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Ai cover sheet

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The Curiosity Cabin

A mobile inquiry lab for early
years

Business plan. Part A +B

Part A

The Curiosity Cabin is an innovative mobile inquiry lab designed to transform early years education across Wales by bringing high-quality, curiosity-driven learning experiences directly to children and practitioners. Its concept arose from a clear gap identified within early years practice: while many settings welcome visitors offering music, yoga, or storytelling, few provide immersive, inquiry-based experiences that model sustained shared thinking and deep engagement. The Cabin responds to this need by combining the mobility of outreach learning with the pedagogical richness of Reggio Emilia-inspired environments (Edwards et al., 2012), creating a flexible, research-informed space where children and adults can explore, question, and learn together. This approach aligns closely with the Curriculum for Wales (Welsh Government, 2020), which positions curiosity, exploration, and learner agency at the heart of early childhood pedagogy, and with the Early Childhood Play, Learning and Care (ECPLC) Quality Framework (Welsh Government, 2023), which emphasises responsive interactions and rich environments as foundations for quality provision.

The Curiosity Cabin's innovation lies in its dual-impact model. It simultaneously enhances children's learning experiences and supports practitioner development through live modelling of effective pedagogy. Research consistently demonstrates that high-quality adult-child interactions are among the strongest predictors of positive developmental outcomes (Siraj et al., 2015; Howard et al., 2018). Yet many practitioners report limited confidence in facilitating inquiry-based learning, particularly within STEM or creative contexts. The Cabin addresses this by providing situated professional learning: practitioners observe inquiry facilitation in action, gaining insight into how to scaffold children's thinking, extend conversations, and create environments that invite exploration. This approach reflects contemporary understandings of effective professional development, which emphasise modelling, coaching, and reflective practice rather than one-off training events (Cordingley et al., 2015; Timperley, 2011). In this way, the Cabin acts as both a learning environment and a professional learning tool, bridging the gap between theory and practice.

The benefits of the Curiosity Cabin are deeply rooted in early years developmental theory. Drawing on Piaget's constructivist view that children build knowledge through active exploration (Piaget, 1952) and Vygotsky's sociocultural perspective that learning is mediated through social interaction and shared meaning-making (Vygotsky, 1978), the Cabin provides opportunities for children to engage in hands-on inquiry, problem-solving, and collaborative discovery. Its design incorporates sensory, creative, and nature-based experiences that stimulate cognitive, physical, and emotional development. Neuroscience research reinforces the importance of such experiences, showing that early sensory and social engagement supports brain development and executive functioning (Goswami, 2015). The inclusion of natural materials and loose parts reflects Nicholson's (1971) theory that environments rich in manipulable resources promote creativity and sustained engagement. These elements collectively support the holistic development of the child—cognitive, social, emotional, and physical—while fostering curiosity, resilience, and wellbeing.

The Curiosity Cabin also aligns with broader policy and legislative priorities in Wales. The Well-being of Future Generations (Wales) Act (Welsh Government, 2015) emphasises sustainability, community wellbeing, and equitable access to services—all of which are supported by the Cabin's mobile, inclusive model. The Play Sufficiency Duty (Welsh Government, 2014) requires local authorities to ensure children have access to rich play opportunities, and the Cabin's creative, exploratory experiences contribute directly to this. Furthermore, the Childcare Offer and Flying Start programmes prioritise high-quality early years provision, particularly in disadvantaged communities. The Cabin's ability to support quality improvement, family engagement, and enriched learning positions it as a valuable partner for these initiatives. Its mobility ensures that even settings with limited space or resources can access high-quality experiences, promoting equity across the sector.

However, innovation also brings challenges. Sustainability is a key consideration: while the mobile model reduces fixed costs, ongoing operational expenses such as staffing, travel, maintenance, and resource replenishment must be carefully managed. The Cabin's success depends on securing a stable mix of income streams, including service bookings and grant funding. Funding opportunities exist—such as the National Lottery Community Fund (2024), Business Wales Start-Up

Grants (Business Wales, 2024), and local authority Early Years Innovation Grants—but competition for these funds can be high, and long-term sustainability requires careful financial planning. Scalability presents another challenge. As demand grows, maintaining consistent quality across sessions and supporting practitioner development at scale will require strategic planning and potentially additional staffing or multiple Cabin units. There is also a pedagogical risk that settings may view the Cabin as a one-off enrichment activity rather than a catalyst for sustained change. To mitigate this, the model includes follow-up support, reflective dialogue, and opportunities for practitioners to embed new strategies into their daily practice.

The Curiosity Cabin's audience and stakeholders are diverse, reflecting its multi-layered impact. At its heart are the children, whose curiosity, creativity, and wellbeing form the foundation of the project. The Cabin provides them with opportunities to engage in meaningful inquiry, develop language and problem-solving skills, and experience joy in discovery. Practitioners are equally central stakeholders, benefiting from professional learning that enhances their confidence and capability in delivering inquiry-based pedagogy. Local authorities and Flying Start teams represent institutional stakeholders, as the Cabin supports their quality improvement and inclusion agendas. Families and communities also benefit indirectly, as children's engagement and wellbeing contribute to broader community outcomes. Finally, funding bodies and policy organisations are key partners, as the Cabin aligns with national priorities around innovation, equity, and wellbeing.

My professional background positions me uniquely to lead and develop the Curiosity Cabin. Having worked in a Flying Start setting for seven years, I have developed a deep understanding of the realities, challenges, and opportunities within early years education. I have witnessed the enthusiasm of children when offered creative, hands-on experiences and the transformative impact of high-quality adult-child interactions. Yet I have also seen the limitations of external sessions that, while enjoyable, fail to deliver sustained developmental impact. This experience has given me insight into what truly benefits children and practitioners, and how to design experiences that are both engaging and pedagogically meaningful. My expertise in early childhood education, combined with my knowledge of Welsh policy frameworks and commitment to inclusive, research-informed practice, ensures that I am well placed to lead this initiative. I bring not only practical experience but also a reflective,

evidence-based approach that bridges policy, research, and lived practice—qualities essential for driving innovation in the early years sector.

In conclusion, the Curiosity Cabin represents a forward-thinking, evidence-informed response to the needs of early years education in Wales. It is innovative because it combines mobility, inquiry-based pedagogy, and professional learning in a single model that benefits children, practitioners, and communities alike. Its alignment with national frameworks, developmental theory, and legislative priorities ensures both relevance and impact. While challenges around sustainability and scalability exist, these can be addressed through strategic partnerships, funding, and ongoing evaluation. Ultimately, the Curiosity Cabin embodies the principles of curiosity, collaboration, and creativity that lie at the heart of effective early years practice, offering a practical and inspiring way to bring high-quality learning experiences to every child, regardless of setting or circumstance.

Part B

The Curiosity Cabin represents a timely and innovative response to the evolving landscape of early childhood education in Wales, where policy, research, and practice increasingly emphasise curiosity, exploration, and learner agency as central to children's development. Conceived as a mobile inquiry space that can be transported directly to early years settings, the Cabin offers enriched, child-led learning experiences while simultaneously modelling high-quality pedagogy for practitioners. Its design and purpose align closely with the Curriculum for Wales, which positions play, exploration, and creativity at the heart of early learning (Welsh Government, 2020), and with the Early Childhood Play, Learning and Care (ECPLC) Quality Framework, which emphasises responsive interactions, rich environments, and the centrality of child-initiated learning (Welsh Government, 2023). In this sense, the Curiosity Cabin is not merely an add-on resource but a practical mechanism for operationalising national policy aspirations within the everyday realities of early years settings. This essay explores the developmental benefits of the Curiosity Cabin, critically analyses its potential challenges, and situates it within current research, practice, policy, and legislative frameworks, before considering its future scalability and opportunities for further development.

The developmental foundations of the Curiosity Cabin are grounded in well-established research demonstrating that young children learn most effectively through active engagement, exploration, and high-quality interactions. Piaget's constructivist theory emphasises that children build knowledge through hands-on experiences and experimentation (Piaget, 1952), while Vygotsky's sociocultural theory highlights the importance of social interaction, scaffolding, and shared meaning-making (Vygotsky, 1978). The Cabin's provocations—ranging from STEM investigations and sensory exploration to nature-based inquiry and creative ateliers inspired by Reggio Emilia—invite children to engage in open-ended experimentation, problem-solving, and collaborative meaning-making. Such experiences support cognitive development by encouraging children to hypothesise, test ideas, and reflect on outcomes. They also

strengthen language development, as children articulate their thinking, negotiate roles, and engage in extended conversations with adults and peers. Social and emotional development is similarly supported through cooperative exploration, shared discovery, and opportunities to experience challenge, resilience, and joy within a safe and stimulating environment.

The Cabin's emphasis on sustained shared thinking is particularly significant. Research consistently shows that high-quality interactions—where adults and children think together, explore ideas, and build meaning collaboratively—have profound impacts on children's learning trajectories (Siraj et al., 2015; Howard et al., 2018). Yet many practitioners report lacking confidence in facilitating such interactions, especially within STEM or inquiry-based contexts. The Curiosity Cabin addresses this gap by offering situated professional learning: practitioners observe inquiry-based facilitation in action, gaining insight into how to scaffold children's thinking, extend conversations, and create environments that invite exploration. This dual-impact model benefits both children and adults simultaneously, aligning with contemporary understandings of effective professional development, which emphasise modelling, coaching, and reflective practice rather than isolated training sessions (Cordingley et al., 2015). In this way, the Cabin contributes not only to children's immediate learning experiences but also to long-term improvements in practitioner capability and confidence.

The Curiosity Cabin also responds to structural challenges within the early years sector. Many settings, particularly those in disadvantaged communities, face constraints that limit their ability to provide rich, inquiry-based environments. Limited budgets restrict access to high-quality resources; small indoor spaces reduce opportunities for exploration; and staffing pressures can limit the time available for planning and professional learning. These challenges are well documented in reports from Early Years Wales (2023), Watkins (2024), and local authority quality improvement teams. The Cabin's mobile model directly addresses these barriers by bringing resources, expertise, and enriched environments to settings rather than requiring them to invest heavily in infrastructure. This approach aligns with principles of equity and inclusion, ensuring that all children—regardless of postcode—can access meaningful learning experiences. It also supports the Play Sufficiency Duty, which requires local authorities

to ensure children have access to rich play opportunities (Welsh Government, 2014), and aligns with the Well-being of Future Generations (Wales) Act (Welsh Government, 2015), which emphasises sustainability, community wellbeing, and equitable access to services.

Critically, the Curiosity Cabin bridges the gap between policy aspiration and practice reality. While the Curriculum for Wales (Welsh Government, 2020) emphasises learner agency, creativity, and exploration, many settings struggle to translate these principles into daily practice. Similarly, the ECPLC Quality Framework (Welsh Government, 2023) calls for environments that support curiosity, problem-solving, and responsive interactions, yet achieving these consistently requires time, training, and resources. The Cabin offers a practical mechanism for operationalising these frameworks, providing settings with concrete examples of how inquiry-based pedagogy can be implemented within real-world constraints. This is particularly important given the ongoing shift in Wales toward child-centred, inquiry-driven learning, a shift that requires both cultural and pedagogical change across the sector.

From a developmental perspective, the Curiosity Cabin supports multiple domains of learning. Neuroscience research highlights the importance of early experiences in shaping brain development, particularly through sensory exploration, movement, and social interaction (Goswami, 2015). The Cabin's design intentionally incorporates multisensory experiences that stimulate neural pathways associated with executive functioning, attention, and emotional regulation. Outdoor and nature-based elements within the Cabin also align with research demonstrating the benefits of nature for wellbeing, resilience, and cognitive development (Gill, 2014; Whitebread, 2012). The inclusion of loose parts, natural materials, and open-ended resources supports creativity, divergent thinking, and problem-solving, echoing Nicholson's theory of loose parts, which argues that environments rich in manipulable materials promote higher levels of creativity and engagement (Nicholson, 1971).

The Cabin's approach also resonates with the principles of the Reggio Emilia philosophy, which emphasises the environment as the "third teacher," the importance of documentation, and the role of adults as co-learners (Edwards et al., 2012). By creating aesthetically rich, thoughtfully curated spaces, the Cabin invites children to

explore, investigate, and express themselves in multiple ways. The presence of an adult facilitator who models curiosity, listens deeply, and responds sensitively to children's ideas reflects the Reggio emphasis on relational pedagogy. This relational dimension is further supported by attachment theory, which highlights the importance of secure relationships for exploration and learning (Bowlby, 1969). When children feel emotionally safe and supported, they are more likely to engage in deep, sustained inquiry.

Despite its strengths, the Curiosity Cabin is not without challenges. One barrier relates to sustainability. While the mobile model reduces fixed costs, ongoing operational expenses such as staffing, travel, maintenance, and resource replenishment must be carefully managed. The Cabin's success depends on securing a stable mix of income streams, including service bookings and grant funding. Funding opportunities exist—such as the National Lottery Community Fund (2024), Business Wales Start-Up Grants (Business Wales, 2024), and local authority Early Years Innovation Grants—but competition for these funds can be high, and long-term sustainability requires careful financial planning. The Cabin must therefore develop a robust financial model that balances affordability for settings with the need to maintain high-quality delivery.

Another challenge relates to scalability. While the Cabin can serve multiple settings, demand may exceed capacity, particularly if interest grows across local authorities. Ensuring consistent quality across sessions, maintaining resources, and supporting practitioner development at scale will require strategic planning and potentially additional staffing or multiple Cabin units. There is also a risk that settings may view the Cabin as a one-off enrichment activity rather than a catalyst for sustained pedagogical change. To mitigate this, the Cabin's model must include follow-up support, reflective dialogue, and opportunities for practitioners to integrate new strategies into their daily practice. This aligns with research on effective professional learning, which emphasises the importance of ongoing coaching, reflection, and collaborative inquiry (Timperley, 2011).

Pedagogically, the Cabin must ensure that its experiences complement rather than replace ongoing inquiry-based practice within settings. While the Cabin provides enriched experiences, it is essential that these experiences act as a springboard for

sustained change rather than a temporary enhancement. This requires strong partnerships with settings, clear communication about the Cabin's purpose, and opportunities for practitioners to reflect on how the approaches modelled within the Cabin can be embedded into their own environments. The Cabin's potential to act as a professional learning hub—offering CPD workshops, mentoring, and community of practice sessions—could strengthen its impact and ensure that learning is embedded beyond the visit itself.

The Curiosity Cabin also aligns with broader policy and legislative priorities in Wales. The Well-being of Future Generations Act (Welsh Government, 2015) emphasises sustainability, community wellbeing, and equitable access to services—all of which are supported by the Cabin's mobile, inclusive model. The Play Sufficiency Duty encourages local authorities to ensure children have access to rich play opportunities, and the Cabin's creative, exploratory experiences contribute directly to this. Additionally, the Childcare Offer and Flying Start programmes prioritise high-quality early years provision, particularly in disadvantaged communities. The Cabin's ability to support quality improvement, family engagement, and enriched learning positions it as a valuable partner for these initiatives.

Looking ahead, the Curiosity Cabin has significant potential for future development and expansion. One opportunity lies in establishing a network of mobile inquiry hubs across Wales, enabling regional coverage and supporting local authority priorities. Another possibility is developing research partnerships with universities, allowing the Cabin to contribute to evidence-building around inquiry-based learning, practitioner development, and child outcomes. Such partnerships could generate valuable data on the impact of mobile learning models, informing policy and practice at national levels. The Cabin could also expand its CPD offer, providing accredited training in inquiry-based pedagogy, STEM facilitation, and sustained shared thinking. This would strengthen practitioner capability across the sector and support workforce development priorities.

Further opportunities include developing digital extensions of the Cabin, such as virtual provocations, resource libraries, or practitioner reflection tools. These could support settings between visits and ensure continuity of learning. The Cabin could also

collaborate with community organisations, museums, and environmental groups to create interdisciplinary learning experiences that connect children with local heritage, nature, and culture. Such partnerships would enrich the Cabin's offer and strengthen community engagement.

In conclusion, the Curiosity Cabin represents a timely, research-informed, and policy-aligned innovation within the Welsh early years sector. Its mobile model addresses persistent barriers to inquiry-based learning, offering enriched experiences for children and situated professional learning for practitioners. By aligning with the Curriculum for Wales, the ECPLC Quality Framework, and broader legislative priorities, the Cabin provides a practical mechanism for delivering high-quality pedagogy within diverse community contexts. While challenges exist—particularly around sustainability, scalability, and embedding practice change—the Cabin's potential for growth is significant. With strategic funding, partnerships, and ongoing development, it could evolve from a small-scale initiative into a national model for inquiry-driven early years education, contributing meaningfully to Wales' vision for curiosity, wellbeing, and equitable access to high-quality learning.

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