refraction.
- As interests are revealed from their experience with light and shadows, **children may choose to take their learning into other areas**. They may have more questions they wish to investigate about light or want to explore different light sources, such as seeing the shadows created by the sun.



PERSONAL, SOCIAL & EMOTIONAL DEVELOPMENT

Working with different materials in the light of the Immersive Projector, encourages social interactions and meaningful conversations to take place, where experiences will transform into learnings.

- Whilst children are **exploring, experimenting and discovering**, they may exchange and compare viewpoints, recognising that people have different opinions and that perspectives change. They learn to respect and listen to the thoughts of others.
- As children see their shadows on the walls and reflections (if using mirrors), they will start to be aware of themselves and **develop their sense of identity**. Children are often curious about reflective images and shadows, wanting to touch them to identify whether they are real or not.
- The dark environment with elements of light can **spark discussions about emotions**. It also allows children to explore their feelings in relation to the dark e.g. how the dark makes them feel and why?



- Young **children use their senses to explore** the space they are in. By igniting the senses using light, sound and different materials, multiple routes to the brain become engaged, leading to children learning more effectively.
- Some children will find the **presence of the light and shadows, calming and soothing**. Let them take the lead with their own learning. Some may choose to just lie down and gaze up at the shadows on the ceiling or play alone exploring their own thoughts and feelings. Others will choose **to work collaboratively, sharing skills and knowledge**.
- The **sense of satisfaction that children feel** when they have discovered something new, **releases feel good hormones in the brain and creates an appetite for learning**, giving children a hunger to do it again and again.