

Educational Inclusion and Psychological Development in Early Childhood: Classroom Participation, Educator Support and Developmental Outcomes Among Neurodivergent Children in Inclusive Early Years Settings

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Abstract- Early childhood education occupies a distinctive place within educational psychology because the classroom is not simply a site in which young children acquire pre-academic knowledge. It is one of the first sustained social institutions in which children learn how to regulate attention and emotion, enter and sustain relationships, interpret expectations, communicate preferences, negotiate routines, and experience themselves as competent participants in a community. These developmental processes unfold through repeated interactions with adults, peers, materials and environments. For that reason, the quality of early educational experience cannot be judged solely by enrolment, attendance or curriculum exposure. It must also be judged by whether children are able to participate meaningfully in the social and learning life of the setting. This distinction is central to contemporary inclusion policy, which increasingly frames inclusion as the identification and removal of barriers to participation and learning rather than the physical placement of a child in a common classroom (UNESCO, 2020, 2021).

The issue becomes particularly consequential for neurodivergent children. Neurodivergence is used in this thesis as an umbrella term for developmental profiles that differ from dominant neurotypical expectations, including, but not limited to, autism, attention-deficit/hyperactivity profiles, developmental language differences, dyslexia-associated profiles, dyspraxia, intellectual and developmental disabilities, and sensory or communication differences. Such children are not a homogeneous group, and diagnostic labels cannot by themselves explain the quality of a child's classroom experience. A child may be present in an inclusive setting and yet remain peripheral to play, group routines, peer interaction or decision-making. Conversely, a child with substantial support needs may participate actively when communication, sensory, relational and instructional conditions are responsive. This ecological understanding is consistent with bioecological theory, which treats development as a product of recurring

proximal processes between the developing person and the surrounding environment (Bronfenbrenner & Morris, 2006).

A central concern of the present study is therefore the difference between placement and participation. Participation is not treated as a decorative indicator of inclusion; it is conceptualised as a developmental mechanism. Through participation, children encounter opportunities to practise self-regulation, use language and other communication systems, cooperate with peers, initiate activity, recover from frustration, exercise choice, and engage with increasingly complex learning demands. Evidence from early childhood educational settings shows that participation patterns differ for children with and without developmental disabilities and that environmental support can shape the frequency and quality of involvement (Benjamin et al., 2017). Research on inclusive preschool interventions similarly suggests that social communication and peer participation can be strengthened when support is embedded within authentic classroom and play contexts rather than detached from them (Gunning et al., 2019; Hansen et al., 2014; O'Keeffe & McNally, 2023).

Educator support is the second organising construct of the thesis. Early years educators control many of the immediate conditions under which children participate: they pace routines, organise space, establish emotional tone, interpret behaviour, scaffold language and play, invite or restrict choice, adapt tasks, mediate peer encounters and decide when support should be increased or faded. A substantial body of research on classroom processes has shown that the quality of teacher-child interaction matters for children's social, language and academic development (Hamre et al., 2013; Mashburn et al., 2008). Within inclusive education, however, general warmth is not enough. Effective support may also require knowledge of neurodevelopment, flexible communication, sensory adaptation, visual structure, differentiated pedagogy, family collaboration, and the capacity to

recognise competence that is expressed in non-normative ways. Studies of preschool professional development indicate that educator knowledge and inclusion skills can improve, but also that organisational conditions determine whether new knowledge is translated into sustained practice (Petersson-Bloom & Bölte, 2022).

This thesis adopts a neurodiversity-affirming position without romanticising disability or minimising the realities of developmental difficulty. The neurodiversity paradigm challenges research and practice that define success primarily as approximation to neurotypical behaviour. Instead, it directs attention to environmental fit, autonomy, communication access, well-being, strengths, support needs and outcomes that are meaningful to neurodivergent people themselves (den Houting, 2019; Leadbitter et al., 2021; Pellicano & den Houting, 2022). In an early childhood context, this means that participation should not be measured by quiet compliance, eye contact, or imitation of peers alone. A child may participate through movement, alternative communication, parallel play, intense interests, selective engagement or supported transitions. The educational question is not whether difference can be made invisible; it is whether the environment enables the child to belong, contribute, learn and develop without unnecessary barriers.

The study is also grounded in a developmental view of self-regulation, social-emotional competence and early learning as interdependent rather than isolated outcomes. Self-regulation enables children to direct attention, manage arousal, inhibit or shift responses, and persist with

tasks; these processes are strongly implicated in school readiness and later learning (Blair & Raver, 2015). Social-emotional development is similarly embedded in relationships and opportunities for co-regulation. Early learning is not independent of either domain because young children learn through social exchange, play, guided participation and emotionally meaningful activity. The thesis therefore examines whether classroom participation functions as one mechanism through which educator support becomes developmentally consequential.

The conceptual position taken here has direct implications for educational research. If inclusion is a dynamic interaction between the child and the environment, then research must look beyond single-point judgements of placement or teacher attitude. It must examine what educators actually provide, what children are able to do within classroom activity, and how these experiences relate to development over time. The proposed study consequently brings together educator support, meaningful classroom participation and developmental outcomes within a longitudinal explanatory sequential mixed-methods design. Quantitative evidence is intended to estimate patterns of association, mediation, moderation and change; qualitative evidence is intended to explain how those patterns are experienced and produced in practice. In this way, the thesis aims to contribute not only to theory but also to the design of more psychologically responsive and educationally defensible inclusive early years environments.

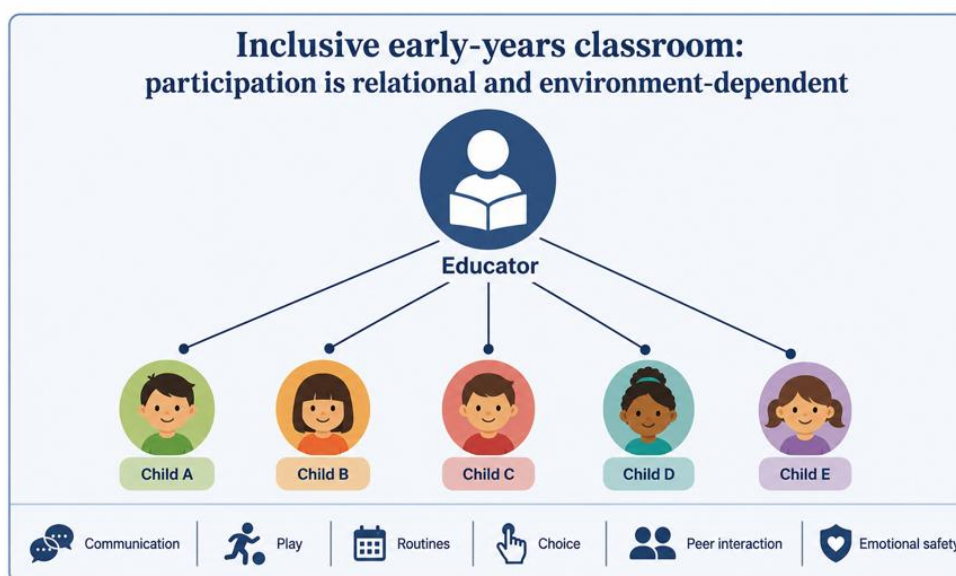


Figure G1. Inclusive early-years classroom as a relational participation environment

I. INTRODUCTION

Background to the Study

The developmental importance of early childhood lies not only in the speed of change during the period but also in the extent to which development remains dependent on everyday social experience. Cognitive growth, communication, emotional regulation, social understanding and approaches to learning are continually reorganised through children's encounters with responsive adults and peers. Educational psychology has therefore moved away from treating readiness as a fixed property that a child either possesses or lacks. Contemporary developmental accounts instead emphasise the interaction between self-regulatory capacity, stress, relationships, environmental demand and opportunity to practise emerging skills (Blair & Raver, 2015). Within early years settings, the classroom is consequently both an instructional environment and a developmental ecology.

The international movement toward inclusive education has strengthened the expectation that children with disabilities and developmental differences should learn within common educational communities. Yet the policy language of inclusion can obscure substantial variation in children's actual experiences. UNESCO's global inclusion framework makes a useful distinction between access and the removal of barriers across curriculum, pedagogy, assessment and institutional culture (UNESCO, 2020). Its later early childhood guidance similarly stresses that equitable provision requires systems to respond to diversity from the beginning rather than add support only after exclusion becomes visible (UNESCO, 2021). UNICEF likewise treats inclusive education as the provision of genuine learning opportunities in common environments, not simply common physical spaces (UNICEF, n.d.).

For neurodivergent children, the gap between presence and participation is especially important. Sensory differences, communication differences, attentional variability, motor planning demands, anxiety, executive-function differences or unfamiliar social expectations may alter how a child encounters ordinary classroom routines. These characteristics

should not be interpreted automatically as evidence that the child is unable or unwilling to participate. They may instead reveal a mismatch between the demands of an activity and the supports available within it. Studies of preschool participation show that children with developmental disabilities may experience lower involvement in some activities and that caregivers and educators identify environmental features as both barriers and supports (Benjamin et al., 2017). Such findings shift the analytic question from 'What is wrong with the child?' to 'What happens between this child and this learning environment?'

Educators are positioned at the centre of that interaction. Their support is delivered through moment-to-moment decisions: whether to wait for a response, provide a visual cue, modify language, reduce sensory load, invite a peer, offer a choice, restructure a group activity, recognise an alternative communicative act, or provide co-regulation during distress. The Teaching Through Interactions tradition has demonstrated that emotional support, classroom organisation and instructional support are developmentally meaningful dimensions of teaching (Hamre et al., 2013), while large-scale prekindergarten research has linked aspects of teacher-child interaction quality with children's academic, language and social development (Mashburn et al., 2008). In inclusive settings, these dimensions must be interpreted alongside disability-responsive and neurodiversity-affirming practice.

The argument developed in this thesis is that educator support and classroom participation are analytically distinct but developmentally connected. Support describes what the environment makes available; participation describes the child's active involvement within that environment. A supportive classroom may still fail to generate participation if adaptations are poorly matched, over-directive or inconsistently implemented. Conversely, participation may occur despite limited formal support because peers, routines or child interests create accessible pathways into activity. The empirical task is therefore to examine both constructs and the relationship between them rather than treating one as a proxy for the other.

This position is consistent with recent autism and neurodiversity scholarship, which has challenged intervention goals based primarily on behavioural normalisation. Pellicano and den Houting (2022) argue for research that is more responsive to autistic ways of being and to outcomes valued by autistic people, while Leadbitter et al. (2021) emphasise environmental fit, well-being and self-advocacy in early intervention. These arguments are particularly

pertinent in early childhood, where adult-defined norms can easily become the implicit standard against which participation is judged. The present study therefore distinguishes meaningful participation from mere behavioural compliance and explicitly recognises communication, agency, engagement, relationships and access to learning as central indicators.

Table 1.1. Core constructs and their proposed dimensions

Construct	Working meaning	Illustrative dimensions	Primary theoretical role
Educator support	Proximal adult actions that make classroom participation accessible and developmentally productive.	Relational; instructional; communicative; sensory/environmental; autonomy support.	Primary environmental predictor.
Classroom participation	Active involvement in classroom routines, relationships, play, communication and learning opportunities.	Engagement; agency; peer/play participation; routines; communication; contribution.	Outcome of support and proposed mediator.
Self-regulation / executive function	Developing capacity to manage attention, emotion and behaviour in relation to goals and demands.	Attention; inhibitory control; flexibility; working memory; co-regulation to self-regulation.	Developmental outcome.
Social-emotional development	Developing competence in relationships, emotional understanding and social participation.	Belonging; reciprocity; emotional competence; peer relationships; confidence.	Developmental outcome.
Early learning outcomes	Developmentally appropriate engagement and progress in foundational learning.	Language/literacy; numeracy; problem solving; learning engagement.	Developmental outcome.
Context	Child, family, setting and system conditions that may alter access, support or developmental opportunity.	Developmental profile; family resources; setting quality; leadership; policy; culture.	Moderator / ecological condition.

Contextual moderators: child profile • family resources • setting quality • culture • policy



Proposed thesis logic: educator support influences outcomes directly and indirectly through meaningful participation.

Figure 1.1. Proposed conceptual pathway linking educator support, participation and developmental outcomes

Educational Inclusion in Early Childhood

Educational inclusion in early childhood is best understood as a multidimensional condition involving access, participation, belonging and development. Placement in a mainstream or inclusive setting is necessary for many children to encounter peers and common curricula, but placement alone does not establish inclusion. A child who is routinely separated from group activity, physically present but socially ignored, or continuously dependent on adult prompting may technically be 'included' while experiencing little agency or membership. For this reason, the present thesis treats inclusion as a quality of experience rather than an administrative status.

This position is aligned with rights-based and systems-oriented approaches to inclusion. UNESCO (2020) frames inclusive education as a process of identifying and removing barriers that limit presence, participation and achievement. In early childhood specifically, UNESCO (2021) calls for inclusion to be designed into services, workforce preparation, family partnership and policy implementation. Universal Design for Learning provides a compatible pedagogical logic: rather than designing a single route through learning and then retrofitting

accommodations, educators plan multiple means of engagement, representation, action and expression so that variability is expected from the outset (CAST, 2024).

In practice, inclusive early childhood education therefore requires attention to ordinary moments. Arrival, free play, circle time, meals, transitions, outdoor activity and shared story reading all contain hidden participation demands. A routine may be physically accessible yet communication-inaccessible; a group activity may be academically appropriate yet overwhelming in sensory terms; a play opportunity may be available but socially closed. The quality of inclusion is revealed in whether such demands can be negotiated without excluding the child from meaningful activity.

Neurodiversity and Neurodivergent Children

Neurodiversity refers to variation in human neurological development and functioning. The term neurodivergent is used in this thesis pragmatically to describe children whose developmental profiles diverge from prevailing neurotypical expectations. It is intentionally broader than any single diagnosis and is not used as a substitute diagnosis. Rather, it permits attention to overlapping patterns of communication,

attention, learning, executive function, sensory processing, motor coordination and social interaction that may influence participation across diagnostic categories.

A neurodiversity-affirming stance does not require the researcher to deny impairment, distress or the need for intensive support. Its contribution is conceptual: it separates difference from automatic deficit and requires researchers to ask whose norm defines a desirable outcome. den Houting (2019) argues that neurodiversity scholarship is strengthened when research is developed with, rather than merely about, neurodivergent communities. Pellicano and den Houting (2022) extend this critique by questioning 'normalising' assumptions in autism science. In early education, the implication is that a child's unusual movement, focused interest, alternative communication or need for predictability should be evaluated in relation to function, well-being and participation rather than judged only by distance from typical behaviour.

Language use also matters. Preferences for identity-first and person-first terminology differ across individuals and stakeholder groups; autistic adults in particular often report a preference for identity-first language, although no single terminology is universally preferred (Taboas et al., 2023). The thesis will therefore use respectful, non-stigmatising language and, in primary data collection, will prioritise participant and family preferences wherever feasible.

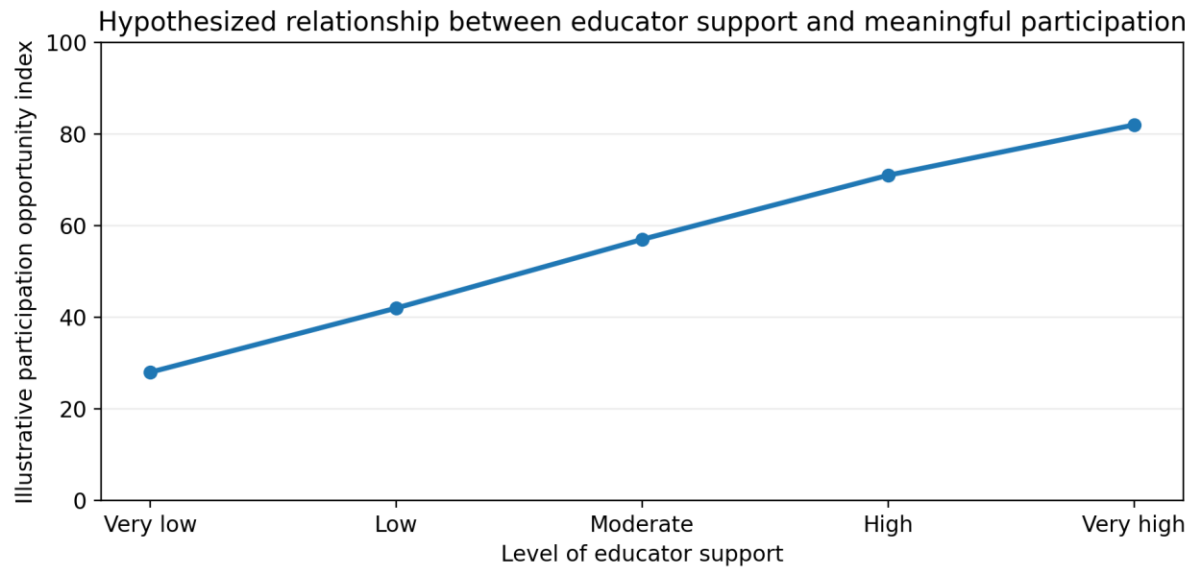
Classroom Participation as Meaningful Inclusion

Classroom participation is defined here as active, situated involvement in the social, communicative, play, routine and learning activities of the early years environment. It includes observable engagement, but

it is not reducible to time on task. Participation also involves access, choice, initiation, reciprocity, persistence, contribution and the child's capacity to influence what happens. A child who follows every adult direction may appear highly engaged while having little agency; another child may move between activities, communicate nonverbally and participate selectively while exercising substantial autonomy and social connection.

Participation research is valuable because it directs attention to the intersection of personal characteristics and environmental opportunity. Benjamin et al. (2017) demonstrated that young children with developmental disabilities and delays can experience distinctive patterns of participation in preschool activities and that qualitative accounts identify both environmental barriers and facilitators. Intervention research in inclusive preschool contexts further suggests that peer-mediated and play-based approaches can strengthen social communication and interaction when implemented within natural educational routines (Gunning et al., 2019; Hansen et al., 2014; O'Keeffe & McNally, 2023).

The present study therefore treats participation in two ways: first, as an outcome indicating whether educator support has translated into meaningful access to classroom life; and second, as a potential mediator through which support influences development. This mediation logic is theoretically plausible because developmental skills are strengthened through use. Children learn to regulate in situations that require regulation, to communicate in contexts where communication has consequences, and to understand others through reciprocal social experience.



Conceptual visualization only; values are illustrative and are not empirical estimates.

Figure 1.2. Hypothesized relationship between educator support and meaningful classroom participation

Educator Support in Inclusive Early Years Settings

Educator support refers to the relational, instructional, communicative and environmental actions through which early years professionals make participation more accessible and developmentally productive. Relational support includes warmth, responsiveness, emotional availability and co-regulation. Instructional support includes modelling, contingent prompting, scaffolding, feedback and differentiation. Communicative support includes visual systems, alternative and augmentative communication, simplified or elaborated language, processing time and recognition of non-verbal communication. Environmental support includes predictable routines, sensory adaptation, flexible grouping, accessible materials and carefully designed transitions.

The quality of support depends on professional knowledge but also on educator beliefs and self-efficacy. Russell et al. (2023), in a systematic review of educator attitudes toward autism inclusion, found generally positive attitudes across much of the literature but considerable variation in measurement and links between positive attitudes and self-efficacy where examined. Professional development can strengthen autism knowledge, confidence and reported inclusive practice, yet implementation depends on

organisational resources, time and leadership (Petersson-Bloom & Bölte, 2022). This distinction is important: an educator can value inclusion while lacking the conditions or repertoire required to enact it consistently.

Accordingly, the present study does not operationalise educator support as attitude alone. It focuses on the practices that children encounter directly. This makes the construct more proximal to participation and potentially more actionable for professional development, coaching and quality improvement.

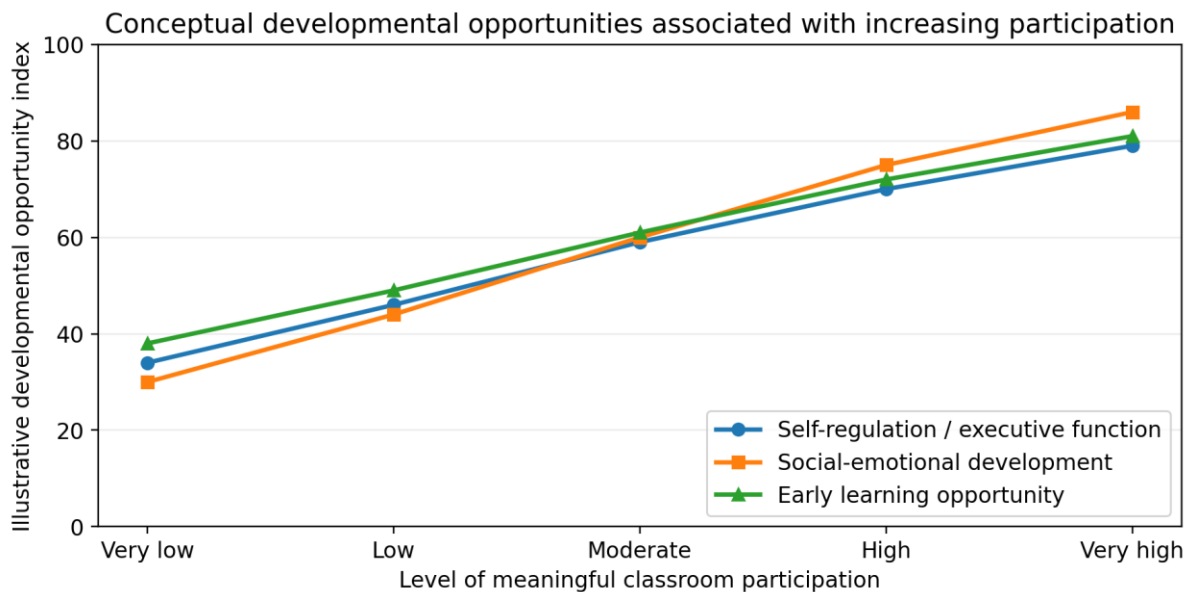
Psychological and Developmental Outcomes

Three developmental domains are prioritised: self-regulation/executive function, social-emotional development and early learning outcomes. These domains are conceptually distinguishable but developmentally intertwined. Self-regulation refers to the developing capacity to manage attention, emotion and behaviour in relation to goals and contextual demands. Executive functions such as working memory, inhibitory control and cognitive flexibility contribute to this process. Blair and Raver (2015) demonstrate why self-regulation should be understood developmentally and contextually rather than as a simple trait residing within the child.

Social-emotional development includes emotional understanding, relationship competence, social reciprocity, confidence, belonging and the capacity to negotiate social situations. Early learning outcomes encompass engagement with language, literacy, numeracy, problem solving and other foundational learning processes appropriate to the developmental stage. In early childhood, these outcomes are rarely produced by solitary instruction. They are embedded in social interaction and classroom activity, which is

why participation is theoretically positioned as a plausible developmental mechanism.

A neurodiversity-affirming interpretation requires caution in outcome selection. Measures should not reward the suppression of harmless self-regulatory behaviour or equate social competence with performance of a narrow neurotypical style. Where standardised instruments are used, their constructs and limitations will therefore be examined alongside observational and qualitative evidence.



Conceptual visualization only; the plotted values do not represent study findings or effect sizes.

Figure 1.3. Conceptual developmental opportunities associated with increasing meaningful participation

Ecological and Contextual Influences

Children and educators do not interact in a vacuum. Bronfenbrenner's bioecological framework emphasises that development is organised through proximal processes nested within interrelated systems (Bronfenbrenner & Morris, 2006). The classroom and peer group form part of the child's immediate microsystem; relationships among home, school and professional services constitute mesosystem processes; staffing, leadership, funding and service availability represent influential exosystem conditions; and wider cultural beliefs, rights frameworks and education policy shape the macrosystem.

This ecological framing guards against an overly individualised explanation of inclusion. A teacher may possess strong knowledge but be constrained by class size, limited planning time or lack of specialist collaboration. Families may be willing to collaborate yet encounter stigma, transport barriers or fragmented services. Evidence from preschool teachers in Ghana, for example, illustrates how training deficits, limited resources, parental cooperation, policy implementation and professional collaboration can converge as barriers to autism inclusion (Senoo et al., 2024). Such findings should not be universalised across contexts, but they demonstrate why classroom practice must be interpreted within wider institutional conditions.

The study will therefore treat selected child, family and setting characteristics as contextual or moderating variables rather than nuisance factors. Their purpose is not to dilute the main model but to test whether the relationships among educator support, participation and developmental outcomes differ across environments and developmental profiles.

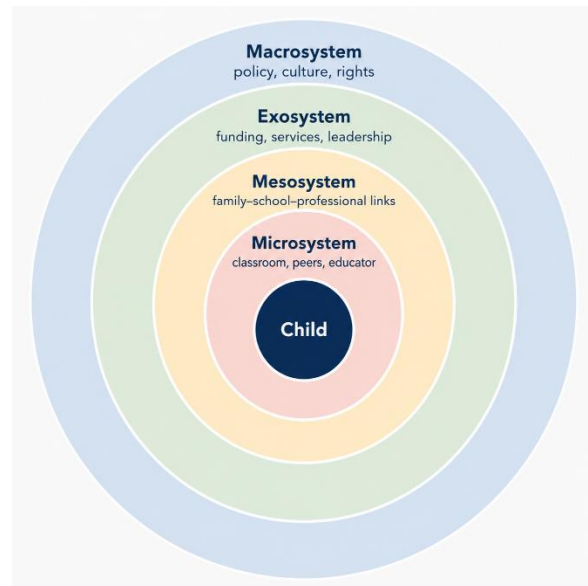


Figure 1.4. Ecological context of participation and development in inclusive early years settings

Statement of the Research Problem

The central research problem is that inclusive early childhood education is frequently evaluated at the level of access, placement or policy commitment, whereas the developmental processes through which inclusion becomes meaningful are less consistently examined. As a result, a child may be counted as included without adequate evidence that the child participates, belongs, exercises agency or encounters sustained opportunities for psychological and educational development. This creates a conceptual and measurement problem: presence is easier to document than participation, but presence alone cannot explain developmental benefit.

A second problem concerns the relationship between educator support and child outcomes. Research has established the developmental importance of teacher-child interaction generally (Hamre et al., 2013; Mashburn et al., 2008), and inclusive-education research has documented barriers, attitudes and

intervention approaches for autistic and disabled learners (Russell et al., 2023; Siller et al., 2021). However, these literatures are often separated. Studies may focus on educator attitudes without observing child participation, or they may evaluate child outcomes without examining the proximal support processes that made those outcomes possible. The mechanism linking inclusive practice to development therefore remains insufficiently specified.

A third problem is methodological. Much of the available evidence is cross-sectional, diagnosis-specific, intervention-specific or dependent on adult report. Such evidence is valuable, but it limits understanding of change over time and can underrepresent the perspectives of children and families. A more integrated design is needed to examine whether educator support predicts meaningful participation, whether participation is associated with developmental outcomes, whether participation mediates the support-outcome relationship, and how participants explain the processes behind quantitative patterns.

The problem addressed by this thesis can therefore be stated succinctly: there is insufficient longitudinal, mechanism-focused and neurodiversity-affirming evidence explaining how educator support and classroom participation work together to shape self-regulation, social-emotional development and early learning among neurodivergent children in inclusive early years settings.

Research Gap

The first gap is conceptual. Inclusion research frequently invokes participation, engagement, belonging and access, yet these constructs are not always differentiated. The present study responds by defining classroom participation as a multidimensional construct encompassing engagement, agency, peer/play participation, communication and involvement in routines. It is deliberately separated from physical attendance and from educator perceptions of inclusion.

The second gap is explanatory. Existing literature supports the importance of educator-child interaction and identifies promising inclusive practices, but fewer studies explicitly test participation as a mediating

pathway between educator support and developmental outcomes. The proposed model therefore moves beyond the question of whether support 'works' to ask how support may become consequential through the child's repeated opportunities to participate.

The third gap is temporal and methodological. Cross-sectional designs cannot adequately distinguish stable differences among children from change associated with classroom experience. The proposed longitudinal mixed-methods design is intended to examine developmental trajectories and changes in support and participation, while qualitative interviews provide a means of interpreting mechanisms, barriers and discrepant cases. The fourth gap concerns perspective. Neurodiversity scholarship increasingly calls for research that is responsive to lived experience and avoids normalising outcome assumptions (Leadbitter et al., 2021; Pellicano & den Houting, 2022). The study addresses this by incorporating family and educator perspectives, child-sensitive observation and outcome interpretation focused on access, agency and well-being.

Aim of the Study

The aim of this study is to investigate the relationships among educator support, meaningful classroom participation and psychological/developmental outcomes among neurodivergent children in inclusive early years settings, with particular attention to self-regulation/executive function, social-emotional development and early learning outcomes over time.

Research Objectives

1. To describe the level and pattern of meaningful classroom participation among neurodivergent children in inclusive early years settings.
2. To examine the nature and level of relational, instructional, communicative and environmental support provided by educators.
3. To determine the relationship between educator support and meaningful classroom participation.
4. To examine the relationship between classroom participation and self-regulation/executive-function outcomes.

5. To examine the relationship between classroom participation and social-emotional development.
6. To examine the relationship between classroom participation and early learning outcomes.
7. To determine whether educator support is directly associated with developmental outcomes.
8. To test whether classroom participation mediates the relationship between educator support and developmental outcomes.
9. To examine whether selected child, family and setting characteristics moderate the proposed relationships.
10. To examine change over time in educator support, participation and developmental outcomes and to explain quantitative patterns through educator and parent/carer perspectives.

Research Questions

1. What is the level and pattern of meaningful classroom participation among neurodivergent children in inclusive early years settings?
2. What forms and levels of educator support are available to neurodivergent children in inclusive early years settings?
3. What relationship exists between educator support and meaningful classroom participation?
4. What relationship exists between meaningful classroom participation and self-regulation/executive-function outcomes?
5. What relationship exists between meaningful classroom participation and social-emotional development?
6. What relationship exists between meaningful classroom participation and early learning outcomes?
7. What relationship exists between educator support and developmental outcomes?
8. Does classroom participation mediate the relationship between educator support and developmental outcomes?
9. Do selected child, family and setting characteristics moderate the relationships among educator support, participation and developmental outcomes?

10. How do educator support, classroom participation and developmental outcomes change over time, and how do educators and parents/carers explain observed patterns, barriers and facilitators?

Research Hypotheses

The quantitative component will test the following directional hypotheses. The precise statistical form of each hypothesis will be finalised after instrument selection, pilot testing and confirmation of the multilevel/longitudinal data structure.

- H1: Higher levels of educator support will be significantly associated with higher levels of meaningful classroom participation.
- H2: Higher levels of meaningful classroom participation will be significantly associated with stronger self-regulation/executive-function outcomes.
- H3: Higher levels of meaningful classroom participation will be significantly associated with stronger social-emotional outcomes.
- H4: Higher levels of meaningful classroom participation will be significantly associated with stronger early learning outcomes.
- H5: Higher levels of educator support will be significantly associated with stronger developmental outcomes.
- H6: Meaningful classroom participation will partially mediate the relationship between educator support and self-regulation/executive-function outcomes.
- H7: Meaningful classroom participation will partially mediate the relationship between educator support and social-emotional outcomes.
- H8: Meaningful classroom participation will partially mediate the relationship between educator support and early learning outcomes.
- H9: The strength of the relationships among educator support, participation and developmental outcomes will vary according to selected child, family and setting characteristics.
- H10: Positive change in educator support and meaningful participation over time will be associated with positive change in developmental outcomes.

Table 1.2. Alignment of objectives, research questions, hypotheses and proposed analysis

Objective / RQ focus	Principal variables	Hypothesis	Indicative analysis
Describe participation and support (Obj. 1-2; RQ1-2)	Participation; educator support	Descriptive	Means/medians, distributions, profile comparisons, reliability.
Support -> participation (Obj. 3; RQ3)	Educator support; participation	H1	Correlation; multivariable regression; multilevel model where appropriate.
Participation -> self-regulation (Obj. 4; RQ4)	Participation; self-regulation/EF	H2	Regression/longitudinal model with covariate adjustment.
Participation -> social-emotional development (Obj. 5; RQ5)	Participation; social-emotional outcome	H3	Regression/longitudinal model.
Participation -> early learning (Obj. 6; RQ6)	Participation; early learning	H4	Regression/longitudinal model.
Support -> outcomes (Obj. 7; RQ7)	Educator support; three outcome domains	H5	Multivariable/multilevel regression.
Mediation (Obj. 8; RQ8)	Support -> participation -> outcomes	H6-H8	Mediation/path analysis with confidence intervals.

Moderation/context (Obj. 9; RQ9)	Child/family/setting characteristics	H9	Interaction terms; stratified/sensitivity analysis.
Change and explanation (Obj. 10; RQ10)	Repeated measures + interview data	H10 + qualitative question	Longitudinal models; thematic analysis; mixed-methods joint display.

Significance of the Study

The study is significant to educational psychology because it places participation between environment and development. This is theoretically important: rather than treating child outcomes as products of individual characteristics alone, the model tests whether modifiable features of the educational environment alter children's opportunities to engage in developmental activity. Such an approach is consistent with bioecological and sociocultural accounts of development and provides a mechanism-oriented interpretation of inclusion.

For early years educators, the study has potential practical value because it translates inclusion into observable support dimensions. If relational, communicative, instructional or sensory-environmental practices are associated with participation, these dimensions can become targets for coaching, professional learning and reflective practice. The evidence from professional development research already suggests that staff knowledge and confidence can change, although organisational supports remain essential (Petersson-Bloom & Bölte, 2022). The proposed study extends this work by linking educator practice more directly to child participation and development.

For families and carers, the study recognises contextual knowledge that is often inaccessible through classroom observation alone. Parents may identify communication preferences, sensory needs, interests, stressors and participation patterns that shape interpretation of school behaviour. Family involvement is therefore not framed as compliance with professional recommendations but as co-production of a more complete understanding of the child.

For policy-makers and early-years leaders, the research may help distinguish indicators that are often collapsed under the label 'inclusion'. Access, workforce competence, child participation, family partnership, setting quality and developmental outcomes are related but not interchangeable. A system that monitors them separately is better positioned to identify where implementation is failing. This is especially relevant because inclusion barriers may persist even when educators hold favourable attitudes or policy formally mandates common placement (Russell et al., 2023; UNESCO, 2020).

For neurodiversity research, the study contributes an educational application of neurodiversity-affirming principles. It seeks to preserve scientific attention to functional difficulty and support needs while resisting outcome definitions based solely on conformity to neurotypical behaviour. That balance is essential if inclusive education is to promote both development and dignity.

Scope of the Study

The substantive scope of the study includes neurodivergent children enrolled in inclusive early years settings, their educators and, where applicable, their parents or carers. The core explanatory variables are educator support and classroom participation. The primary outcome domains are self-regulation/executive function, social-emotional development and early learning outcomes. Selected child, family and setting characteristics will be examined as contextual or moderating variables.

The developmental scope is early childhood as represented by preschool or comparable early years educational provision. The study is not designed as a diagnostic investigation and will not infer children's developmental capacities from diagnosis alone. Diagnostic or developmental-profile information will be used descriptively and analytically where

appropriate, but the central focus remains participation in educational contexts.

The methodological scope includes longitudinal quantitative measurement, classroom observation, educator and parent/carer data, and qualitative interviews within an explanatory sequential mixed-methods design. Analytical procedures are expected to include descriptive statistics, correlation, multivariable regression, multilevel modelling where clustering requires it, mediation, moderation and longitudinal analysis. Final analytical decisions will depend on sample size, measurement properties and data structure.

Delimitations of the Study

The study is deliberately delimited to educational inclusion in early years settings. It does not attempt to evaluate all clinical, therapeutic or family interventions that participants may receive. Such services may be recorded as contextual variables when

they are relevant to interpretation, but they are not the principal intervention target of the research.

The thesis also delimits its primary developmental outcomes to self-regulation/executive function, social-emotional development and early learning. Other important outcomes—including motor development, adaptive functioning, sleep, mental health and family quality of life—fall outside the main model. This delimitation is necessary to maintain theoretical coherence and a feasible measurement framework.

Finally, the study does not treat inclusion as synonymous with a single pedagogical model. Universal Design for Learning, visual supports, peer-mediated strategies, play-based approaches and individualised adaptations may all be relevant, but the analysis focuses on the broader functions these practices serve: access, communication, relational safety, agency, engagement and participation.

Table 1.3. Scope and delimitations of the study

Dimension	Included within the study	Deliberately outside the principal scope
Population	Neurodivergent children in inclusive early years settings; educators; parents/carers where applicable.	General population inference beyond the defined early-years context.
Primary exposure	Educator relational, instructional, communicative and environmental support.	Comprehensive evaluation of all therapeutic or clinical interventions.
Mechanism	Meaningful classroom participation.	Attendance/placement treated as sufficient evidence of inclusion.
Outcomes	Self-regulation/EF; social-emotional development; early learning.	Full assessment of motor, sleep, family quality-of-life or clinical symptom outcomes.
Design	Longitudinal explanatory sequential mixed methods.	Strong causal claims unsupported by the final design/data.

Operational Definition of Key Terms

Operational definitions are required because many key concepts in inclusion research carry broad normative meanings. In this thesis, definitions are tied to proposed measurement and interpretation. They may be refined after piloting and final instrument selection,

but the conceptual boundaries presented in Table 1.3 will guide instrument review, observation coding and analysis.

The terminology is intentionally neurodiversity-affirming. Where language preferences differ, the thesis will not impose a single identity label as universally correct. Instead, it will use respectful

academic terminology and, in participant-facing materials, seek to reflect stated individual or family preferences (Taboas et al., 2023).

Table 1.4. Operational definitions of key terms

Term	Operational meaning in this thesis	Measurement implication
Educational inclusion	The extent to which the setting enables access, participation, belonging and learning while reducing barriers created by environment, pedagogy or organisation.	Not measured by placement alone; interpreted across setting and child indicators.
Neurodivergent child	A child whose neurological/developmental profile differs from dominant neurotypical expectations; may include multiple diagnostic or developmental profiles.	Profile recorded without assuming homogeneity or fixed competence.
Meaningful classroom participation	Active involvement in routines, play, peer interaction, communication, learning and choice, including agency and contribution.	Observation/report must capture quality and context, not only attendance or time-on-task.
Educator support	Relational, instructional, communicative and environmental practices that enable access and participation.	Operationalised through observable/reportable practices rather than attitude alone.
Self-regulation / executive function	Developing capacity to manage attention, emotion and behaviour in relation to goals and demands.	Use developmentally appropriate measures and interpret regulation in context.
Social-emotional development	Development of emotional competence, relationships, reciprocity, belonging and social confidence.	Avoid treating neurotypical social style as the sole criterion of competence.
Early learning outcomes	Developmentally appropriate engagement and progress in foundational language, literacy, numeracy, problem-solving and learning processes.	Use age-appropriate measures and triangulate with participation/context where possible.
Inclusive early years setting	An early childhood educational setting in which children with diverse developmental profiles learn in a shared community with differentiated support.	Setting inclusion quality will be examined rather than assumed from a label.

Organisation of the Thesis

The completed thesis is organised into eight substantive chapters. Chapter One establishes the research problem, conceptual focus, aim, objectives, questions, hypotheses, significance and scope. Chapter Two provides a critical literature review of early childhood development, inclusion, neurodiversity, classroom participation, educator support and developmental outcomes. Chapter Three develops the theoretical and conceptual framework by integrating Bronfenbrenner's bioecological theory,

Vygotsky's sociocultural theory and a neurodiversity-affirming perspective.

Chapter Four presents the research methodology, including philosophy, design, sampling, measurement, data collection, ethics and quantitative/qualitative analysis. Chapter Five reports the empirical results. Chapter Six interprets those results in relation to theory and prior evidence. Chapter Seven draws conclusions, states the study's contribution to knowledge and develops recommendations. Chapter Eight translates the findings into implementation, policy and future-research directions. This sequence is

intended to move systematically from problem formulation to evidence, explanation and application.

II. CRITICAL LITERATURE REVIEW

This chapter critically reviews the scholarship required to locate the present study within educational psychology, inclusive early childhood education and neurodiversity research. Its purpose is not to accumulate studies as though volume alone established knowledge. Rather, the review asks a set of analytic questions: how have inclusion, participation and educator support been conceptualised; what is known about their relationship with developmental outcomes; which conclusions are robust across methods and settings; and where do conceptual or methodological weaknesses continue to limit inference? This orientation is important because recent syntheses show that children may be physically included while experiencing reduced participation, weak social connectedness or uneven access to classroom activity (Dott & Licandro, 2025; El-Salahi et al., 2023).

The chapter therefore moves from broad developmental foundations to the specific mechanisms that structure classroom life. Evidence on self-regulation, social-emotional development, early learning, play, peer interaction, educator support, family partnership and setting quality is examined alongside the neurodiversity paradigm. Particular attention is given to the quality of evidence. Observational research in inclusive preschool classrooms remains valuable but heterogeneous in coding systems, interaction partners and activity contexts, while longitudinal evidence is comparatively scarce (Tsamitrou & Plumet, 2024). The review concludes by specifying the gaps that justify the theoretical model and longitudinal mixed-methods design developed in subsequent chapters.

Early Childhood Development

Early childhood is a period of rapid developmental reorganisation in which cognition, language, self-regulation, emotion, motor action and social understanding develop through continuous transactions between children and their environments. Developmental science has consequently moved away from accounts that treat maturation and experience as

competing explanations. The more defensible position is transactional: biological characteristics shape how children encounter environments, while repeated relationships and activities shape the organisation and expression of developing capacities (Shonkoff & Phillips, 2000; Bronfenbrenner & Morris, 2006). For educational psychology, this means that classroom experience is not merely a background variable. It is part of the developmental process itself.

This point is especially consequential in inclusive early childhood education. Neurodivergent children may enter the same classroom with markedly different sensory, attentional, communicative and regulatory profiles, yet the developmental meaning of those differences depends partly on how environments respond. A child who needs additional processing time, visual structure or an alternative communication pathway may appear disengaged in one classroom and highly participatory in another. The literature therefore supports a contextual interpretation of developmental performance: observed competence reflects both what the child can do and the conditions under which doing becomes possible. Such an interpretation provides the developmental basis for examining educator support and participation as proximal, potentially modifiable features of educational experience.

Psychological Development in Early Childhood

Psychological development in early childhood is often divided into cognitive, emotional and social domains for purposes of measurement, yet these domains are functionally interdependent. A child who can regulate arousal is better positioned to sustain attention; a child who feels relationally secure is more likely to explore; and a child who can communicate intentions is more able to negotiate peer activity and obtain assistance. The educational environment therefore influences development through linked processes rather than isolated skill channels. Evidence from classroom-quality research has repeatedly associated more supportive teacher-child interactions with language, academic and social outcomes, although effect sizes and specific domains vary across studies (Mashburn et al., 2008; Zheng et al., 2023).

For neurodivergent children, domain separation can be particularly misleading. Apparent difficulties in social behaviour may reflect sensory overload, linguistic processing demands, executive-function load or uncertainty about classroom expectations. Conversely, strengths in memory, focused interests, visual processing or pattern recognition may become educational resources when instruction is responsive to them. A psychological account of inclusion must therefore avoid interpreting every mismatch as an intrinsic deficit. It should instead examine how developmental characteristics interact with task design, relationships, communication systems and classroom norms. This interactional position is consistent with both bioecological theory and contemporary neurodiversity-affirming scholarship (Pellicano & den Houting, 2022; Lerner et al., 2023).

Self-Regulation and Executive Function

Self-regulation refers broadly to the processes through which children modulate attention, emotion, behaviour and action in relation to goals and situational demands. Executive functions—commonly including inhibitory control, working memory and cognitive flexibility—represent an overlapping set of cognitive control processes that contribute to purposeful behaviour (Diamond, 2013). During the preschool years these capacities develop rapidly and are associated with school readiness, learning and social adaptation. Blair and Raver (2015) emphasise that self-regulation is not a decontextualised trait; it is

shaped by stress, relationships and opportunities for regulated engagement.

Classroom evidence supports an important but qualified role for educators. A meta-analysis of CLASS-based teacher-child interaction research found positive associations with self-regulation and other early outcomes, but relationships differed by outcome and contextual moderators (Zheng et al., 2023). Likewise, Koskulu et al. (2024) found that instructional support predicted growth in selective attention in toddlerhood, whereas emotional/behavioural support did not predict all executive-function measures. These findings caution against a simplistic assumption that 'good teaching' produces uniform cognitive gains. They instead suggest the need to identify which forms of support matter, for whom, in which activities and over what period.

Intervention research points in a similar direction. Muir, Howard, and Kervin's (2023) systematic review identified a broad range of preschool approaches targeting self-regulation and executive functioning, while subsequent professional-learning work showed that educators can be supported to implement more EF-supportive pedagogies (Muir et al., 2024). For the present thesis, the implication is that self-regulation should be treated as both developmentally important and environmentally responsive, while avoiding causal claims from cross-sectional associations.

Table 2.1. Developmental outcome domains and their educational-psychology relevance

Domain	Core processes	Classroom expression	Interpretive caution
Self-regulation / executive function	Attention control, inhibition, working memory, flexibility, emotion regulation	Transitions, waiting, sustaining activity, shifting strategies, co-regulation	Do not equate quiet compliance with regulation; consider sensory and task demands.
Social-emotional development	Emotion understanding, reciprocity, relationship competence, belonging	Peer play, repair after conflict, help-seeking, shared enjoyment	Respect divergent social styles; prioritise connection and wellbeing.
Early learning	Language, emergent literacy/numeracy, problem solving, learning engagement	Participation in stories, exploration, group tasks, symbolic activity	Access and engagement may change performance independently of underlying capacity.

Social-Emotional Development

Social-emotional development includes emotion knowledge, regulation, empathy, relationship competence, social confidence, belonging and the capacity to participate in reciprocal activity. In early childhood these competencies emerge through co-regulation and repeated social experience rather than through individual instruction alone. Teacher-child closeness, for example, has been associated with gains in observed self-regulation among socially disadvantaged preschool children, indicating that relational quality can operate as a developmental resource (Cadima et al., 2016). Peer relationships add another layer because the child must coordinate attention, communication, emotion and shared meanings with others who possess their own goals and preferences.

A critical issue for neurodivergent children is the standard by which social-emotional competence is judged. When assessment privileges eye contact, rapid verbal reciprocity or conventional play styles, difference can be misclassified as absence of social interest or competence. Neurodiversity-informed literature argues for distinguishing socially consequential difficulties—such as loneliness, exclusion or inability to communicate needs—from harmless departures from neurotypical social performance (den Houting, 2019; Pellicano & den Houting, 2022). Accordingly, the present study gives greater weight to participation, reciprocity, agency and belonging than to behavioural normalisation.

Early Learning and Learning Engagement

Early learning outcomes encompass emerging language, literacy, numeracy, problem solving, concept development and dispositions toward learning. Engagement is central because exposure to curriculum is not equivalent to psychological access to learning. Children learn through attending, acting, communicating, experimenting and receiving contingent feedback. Classroom research has shown that instructional and emotional interaction quality is associated with several academic and language outcomes, although associations are generally modest and influenced by measurement and context (Mashburn et al., 2008; Zheng et al., 2023).

For neurodivergent children, learning engagement may be particularly sensitive to the fit between instructional demands and the child's processing profile. Predictable routines, reduced irrelevant sensory load, visual supports, interest-based materials and flexible response modes can change whether a task is experienced as accessible. Universal Design for Learning formalises this principle by encouraging multiple means of engagement, representation and action/expression (CAST, 2024). The literature therefore supports treating early learning as an outcome that is partly mediated by access to meaningful participation rather than as a direct consequence of classroom placement.

Educational Inclusion in Early Childhood

Inclusive early childhood education is both a rights-based commitment and a developmental proposition. Rights-based accounts emphasise non-discrimination, equal participation and the removal of barriers; developmental accounts emphasise the social and learning opportunities made possible when children with diverse abilities share educational communities. UNESCO's inclusion framework explicitly distinguishes presence from participation and achievement, thereby challenging systems that count enrolment as sufficient evidence of inclusion (UNESCO, 2020). The same logic is visible in early childhood policy, where inclusion increasingly encompasses access, participation and supports rather than location alone (UNESCO, 2021).

The evidence nevertheless shows a persistent implementation gap. Reviews of inclusive education for autistic learners identify professional knowledge, environmental adaptation, collaboration and peer culture as recurring conditions of successful inclusion, but also note that mainstream placement can coexist with isolation or poor psychosocial experience (Petersson-Bloom & Holmqvist, 2022; El-Salahi et al., 2023). The core analytic problem is therefore not whether inclusion is desirable in principle, but what processes convert inclusive placement into meaningful educational experience.

From Placement to Meaningful Inclusion

The distinction between placement and meaningful inclusion is one of the most important conceptual

corrections in the literature. Placement answers a geographical question—where is the child educated? Meaningful inclusion answers a developmental and relational question—can the child access activities, influence what happens, form relationships, experience belonging and benefit from participation? Dott and Licandro's (2025) systematic review is particularly instructive because it found varied operational definitions of participation and evidence that children with disabilities often participate less than peers in early childhood education and care. Physical co-location, therefore, is a necessary condition for many inclusive experiences but not a sufficient indicator of their quality.

This distinction also changes the unit of analysis. If inclusion is measured only by placement, difficulty is likely to be attributed to the child who does not 'fit' the ordinary classroom. If inclusion is measured by participation, the researcher must also examine task design, peer opportunities, sensory conditions, adult mediation and classroom norms. Meaningful inclusion thus relocates part of the explanatory burden from the child to the person-environment relationship. That shift is theoretically compatible with ecological and sociocultural approaches and ethically compatible with neurodiversity-affirming practice.

From physical inclusion to meaningful developmental inclusion

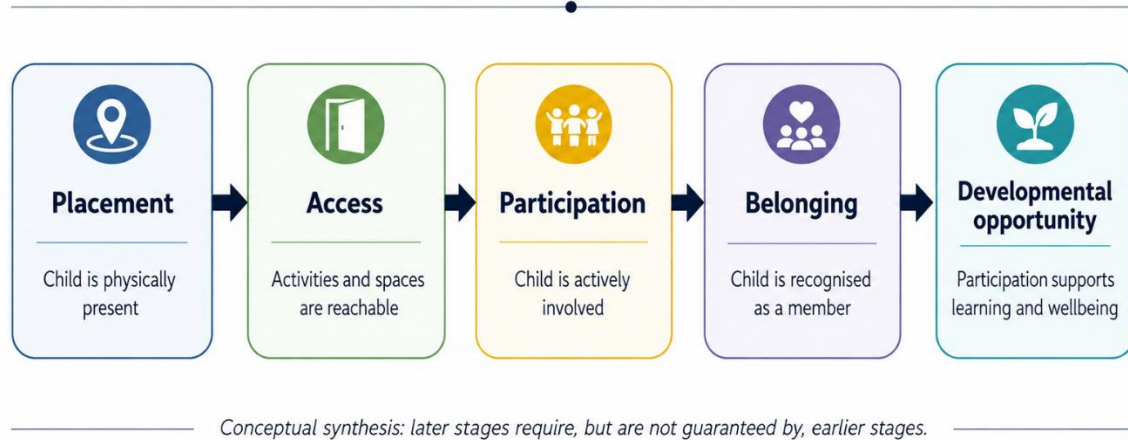


Figure 2.1. Conceptual continuum from placement to meaningful developmental inclusion

Table 2.2. Distinguishing placement from meaningful inclusion

Dimension	Placement-focused question	Meaningful-inclusion question
Access	Is the child enrolled in the setting?	Can the child access spaces, materials, communication and routines?
Participation	Is the child present during the activity?	Is the child actively and meaningfully involved?
Relationships	Is the child near peers?	Does the child experience reciprocity, recognition and social connection?
Agency	Does the child follow the routine?	Can the child choose, initiate, refuse, negotiate and communicate needs?
Development	Does the child receive the curriculum?	Does participation create usable opportunities for regulation, relationships and learning?

Neurodiversity and the Neurodiversity Paradigm

Neurodiversity describes variation in human neurocognitive functioning, while the neurodiversity paradigm challenges the assumption that one pattern of cognition, communication or behaviour should function as the unquestioned norm against which all others are judged. In autism research, this paradigm has become a substantive critique of deficit-only models and of research agendas that prioritise normalisation over quality of life, agency and participation (den Houting, 2019; Pellicano & den Houting, 2022). It does not deny disability; rather, it asks researchers to distinguish intrinsic difficulty from difficulty created or intensified by inaccessible environments.

For early childhood education, the paradigm has two practical implications. First, educational outcomes should include access, communication, autonomy, relationship and belonging, not simply behavioural conformity. Second, support should be evaluated by whether it enables participation and reduces unnecessary barriers. Lerner, Gurba, and Gassner (2023) argue that neurodiversity-affirming intervention requires attention to autistic priorities and informed choice. Although their framework is broader than preschool education, its ethical logic is highly relevant to classroom research: support should expand a child's possibilities rather than erase difference.

Heterogeneity among Neurodivergent Children

The term neurodivergent covers substantial heterogeneity. Autism, ADHD, developmental language differences, learning disabilities and other developmental profiles differ in diagnostic criteria, developmental course and educational implications; within each category, variation is also considerable. Even two children with the same diagnosis may differ markedly in language, sensory processing, executive functioning, interests, adaptive skills and support needs. Diagnostic categories therefore provide useful contextual information but cannot substitute for functional assessment of participation demands.

This heterogeneity has methodological consequences. Group-average associations can conceal differential responses to educator support, and diagnosis-specific findings cannot automatically be generalised to a

broader neurodivergent population. The present study responds by treating neurodevelopmental profile as a contextual variable rather than a complete explanation of participation. This permits examination of shared mechanisms—such as relational safety, communication access or sensory fit—while retaining attention to individual differences.

Neurodivergent Children in Inclusive Early Years Settings

Research on neurodivergent children in inclusive early years settings has historically been dominated by autism, partly because autism makes social communication and participation especially visible to researchers. Systematic reviews have documented interventions targeting social communication and peer interaction in inclusive preschool settings, often with positive proximal effects but limited generalisation evidence (Hansen et al., 2014; Gunning et al., 2019). More recent work has shifted toward the naturalistic observation of social interaction, revealing both the value and the limitations of existing measurement approaches (Tsamitrou & Plumet, 2024).

The literature suggests that inclusive settings offer developmental opportunities but do not automatically distribute those opportunities equitably. Neurodivergent children may spend less time in reciprocal peer activity, receive more adult-directed interaction or encounter routines designed around rapid verbal comprehension and sensory tolerance. These patterns should not be interpreted as evidence that inclusion is unsuitable. Rather, they indicate that inclusion requires active design, mediation and adaptation.

Conceptualising Classroom Participation

Participation is a deceptively complex construct. In some studies it refers to attendance, in others to engagement, social involvement, choice, communication or frequency of activity. Dott and Licandro (2025) found that empirical studies of children with disabilities in early childhood education used related but non-equivalent definitions, making comparison difficult. This conceptual variability matters because different measures answer different questions. Time engaged may indicate behavioural involvement, for example, without revealing whether

the child exercised choice, experienced reciprocity or felt a sense of belonging.

The present thesis therefore conceptualises classroom participation as multidimensional and situated. It includes active involvement in play, peer interaction, routines, group learning and communication, together

with opportunities for agency and belonging. This definition draws on participation scholarship while remaining compatible with direct observation. It also treats participation as a process occurring between persons and contexts, not as an attribute located wholly within the child.

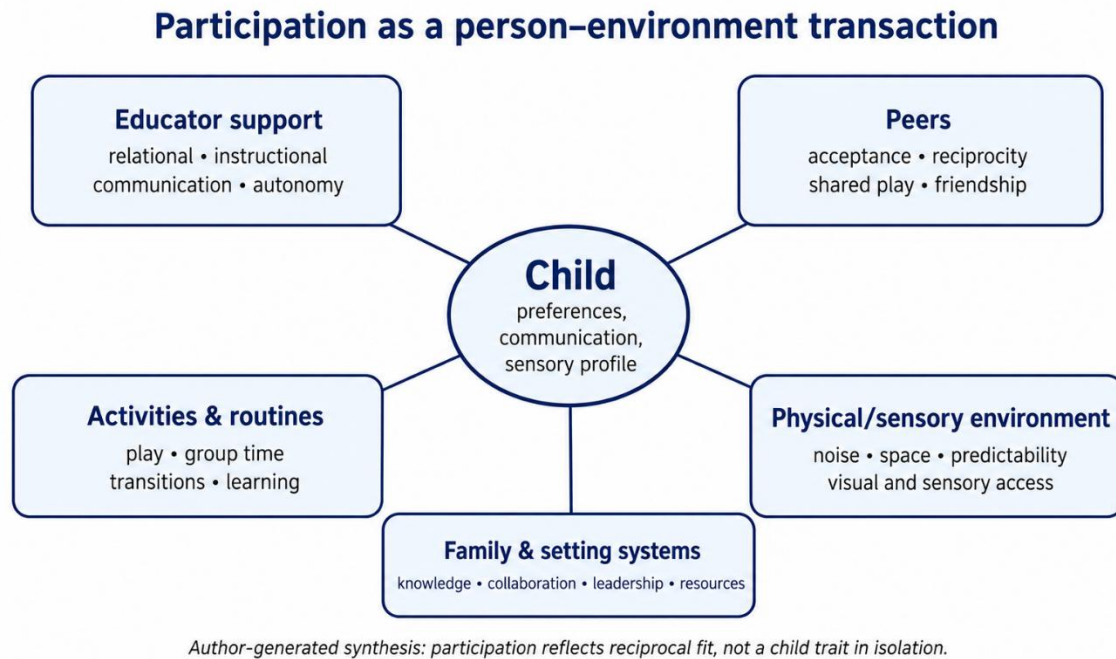


Figure 2.2. Participation as a person–environment transaction in inclusive early years settings

Table 2.3. Proposed dimensions of classroom participation

Participation domain	Indicative behaviours/opportunities	Potential observation focus
Play participation	Entry, sustained involvement, symbolic or functional play, preferred independent play	Duration, initiation, reciprocity, activity context
Peer/social participation	Responding, initiating, shared activity, friendship-related behaviour	Partner, interaction quality, reciprocity, exclusion/invitation
Routine/group participation	Arrival, transitions, group time, meals, collaborative tasks	Access supports, prompting, independence, distress/recovery
Communication and agency	Choice, request, refusal, negotiation, help-seeking, alternative communication	Communication form/function, response latency, partner responsiveness
Belonging	Recognition, inclusion in group culture, social safety and membership	Peer invitations, educator positioning, qualitative accounts of connection

Play Participation

Play is a central medium of early childhood learning because it integrates language, imagination, motor action, emotion, executive functioning and social negotiation. Yet play participation is not equally accessible to all children. Autistic children may prefer different play forms, require more predictable entry points into group play, or communicate interest in ways that peers and adults do not readily recognise. Wolfberg (2023) argues that a neurodiversity perspective broadens interpretation of autistic play by recognising both independent and social forms while still supporting reciprocal opportunities where desired.

Intervention reviews provide evidence that play-based and peer-mediated approaches can increase social communication, but the literature is heterogeneous in design and outcome definitions (Gunning et al., 2019; O'Keeffe & McNally, 2023). A critical limitation is that success is sometimes defined as increased performance of predetermined social behaviours rather than the quality, reciprocity or child-valued meaning of play. The present study therefore treats play participation as an opportunity for engagement and relationship, not as a test of conformity to a single play style.

Peer Interaction and Social Participation

Peer interaction provides developmental experiences that adults cannot fully reproduce. Peers create opportunities for negotiation, imitation, shared humour, conflict, repair and friendship. Classic inclusive-preschool research showed that children with significant disabilities expressed a desire to enter peer culture but also experienced exclusion through communication breakdown, rejection or neglect (Wolfberg et al., 1999). Contemporary reviews continue to identify social connectedness and belonging as central to the psychosocial experience of autistic learners in inclusive settings (El-Salahi et al., 2023).

Tsamitrou and Plumet (2024) add an important methodological caution. Their scoping review found that observational studies often coded autistic children's behaviour in greater detail than the behaviour of peers or adults, thereby underrepresenting the reciprocal nature of interaction.

This asymmetry can inadvertently reproduce an individual-deficit model. A stronger approach is to observe who initiates, who responds, what activity is occurring, what communication forms are available and how partners adapt to one another.

Participation in Classroom Routines and Group Activities

Routines organise the temporal architecture of early childhood settings. Arrival, clean-up, meals, toileting, transitions, circle time, small-group activity and outdoor play each contain expectations about attention, movement, language and waiting. For some neurodivergent children, these expectations can create participation barriers that are mistaken for non-compliance. A child may understand the learning goal yet be unable to tolerate the noise, uncertainty or executive-function load surrounding the activity.

The literature on inclusive adaptation suggests that predictability, visual structure, clear transitions, environmental modification and differentiated task demands can improve access (Petersson-Bloom & Holmqvist, 2022; CAST, 2024). What remains less well established is how such adaptations relate longitudinally to developmental outcomes through participation. This is one reason the present thesis examines participation in ordinary routines rather than restricting observation to special intervention periods.

Communication, Choice and Agency

Participation depends on the capacity to influence interaction. Communication therefore includes speech but also gesture, gaze, movement, augmentative systems, symbols, behaviour and other forms through which children express preferences and intentions. A narrow verbal criterion can underestimate both competence and agency. Tsamitrou and Plumet (2024) report that nonverbal forms of communication are common in observations of autistic preschoolers, while communicative functions are not always coded with sufficient detail.

Agency extends the analysis beyond whether children respond to adults. It asks whether they can initiate, refuse, choose, request, negotiate and reshape activities. Neurodiversity-affirming practice places particular value on these capacities because support that produces compliance without meaningful choice

may improve surface behaviour while reducing autonomy. In the present thesis, communication support and autonomy support are therefore treated as distinct but related dimensions of educator support.

2.17 Belonging and Social Inclusion

Belonging refers to the subjective and relational experience of being recognised as a legitimate member of a social community. It cannot be inferred solely from proximity to peers. El-Salahi et al. (2023) found that social connectedness and belonging were critical themes in the experiences of autistic children and young people in inclusive settings, reinforcing a broader literature in which mainstream placement is compatible with loneliness or marginal participation.

In early childhood, belonging is expressed through small but consequential patterns: being expected in a game, having one's communication understood, being named positively by peers, having interests incorporated into group activity, and being supported through distress without public humiliation. These experiences are difficult to capture with a single quantitative instrument. For that reason, belonging is treated in the present thesis as a participation-related construct that benefits from triangulation across observation, educator and parent/carer accounts.

2.18 Conceptualising Educator Support

Educator support is often discussed as though it were a unitary quality, but classroom support is multidimensional. It includes emotional responsiveness, instructional scaffolding, communication adaptation, sensory and environmental modification, behaviour interpretation, autonomy support and facilitation of peer access. CLASS-based research demonstrates that interaction quality is associated with multiple child outcomes, but meta-analytic evidence also shows that the strength of association varies across domains (Zheng et al., 2023). This variation justifies disaggregating support rather than relying on a global favourable/unfavourable rating.

The present study defines educator support functionally: support is what educators do to make participation accessible, psychologically safe and developmentally productive. This definition shifts emphasis from attitude to enacted practice. Positive

attitudes are valuable, but children experience inclusion through moment-to-moment interactions—whether adults wait, interpret communication, modify demands, scaffold play, reduce unnecessary sensory load and provide meaningful choice.

2.19 Emotional and Relational Support

Emotional support includes warmth, sensitivity, respect, predictable responsiveness and the creation of a climate in which children can seek assistance without fear. Relational security is particularly important in early childhood because regulation is initially co-regulated; the adult's capacity to notice and respond to cues can help the child return to an organised state. Cadima et al. (2016) found that teacher-child closeness predicted improvements in observed self-regulation, illustrating one pathway through which relationships may support development.

For neurodivergent children, relational support also requires accurate interpretation. Distress may be communicated through withdrawal, repetitive movement, avoidance, silence or escalation. A deficit-oriented interpretation may frame these behaviours as wilful opposition, whereas an ecological interpretation asks what demand, sensory condition or communication breakdown preceded them. Goodall et al. (2022) argue for inclusive approaches that understand regulation in relation to interoception, emotion and context. Relational support is therefore both affective and interpretive.

2.20 Instructional Scaffolding

Instructional scaffolding refers to temporary, contingent assistance that enables a child to participate in activity beyond what would be possible independently at that moment. Effective scaffolding is calibrated: too little support leaves the child excluded; too much may replace the child's agency. The concept is closely associated with sociocultural accounts of learning, in which development occurs through participation in socially mediated activity (Vygotsky, 1978).

Empirically, instructional support has been linked to selected executive-function and academic outcomes, though not uniformly. Koskulu et al. (2024) found that instructional support predicted growth in selective

attention but not every executive-function measure. Such findings are theoretically useful because they suggest specificity rather than a universal effect. The present thesis therefore treats instructional scaffolding as a mechanism that may increase participation opportunities, which in turn may support development over time.

2.21 Differentiated and Adaptive Pedagogy

Differentiated pedagogy modifies task complexity, materials, pacing, grouping or response format so that learners can pursue shared educational purposes through different routes. In inclusive early childhood education, differentiation is most defensible when it preserves participation in the common life of the classroom rather than creating a parallel curriculum that isolates the child. Universal Design for Learning extends this principle by designing flexibility in advance rather than waiting until a learner fails to access a standard format (CAST, 2024).

The risk is that differentiation can become either superficial or overly individualised. Minor cosmetic changes do not resolve a mismatch if the fundamental communication or sensory demand remains unchanged; conversely, constant adult-led individual work may reduce peer participation. Adaptive pedagogy therefore requires a balance between individual access and collective membership. This tension is particularly relevant to the present study because educator support is evaluated partly through its relationship with meaningful participation.

2.22 Communication Support

Communication support encompasses the educator's use of clear language, visual cues, processing time, alternative and augmentative systems, gesture, modelling and interpretation of non-speaking communication. It is central to inclusion because communication mediates instruction, relationship, choice and regulation simultaneously. Observational evidence indicates that autistic preschoolers often use diverse communicative forms and may initiate less frequently than they respond, making adult and peer responsiveness especially important (Tsamitrou & Plumet, 2024).

A neurodiversity-affirming approach rejects the assumption that speech is the only valid route to

participation. Communication effectiveness should be judged by whether the child can understand, express, negotiate and be understood. This position also implies that communication is a shared responsibility: an interaction breakdown is not automatically a child deficit if partners fail to recognise or support the child's available communication repertoire.

2.23 Sensory and Environmental Adaptation

Sensory processing influences how children experience noise, light, touch, movement, smell and spatial density. For some autistic and otherwise neurodivergent children, ordinary classroom conditions can be effortful or overwhelming. A systematic review using Dunn's sensory-processing framework concluded that sensory processing differences were related to participation in daily life among autistic children, although the underlying evidence base was limited in methodological strength (Ismael et al., 2018).

Environmental adaptation is therefore a plausible inclusion mechanism, but it should not be reduced to creating permanently low-stimulation spaces. Children differ in sensory needs, and the aim is functional fit: access to regulation, predictability, manageable stimulation and choice. Petersson-Bloom and Holmqvist (2022) identified environmental adaptation among strategies supporting autistic students in inclusive education. In early years settings, such adaptations may include quieter zones, visual boundaries, predictable transitions, flexible seating and opportunities for movement.

2.24 Autonomy Support

Autonomy support refers to practices that recognise the child as an active agent: offering meaningful choices, acknowledging perspectives, explaining limits, inviting initiative and avoiding unnecessary control. Reeve (2006) showed how autonomy-supportive teaching differs from controlling practice, and the principle has strong relevance to neurodivergent children whose behaviour is frequently subject to adult management. In inclusive early childhood education, autonomy support may be expressed through choices of materials, communication methods, play partners, break options or ways of completing a task.

The concept requires nuance. Autonomy is not equivalent to absence of structure; young children often need clear boundaries, predictable routines and adult co-regulation. The issue is whether structure is imposed in a way that erases agency or provided in a way that makes successful action more possible. This distinction is incorporated into the present conceptual model, where autonomy support is expected to influence participation particularly through communication, choice and willingness to engage.

2.25 Teacher–Child Relationships

Teacher-child relationships are a recurring predictor of adjustment in early education, but relationship quality is not independent of classroom structure and child characteristics. Close, low-conflict relationships may provide emotional security and opportunities for individualised feedback, whereas relationships dominated by correction can narrow participation. Cadima et al. (2016) demonstrated that teacher-child closeness was associated with improvement in self-regulation, while broader classroom-quality studies also link relational climate with social and learning outcomes (Mashburn et al., 2008).

For neurodivergent children, relationship quality may be affected by attribution. Educators who interpret communication differences or dysregulation as deliberate misconduct may respond more punitively, whereas educators who recognise function and context may respond with support. This makes professional knowledge a relational variable as well as an

instructional one. The present thesis therefore treats teacher-child relationships as both a dimension of support and a possible pathway through which classroom participation becomes psychologically safe.

2.26 Educator Knowledge and Professional Competence

Knowledge influences what educators notice, how they interpret behaviour and which strategies they can deploy. Russell, Scriney, and Smyth's (2023) systematic review found generally positive attitudes toward autism inclusion but substantial variation associated with experience, training and perceived competence. Positive attitude without practical capability may therefore be insufficient. Educators may endorse inclusion yet remain uncertain about communication supports, sensory adaptation, peer facilitation or the interpretation of dysregulation.

Professional learning can improve knowledge and confidence. Petersson-Bloom and Bölte (2022) reported gains following preschool staff development focused on autism and inclusion, while Muir et al. (2024) demonstrated the potential of professional learning to strengthen educators' capacity to support self-regulation and executive functioning. The literature nevertheless leaves open the question of transfer: training outcomes do not guarantee sustained classroom practice. This justifies direct measurement of enacted support rather than reliance on self-reported competence alone.

Table 2.4. Educator-support domains synthesised from the literature

Support domain	Examples of practice	Primary theoretical function	Selected evidence base
Relational/emotional	Warmth, sensitivity, co-regulation, respectful interpretation	Psychological safety and sustained interaction	Cadima et al. (2016); Hamre et al. (2013)
Instructional/scaffolding	Modelling, prompts, task decomposition, feedback	Mediated access within current competence	Koskulu et al. (2024); Zheng et al. (2023)
Communication	Visual supports, processing time, multimodal/AAC recognition	Shared meaning, agency and reduced language barriers	Tsamitrou & Plumet (2024); CAST (2024)
Sensory/environmental	Predictability, quiet options, movement, spatial/visual adaptation	Person–environment fit and regulation	Ismael et al. (2018); Petersson-Bloom & Holmqvist (2022)

Autonomy/peer facilitation	Meaningful choice, supporting initiations, arranging reciprocal peer opportunities	Agency, belonging and social participation	Reeve (2006); Gunning et al. (2019)
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2.27 Family–Professional Partnerships

Families contribute knowledge that is difficult to obtain through classroom observation: the child's communication preferences, sensory profile, interests, recovery patterns, prior experiences and meanings attached to behaviour. Family-professional partnership is therefore not an optional courtesy but a source of ecological validity. In early childhood inclusion, effective partnership requires reciprocal information exchange and shared decision-making rather than one-directional professional instruction.

The literature also warns against assuming that families and professionals share identical goals or interpretations. Some families may prioritise safety and functional communication; others may emphasise peer relationships, academic readiness or reduced distress. A neurodiversity-affirming approach requires these priorities to be discussed rather than presumed. In the present study, parent/carer perspectives are used to contextualise observed participation patterns and to identify barriers or facilitators that may not be visible within the setting.

2.28 Multidisciplinary Collaboration

Neurodivergent children may interact with educators, educational psychologists, speech and language therapists, occupational therapists, paediatric services and other professionals. Collaboration can increase coherence when professionals share functional goals and translate specialist knowledge into everyday classroom practice. It can also become fragmented when recommendations are delivered as isolated programmes or when specialist language is inaccessible to classroom staff.

From an educational-psychology perspective, the most useful multidisciplinary collaboration is participation-focused. Rather than asking only whether a child can perform a skill in a therapy context, the team asks whether the skill, adaptation or communication support improves participation in ordinary routines. This functional orientation is consistent with the present thesis, which treats classroom participation as

a bridge between support and developmental outcomes.

2.29 Quality of Inclusive Early Years Settings

Setting quality includes structural features such as staff-child ratios, qualifications and resources, together with process quality reflected in interactions, pedagogy and organisation. Process quality is especially relevant to educational psychology because it represents what children experience directly. Mashburn et al. (2008) showed that observed interaction quality, rather than structural indicators alone, was associated with several child outcomes in prekindergarten classrooms.

Inclusive quality adds further criteria: accessibility, participation, family partnership, peer opportunities, individualisation and belonging. A setting can score well on general pedagogical quality while remaining difficult for a child with communication or sensory differences. Inclusive quality must therefore be examined both universally and responsively. This distinction underpins the present model's inclusion of setting quality as a contextual condition rather than assuming that all classrooms offer equivalent participation opportunities.

2.30 Leadership and Organisational Conditions

Educators enact inclusion within organisational constraints. Planning time, staff stability, class size, access to specialists, leadership expectations, professional learning and resource allocation influence what support can be delivered consistently. Research on inclusion repeatedly identifies implementation barriers that sit above the individual teacher level, including limited training and insufficient environmental or organisational support (Petersson-Bloom & Holmqvist, 2022; Russell et al., 2023).

This matters analytically because attributing weak inclusion solely to teacher attitude can obscure system-level causes. An educator may possess strong knowledge but be unable to provide responsive support while supervising an overcrowded room or

working without planning time. The present thesis therefore locates educator support within a broader ecological structure. Leadership and organisational conditions are not treated as excuses for poor practice, but as explanatory variables that can enable or constrain it.

2.31 Relationship between Educator Support and Participation

The theoretical expectation that educator support should increase participation is strongly plausible but less directly tested than might be assumed. Much research measures educator practice and child outcomes separately, while participation is treated as an endpoint or omitted altogether. Yet observational and intervention studies suggest that adult facilitation, communication support, environmental adaptation and peer mediation can increase access to social and learning activity (Gunning et al., 2019; Petersson-Bloom & Holmqvist, 2022; Tsamitrou & Plumet, 2024).

The important unresolved question concerns mechanism. If educator support predicts developmental outcomes, does it do so partly because children participate more frequently, more independently or more reciprocally? This mediation proposition is central to the present study. It is stronger than a simple correlation model because it specifies an intermediate developmental process that can be observed and potentially changed.

2.32 Relationship between Participation and Developmental Outcomes

Participation creates opportunities for practice, feedback, co-regulation and social learning. A child who enters peer play practices communication and negotiation; a child who participates in group routines practices attention shifting and inhibition; a child who engages with learning materials encounters language, symbols and problem solving. On developmental grounds, participation should therefore be associated with self-regulation, social-emotional development and early learning.

However, the empirical literature is not yet strong enough to treat participation as a proven causal mechanism. Many studies are cross-sectional, diagnosis-specific or intervention-based, and

measurement of participation varies considerably (Dott & Licandro, 2025; Tsamitrou & Plumet, 2024). Longitudinal designs are needed to establish temporal ordering and to examine whether change in participation covaries with change in outcomes. The present thesis addresses this limitation by treating participation as a hypothesised mediator rather than an established causal pathway.

2.33 Relationship between Educator Support and Developmental Outcomes

A broad literature links teacher-child interaction quality with children's language, academic, social and regulatory outcomes. Mashburn et al. (2008) provided influential evidence from prekindergarten settings, and Zheng et al. (2023) synthesised 24 studies with 139 effect sizes, reporting positive associations across language, mathematics, literacy, social development and self-regulation, with variation by domain and context. These findings justify educator support as a central predictor in the present study.

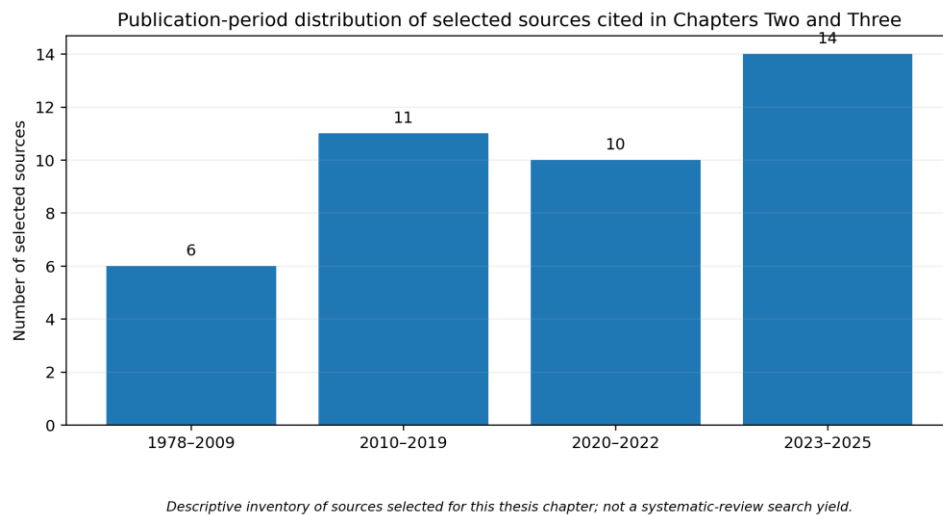
At the same time, association should not be confused with uniform causation. Koskulu et al. (2024) found domain-specific patterns in executive-function development, while classroom-quality effects are often modest. Child characteristics, family context, baseline skills and setting conditions may influence both teacher behaviour and outcomes. The present study therefore includes contextual variables and tests direct as well as mediated relationships rather than assuming a single unqualified effect of educator support.

2.34 International Evidence

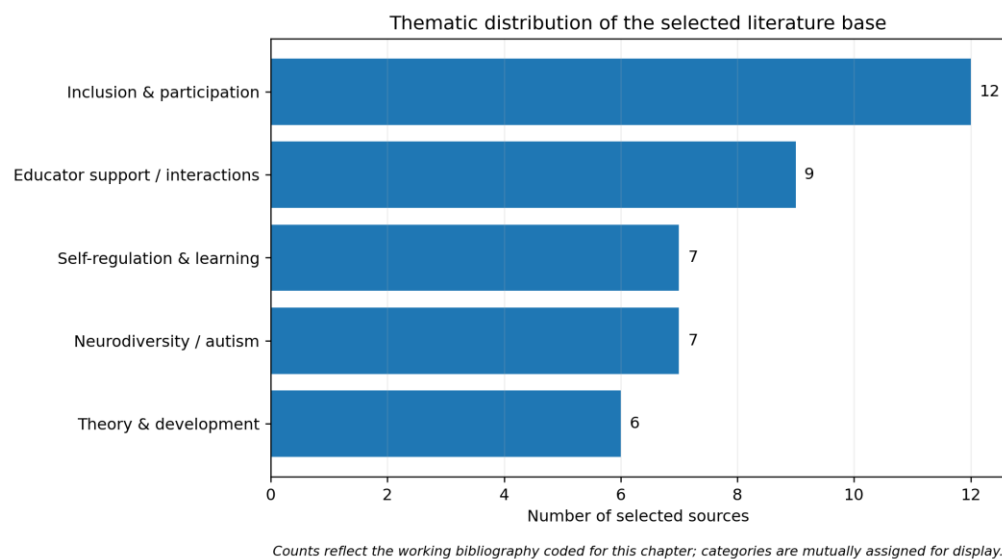
International research on inclusion reveals both common mechanisms and substantial contextual variation. Across high-income settings, recurring themes include educator competence, peer acceptance, environmental adaptation and the gap between mainstream placement and social belonging (El-Salahi et al., 2023; Petersson-Bloom & Holmqvist, 2022). In lower-resource contexts, these issues may be compounded by large class sizes, limited specialist access, stigma and shortages of adapted materials. The underlying principle is similar, but the practical feasibility of particular supports differs.

Cross-cultural interpretation also requires caution because constructs such as independence, classroom participation and appropriate adult-child interaction are culturally mediated. Practices valued as autonomy-supportive in one system may be organised differently in another. Similarly, diagnostic access varies substantially across countries, which affects who enters research samples as 'neurodivergent'. International evidence should therefore be used to identify transferable mechanisms without assuming that implementation conditions are universal.

This issue reinforces the value of ecological theory. Macrosystem values, policy, professional preparation and resource structures shape what happens in microsystem interactions. The present thesis therefore draws on international evidence to develop concepts but interprets findings within the study's actual educational context rather than treating international averages as context-free norms.



Graph 2.1. Publication-period distribution of selected sources cited in Chapters Two and Three



Graph 2.2. Thematic distribution of the selected literature base

2.35 Areas of Agreement in the Literature

Several areas of agreement are sufficiently consistent to support the present model. First, inclusive placement alone is not an adequate measure of inclusion; participation and belonging matter. Second, teacher-child interaction and educator support are associated with multiple developmental outcomes, even though effect sizes vary. Third, neurodivergent children often require environmental, communicative or pedagogical adaptations to access ordinary classroom activity. Fourth, peer relationships and play are important components of social inclusion (Mashburn et al., 2008; Gunning et al., 2019; UNESCO, 2020; Zheng et al., 2023).

There is also growing agreement that deficit-only interpretations are ethically and scientifically limited. Neurodiversity scholarship has made it increasingly difficult to justify outcomes defined solely by appearing neurotypical (Pellicano & den Houting, 2022; Lerner et al., 2023). This does not eliminate the study of impairment or support needs; it reframes the aim of support around access, functioning, agency and wellbeing.

2.36 Areas of Disagreement and Uncertainty

Important disagreements remain. Participation is variably defined; educator support is measured through global interaction scores, self-report or specific practices; and developmental outcomes are not consistently operationalised. The literature also differs on the extent to which intervention should target child skills versus environmental change. Peer-mediated and social-communication interventions can be effective for targeted behaviours, but a neurodiversity perspective questions whether all targeted behaviours are intrinsically valuable or whether some goals primarily reflect normative expectations.

There is also uncertainty about developmental specificity. Meta-analytic evidence suggests teacher-child interaction relates to multiple outcomes, but individual studies often find selective rather than general effects (Zheng et al., 2023; Koskulu et al., 2024). These mixed patterns are not a weakness to be explained away; they are evidence that mechanisms

and moderators matter. The present study therefore avoids a single global outcome and examines distinct developmental domains.

2.37 Methodological Limitations of Previous Research

Methodological limitations recur across the literature. Cross-sectional designs dominate many areas, restricting inference about directionality. Small, diagnosis-specific samples limit generalisability. Intervention studies may demonstrate efficacy under highly supported conditions without establishing routine-practice effectiveness. Adult-report measures can introduce shared-method variance when the same educator reports both support and child outcomes. Observational studies reduce this problem but differ in coding systems and may privilege the focal child's behaviour over reciprocal partner behaviour (Tsamitrou & Plumet, 2024).

Construct validity is another concern. Participation, engagement, inclusion and social competence are sometimes used interchangeably despite important conceptual differences. Dott and Licandro (2025) explicitly identify variability in participation definitions and operationalisation. Neurodiversity scholarship adds a further measurement critique: instruments developed around neurotypical expectations may classify difference as deficit and may reward masking or compliance. Methodological improvement therefore requires multi-informant, context-sensitive and constructually explicit measurement.

Finally, there is limited longitudinal and multilevel research that follows children across time while accounting for nesting within classrooms or settings. Without such designs, it is difficult to determine whether educator support precedes change in participation, whether participation precedes developmental change, or whether setting-level factors condition these relationships. These limitations directly inform the methodology proposed in Chapter Four.

Table 2.5. Recurrent methodological limitations and implications for the present study

Limitation in prior research	Why it matters	Response in the proposed study
Cross-sectional designs	Temporal direction among support, participation and outcomes remains uncertain	Repeated longitudinal measurement
Single-informant adult report	Shared-method bias and limited representation of context	Observation plus educator and parent/carer data
Inconsistent participation definitions	Studies may compare non-equivalent constructs	Explicit multidimensional operationalisation
Diagnosis-specific/small samples	Limits generalisability and obscures within-group heterogeneity	Functional/contextual variables alongside profile descriptors
Child-focused interaction coding	Underrepresents reciprocity and partner contribution	Coding of child, educator/peer partners and activity context
Normative outcome assumptions	May reward masking/compliance rather than wellbeing or access	Neurodiversity-affirming interpretation and agency-sensitive indicators

2.38 Critical Synthesis of the Literature

The literature supports a coherent but incomplete developmental argument. Early learning and psychological development depend on repeated participation in socially and cognitively meaningful activity. Educators shape the immediate conditions of that activity through relationships, scaffolding, communication, environmental design and autonomy support. Neurodivergent children may encounter barriers when classroom demands assume a narrow range of sensory, communicative or regulatory profiles. It is therefore reasonable to expect educator support to influence development partly by changing the child's opportunities to participate.

What the literature does not yet provide is a sufficiently integrated test of this argument. Teacher-child interaction research often moves directly from interaction quality to developmental outcome. Inclusion research often concentrates on placement,

attitudes or specific intervention targets. Participation research documents engagement or social interaction but less often models participation as an explanatory mechanism. Neurodiversity research critiques normative outcome assumptions but has not yet been fully integrated with longitudinal educational-psychology models of classroom development.

The contribution of the present study lies in bringing these literatures into one testable framework. Educator support is conceptualised as a modifiable environmental predictor; classroom participation is positioned as both an inclusion outcome and a potential mediator; developmental outcomes are differentiated; and child, family and setting characteristics are treated as contextual conditions. This synthesis is more demanding than a simple 'inclusion works' hypothesis because it specifies how, under what conditions and through which processes inclusion may become developmentally meaningful.

Table 2.6. Critical synthesis: what is established, uncertain and required next

Area	Reasonably supported	Still uncertain / contested	Implication
Inclusion	Access alone is insufficient; participation and belonging matter	Best cross-context operational definition of meaningful participation	Measure multiple participation dimensions
Educator support	Interaction quality relates to several outcomes	Which support dimensions matter most for which children/outcomes	Disaggregate support and test moderation
Participation	Children with disabilities may experience reduced involvement/peer interaction	Whether participation mediates support–outcome relationships longitudinally	Test mediation with repeated data
Neurodiversity	Deficit-only interpretation is inadequate	How affirming principles should alter common educational measures	Use functional, agency-sensitive interpretation
Methodology	Observation adds contextual information	Limited longitudinal, reciprocal and multilevel evidence	Triangulate observation, reports and longitudinal models

2.39 Research Gaps

The first gap is conceptual: participation is frequently invoked but inconsistently defined. The second is mechanistic: there is limited direct testing of participation as a pathway between educator support and developmental outcomes. The third is temporal: longitudinal evidence remains insufficient, especially within naturalistic inclusive early years settings. The fourth concerns heterogeneity: diagnosis is often used as the primary organising variable even though functional and contextual differences within diagnostic groups are substantial (Dott & Licandro, 2025; Tsamitrou & Plumet, 2024).

A fifth gap concerns measurement and perspective. Adult reports dominate parts of the literature, while direct observation may under-code the contribution of peers and educators to interaction. Child agency and communication preferences are also difficult to represent through conventional instruments. A sixth gap concerns neurodiversity alignment: some outcomes and interventions remain organised around normalisation rather than participation, wellbeing and functional access (Pellicano & den Houting, 2022; Lerner et al., 2023).

The present study addresses these gaps through a longitudinal explanatory sequential mixed-methods design, direct classroom observation, multiple informants, explicit measurement of educator support

and participation, and theoretical integration across ecological, sociocultural and neurodiversity perspectives. The aim is not to resolve every limitation in the field but to make the explanatory chain from educational environment to participation to development more visible and testable.

2.40 Implications for the Present Study

The literature review has several direct implications for design. Educator support should be measured multidimensionally rather than through attitude alone. Participation should include play, peer interaction, routines, communication and agency. Developmental outcomes should be analysed separately as self-regulation/executive function, social-emotional development and early learning. Contextual variables should be retained because the strength of associations is unlikely to be uniform across children and settings.

The review also supports methodological triangulation. Observation is needed to reduce sole reliance on adult report; parent/carer perspectives are needed to provide developmental and contextual knowledge; educator accounts are needed to interpret implementation constraints; and longitudinal measurement is needed to examine change. Finally, the analysis must remain neurodiversity-affirming by distinguishing genuine functional difficulty from harmless divergence in style and by interpreting outcomes in relation to agency, access and wellbeing.

III. THEORETICAL AND CONCEPTUAL FRAMEWORK

Introduction

A theoretical framework is useful only if it explains more than the variables already named in the research questions. The present study requires theory that can account for four features simultaneously: development occurs through repeated interaction; classroom activity is socially mediated; educational contexts are nested within wider systems; and neurodevelopmental difference should not be interpreted automatically as deficit. No single classical theory fully satisfies these requirements. Chapter Three therefore develops an integrated framework combining Bronfenbrenner's bioecological theory, Vygotsky's sociocultural theory and a neurodiversity-affirming perspective.

The integration is deliberately functional rather than eclectic. Bioecological theory explains where development is situated and why context and time matter. Sociocultural theory explains how learning and regulation can be mediated through interaction, language, tools and shared activity. Neurodiversity provides an interpretive and ethical lens that constrains what counts as support and what counts as a desirable outcome. Classroom participation becomes the linking construct: it is the proximal arena in which contextual opportunity, social mediation and child characteristics meet.

3.2 Rationale for Theoretical Integration

Using one theoretical perspective would produce avoidable blind spots. A purely ecological account can specify nested influences but may not explain the moment-to-moment pedagogical processes through which a child moves from supported to more independent participation. A purely Vygotskian account explains mediation and scaffolding but can under-specify organisational, policy and temporal constraints. A neurodiversity perspective corrects deficit assumptions but is not, by itself, a full developmental process theory.

Integration is justified when the theories contribute complementary explanatory functions and do not require incompatible assumptions. Here the common ground is relational development. Bronfenbrenner and Morris (2006) place proximal processes at the centre

of development; Vygotsky (1978) places socially mediated activity at the centre of learning; and neurodiversity-affirming scholarship emphasises person-environment fit, agency and the social production of disability-related barriers (Pellicano & den Houting, 2022). The framework therefore treats development as neither child-driven nor environment-driven, but as emerging through patterned transactions across time.

3.3 Bronfenbrenner's Bioecological Theory

Bronfenbrenner's later bioecological theory represents an important development beyond the familiar image of nested environmental circles. In the Process-Person-Context-Time (PPCT) formulation, development is produced through progressively more complex reciprocal interactions—proximal processes—between an active person and the people, objects and symbols in the immediate environment, occurring regularly over time (Bronfenbrenner & Morris, 2006). The theory therefore places everyday interaction, not distal context alone, at the centre of development.

For the present study, this formulation is especially valuable because educator support and classroom participation can be conceptualised as features of proximal process. The child's neurodevelopmental characteristics influence how interactions are initiated and sustained; the classroom supplies opportunities and constraints; wider systems influence resources and norms; and repeated participation across time may shape developmental outcomes. This is a more precise use of ecological theory than treating every contextual variable as equally causal.

3.4 The Process–Person–Context–Time Model

The PPCT model provides the structural logic for translating bioecological theory into research variables. Process refers to recurrent interactions and activities that drive development. Person refers to characteristics that invite, sustain or disrupt those interactions, including dispositions, abilities and support needs. Context refers to nested systems from the immediate classroom to wider policy and cultural structures. Time refers both to the duration and regularity of proximal processes and to developmental or historical change (Bronfenbrenner & Morris, 2006).

Applied to this thesis, educator-child interaction, peer engagement and participation in routines are process variables; neurodevelopmental profile and communication characteristics are person variables; family, classroom and setting conditions are context

variables; and repeated measurement captures time. This mapping is not merely descriptive. It generates the expectation that the developmental effect of classroom participation depends on the regularity, quality and reciprocity of the underlying interactions.

Table 3.1. PPCT model and its application to the present study

PPCT component	Meaning in bioecological theory	Application in this thesis
Process	Regular reciprocal interactions with persons, objects and symbols	Educator-child interaction, peer activity, routines and classroom participation
Person	Characteristics that shape and are shaped by proximal processes	Neurodevelopmental profile, communication, regulation, interests and demographic characteristics
Context	Nested environmental systems	Classroom/setting, family–professional links, services/leadership, policy/cultural norms
Time	Regularity, duration, developmental and historical change	Repeated observations, longitudinal change, transitions and accumulated experience

3.5 Microsystem Influences

The microsystem is the immediate setting in which the child participates directly. In early childhood education it includes educators, peers, materials, routines and the physical/sensory environment. Because proximal processes occur here, microsystem quality is central to the present study. An educator's response to distress, a peer's invitation into play, the predictability of a transition and the accessibility of a learning activity are all microsystem events with potential developmental significance.

The microsystem perspective also prevents the child from being treated as a passive recipient. Neurodivergent children bring interests, communication styles, regulatory needs and patterns of attention that shape how others respond. Participation is therefore reciprocal: the environment influences the child, and the child's actions alter the environment. This reciprocity is consistent with observational evidence showing that interaction patterns cannot be understood adequately when only the autistic child's behaviour is coded in detail (Tsamitrou & Plumet, 2024).

3.6 Mesosystem Influences

The mesosystem concerns relations among the child's microsystems. In this thesis the most important mesosystem connections include family-setting communication, collaboration between educators and specialists, and continuity between home communication supports and classroom practice. These connections matter because inconsistent expectations or incompatible strategies can increase regulatory and participation demands, whereas coordinated understanding can improve predictability and transfer.

Family-professional partnership is therefore theoretically more than a service value. It is a developmental linkage between settings. When parents communicate how a child signals overload or what forms of visual support are effective, classroom responses can become more contingent. Conversely, educators can provide families with information about peer interaction or emerging autonomy that may not be visible at home. The mesosystem thus contributes to the coherence of proximal processes across contexts.

3.7 Exosystem Influences

Exosystem settings do not necessarily contain the child directly but influence the conditions of the child's microsystem. Examples include local service structures, leadership decisions, workforce policies, professional-development systems and funding arrangements. An early years educator may be strongly committed to inclusion but constrained by staffing shortages, limited planning time or lack of specialist consultation. These conditions shape what support can be delivered consistently.

Including exosystem influences protects the analysis from an overly individualised account of educator practice. It does not remove professional responsibility; rather, it asks what organisational conditions make responsive practice sustainable. In empirical analysis, selected setting characteristics can therefore function as contextual or moderating variables, while qualitative interviews can illuminate constraints that are difficult to reduce to numerical indicators.

3.8 Macrosystem Influences

The macrosystem includes cultural values, policy frameworks, disability norms and broad educational expectations. Inclusion policy can expand access, but cultural assumptions about normality, independence, communication and behaviour influence how policy is interpreted in classrooms. A system may formally endorse inclusion while rewarding compliance, speed and uniformity in ways that systematically disadvantage some neurodivergent children.

The neurodiversity paradigm is particularly relevant at this level because it challenges macrosystem assumptions about which developmental differences should be corrected and which should be accommodated. UNESCO's rights-based framing of inclusion similarly places barrier removal within a wider social and institutional responsibility (UNESCO, 2020). The macrosystem therefore supplies the normative context in which educators decide what counts as acceptable participation and successful development.

3.9 Chronosystem Influences

The chronosystem directs attention to change over time. Development is cumulative: a single supportive interaction may be helpful, but proximal processes are expected to exert stronger influence when they occur repeatedly and predictably. Likewise, repeated exclusion from peer activity may have consequences beyond the immediate event. The child's developmental stage, transitions between settings and changes in family or educational circumstances can alter the meaning of the same classroom demand.

This temporal dimension provides a direct theoretical justification for longitudinal research. Cross-sectional studies cannot determine whether higher participation precedes stronger developmental outcomes or merely co-occurs with them. Repeated measurement allows the present study to examine whether change in support and participation is associated with change in outcomes, while qualitative data can help interpret the processes underlying observed trajectories.

Bioecological location of classroom participation

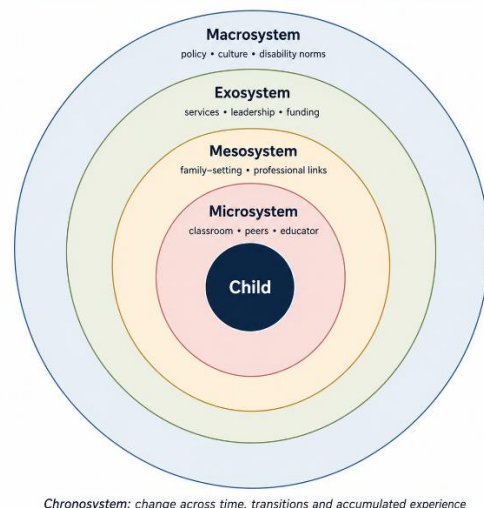


Figure 3.1. Bioecological location of classroom participation

3.10 Proximal Processes and Development

Proximal process is the most important bioecological concept for the present thesis. Bronfenbrenner and Morris (2006) argue that development occurs through enduring forms of interaction with people, objects and symbols. In an early years classroom, these processes include shared play, conversation, collaborative

problem solving, routines, supported regulation, peer negotiation and engagement with learning materials. Participation is therefore not simply an outcome of inclusion; it is the medium through which developmental processes occur.

The effectiveness of proximal processes depends on their quality and fit. An activity that is developmentally rich for one child may be inaccessible to another if language is too rapid, sensory load too high or social entry rules opaque. Educator support can modify these conditions, increasing the probability that the child remains engaged long enough for proximal processes to operate. This theoretical link supports the proposed pathway from educator support to participation to developmental outcomes.

3.11 Strengths and Limitations of Bioecological Theory

Bioecological theory has three major strengths for this research. It rejects isolated child explanations, accommodates multiple levels of context and explicitly incorporates time. It is also compatible with multilevel and longitudinal analysis because children are nested within classrooms and settings, while developmental processes unfold across repeated observations. These features make it well suited to inclusive education, where barriers can arise from immediate interaction or from organisational and policy conditions.

Its limitations are equally important. Ecological concepts are sometimes used so broadly that every contextual factor is labelled without specifying mechanism. The theory can also become descriptive if researchers identify systems but do not operationalise proximal processes. To avoid this problem, the present study treats classroom participation as a measurable expression of proximal process and uses Vygotskian theory to specify how educator mediation may alter those processes.

3.12 Vygotsky's Sociocultural Theory

Vygotsky's sociocultural theory proposes that higher psychological functions develop through participation in socially organised activity and are mediated by cultural tools, language and relationships (Vygotsky, 1978). Learning is therefore not simply the internal

accumulation of information. It is a process through which children participate in activities with more capable or differently knowledgeable others and gradually appropriate strategies, meanings and forms of regulation.

The theory is particularly relevant to early childhood because play, language and guided participation are central forms of developmental activity. It also provides a conceptual vocabulary for educator support. Visual schedules, modelling, prompts, shared language, peer collaboration and co-regulation can all function as mediational tools. The theoretical question is not whether support is present, but whether it enables the child to act with increasing competence and agency.

3.13 Social Mediation and Learning

Social mediation refers to the way learning is transformed through interaction with others and through culturally organised tools. In the classroom, the educator does not merely deliver content; the educator helps structure attention, interpret expectations, connect ideas and organise participation. Peers also mediate learning by modelling routines, introducing play rules and creating social problems that require negotiation.

For neurodivergent children, mediation must be responsive to communication and processing differences. A verbal explanation that is effective for one child may require visual representation, modelling or additional processing time for another. The sociocultural principle is not that all learners should receive the same scaffold but that mediation should make participation in meaningful activity possible. This aligns closely with differentiated pedagogy and Universal Design for Learning (CAST, 2024).

3.14 Zone of Proximal Development

The zone of proximal development (ZPD) refers to the distance between what a child can do independently and what becomes possible with appropriate assistance (Vygotsky, 1978). In educational psychology, the concept is often reduced to 'work that is slightly difficult', but its deeper significance is relational: capability is revealed through supported participation. This has important implications for neurodivergent children whose independent

performance may underestimate competence when communication, sensory or executive demands obstruct access.

The present study does not attempt to measure a single ZPD score. Instead, the concept informs interpretation of educator support. Effective support should expand participation without permanently substituting adult action for child action. Over time, scaffolds may be faded, modified or replaced as the child develops more efficient strategies or discovers different ways to participate.

3.15 Scaffolding

Although the term scaffolding was developed after Vygotsky, it is widely used to operationalise sociocultural mediation. Scaffolding involves contingent assistance that is sensitive to the learner's current performance and progressively adjusted. In inclusive early years settings, scaffolding may involve modelling a play entry, simplifying a verbal instruction, using a visual cue, organising peers, breaking a task into manageable steps or co-regulating during a transition.

A critical distinction is between scaffolding and control. Support becomes developmentally questionable when it produces dependence, suppresses initiative or prioritises adult-defined compliance over

understanding. Autonomy support therefore functions as a safeguard within the present framework. The best scaffold is not the most intensive one; it is the least intrusive support that enables meaningful participation and can be adjusted as competence changes.

3.16 Play, Communication and Peer Interaction

Vygotskian theory gives play a distinctive developmental role because imaginative and rule-governed activity allows children to act beyond immediate impulses, use symbols and coordinate meanings with others. In inclusive classrooms, peer play can therefore support language, self-regulation and social understanding. Yet the developmental value of play depends on access. If a neurodivergent child is repeatedly positioned as an observer or receives adult-led social training outside peer activity, the child may have fewer opportunities to participate in the very processes through which social learning occurs.

Communication is similarly mediational. It enables children to share attention, request clarification, negotiate roles and internalise strategies. Wolfberg (2023) argues for interpretations of autistic play that respect divergent forms while supporting co-created inclusive play cultures. This perspective complements Vygotskian theory by ensuring that social mediation is not equated with training children to imitate a single neurotypical interaction style.

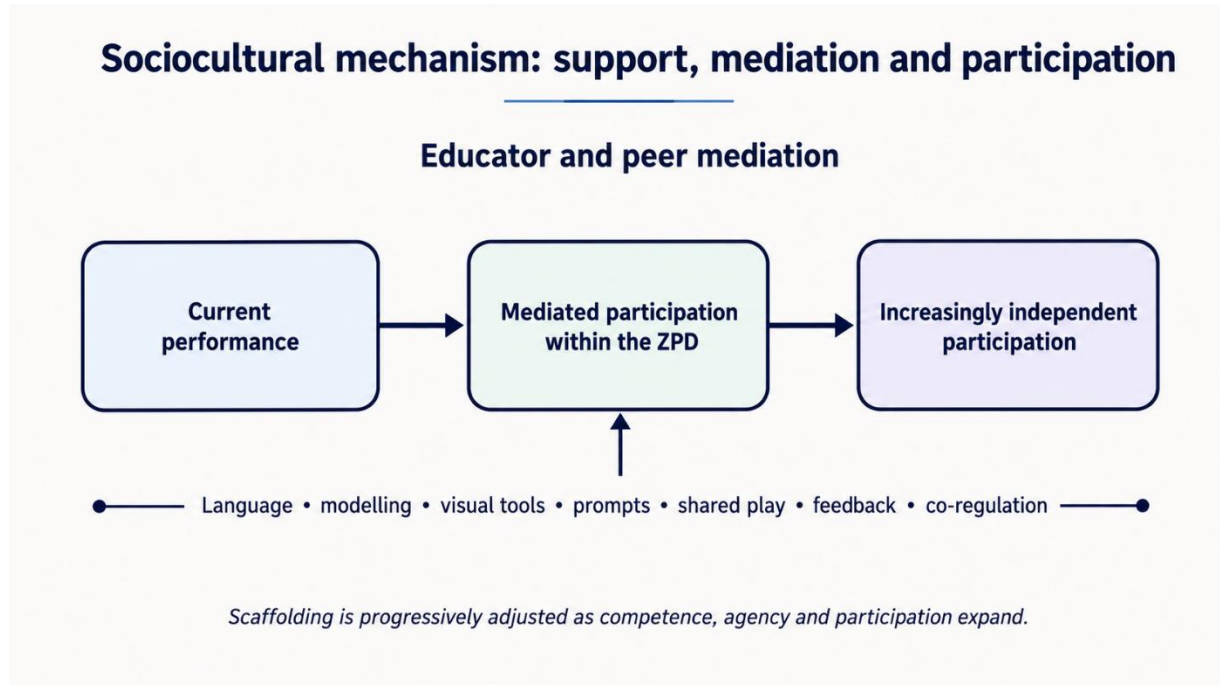


Figure 3.2. Sociocultural mechanism linking mediation, the ZPD and increasingly independent participation

Table 3.2. Sociocultural constructs and observable classroom expressions

Construct	Theoretical meaning	Possible classroom expression
Social mediation	Development is shaped through interaction with others	Educator/peer modelling, dialogue, shared problem solving
Cultural tools	Signs and artefacts organise activity and thought	Language, visuals, schedules, symbols, AAC, routines
ZPD	Potential performance becomes visible with appropriate assistance	Child completes/enters activity with calibrated support
Scaffolding	Temporary contingent assistance	Prompting, modelling, task structuring, gradual fading
Internalisation / growing independence	Strategies become increasingly self-directed	Reduced prompts, self-initiated regulation or task strategy

3.17 Strengths and Limitations of Sociocultural Theory

Sociocultural theory offers a strong explanation of how educator and peer support may alter learning through participation. It makes interaction, tools and shared activity theoretically central, thereby providing a mechanism for the mediator proposed in this study. It also fits early childhood pedagogy, where learning is frequently embedded in play, routines and guided participation rather than formal instruction alone.

The theory has limitations for the present purpose. It provides less explicit guidance on macrosystem forces, organisational resources and historical change than bioecological theory. In addition, classical sociocultural writing does not directly address contemporary neurodiversity ethics; a researcher could invoke scaffolding while still defining the desired endpoint as neurotypical performance. These limitations justify theoretical integration rather than exclusive reliance on Vygotsky.

3.18 Neurodiversity-Affirming Perspective

A neurodiversity-affirming perspective treats neurological variation as part of human diversity while recognising that neurodivergent people may experience genuine disability, distress and support needs. Its central methodological contribution is to question whose standards define successful functioning. Pellicano and den Houting (2022) argue that autism science should move beyond research agendas organised primarily around normalisation, while Lerner et al. (2023) emphasise goals that are informed by autistic priorities and meaningful outcomes.

In the present framework, neurodiversity does not replace developmental theory; it governs interpretation. A reduction in visible stimming, for example, is not automatically treated as improvement if the behaviour is harmless and regulatory. Increased eye contact is not presumed to represent better social development. More defensible outcomes include reduced distress, improved functional communication, greater autonomy, stronger reciprocal participation and enhanced access to learning.

3.19 Strengths-Based Interpretation of Neurodevelopment

Strengths-based interpretation does not mean describing every neurodevelopmental difference as an advantage. It means that assessment should identify capacities, interests and successful conditions alongside difficulty. A child may have substantial communication needs while also demonstrating strong visual memory, focused interests or persistence. These strengths can become mediational resources when educators incorporate them into tasks and peer activity.

The approach also shifts causal language. Instead of stating that a child's autism 'causes exclusion', the researcher asks how autistic characteristics interact with peer expectations, communication systems, sensory conditions and educator practices. This wording is not cosmetic. It changes what counts as an intervention target and makes environmental modification theoretically visible.

3.20 Integration of the Three Perspectives

The three perspectives can be integrated around a shared proposition: development emerges through participation in socially organised activity, and the quality of that participation depends on reciprocal fit between person and context. Bioecological theory supplies the nested and temporal architecture; sociocultural theory specifies mediation within proximal activity; neurodiversity determines how difference, support and outcome are interpreted. Together they support a model in which educator support can alter participation opportunities without assuming that the child must become more neurotypical.

This integration also clarifies levels of explanation. Macrosystem norms and exosystem resources influence what educators can provide; mesosystem relationships affect coherence; microsystem interactions create immediate opportunities; sociocultural mediation shapes what the child can do within those opportunities; and neurodiversity-affirming interpretation determines whether observed change represents genuine developmental benefit or mere conformity. Classroom participation is the construct through which these levels become empirically connected.

Table 3.3. Complementary contribution of the three theoretical perspectives

Perspective	Primary explanatory question	Contribution to the model	Limitation addressed by integration
Bioecological theory	Where and across what systems/time does development occur?	Nested context, proximal processes, person-context interaction, time	Needs more detail on pedagogical mediation
Sociocultural theory	How does supported participation become learning/development?	Mediation, tools, ZPD, scaffolding, shared activity	Needs wider organisational/policy context

Neurodiversity-affirming perspective	How should difference, support and outcome be interpreted?	Agency, strengths, accommodation, critique of normalisation	Not a complete process theory on its own
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3.21 Classroom Participation as the Central Developmental Mechanism

The conceptual model positions classroom participation as a central developmental mechanism rather than a secondary outcome. This proposition follows directly from proximal-process and sociocultural logic: development requires repeated engagement with people, objects, symbols and activities. Educator support can make those interactions more accessible; participation reflects whether the opportunity is actually taken up; developmental outcomes reflect the accumulating consequences of such engagement.

The mediation hypothesis remains empirical rather than axiomatic. Participation may explain only part of the relationship between support and outcomes, and direct effects may remain. Some forms of emotional support, for example, may influence wellbeing even when observable participation changes little. Conversely, high participation may not be developmentally beneficial if the activity is coercive or overly demanding. The model therefore requires both quantitative testing and qualitative interpretation.

3.22 Contextual and Moderating Variables

Bioecological theory predicts that proximal processes vary as a function of person and context. The same educator practice may therefore have different effects depending on communication profile, baseline regulation, sensory needs, family context, setting quality or classroom resources. Moderator analysis is theoretically justified because heterogeneity is expected, not treated as statistical noise.

The selection of moderators must nevertheless remain parsimonious. Testing every available variable risks an atheoretical search for significance. The present study prioritises contextual variables that can plausibly alter access to support or participation, such as neurodevelopmental profile, communication characteristics, educator experience, setting quality and selected family factors. Qualitative data will be used to interpret moderation patterns rather than relying on coefficients alone.

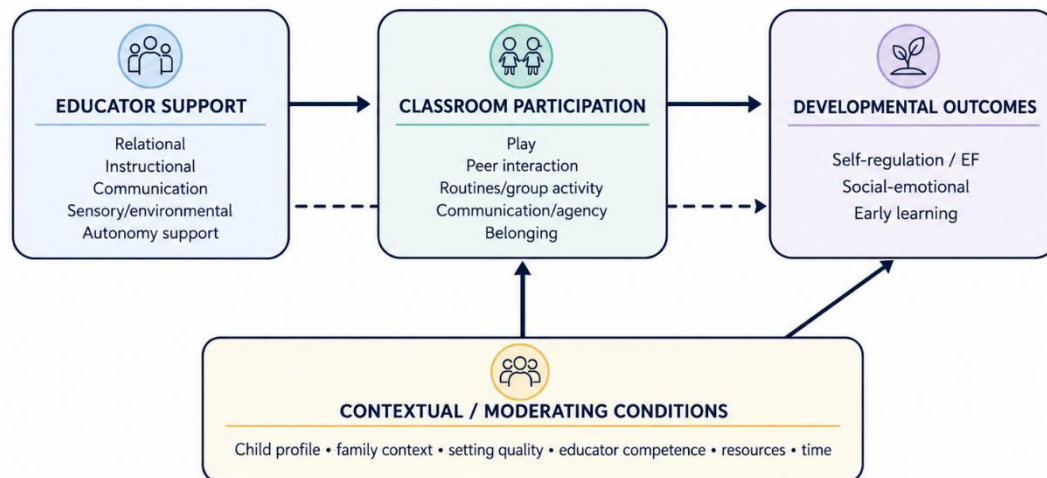
3.23 Proposed Conceptual Framework

The proposed framework contains three primary constructs: educator support, classroom participation and developmental outcomes. Educator support is the principal environmental predictor. Classroom participation is an intermediate process and inclusion outcome. Developmental outcomes comprise self-regulation/executive function, social-emotional development and early learning. Selected child, family and setting characteristics function as contextual or moderating conditions.

The model specifies three forms of relationship. First, educator support is expected to predict participation. Second, participation is expected to predict developmental outcomes. Third, educator support may retain direct relationships with outcomes while also operating indirectly through participation. Longitudinal measurement adds a temporal requirement: stronger inference depends on demonstrating that changes in support and participation precede or accompany changes in outcomes rather than merely co-occurring at one time point.

Integrated theoretical and conceptual framework for the present study

Bioecological context + sociocultural mediation + neurodiversity-affirming interpretation



Primary proposition: educator support expands participation opportunities; participation is a plausible developmental mechanism, while context conditions the strength and meaning of these relationships.

Figure 3.3. Integrated theoretical and conceptual framework for the present study

3.24 Theoretical Propositions

The framework can be expressed through a set of theoretical propositions. Proximal-process theory suggests that repeated, reciprocal participation should be developmentally consequential. Sociocultural theory suggests that appropriately calibrated educator and peer mediation should expand what children can do within classroom activity. Neurodiversity-affirming theory suggests that support will be most valid when it increases functional access and agency without requiring unnecessary normalisation.

These propositions also imply boundary conditions. More support is not always better if support is intrusive or controlling; more observable participation is not always beneficial if participation is coerced; and apparent independence is not necessarily superior if appropriate supports enable fuller engagement. The empirical hypotheses must therefore be interpreted alongside qualitative evidence about the quality and meaning of participation.

3.25 Hypotheses Derived from the Framework

The hypotheses stated in Chapter One follow from the integrated theory rather than from statistical convenience. The expected positive association between educator support and participation reflects both ecological fit and sociocultural mediation. Associations between participation and developmental outcomes reflect the developmental role of proximal engagement. Mediation hypotheses formalise the proposition that support works partly by altering access to developmental activity.

Moderation and longitudinal hypotheses derive principally from PPCT. Person and context characteristics are expected to change the form or strength of proximal processes, while time is necessary for development to occur. These hypotheses will be tested cautiously: statistical significance alone will not establish theoretical truth, and null or heterogeneous effects may refine rather than invalidate the framework.

Table 3.4. Theoretical propositions and linked empirical hypotheses

Theoretical proposition	Empirical implication / hypothesis family	Principal theoretical source
Responsive support increases accessible proximal activity	Educator support positively predicts classroom participation	Bioecological + sociocultural
Repeated meaningful participation provides developmental practice	Participation positively predicts self-regulation, social-emotional and early learning outcomes	Bioecological proximal process + sociocultural
Support influences development partly by changing participation	Indirect/mediated effects through classroom participation	Integrated framework
Person and context alter proximal-process effectiveness	Child, family and setting variables moderate relationships	PPCT
Development requires regularity and time	Positive change in support/participation is associated with positive change in outcomes	PPCT chronosystem/time
Valid support expands agency rather than enforcing unnecessary conformity	Interpret outcomes using participation, functioning, choice and wellbeing	Neurodiversity-affirming perspective

3.26 Operational Mapping of Theory to Variables

Operational mapping is necessary to prevent theoretical language from becoming detached from measurement. Bioecological process is represented through observed participation and educator-child interaction; person characteristics are represented through developmental and demographic descriptors; context is represented through family and setting variables; time is represented through repeated measurement. Sociocultural mediation is represented

through instructional scaffolding, communication support, peer facilitation and autonomy support.

Neurodiversity-affirming interpretation is operationalised less as a single scale than as a set of measurement rules: harmless divergent behaviours are not automatically coded as failure; communication is not restricted to speech; agency and choice are valued; and outcomes are interpreted in relation to participation, functioning and wellbeing. Table 3.5 summarises this mapping and provides a bridge to the methodological decisions developed in Chapter Four.

Table 3.5. Operational mapping from theory to proposed variables and indicators

Theoretical element	Study construct	Indicative indicators/data source
Proximal processes	Classroom participation	Observed engagement, initiation/response, peer interaction, routines, communication/agency
Environmental mediation	Educator support	Relational support, scaffolding, communication, sensory adaptation, autonomy/peer facilitation
Developmental outcomes	Self-regulation/EF; social-emotional; early learning	Validated measures, observations and/or educator/parent ratings as appropriate
Person	Child characteristics	Neurodevelopmental profile, communication, age, selected functional characteristics
Context	Family and setting conditions	Family descriptors, educator experience, setting quality, organisational resources
Time	Longitudinal change	Repeated waves/observations and temporal ordering

Affirming interpretation	Agency and functional access	Choice, alternative communication, distress/access indicators; avoid coding harmless divergence as failure
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IV. RESEARCH METHODOLOGY

4.1 Introduction

This chapter explains how the thesis will test the proposition that educator support is related to meaningful classroom participation and, through participation, to developmental outcomes among neurodivergent children in inclusive early years settings. The methodological problem is intrinsically multilevel and developmental: children are embedded within classrooms and settings, the constructs change over time, and the meaning of support cannot be inferred adequately from a single respondent or a single measurement occasion. The design therefore combines repeated quantitative measurement with an explanatory qualitative strand. Quantitative analysis estimates patterns, trajectories and conditional associations; qualitative inquiry investigates how those patterns are produced in everyday educational practice. Integration occurs at sampling, interpretation and joint-display stages, consistent with the principle that rigorous mixed methods requires purposeful interaction between strands rather than parallel reporting (Farmer, 2022).

4.2 Research Philosophy

The study adopts a pragmatic critical-realist orientation. Pragmatism permits the selection of methods according to the research problem, while critical realism provides a useful distinction between observed indicators and the underlying mechanisms that may generate them. Educator support, participation and development are not treated as directly visible entities; they are inferred through fallible measures embedded in social contexts. This stance is compatible with educational psychology because it allows statistical regularities to be investigated without assuming that measured scores exhaust the meaning of children's experiences.

4.3 Research Paradigm

The operational paradigm is mixed-methods pragmatism with explicit neurodiversity-affirming

commitments. The study accepts quantitative estimation, qualitative interpretation and participant-informed meaning as complementary forms of evidence. Neurodiversity affirmation also has methodological consequences: measures will distinguish participation from compliance, support from control, and developmental progress from behavioural normalisation (Pellicano & den Houting, 2022).

4.4 Research Approach

The study is primarily deductive in its quantitative strand and abductive in its qualitative strand. Hypotheses derived from the conceptual framework guide quantitative modelling, while interviews are used to explore mechanisms, exceptions and contextual explanations that cannot be specified fully in advance. The resulting logic is iterative: quantitative results inform purposeful sampling and interview prompts; qualitative findings then refine interpretation.

4.5 Research Design

The overarching design is a longitudinal explanatory sequential mixed-methods study. Three quantitative waves are planned, followed by a qualitative explanatory phase and formal mixed-methods integration. The longitudinal element strengthens developmental interpretation by distinguishing stable between-child differences from within-child change. A purely cross-sectional design would be less adequate because support and participation are reciprocal and dynamic.

4.6 Longitudinal Explanatory Sequential Mixed-Methods Design

The quantitative strand precedes the qualitative strand. Baseline data establish participant, family, educator and setting characteristics; subsequent waves repeat the core constructs. Preliminary quantitative models identify patterns requiring explanation, such as unexpectedly low participation despite high support, unusually positive trajectories, or setting-level differences. The qualitative follow-up then samples

information-rich cases and settings to investigate how support is enacted, experienced and constrained. Integration will compare convergence,

complementarity and divergence across strands (Farmer, 2022).

Longitudinal Explanatory Sequential Mixed-Methods Design

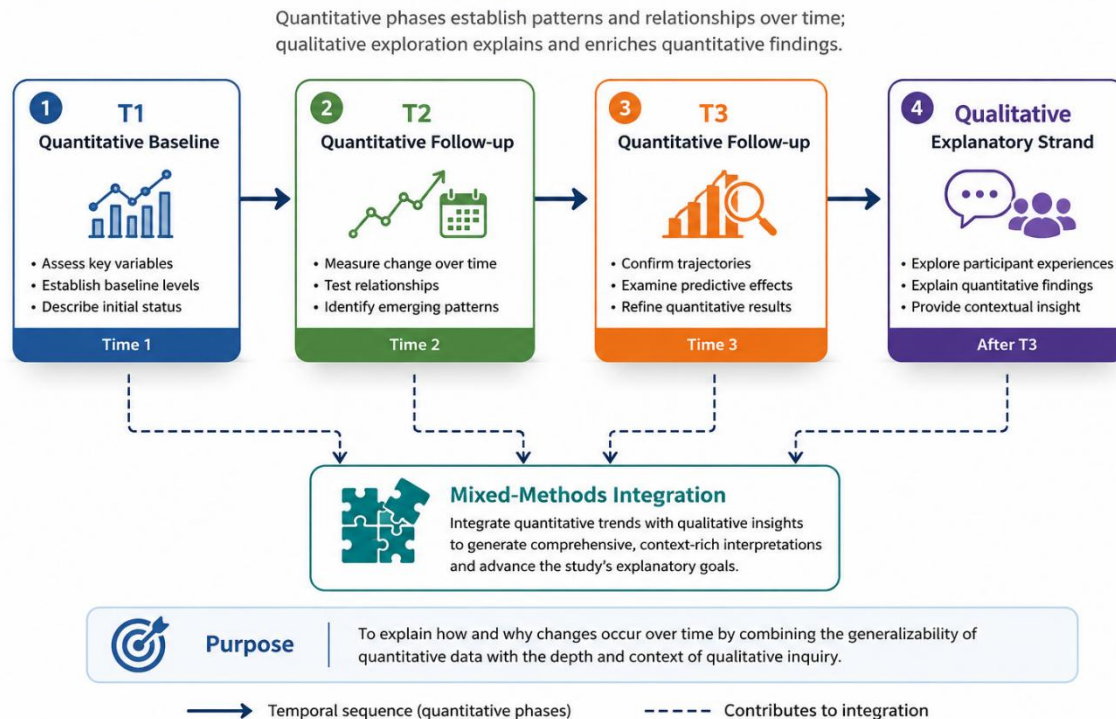


Figure 4.1. Longitudinal explanatory sequential mixed-methods design.

4.7 Study Context and Setting

The study is designed for inclusive early years settings serving preschool-aged children in shared educational environments. Settings may include nursery, preschool and reception-equivalent provision, subject to local organisational structures. Inclusion will be treated as an empirical characteristic rather than assumed from a setting label. Contextual data will document staffing, group size, professional development, specialist support, communication practices, sensory adaptations and leadership commitment.

4.8 Study Population

The target population comprises neurodivergent children in inclusive early years provision, their primary educators, parents or carers, and the settings in which participation occurs. The child remains the

focal unit of developmental analysis, but valid explanation requires information from the surrounding ecology (Bronfenbrenner & Morris, 2006).

4.9 Participant Groups

Four participant groups are envisaged: neurodivergent children, parents/carers, educators and setting leaders or relevant professionals. Children contribute observational and developmentally appropriate outcome data; parents/carers provide contextual information; educators provide classroom-process data; leaders provide setting context. Adult reports will not be treated as complete proxies for children's experiences.

4.10 Inclusion Criteria

Children will be eligible if they fall within the defined early childhood age range, attend a participating

inclusive early years setting, and have a documented neurodevelopmental diagnosis or recognised developmental profile consistent with the study definition. Regular attendance sufficient to permit meaningful observation will also be required. Eligibility procedures will avoid excluding children solely because they use alternative communication or require substantial support.

4.11 Exclusion Criteria

Exclusion will be limited to circumstances that make valid participation impossible within the approved protocol, such as insufficient exposure to the setting or disproportionate burden or safeguarding concern.

Children will not be excluded for behavioural variability, communication mode, sensory needs or co-occurring diagnoses merely because these complicate measurement.

4.12 Sampling Strategy

A multistage sampling strategy is proposed. Settings will first be recruited to achieve variation in organisational characteristics; eligible children within settings will then be invited. The quantitative strand will seek sufficient numbers for longitudinal and multilevel estimation, while the qualitative strand will use purposive maximum-variation sampling informed by quantitative patterns.

Table 4.1. Proposed participant and sampling architecture

Level	Planned unit	Sampling purpose
Setting	~24 inclusive settings	Contextual variation and setting-level analysis
Child	~180 neurodivergent children at baseline	Longitudinal quantitative cohort
Parent/carer	One principal respondent where feasible	Developmental/contextual information
Educator	Focal/key educator	Enacted support and classroom context
Qualitative subsample	Purposefully selected cases/settings	Explain patterns and exceptions

4.13 Sample Size Determination

The provisional analytical model assumes approximately 180 children nested within about 24 settings at baseline. This is a planning figure, not a report of recruitment. Final sample-size determination should be based on power simulation reflecting clustering, repeated measures, anticipated attrition and the smallest substantively meaningful effect.

4.14 Statistical Power

Power will be evaluated for the most demanding principal analyses rather than for bivariate correlations alone. Particular attention will be given to longitudinal fixed effects, cross-level interactions and mediation. Simulation-based power analysis is preferred because it can incorporate unequal cluster sizes, attrition and plausible intraclass correlations.

4.15 Participant Recruitment

Recruitment will proceed through participating settings after organisational permission and ethics approval. Families will receive accessible information explaining the study, data linkage across waves, voluntary participation and the distinction between research and educational services. Educators will be recruited separately so that family participation is not perceived as dependent on staff approval.

4.16 Study Variables

The principal variables correspond directly to the conceptual framework: educator support, classroom participation, self-regulation/executive function, social-emotional development, early learning outcomes and setting quality. Child, family and setting characteristics will be included as covariates or moderators where justified.

4.17 Independent Variables

Educator support is the principal independent variable. It will be represented as a multidimensional construct encompassing emotional/relational support, instructional scaffolding, communication support, environmental adaptation and autonomy support. Where measurement quality permits, domain-specific effects will be examined alongside a global support score.

4.18 Mediating Variables

Meaningful classroom participation is the principal hypothesised mediator. The mediation proposition is developmental rather than merely statistical: educator practices may become consequential because they alter children's access to recurring learning, social and regulatory experiences. Mediation will therefore be tested longitudinally where possible.

4.19 Dependent Variables

Primary outcomes are self-regulation/executive function, social-emotional development and early

learning. Outcomes will be analysed separately before any composite summary is considered, because combining domains prematurely could conceal theoretically meaningful differences.

4.20 Moderating and Contextual Variables

Potential moderators include neurodevelopmental profile, communication characteristics, sensory needs, age, family factors, setting quality, staffing and educator experience. Moderation analysis will be limited to theoretically justified interactions to avoid indiscriminate subgroup testing.

4.21 Operationalisation of Variables

Each construct will be mapped to observable indicators, data sources, timing and analytic role before fieldwork. Operationalisation will prioritise construct validity and respondent burden. Wherever possible, no principal relationship will rely exclusively on a single rater.

Table 4.2. Operational mapping of principal constructs

Construct	Illustrative indicators	Primary source	Analytic role
Educator support	Relational, instructional, communication, environmental, autonomy	Observation + educator report	Predictor
Classroom participation	Play, routines, peers, communication, engagement, agency	Direct observation + reports	Mediator/outcome
Self-regulation/EF	Attention, inhibition, flexibility, emotion regulation	Tasks + ratings	Outcome
Social-emotional	Relationships, belonging, emotional competence	Multi-informant + observation	Outcome
Early learning	Language, emergent literacy/numeracy, engagement	Developmentally appropriate assessment	Outcome
Setting quality	Staffing, leadership, training, accessibility	Leader report + observation	Context/moderator

4.22 Measurement of Educator Support

Educator support will be assessed through structured observation supplemented by educator self-report. Observation is essential because attitudes or intentions do not necessarily represent enacted practice. Dimensions will be informed by interaction-quality research and inclusive pedagogy, including emotional support, instructional responsiveness, communication access and autonomy support (Hamre et al., 2013; Mashburn et al., 2008).

4.23 Measurement of Classroom Participation

Participation will be measured as involvement in naturally occurring classroom contexts, including play, routines, peer interaction, group learning, communication and transitions. Direct observation is preferred because adult report alone may underrepresent situational variability. The coding framework will distinguish mere presence from active, reciprocal or agentic participation, consistent with early childhood participation research (Benjamin et al., 2017).

4.24 Measurement of Self-Regulation and Executive Function

Self-regulation and executive function will be assessed using developmentally appropriate tasks and multi-informant ratings where feasible. The plan will distinguish attentional control, inhibitory control, flexibility and emotion regulation rather than assuming a unitary construct. Ross and Ascetta (2025) identify substantial conceptual and methodological overlap in this literature, supporting the use of triangulation.

4.25 Measurement of Social-Emotional Development

Social-emotional development will include relationship quality, emotional competence, reciprocity, belonging and social confidence. Measures will avoid defining competence solely through neurotypical social performance. Where standardised tools are used, item content will be reviewed for construct-irrelevant penalties related to neurodivergent communication styles.

4.26 Measurement of Early Learning Outcomes

Early learning will be represented through developmentally appropriate indicators of language, emergent literacy/numeracy, problem solving and learning engagement. Because early learning is strongly interactional, assessment will be interpreted alongside participation and communication access.

4.27 Measurement of Setting Quality

Setting quality will capture structural and process conditions relevant to inclusion, including staffing, professional learning, leadership, environmental flexibility, family partnership and access to specialist collaboration. These indicators are analytic variables rather than public rankings.

4.28 Accessibility and Neurodiversity-Affirming Measurement

Assessment procedures will be adapted to minimise unnecessary barriers through visual schedules, familiarisation, movement breaks, alternative communication, flexible response modes and reduced sensory load where these do not invalidate the construct. The guiding principle is measurement equivalence rather than identical administration at all costs (Pellicano & den Houting, 2022).

4.29 Pilot Study

A pilot phase will test recruitment, observation feasibility, assessment duration, accessibility, data linkage and interview prompts. It will also provide initial evidence on inter-rater reliability and participant burden. Any instrument modification following piloting will be documented.

4.30 Reliability

Reliability will be examined according to measurement type. Multi-item scales will be evaluated with coefficients appropriate to their structure; observational measures will use double-coding and inter-rater agreement; repeated measures will be checked for scoring stability. Reliability will not be treated as equivalent to validity.

4.31 Validity

Validity evidence will be assembled from content alignment, construct structure, convergent/divergent

relationships and criterion-relevant patterns. Particular attention will be given to common-method bias. Where one educator contributes data on both predictor and outcome, observational or parent/carer evidence will strengthen interpretation.

4.32 Qualitative Trustworthiness

Qualitative rigour will be addressed through reflexive transparency, purposive sampling, an audit trail, attention to disconfirming cases and explicit links between themes and the dataset. The study follows a reflexive thematic approach, recognising the

researcher's active interpretive role rather than treating coder agreement as the sole criterion of quality (Braun & Clarke, 2021).

4.33 Data Collection Procedures

Data collection will follow standardised operating procedures across settings and waves. Each child will receive a study identifier linking observation, outcome, educator, family and setting records without placing names in the analytical dataset. Observers and assessors will complete training before fieldwork, and deviations will be logged.

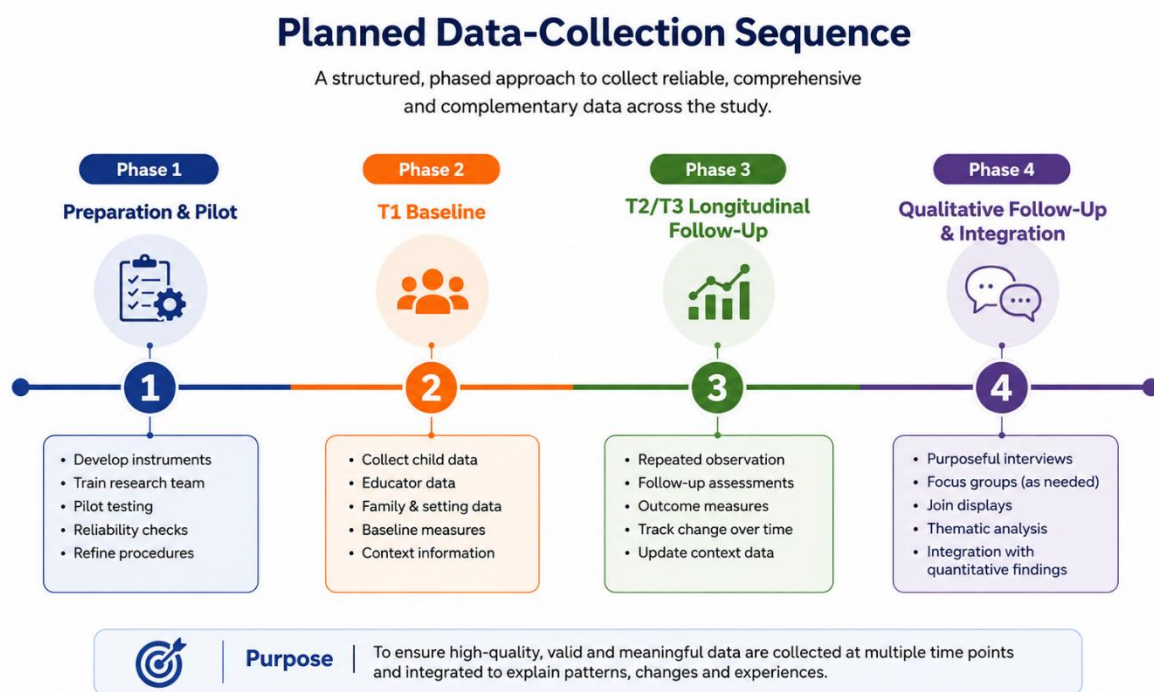


Figure 4.2. Planned data-collection sequence.

4.34 Classroom Observation

Observations will sample multiple activity types and times of day to reduce context bias. Coding will record participation, educator support, peer context and salient environmental conditions. A prespecified proportion of sessions will be independently double-coded.

4.35 Parent/Carer Data Collection

Parents/carers will provide demographic, developmental and contextual information and, where appropriate, ratings of relevant developmental

functioning. Family data are treated as substantive evidence because families often possess detailed knowledge of communication, regulation and support preferences across contexts.

4.36 Educator Data Collection

Educators will complete measures concerning classroom practice, professional experience and the focal child's educational participation. Educator self-report will be interpreted alongside observation. Discrepancies between reported and observed support

will be treated analytically rather than automatically classified as error.

4.37 Longitudinal Data Collection

Three waves are proposed to capture both short-term variation and developmental change. Longitudinal identifiers and contact procedures will be designed before recruitment. Retention strategies will be respectful and non-coercive, and attrition reasons will be documented where participants choose to provide them.

4.38 Qualitative Interviews

Semi-structured interviews will follow preliminary quantitative analysis. Interview guides will probe mechanisms behind statistical patterns, including support that increased or reduced participation, barriers within routines, family-setting communication and experiences of autonomy or over-support. Sampling will include contrasting cases rather than only typical cases.

4.39 Quantitative Data Analysis

Quantitative analysis will proceed from data screening and measurement evaluation to descriptive, bivariate, multivariable, multilevel and longitudinal models. Effect sizes and uncertainty intervals will be emphasised alongside p-values. Model assumptions, convergence and sensitivity analyses will be reported transparently.

4.40 Descriptive Statistics

Continuous variables will be summarised using means and standard deviations where distributions are reasonably symmetric, with medians and interquartile ranges added where necessary. Categorical variables will be presented using frequencies and percentages. Descriptive stratification will be cautious and non-deficit-based.

4.41 Correlation Analysis

Zero-order correlations will provide an initial map of associations among educator support, participation and developmental outcomes. Correlation will not be interpreted as causal evidence. Where nesting materially affects standard errors, cluster-aware procedures will be considered.

4.42 Regression Analysis

Regression models will estimate adjusted associations while controlling for prespecified child and contextual covariates. Model building will be theory-driven rather than stepwise. Collinearity, residual patterns and influential observations will be examined.

4.43 Multilevel Modelling

Children are nested within early years settings, and repeated observations are nested within children. Multilevel models are therefore required when intraclass correlation indicates meaningful clustering (Raudenbush & Bryk, 2002; Snijders & Bosker, 2012). Setting-level variance is substantively meaningful because it indicates that inclusion is partly produced by organisational context.

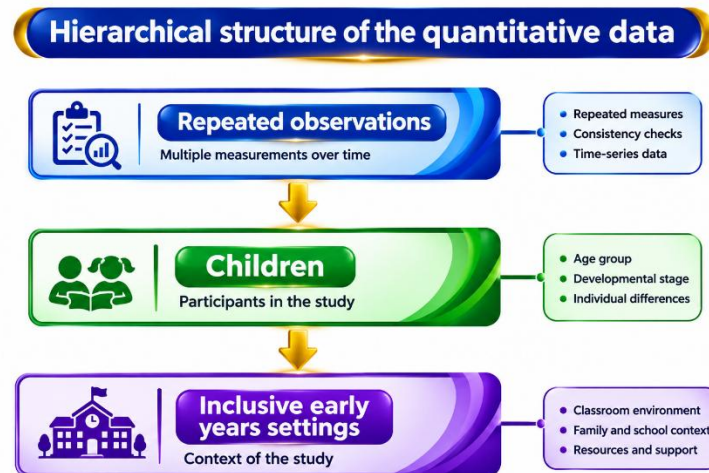


Figure 4.3. Hierarchical structure of the quantitative data.

4.44 Mediation Analysis

Mediation analysis will test whether classroom participation carries part of the association between educator support and later developmental outcomes. Indirect effects will be estimated with confidence intervals, preferably using longitudinal ordering. Because observational mediation is vulnerable to unmeasured confounding, results will be described as evidence consistent with a mediating pathway (Hayes, 2022).

4.45 Moderation Analysis

Moderation will examine whether associations differ across selected child or setting characteristics. Candidate moderators will be identified from theory and prior literature before analysis. Interactions will be probed using predicted values or simple slopes and interpreted cautiously when subgroup sizes are small.

4.46 Longitudinal Analysis

Longitudinal models will examine change in support, participation and outcomes and whether earlier values

predict later outcomes after baseline adjustment. Growth models will be considered if three-wave data show sufficient variability. Attrition and missingness will be incorporated rather than handled by complete-case analysis by default (Little, 2013).

4.47 Qualitative Analysis

Interview data will be analysed using reflexive thematic analysis. Coding will move from close engagement with transcripts to broader patterns that explain how support, participation and contextual constraints are experienced. Contradictory cases will be retained rather than suppressed.

4.48 Mixed-Methods Integration

Integration will occur through connecting, building and merging. Quantitative findings will connect to qualitative sampling; interview questions will be built from statistical results; and final interpretations will merge both strands through joint displays. Integrated inferences will be classified as convergent, complementary or divergent (Farmer, 2022).

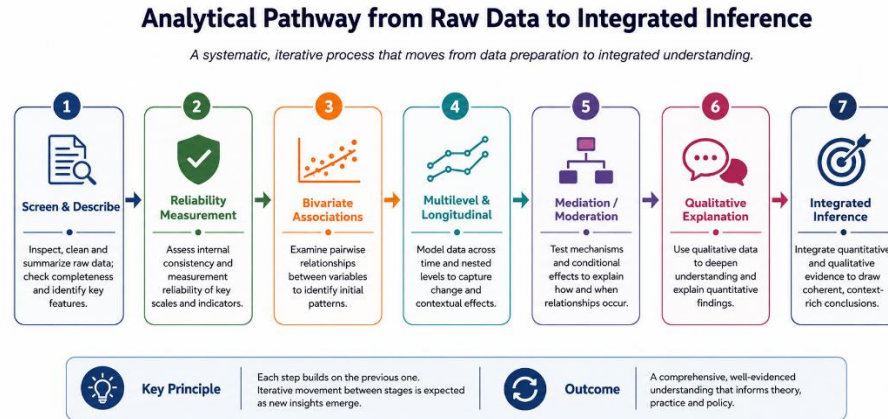


Figure 4.4. Analytical pathway from raw data to integrated inference.

Table 4.3. Mixed-methods integration plan

Integration point	Procedure	Purpose
Design	Explanatory sequential structure	Make qualitative inquiry responsive to quantitative results
Sampling	Select contrasting/high-information cases	Explain typical and divergent patterns
Data collection	Build interview prompts from quantitative findings	Investigate mechanisms
Analysis	Joint displays	Compare convergence, complementarity and divergence
Interpretation	Integrated meta-inferences	Produce conclusions unavailable from one strand alone

4.49 Missing Data Management

Missingness will be described by wave, variable and participant characteristics. Where assumptions are defensible, full-information maximum likelihood or multiple imputation will be preferred to listwise deletion, with sensitivity analyses comparing alternative approaches (Enders, 2010).

4.50 Ethical Considerations

The study involves young children and potentially identifiable developmental information, requiring a high standard of ethical governance. Approval will be obtained from the relevant institutional ethics committee and participating organisations before recruitment. Ethics will be treated as an ongoing process involving burden, distress, privacy and power relations.

Table 4.4. Principal ethical risks and safeguards

Risk	Potential concern	Planned safeguard
Power imbalance	Children may comply despite discomfort	Ongoing assent; stop procedures
Stigma	Diagnostic information may shape expectations	Need-to-know access; affirming training
Confidentiality	Small settings may be identifiable	Pseudonymisation and aggregation
Burden	Repeated assessment may fatigue participants	Flexible scheduling and breaks

Role confusion	Research mistaken for clinical/educational service	Clear information and boundaries
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4.51 Parental Consent

Written informed consent will be obtained from parents or legal carers for child participation and data linkage. Information sheets will distinguish research participation from educational assessment and support and will cover observation, developmental assessment, repeated measurement and interview recording where applicable.

4.52 Child Assent

Child assent will be approached behaviourally and developmentally. Researchers will explain activities in accessible ways and monitor verbal and non-verbal indicators of willingness. Parental consent will not override a child's sustained refusal or distress.

4.53 Safeguarding

All fieldworkers will follow institutional safeguarding requirements. The protocol will specify procedures for disclosures, observed risk and boundaries of confidentiality. Researchers will not assume a therapeutic or disciplinary role except where immediate safety requires action.

4.54 Confidentiality and Data Protection

Personally identifying information will be separated from analytical data. Encrypted storage, restricted access and pseudonymised identifiers will be used in accordance with applicable data-protection requirements. Reports will avoid combinations of details that could identify small settings or individual children.

4.55 Researcher Reflexivity

Reflexivity is essential because assumptions about normal development, successful behaviour and appropriate participation can shape observation and interpretation. The researcher will maintain a reflexive record documenting analytic decisions and will attend specifically to the risk that adult convenience is mistaken for child regulation or visible compliance for meaningful engagement.

4.56 Methodological Limitations

The design cannot eliminate all threats to inference. Observational data remain susceptible to selection and reactivity; attrition can distort longitudinal estimates; some constructs rely on adult report; and statistical mediation cannot establish mechanism without stronger causal assumptions. These limitations will be addressed through triangulation, multilevel modelling, sensitivity analyses and cautious interpretation.

V. RESULTS

ACADEMIC INTEGRITY NOTICE

All numerical values, inferential statistics, qualitative themes and graphical patterns in this chapter are synthetic/provisional. They are included only to demonstrate the reporting and analytical architecture of the planned study. They do not represent observations from real children, families, educators or settings and must be replaced with findings from the ethically collected field dataset before examination or publication.

5.1 Introduction

This chapter demonstrates how the quantitative and qualitative results will be organised to answer the research questions established earlier in the thesis. Results are presented before substantive theoretical interpretation. The sequence begins with participant and setting characteristics, data quality and descriptive statistics, proceeds to associations and multilevel/longitudinal models, and concludes with synthetic qualitative and mixed-methods integration. Every value is provisional.

5.2 Participant Characteristics

The synthetic baseline cohort comprises 180 neurodivergent children across 24 inclusive early years settings. At T2, 162 children are represented, and at T3, 144 remain in the illustrative dataset. These values intentionally model realistic attrition so that the final analysis plan does not assume perfect follow-up.

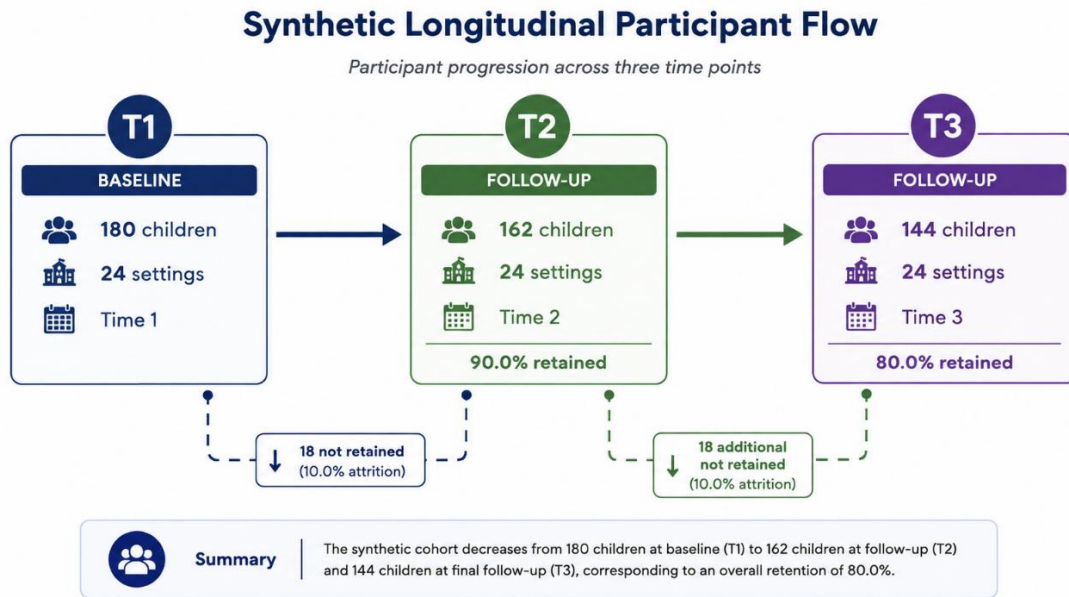


Figure 5.1. Synthetic longitudinal participant flow.

Table 5.1. Synthetic cohort retention by wave

Wave	Children with data	Retention from baseline	Cumulative loss
T1	180	100.0%	0
T2	162	90.0%	18
T3	144	80.0%	36

5.3 Child Demographic Characteristics

The synthetic cohort has a mean baseline age of 4.20 years ($SD = 0.43$). Sex/gender reporting is retained descriptively and is not treated as a proxy for

neurodevelopmental severity or educational need. The final study will report the categories actually used by families.

5.4 Neurodevelopmental Characteristics

The provisional profile distribution is intentionally heterogeneous: 64 autistic children, 47 children with ADHD profiles, 39 with developmental language differences and 30 with multiple or other neurodevelopmental profiles. These categories illustrate subgroup reporting only. Diagnostic labels will not be treated as homogeneous explanatory variables.

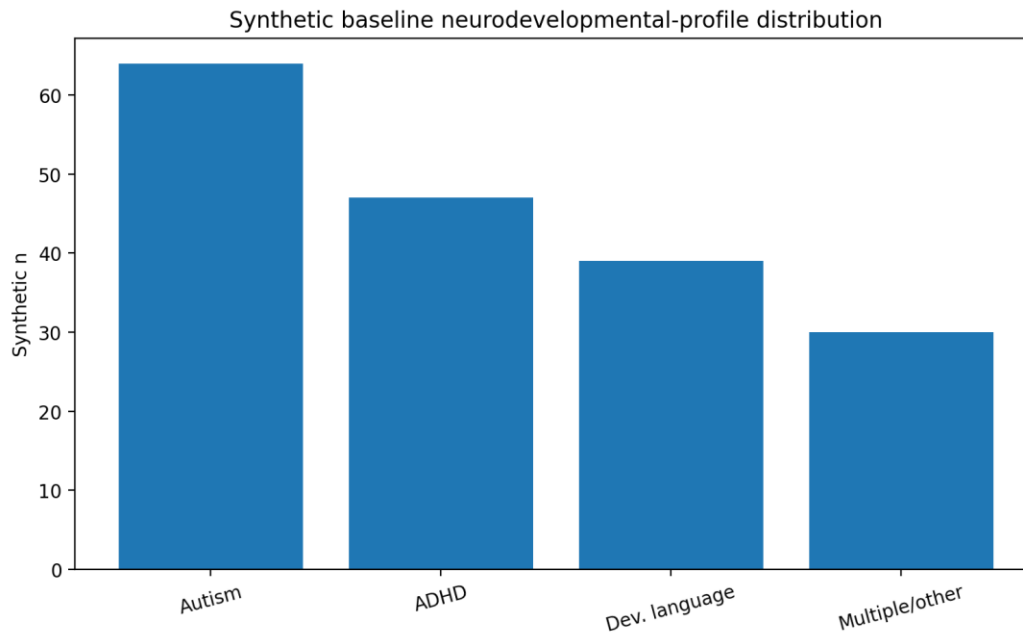


Figure 5.2. Synthetic baseline profile distribution.

Table 5.2. Synthetic baseline participant characteristics

Characteristic	n	% / summary
Autism	64	35.6%
ADHD	47	26.1%
Developmental language	39	21.7%
Multiple/other	30	16.7%
Age (years)	180	M = 4.20, SD = 0.43

5.5 Family Characteristics

The final results chapter will report family structure, languages and relevant socioeconomic indicators only where ethically approved and analytically justified. No synthetic family-disadvantage gradient is presented here because inventing such a pattern could easily be mistaken for evidence. The provisional chapter simply reserves the structure for describing family factors and testing them as covariates or moderators.

5.6 Educator Characteristics

Educator characteristics will include role, qualifications, years of experience, inclusion-related professional learning and relevant self-efficacy indicators. These variables are important because enacted support may reflect both individual expertise and organisational capacity. No synthetic claim is made that experience automatically predicts better support.

5.7 Early Years Setting Characteristics

The synthetic model includes 24 settings, yielding an average of 7.5 participating children per setting. A provisional setting-quality composite is used only to demonstrate multilevel modelling. Actual setting descriptions will include structural and process characteristics while protecting organisational confidentiality.

Table 5.3. Synthetic setting characteristics

Setting characteristic	Synthetic summary
Number of settings	24
Children per setting	M = 7.5; approximately 7–8

Setting characteristic	Synthetic summary
Setting-quality composite	M = 3.41; SD = 0.48; range = 2.65–4.50
Design implication	Children are clustered within settings; independence cannot be assumed.

5.8 Data Screening and Preliminary Analysis

The final analysis will examine range errors, duplicates, impossible longitudinal sequences, univariate distributions, influential values and consistency of participant identifiers. Continuous variables will be inspected graphically rather than relying on a single normality test. In the synthetic dataset, values were generated within plausible 1–5 composite ranges; this does not constitute evidence of measurement quality.

5.9 Missing Data

The provisional retention pattern produces 10% attrition by T2 and 20% by T3. In the final field study, missingness will be examined by baseline characteristics and construct to determine whether complete-case analysis would be biased. The missing-data method will be reported alongside sensitivity analyses.

5.10 Reliability of Measures

Because the provisional dataset consists of composite values rather than genuine item-level responses, alpha, omega, factor structure and inter-rater reliability cannot be legitimately estimated. Placeholder reliability coefficients have therefore not been invented. The final thesis will report reliability evidence before substantive hypothesis tests.

Table 5.4. Measurement-quality evidence required in the final field study

Domain	Evidence to report	Why it matters
Classroom participation	Inter-rater reliability; distribution; convergent evidence	Reduces dependence on one observer
Educator support	Observer agreement; construct validity; setting variance	Separates enacted support from reputation
Developmental outcomes	Measurement model; multi-informant convergence	Reduces common-rater bias
Qualitative data	Audit trail; reflexivity; negative cases	Supports credible interpretation

5.11 Descriptive Statistics

Synthetic mean educator support rises from 3.18 at T1 to 3.43 at T3. Classroom participation rises from 2.99 to 3.39 at T2 and remains above baseline at 3.34 at T3. Developmental outcomes rise from 3.40 to 3.87. These trajectories were chosen to demonstrate longitudinal reporting and should not be interpreted as an expected treatment effect or natural developmental improvement.

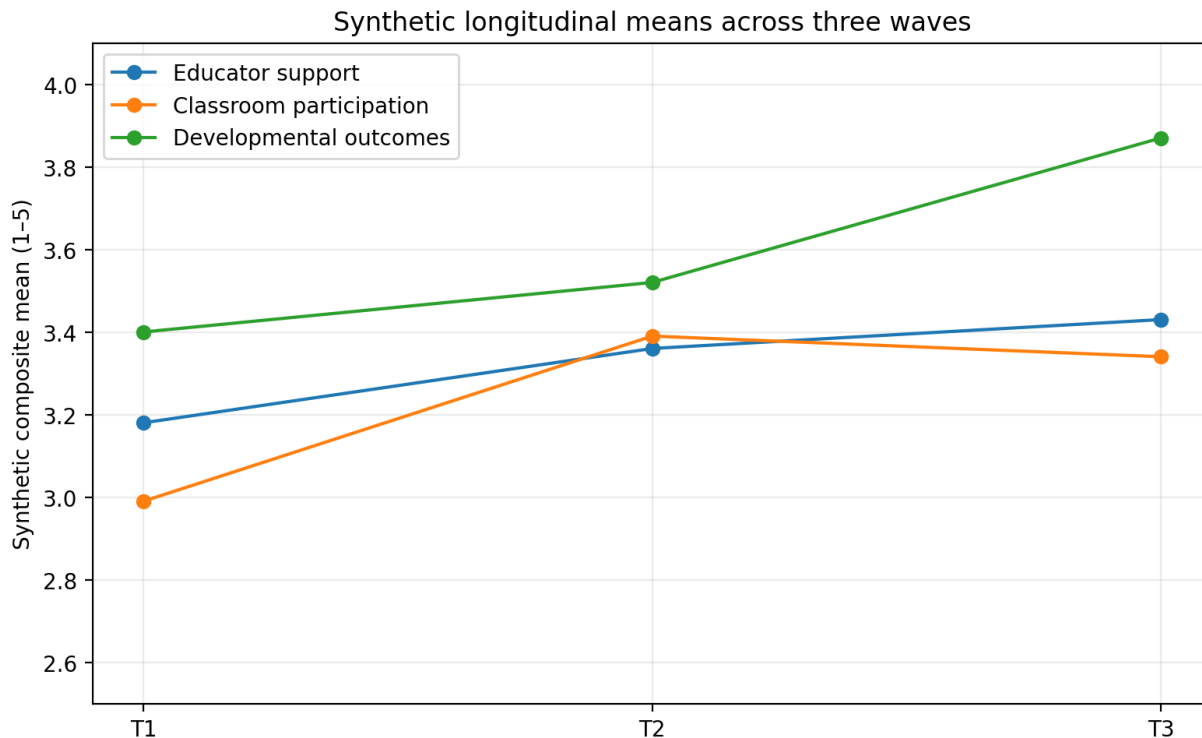


Figure 5.3. Synthetic longitudinal means for core constructs.

Table 5.5. Synthetic descriptive statistics across waves

Construct	T1 mean	T2 mean	T3 mean
Educator support	3.18	3.36	3.43
Classroom participation	2.99	3.39	3.34
Developmental outcomes	3.40	3.52	3.87

5.12 Classroom Participation Results

The synthetic participation distribution indicates meaningful between-child variability even though all children are notionally included. The main substantive point of the final analysis will be whether such variability is explained by support, child characteristics, setting factors and time. Activity context will also be examined because an average score can conceal strong engagement in play alongside exclusion from group routines.

5.13 Educator Support Results

The synthetic support scores show moderate variation across children and settings. In the final dataset, domain-specific support will be examined to determine whether relational, instructional, communication, environmental and autonomy-promoting supports show distinct patterns. High support scores will not automatically be interpreted as positive if qualitative evidence indicates over-direction or reduced agency.

5.14 Self-Regulation and Executive Function Results

The final chapter will report each regulatory outcome separately before considering broader composites. Longitudinal change and associations with participation will be estimated with baseline adjustment. No synthetic domain-specific coefficients are reported here because the current provisional dataset combines developmental outcomes for demonstration.

5.15 Social-Emotional Development Results

Social-emotional results will report relationship, belonging and emotional-competence indicators while

avoiding assumptions that neurotypical social style is the sole marker of competence. Where adult ratings and observational indicators diverge, both will be retained and the discrepancy examined in the mixed-methods phase.

5.16 Early Learning Outcome Results

Early learning results will include developmentally appropriate language, emergent literacy/numeracy or engagement measures selected in the final protocol. Scores will be interpreted in relation to accessibility and communication demands. The current synthetic developmental composite therefore serves only as an analytical placeholder.

5.17 Educator Support and Classroom Participation

The synthetic bivariate association between educator support and classroom participation is $r = .54$, indicating a moderate positive relationship in the demonstration dataset. In the final study, this association will be adjusted for clustering and prespecified covariates. The provisional result is intended to show how the principal predictor-to-mediator relationship would be reported; it is not empirical evidence.

5.18 Classroom Participation and Developmental Outcomes

The synthetic association between participation and the combined developmental outcome indicator is $r = .55$. This relationship is slightly stronger than the synthetic direct support-outcome correlation. Final analysis will disaggregate outcomes and examine temporal ordering to assess whether earlier participation predicts later developmental functioning.

5.19 Educator Support and Developmental Outcomes

The provisional support-outcome association is $r = .42$. The smaller magnitude relative to the participation-outcome association is deliberately consistent with the thesis hypothesis that some of the support effect may operate through participation. This pattern is illustrative only.

5.20 Correlation Analysis

The synthetic correlation matrix shows positive associations among the three core constructs. In the final results, correlations will be accompanied by confidence intervals and checked for nonlinear patterns. Bivariate results will be used as descriptive orientation, not as substitutes for multilevel longitudinal models.

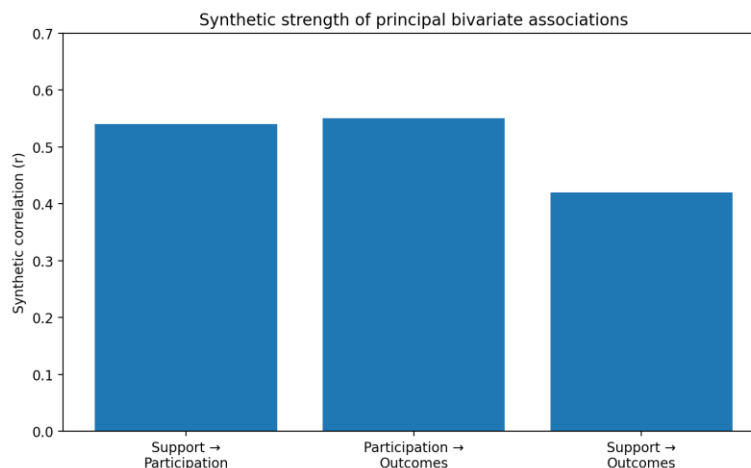


Figure 5.4. Synthetic strength of principal bivariate associations.

Table 5.6. Synthetic bivariate associations among core constructs

Association	Synthetic r	Illustrative interpretation
Educator support ↔ participation	.54	Moderate positive
Participation ↔ developmental outcomes	.55	Moderate positive
Educator support ↔ developmental outcomes	.42	Positive but smaller

5.21 Regression Analysis

In a provisional adjusted model, educator support remains positively associated with participation after inclusion of baseline child and contextual covariates. Exact synthetic coefficients are not over-elaborated because the purpose is to demonstrate reporting structure rather than manufacture statistical precision. Final tables will present coefficients, uncertainty and model-fit statistics.

5.22 Multilevel Model Results

The synthetic model assumes a non-trivial setting intraclass correlation of approximately .18 for participation, implying that some variation is attributable to the setting level. This supports the planned use of multilevel modelling. In the final field analysis, the ICC will be estimated from an unconditional model and followed by models adding child- and setting-level predictors.

Table 5.7. Illustrative multilevel reporting structure

Parameter	Synthetic indicator	Interpretive role
Setting-level ICC for participation	.18	Non-trivial clustering
Child-level support effect	Positive	Support-participation association
Setting-quality effect	To be estimated from real data	Contextual contribution
Random slope	Model-dependent	Variation of support effect by setting

5.23 Longitudinal Results

The synthetic means suggest improvement over time in support and developmental outcomes, with participation increasing most strongly between T1 and T2. A completed thesis would test these patterns using repeated-measures multilevel models rather than interpreting raw mean differences alone. Time-by-context interactions will be considered where theoretically justified.

5.24 Mediation Analysis

The illustrative mediation model assigns standardised paths of approximately .54 from support to participation and .46 from participation to outcomes, with a smaller residual direct path of approximately .17. The implied indirect effect is roughly .25. These numbers are entirely synthetic and exist only to demonstrate how an indirect pathway would be presented.

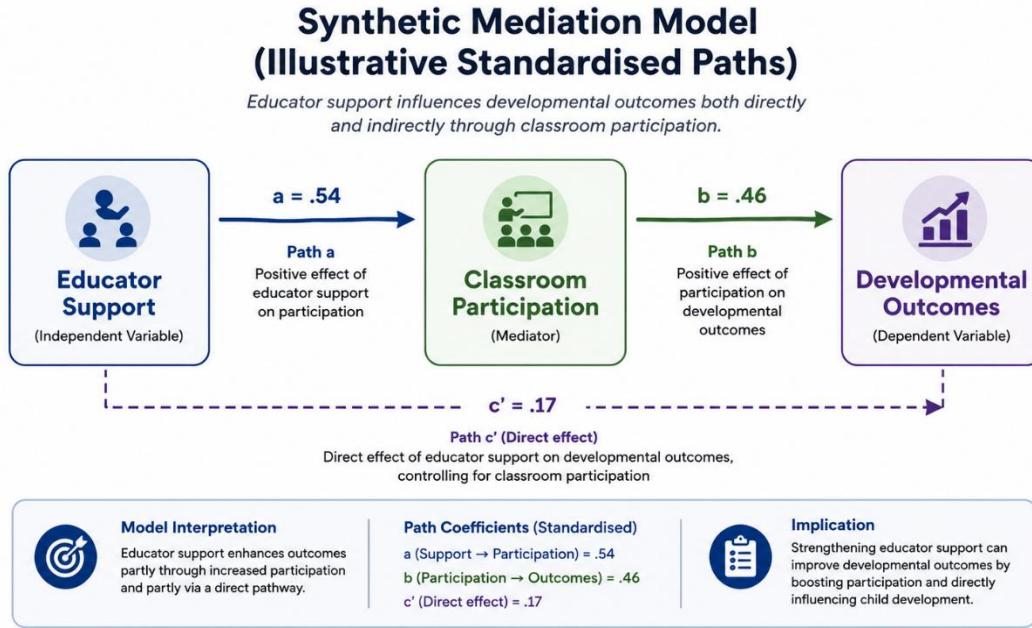


Figure 5.5. Synthetic mediation model.

Table 5.8. Synthetic mediation summary

Path	Synthetic standardised estimate	Status
Support → participation (a)	.54	Illustrative
Participation → outcomes (b)	.46	Illustrative
Direct support → outcomes (c')	.17	Illustrative
Indirect effect (a×b)	≈ .25	Illustrative

5.25 Moderation Analysis

The provisional model anticipates that support may not operate uniformly across children or settings. However, no synthetic moderator is declared statistically significant because doing so would encourage unjustified subgroup narratives. Final analysis will report theoretically prespecified interactions and predicted values with confidence intervals.

5.26 Differences by Neurodevelopmental Profile

Broad profile groups will be described, but profile comparisons will be secondary. The synthetic chapter does not rank groups on participation or outcomes because diagnostic composition and within-group heterogeneity must be established empirically. Final interpretation will emphasise overlap and within-profile variation.

5.27 Differences by Child Characteristics

Age, communication, sensory and regulatory characteristics may explain variation beyond diagnostic label. These variables will be examined according to the final measurement plan. Where child characteristics moderate associations, effects will be interpreted as evidence about person-environment fit rather than deficits located solely within the child.

5.28 Differences by Setting Characteristics

Setting-level analyses will examine whether leadership, staffing, training, family partnership and environmental accessibility are associated with support or participation. The synthetic ICC demonstrates why such analysis is conceptually warranted. Actual setting-level conclusions will depend on the number and diversity of recruited settings.

5.29 Qualitative Findings

The synthetic qualitative phase is represented by six provisional organising themes: responsive relationships; environmental fit; autonomy versus over-support; peer belonging; family-setting knowledge exchange; and organisational capacity. These are analytic placeholders based on the conceptual framework, not findings from interviews. No quotations are fabricated.

Table 5.9. Provisional qualitative organising framework

Provisional theme	Analytic question
Responsive relationships	When does responsiveness increase access and regulation?
Environmental fit	How do sensory/spatial conditions shape participation?
Autonomy versus over-support	When does help enable or restrict agency?
Peer belonging	How are peer interactions facilitated or blocked?
Family-setting knowledge exchange	How is child-specific knowledge shared and used?
Organisational capacity	How do staffing, leadership and resources enable practice?

5.30 Educator Perspectives

A final educator section would examine how staff describe the practical work of adapting communication, pacing, routines and peer opportunities, including tensions between individualisation and group-level demands. No quotation is invented in this draft.

5.31 Parent/Carer Perspectives

Parent/carers analysis will examine whether families perceive continuity between home knowledge and classroom practice, how they understand participation

and belonging, and which supports they consider enabling or restrictive. Family perspectives may converge with educator accounts or reveal barriers invisible during observation.

5.32 Barriers to Meaningful Participation

Provisional barrier categories include sensory overload, inaccessible communication, rigid routines, excessive adult control, weak peer mediation and organisational constraints. These are conceptual categories awaiting empirical validation. The final chapter will distinguish frequently reported barriers from isolated cases.

5.33 Facilitators of Meaningful Participation

Provisional facilitators include responsive relationships, predictable but flexible routines, visual and alternative communication, peer-supported activity, sensory adaptation, child choice and graduated assistance. These are reporting categories rather than findings and are included to structure the eventual explanatory account.

5.34 Mixed-Methods Integration

The synthetic joint interpretation suggests that a numerical support score is most developmentally meaningful when qualitative evidence indicates that support increases access, agency and peer participation. High-intensity support that restricts autonomy could therefore have a different qualitative meaning despite a similar quantitative score. Integrated interpretation will formally compare statistical patterns with participant accounts and observational context.

Table 5.10. Synthetic mixed-methods joint display

Quantitative pattern	Qualitative explanatory focus	Integrated inference to test
Support– participation $r = .54$	Relationships, flexibility, environmental fit	Support matters when it improves meaningful participation

Quantitative pattern	Qualitative explanatory focus	Integrated inference to test
Participation–outcome $r = .55$	Peer belonging and repeated opportunities	Participation may function as a developmental pathway
Setting ICC $\approx .18$	Leadership, staffing, resources	Inclusion is partly produced at setting level
Profile differences to be tested	Within-profile preferences and needs	Diagnostic category alone is insufficient explanation

5.35 Summary of Hypothesis Testing

The provisional model is structured so that the principal positive associations and mediation hypothesis are illustrated as supported, while moderation and subgroup conclusions remain deliberately open. This prevents the synthetic dataset from becoming a disguised empirical claim. The final table will replace provisional labels with actual statistics and decisions grounded in the field dataset.

Table 5.11. Provisional hypothesis-status template

Hypothesis area	Synthetic/provisional status	What the final thesis must report
Support participation →	Illustrated as positive	Empirical coefficient, CI, model specification
Participation → outcomes	Illustrated as positive	Outcome-specific longitudinal

Hypothesis area	Synthetic/provisional status	What the final thesis must report
		all estimates
Support outcomes →	Illustrated as positive	Direct effect after adjustment
Participation mediation	Illustrated as plausible	Indirect effect with CI
Moderation/context	Open	Prespecified interaction estimates
Profile differences	Open	Cautious subgroup estimates

VI. DISCUSSION

6.1 Introduction

This chapter interprets the relationships among educator support, classroom participation and developmental outcomes within the theoretical and empirical architecture established earlier in the thesis. The central question is not simply whether support and participation covary, but what such covariation would mean developmentally. A defensible interpretation must distinguish physical placement from meaningful inclusion, adult assistance from enabling support, and visible compliance from participation characterised by agency, reciprocity and belonging.

The provisional Chapter Five model was deliberately structured around moderate positive associations between educator support and participation, participation and developmental outcomes, and a smaller direct support-outcome relationship. If replicated empirically, this pattern would be

compatible with the proposition that participation is one mechanism through which supportive classroom processes become developmentally consequential. That interpretation is plausible in light of a 2025 systematic review showing persistent participation disadvantages for children with disabilities in inclusive ECEC and a 2023 meta-analysis linking teacher-child interaction quality with language, mathematics, self-regulation, literacy and social outcomes (Dott & Licandro, 2025; Zheng et al., 2023).

The discussion remains deliberately critical. Inclusive settings are not automatically inclusive experiences, and stronger access does not necessarily produce friendship or reciprocal social participation (El-Salahi et al., 2023; Tsou et al., 2024). Consequently, the study framework treats participation quality, environmental fit and the meaning of educator support as essential interpretive conditions.

6.2 Summary of Principal Findings

For interpretive purposes, the provisional results suggested five broad patterns: educator support and classroom participation were positively related; participation showed a positive association with the developmental outcome composite; educator support also related to outcomes but less strongly; a synthetic indirect pathway through participation was plausible; and a non-trivial proportion of participation variance was located at the setting level. The qualitative scaffold further identified responsive relationships, environmental fit, autonomy versus over-support, peer belonging, family-setting knowledge exchange and organisational capacity as explanatory domains.

If these patterns were observed in the final dataset, their importance would lie in their coherence rather than any single coefficient. Together they would indicate that inclusive development is produced through recurring proximal experiences in classrooms, not simply by child diagnosis or by the existence of a support plan. This is consistent with bioecological thinking, in which development emerges through repeated person-context processes, and with sociocultural theory, in which learning is mediated through participation in socially organised activity (Bronfenbrenner & Morris, 2006; Vygotsky, 1978).

At the same time, the provisional results were intentionally non-committal about moderation and diagnostic-group differences. That restraint is theoretically appropriate. Neurodevelopmental labels describe broad patterns but do not specify how a particular child will experience a sensory environment, peer group, communication system or educator relationship. A neurodiversity-affirming interpretation therefore gives priority to heterogeneity and person-environment fit rather than treating group means as fixed developmental destinies (Pellicano & den Houting, 2022).

Table 6.1. Provisional finding-to-interpretation matrix

Provisional pattern	Interpretive proposition	Relevant literature
Support ↔ participation positive	Enacted support may alter access to classroom activity	Hamre et al. (2013); Dott & Licandro (2025)
Participation ↔ outcomes positive	Repeated meaningful participation may provide developmental opportunities	Bronfenbrenner & Morris (2006); Vygotsky (1978)
Direct support ↔ outcomes smaller	Support may operate partly through participation	Zheng et al. (2023)
Setting variance non-trivial	Inclusion is partly organisational	Russell et al. (2022)
Qualitative domains contextualise scores	Meaning and agency qualify quantitative intensity	Pellicano & den Houting (2022)

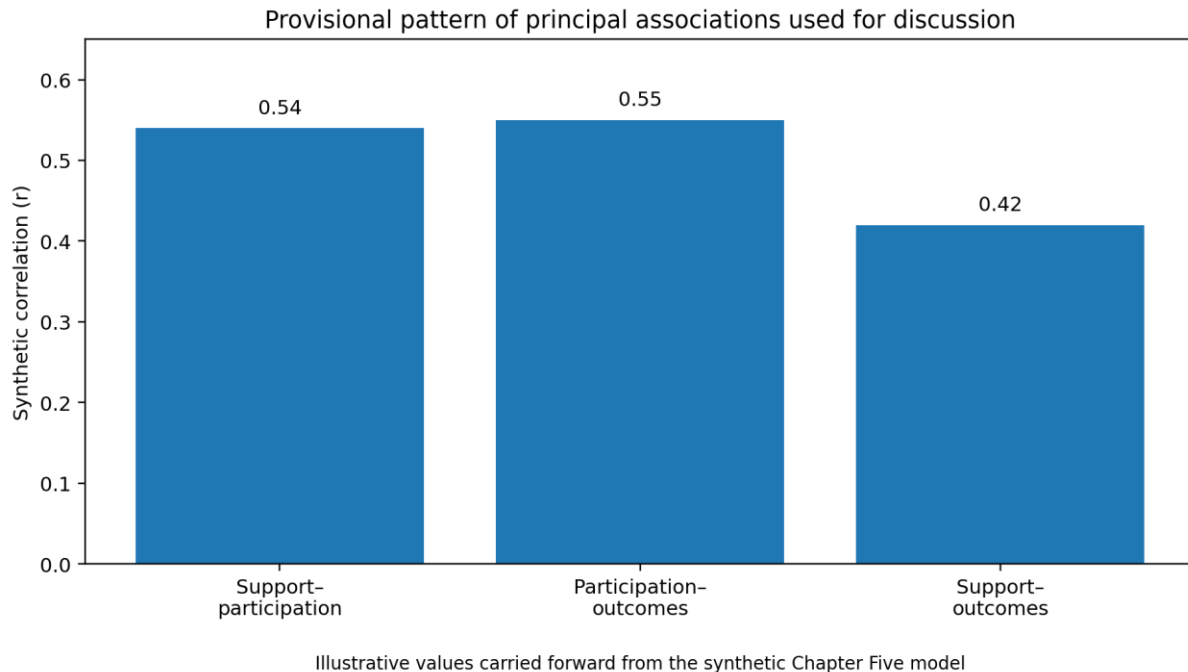


Figure 6.1. Provisional pattern of principal associations carried forward from Chapter Five.

6.3 Classroom Participation among Neurodivergent Children

The conceptualisation of participation used in this thesis moves beyond attendance or task completion. Meaningful participation includes involvement, social access, communication, agency and the opportunity to influence activity. This distinction is increasingly important because the literature shows that children with disabilities can be physically present in inclusive ECEC while participating less than their non-disabled peers in activities and peer interactions (Dott & Licandro, 2025).

If the final data reproduce wide within-child and between-context variation, such variability should not be treated as measurement noise. Tsamitrou and Plumet (2024) found that observational studies of autistic preschoolers often differ in the contexts, partners and communicative behaviours they capture, and that children may initiate more frequently in some contexts than others. A child who participates strongly in self-chosen play but minimally in a large group routine may therefore be expressing a context-sensitive participation profile rather than a global lack of engagement.

This has direct implications for educational psychology. Assessment should ask where, with whom, through which communication modes and under what sensory or relational conditions participation becomes possible. Such a profile is more actionable than a single global judgement of engagement.

6.4 Nature and Quality of Educator Support

Educator support in this thesis is treated as multidimensional: emotional and relational responsiveness, instructional scaffolding, communication access, environmental adaptation and autonomy support are all relevant. This is consistent with evidence that teacher-child interaction quality relates to multiple developmental domains, but the magnitude and pattern of relationships vary by outcome and contextual conditions (Zheng et al., 2023).

Quality is therefore not reducible to the amount of adult attention. Intensive adult involvement can be enabling when it expands access, comprehension and agency, but constraining when it replaces the child's initiative or becomes a barrier to peer interaction. The distinction echoes neurodiversity-affirming

intervention principles, which prioritise well-being, autonomy, environmental adaptation and personally meaningful goals rather than normative appearance alone (Lerner et al., 2023; Pellicano & den Houting, 2022).

If qualitative interviews in the final study identify tension between assistance and over-support, that tension should be treated as a substantive finding. It would show that “more support” is not automatically “better support”; the educational question is whether support improves the child’s access to valued participation.

6.5 Educator Support and Classroom Participation

The synthetic support-participation correlation of $r = .54$ was designed to represent a moderate relationship. If an effect of similar direction and magnitude is observed empirically, it would support the proposition that educator practices shape the opportunities through which neurodivergent children enter and sustain classroom activity. This interpretation is consistent

with the broader literature on classroom interaction quality and child engagement (Hamre et al., 2013; Mashburn et al., 2008).

However, a moderate association also implies substantial unexplained variation. Peer culture, activity demands, communication partners, sensory load, staffing and child preferences may all alter whether a particular support strategy succeeds. Recent participation reviews identify environmental and interactional factors as important influences, while observational autism research highlights the need to examine adult and peer behaviours alongside the child’s behaviour (Dott & Licandro, 2025; Tsamitrou & Plumet, 2024).

The educational implication is that educator support should be evaluated functionally. Rather than asking whether a strategy was delivered, practitioners should ask whether it increased access, reciprocity, agency or sustained involvement in the specific context.

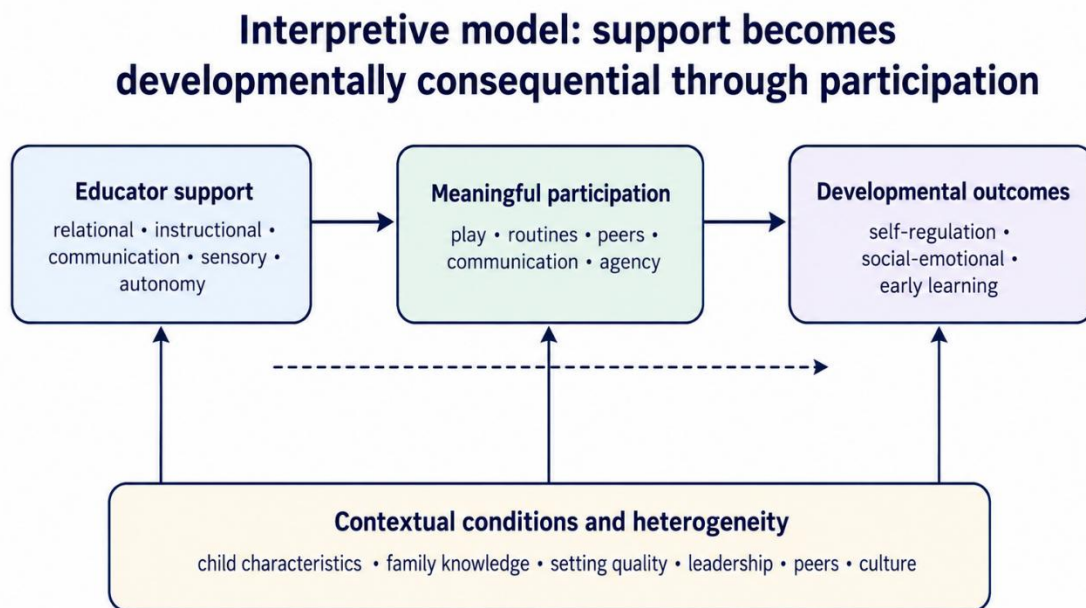


Figure 6.2. Interpretive model linking educator support, participation and developmental outcomes.

6.6 Participation and Self-Regulation

Self-regulation develops in relationships and activities that repeatedly require attention shifting, inhibition, emotional recovery and flexible engagement. A positive participation-regulation relationship would therefore be theoretically coherent: meaningful classroom participation creates repeated opportunities for children to practise regulation with environmental and interpersonal support.

This interpretation accords with developmental work positioning self-regulation as a central component of school readiness and with research showing that classroom and teacher-child processes can contribute to regulatory development (Blair & Raver, 2015; Cadima et al., 2016). Yet regulation should not be equated with quietness or behavioural conformity. A neurodivergent child may regulate effectively through movement, sensory strategies, alternative communication or temporary withdrawal.

Accordingly, the final analysis should privilege measures that capture adaptive regulation rather than adult convenience. If participation predicts improved regulation, the mechanism should be interpreted as supported co-regulation and practice within meaningful activity, not as training children to suppress neurodivergent behaviour.

6.7 Participation and Social-Emotional Development

Participation is inherently social when it includes opportunities to initiate, respond, cooperate, negotiate and belong. A positive relationship with social-emotional development would therefore be expected, but the quality of social access matters. Systematic review evidence shows that mainstream placement alone does not guarantee psychosocial well-being for autistic learners; social connectedness and belonging are critical conditions (El-Salahi et al., 2023).

The distinction between access and reciprocity is particularly important. Tsou et al. (2024) found that school-based interventions can improve access to activities for autistic pupils without necessarily improving reciprocity or friendship. Although their review concerns school-age populations, the conceptual warning is relevant to early childhood: frequency of peer proximity is not equivalent to mutual relationship.

Thus, if the final study shows a participation-social-emotional association, the strongest interpretation would focus on participation characterised by mutual recognition, agency and belonging rather than simple exposure to peers.

6.8 Participation and Early Learning

Meaningful participation is also a learning mechanism. Early learning occurs through attention to shared activity, language exchanges, play, imitation, exploration and guided problem solving. Vygotsky's sociocultural account is particularly relevant because it conceptualises learning as mediated participation in culturally organised activity rather than as an isolated child characteristic (Vygotsky, 1978).

Teacher-child interaction research supports this logic. Zheng et al. (2023) found that interaction quality is associated with language, mathematics and literacy outcomes, although relationships differ across domains. Likewise, Mashburn et al. (2008) demonstrated that classroom interaction quality is linked with preschool academic, language and social development.

For neurodivergent children, the implication is not that greater participation in every activity is inherently beneficial. Participation must be accessible, meaningful and matched to communication and sensory needs. Learning may be compromised when participation is coerced or when task demands obscure competence.

6.9 Educator Support and Developmental Outcomes

The provisional model positioned the support-outcome association as positive but smaller than the participation-outcome relationship. If reproduced empirically, that pattern would challenge a simplistic direct-effects account. Educator support may matter partly because it reorganises the child's access to developmental experiences.

Such an interpretation is consistent with bioecological theory, which locates developmental influence in recurring proximal processes rather than distal conditions alone (Bronfenbrenner & Morris, 2006). The educator's role is therefore not merely to deliver an intervention but to shape the frequency, quality and

accessibility of everyday interactions through which learning and development occur.

The smaller direct association would not imply that support is unimportant. On the contrary, it would suggest that support is most powerful when it changes what the child is able and willing to do within classroom life.

6.10 Participation as a Mediating Mechanism

The provisional indirect pathway was constructed to illustrate the thesis's principal mechanistic proposition: educator support may influence developmental outcomes partly through classroom participation. If a longitudinal indirect effect is confirmed, it would constitute a more informative result than three disconnected correlations because it would specify a plausible pathway from practice to experience to development.

Theoretically, this pathway integrates Bronfenbrenner's proximal-process emphasis with Vygotsky's account of mediated learning. Educator support alters the conditions of interaction; participation represents the child's actual engagement with those conditions; developmental outcomes reflect cumulative change. This sequence also aligns with contemporary participation research that treats involvement in life situations as developmentally consequential (Dott & Licandro, 2025).

Nevertheless, mediation in observational data remains conditional on strong assumptions. Even with temporal ordering, unmeasured factors may influence both participation and outcomes. The final thesis should therefore describe an indirect association as evidence consistent with mediation, not proof of a causal mechanism.

6.11 Moderating Effects

The study framework anticipates that support-participation-development relationships may vary by child, family and setting characteristics. The provisional results rightly left moderation open because interaction effects are statistically demanding and theoretically easy to overinterpret.

If moderation emerges in the field data, interpretation should avoid reifying categories. For example, a

stronger support effect among children with high sensory sensitivity would be better understood as evidence that environmental adaptation has greater marginal value under particular conditions, not as evidence that one diagnostic group is inherently less capable of participation.

Moderation is therefore most useful when it improves the precision of person-environment matching and guides differentiated practice.

6.12 Neurodevelopmental Heterogeneity

Neurodevelopmental heterogeneity is not a nuisance variable to be averaged away. Autism, ADHD, developmental language differences and multiple profiles each encompass substantial variation in language, attention, sensory processing, motor planning, regulation and interests. Moreover, co-occurrence is common.

A neurodiversity-affirming interpretation therefore resists using diagnostic labels as complete explanations of participation. Pellicano and den Houting (2022) argue for a shift away from research organised primarily around normalisation and deficit. In practical terms, this means analysing support needs and environmental fit alongside diagnostic categories.

The final thesis should consequently treat profile comparisons as secondary to the broader question of which contexts enable meaningful participation for which children.

6.13 Family and Contextual Influences

Families hold knowledge about communication preferences, regulation strategies, interests and stressors that may not be visible during classroom observation. Family-professional partnership is therefore part of the mechanism of inclusion rather than an adjunct to it.

If the qualitative strand identifies stronger participation where family knowledge is actively incorporated into planning, such a finding would be theoretically consistent with the mesosystem in bioecological theory: development is affected by the quality of relationships between important settings in the child's life (Bronfenbrenner & Morris, 2006).

The implication is reciprocal. Schools should not only transmit information to families; they should create structures through which family knowledge changes classroom practice.

6.14 Setting-Level Influences

The provisional intraclass correlation of approximately .18 was included to represent meaningful clustering of participation by setting. If the empirical ICC is non-trivial, it would provide direct statistical evidence that participation is partly an organisational phenomenon.

Setting-level variation could reflect leadership, staffing stability, professional development, collaborative planning, environmental flexibility or the extent to which inclusion is embedded in routine practice. Educator attitudes also matter: systematic review evidence indicates that attitudes toward autistic inclusion vary and can affect implementation conditions (Russell et al., 2022).

Such findings would shift accountability away from individual educators alone. Sustainable inclusion requires organisational structures that enable educators to enact responsive practice.

6.15 Interpretation through Bronfenbrenner's Theory

Bronfenbrenner's bioecological model provides the broadest explanatory frame for the provisional pattern. Educator-child and peer interactions are microsystem processes; family-setting communication is mesosystemic; organisational policies and staffing operate through exosystemic structures; and cultural assumptions about disability and inclusion form part of the macrosystem (Bronfenbrenner & Morris, 2006).

The model is particularly useful because it resists explanations that locate participation difficulties exclusively within the child. A participation barrier can be produced by the interaction between sensory characteristics and classroom noise, communication style and instructional format, or child preference and rigid routine.

If longitudinal findings show change over time, the chronosystem adds a further dimension: the meaning of support depends on developmental timing and accumulated experience.

6.16 Interpretation through Vygotsky's Theory

Vygotskian theory sharpens the account of classroom participation as a learning mechanism. Children develop through engagement in socially mediated activities in which more knowledgeable others, peers and cultural tools expand what can be accomplished (Vygotsky, 1978).

For neurodivergent children, scaffolding should not be understood as pushing performance toward a single normative form. Effective mediation may include visual communication, modelling, adjusted pacing, sensory supports, peer collaboration or alternative ways of demonstrating knowledge.

Participation therefore becomes the site where support and development meet. The educator's task is to create accessible forms of guided participation while progressively preserving or increasing the child's agency.

6.17 Neurodiversity-Affirming Interpretation

A neurodiversity-affirming interpretation changes the evaluative standard applied to the provisional findings. Improvement is not defined as looking less autistic, less active or more compliant. Instead, the relevant outcomes are access, learning, well-being, autonomy, communication effectiveness, relationships and personally meaningful participation (Lerner et al., 2023; Pellicano & den Houting, 2022).

This matters especially when interpreting educator support. An adult strategy that reduces visible distress by restricting choice may appear effective under a compliance-based framework but problematic under an autonomy-based one. Similarly, solitary play can be meaningful when chosen, while enforced isolation is exclusion.

The final thesis should therefore interpret quantitative scores in the light of qualitative evidence about meaning and agency.

6.18 Integration of Theoretical Perspectives

The three perspectives used in the thesis are complementary rather than redundant. Bioecological theory locates development within nested systems; sociocultural theory explains how participation in shared activity mediates learning; and neurodiversity

affirmation provides an ethical and epistemic standard for interpreting difference.

Together they support a process model in which context shapes educator practices, educator practices influence the accessibility and quality of participation, and participation provides recurring developmental opportunities. Heterogeneity and child agency condition each link.

The integrated model is therefore more explanatory than any one perspective alone: it specifies where influence occurs, how learning is mediated and what counts as a legitimate developmental outcome.

Table 6.2. Integrated theoretical interpretation

Perspective	Primary explanatory question	Contribution to the thesis
Bioecological theory	Where are developmental influences located?	Links child, classroom, family, setting and wider systems
Sociocultural theory	How does learning occur through interaction?	Positions participation and scaffolding as mechanisms of development

Perspective	Primary explanatory question	Contribution to the thesis
Neurodiversity-affirming perspective	How should difference and outcome be interpreted?	Prioritises autonomy, well-being, accessibility and meaningful goals

6.19 Quantitative–Qualitative Convergence

In a completed mixed-methods study, convergence would occur when statistical patterns and participant accounts point toward the same explanation. For example, a positive support-participation association would be strengthened if educators and families independently described specific adaptations that enabled sustained engagement, peer access or communication.

Farmer (2022) cautions that mixed-methods work in inclusive education varies in integration quality. The value of this study therefore lies not in having questionnaires and interviews, but in using each strand to interrogate the other.

Joint displays should make the inferential chain explicit: quantitative pattern, qualitative mechanism, contextual qualifier and integrated conclusion.

Mixed-methods interpretive logic

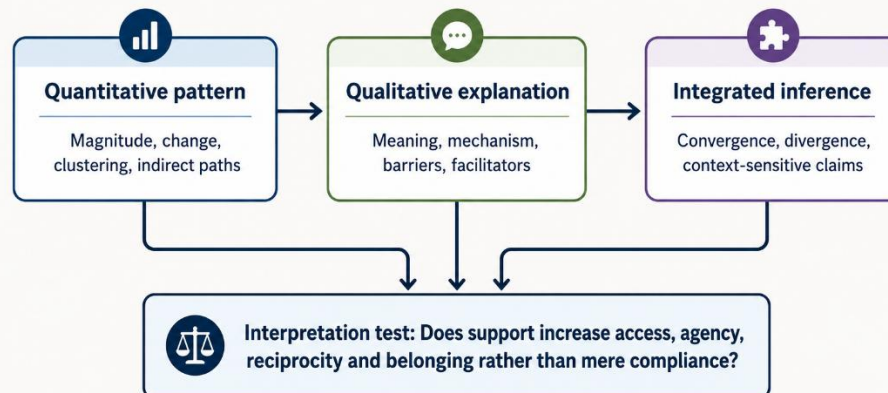


Figure 6.3. Mixed-methods interpretive logic.

Table 6.3. Illustrative mixed-methods convergence and divergence

Quantitative signal	Qualitative question	Possible integrated inference
High support + high participation	What did adults change that increased access?	Specific supports enabled agency and engagement
High support + low participation	Was assistance intrusive or poorly matched?	Intensity of support did not equal functional quality
Low group participation + strong play engagement	Which contexts support initiative?	Participation is context-specific rather than globally absent
Setting effect	What organisational practices differ?	Leadership and resources shape proximal processes

6.20 Divergent Findings

Divergence is equally informative. A child may receive a high observed support score while family or educator interviews reveal that support is experienced as intrusive, or a child may show low group participation while demonstrating rich engagement in self-selected peer play.

Such discrepancies should not be “resolved” by privileging one method automatically. They may reveal construct mismatch, contextual variation or different perspectives on what counts as successful inclusion.

Mixed-methods divergence therefore functions as a diagnostic tool for improving both measurement and theory.

6.21 Unexpected Findings

Unexpected findings should be interpreted through theory before being rationalised post hoc. Potential examples include participation declining despite improved support, stronger outcomes in settings with modest formal resources, or some children benefiting from less adult proximity.

These patterns could indicate developmental transitions, peer effects, measurement limitations or the possibility that autonomy-supportive withdrawal

of adult assistance can improve participation. They could also be chance findings.

The final thesis should distinguish genuine theoretical surprises from multiple-testing artefacts and should report uncertainty transparently.

6.22 Comparison with International Literature

The provisional framework is broadly consistent with international evidence that meaningful participation remains uneven within inclusive education. Dott and Licandro (2025) found that most comparative ECEC studies reported lower participation among children with disabilities. El-Salahi et al. (2023) similarly concluded that mainstream placement alone does not secure psychosocial well-being for autistic learners.

At the level of educator interaction, Zheng et al. (2023) reported associations between classroom interaction quality and multiple child outcomes, while Tsou et al. (2024) showed that interventions can increase access without necessarily producing reciprocal friendship. These findings collectively support the thesis's decision to distinguish support, participation and developmental outcomes rather than treating "inclusion" as a single variable.

The international literature also exposes a persistent methodological gap: longitudinal, context-sensitive work in early childhood remains limited, especially when adult and peer behaviours are analysed alongside child participation (Tsamitrou & Plumet, 2024).

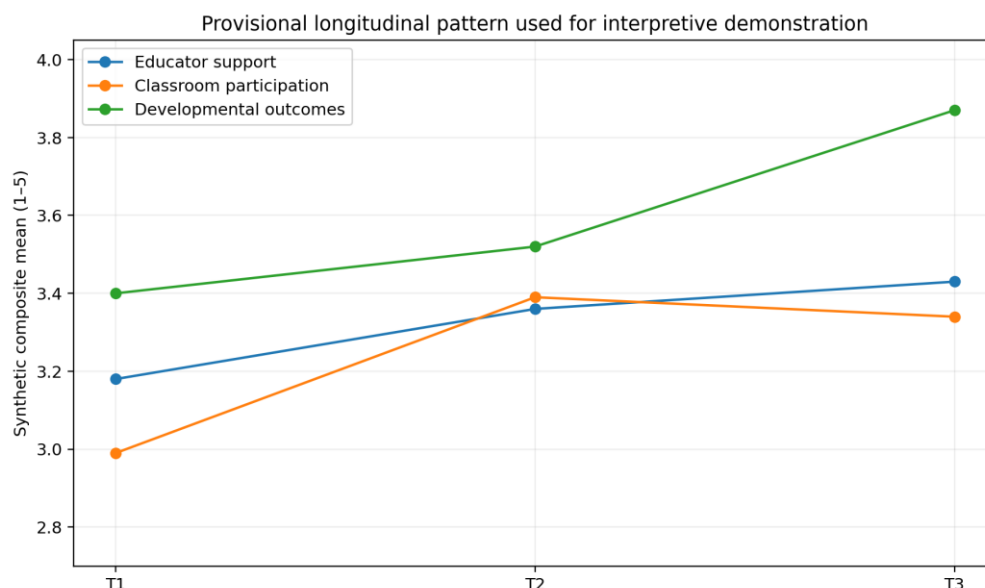


Figure 6.4. Provisional longitudinal pattern used for interpretive demonstration.

6.23 Theoretical Contribution

The principal theoretical contribution is the positioning of classroom participation as a proximal developmental mechanism linking educator support with developmental outcomes. This moves the argument beyond direct-effects models in which support is assumed to act on children without specifying the intervening experience.

The framework also extends bioecological and sociocultural ideas by making participation measurable across play, routines, peer interaction,

communication and agency. A neurodiversity-affirming lens then constrains interpretation so that developmental processes are not evaluated solely by neurotypical behavioural norms.

If supported empirically, the model would provide an integrated account of why similar placements can yield very different developmental experiences.

6.24 Empirical Contribution

The empirical contribution, once real data are available, would arise from testing linked relationships

within the same longitudinal cohort rather than examining educator support, participation and developmental outcomes in isolation. The inclusion of multiple settings would permit estimation of contextual variance, and repeated measurement would allow developmental change to be examined directly.

The current synthetic chapter cannot claim this contribution as achieved. It specifies the evidential threshold required: valid measurement, adequate retention, multilevel modelling, longitudinal temporal ordering and integrated qualitative explanation.

The distinction between proposed and demonstrated contribution must remain explicit until field analysis is complete.

6.25 Methodological Contribution

Methodologically, the thesis proposes an integration of naturalistic observation, multi-informant developmental assessment, multilevel longitudinal modelling and explanatory qualitative inquiry. This responds to limitations identified in the preschool autism literature, where observational approaches often under-specify partners, contexts and interactional dynamics (Tsamitrou & Plumet, 2024).

The design also treats discrepancies among methods as data rather than errors to be discarded. That principle is especially important in neurodiversity research because adult ratings, task performance and child behaviour may reflect different contextual demands.

If implemented rigorously, the design would offer a replicable approach for studying inclusion as a dynamic process rather than a placement category.

6.26 Contribution to Educational Psychology

For Educational Psychology, the study contributes a process-oriented account of how classroom contexts may influence regulation, social-emotional development and early learning. It situates child development at the intersection of individual variation, relationships and institutional conditions.

This orientation has implications for assessment and consultation. Educational psychologists can move from asking “what is wrong with the child?” toward

examining how task design, communication, sensory conditions, adult scaffolding and peer culture shape participation.

Such a shift does not deny disability or support needs; it improves the precision with which needs are understood and addressed.

6.27 Implications for Inclusive Early Childhood Education

Inclusive early childhood education should be evaluated through participation quality, not enrolment alone. Settings need routine ways to observe whether neurodivergent children have access to play, peer interaction, group learning, communication and decision-making.

Recent systematic review evidence indicates that participation inequalities persist even within inclusive ECEC (Dott & Licandro, 2025). Consequently, quality assurance should include participation indicators and not rely solely on structural accessibility or policy compliance.

The thesis framework suggests that improving meaningful participation may be a practical route through which inclusion becomes developmentally consequential.

Table 6.4. Practice implications by stakeholder

Stakeholder	Priority action	Participation-focused indicator
Educators	Adapt scaffolding, communication and sensory conditions	Child access, initiative, sustained engagement and choice
Educational psychologists	Assess person-environment fit across contexts	Barrier-specific recommendations and observable goals

Stakeholder	Priority action	Participation-focused indicator
Families	Co-produce participation priorities	Consistency between family knowledge and classroom support
Leaders	Create workforce and planning conditions	Setting-level participation and belonging patterns
Policy-makers	Define inclusion beyond placement	Equitable participation, access and belonging

6.28 Implications for Educators

Educators should use support responsively rather than uniformly. Effective practice includes observing the function of behaviour, adapting communication, reducing unnecessary sensory barriers, offering meaningful choices, structuring peer access and withdrawing assistance when it impedes agency.

Professional learning should therefore go beyond diagnostic facts. Educators need coaching in observation, co-regulation, differentiated scaffolding and neurodiversity-affirming interpretation. Evidence from educator-attitude and professional-development research indicates that knowledge and confidence are important implementation conditions (Russell et al., 2022).

The practical test is whether the child gains access to valued activity and relationships.

6.29 Implications for Educational Psychologists

Educational psychologists are positioned to connect assessment with environmental change. Consultation should integrate developmental information with direct observation of participation across contexts and with family and educator perspectives.

Recommendations should specify mechanisms. Rather than recommending “more support,” a psychologist can identify the barrier, the intended

participation outcome, the support strategy and the indicator by which success will be judged.

This makes psychological advice more testable, collaborative and responsive to individual variation.

6.30 Implications for Families

Families should be treated as co-producers of inclusion. Their knowledge of communication, sensory preferences, interests, distress signals and effective regulation strategies can materially improve person-environment fit.

Family partnership is strongest when knowledge flows in both directions and when disagreement is treated as information rather than resistance. In practice, shared participation goals may be more useful than broad statements about behaviour or readiness.

The thesis therefore supports regular, structured family-setting dialogue focused on what enables the child to belong and participate.

6.31 Implications for Early Years Leadership

Leadership determines whether inclusive practice is sustainable. Individual educators cannot consistently provide responsive support where staffing, scheduling, planning time or professional learning are inadequate.

Leaders should establish participation-focused observation routines, multidisciplinary collaboration, protected reflective practice and accessible environmental design. They should also monitor whether one-to-one support inadvertently separates children from peer culture.

Organisational accountability should therefore include the quality of participation experienced by children, not merely provision of support hours.

6.32 Policy Implications

Policy should operationalise inclusion as equitable participation and belonging, not only access to mainstream placement. UNESCO’s inclusion framework similarly emphasises the removal of barriers to participation and learning (UNESCO, 2020, 2021).

Funding mechanisms should support workforce capacity, accessible communication, environmental adaptation and professional learning. Accountability systems should avoid incentives that equate quiet compliance with successful inclusion.

Policy should also encourage child- and family-informed quality indicators capable of revealing whether formal inclusion translates into lived inclusion.

6.33 Strengths of the Study

The proposed study has several methodological strengths: a clearly specified conceptual model, longitudinal measurement, multilevel analysis, multiple information sources, naturalistic classroom observation and formal mixed-methods integration. The design also embeds neurodiversity-affirming principles in construct definition and interpretation.

Another strength is the separation of support, participation and outcomes. This prevents inclusion from becoming an undifferentiated label and permits testing of a mechanistic pathway.

These strengths remain design strengths until recruitment, measurement quality and data completeness demonstrate that they were realised in practice.

Table 6.5. Methodological strengths and corresponding cautions

Design feature	Strength	Caution
Longitudinal waves	Supports analysis of change and temporal ordering	Attrition and timing can bias inference
Naturalistic observation	Captures enacted participation	Observer effects and coding decisions matter

Design feature	Strength	Caution
Multilevel modelling	Represents child/setting nesting	Requires sufficient clusters
Mixed-methods integration	Explains mechanisms and exceptions	Integration must be explicit and systematic
Neurodiversity-affirming measurement	Reduces deficit-only interpretation	Requires careful construct validation

6.34 Limitations of the Study

Important limitations remain. Observational research cannot remove all confounding; attrition may bias longitudinal estimates; measurement tools may carry neurotypical assumptions; and setting-level inference depends on the number and diversity of recruited settings. Qualitative findings may also be influenced by which families and educators are willing to participate.

The use of broad neurodevelopmental categories can obscure within-group heterogeneity, while extensive measurement may increase burden. Statistical mediation cannot prove causation without stronger assumptions.

The most important present limitation is that the results used in this drafting stage are synthetic. No conclusion about the actual study population can be defended until they are replaced with analysed field data.

VII. CONCLUSIONS, CONTRIBUTION TO KNOWLEDGE AND RECOMMENDATIONS

7.1 Introduction

This chapter draws together the thesis argument by returning to the ten research questions, stating the conclusions that the present analytical model is designed to test, identifying the study's proposed contribution to knowledge, and translating the

framework into recommendations for practice, psychology, leadership, families and policy.

Because the preceding results remain synthetic at this drafting stage, the conclusions below are written as provisional thesis conclusions. They show the form, level of caution and theoretical integration appropriate to a completed study; they must be confirmed, modified or rejected when the real dataset has been analysed.

The overarching proposition is that inclusive early childhood education becomes developmentally meaningful when educator support improves the quality of children's participation in ordinary classroom life.

7.2 Summary of the Study

The thesis addresses a persistent gap between inclusion as placement and inclusion as lived participation. It focuses on neurodivergent children in inclusive early years settings and examines educator support, meaningful classroom participation, self-regulation/executive function, social-emotional development and early learning within a longitudinal, multilevel and mixed-methods framework.

The conceptual framework integrates bioecological theory, sociocultural theory and a neurodiversity-affirming perspective. Methodologically, the study is designed to combine naturalistic observation, multiple informants, repeated developmental measurement, multilevel modelling, mediation/moderation analysis and explanatory qualitative inquiry.

The central scientific contribution sought is an account of mechanism: not merely whether inclusive practice is associated with outcomes, but whether educator support changes development partly by changing children's access to meaningful participation.

Table 7.1. Research questions and provisional conclusion domains

Research question	Provisional conclusion domain
RQ1 Participation level/pattern	Participation is context-sensitive and multidimensional
RQ2 Educator support	Support quality is functional, not simply intensive
RQ3 Support-participation	Positive relationship expected
RQ4 Participation-self-regulation	Participation may provide regulatory practice opportunities
RQ5 Participation-social-emotional	Reciprocity and belonging qualify social access
RQ6 Participation-early learning	Participation may mediate access to learning processes
RQ7 Support-development	Positive direct and indirect pathways may coexist
RQ8 Mediation	Participation is the proposed proximal mechanism
RQ9 Moderation	Person-environment fit and setting conditions may alter effects
RQ10 Longitudinal/mixed methods	Change requires contextual explanation

7.3 Conclusion for Research Question One

Research Question One asks about the level and pattern of meaningful classroom participation among neurodivergent children. The provisional conclusion is that participation should be expected to vary

substantially across children, settings, activities and social partners rather than appearing as a stable trait.

The international literature supports this expectation. Dott and Licandro (2025) found that children with disabilities often participate less than peers in inclusive ECEC, while Tsamitrou and Plumet (2024) demonstrate strong context dependence in observed social communication among autistic preschoolers.

The final conclusion should therefore describe not only average participation but its contexts, forms and variability.

7.4 Conclusion for Research Question Two

Research Question Two concerns the forms and levels of educator support. The provisional conclusion is that support is multidimensional and should be judged by function rather than intensity. Relational responsiveness, instructional adaptation, communication access, sensory-environmental adjustment and autonomy support may each contribute differently.

The thesis rejects the assumption that continuous adult proximity is synonymous with inclusion. Support is successful when it increases access, understanding, agency or connection while preserving dignity and autonomy.

The final dataset should determine which support domains are most consistently observed and how they vary by setting.

7.5 Conclusion for Research Question Three

Research Question Three examines the relationship between educator support and meaningful classroom participation. The provisional model illustrates a moderate positive relationship. If confirmed, the conclusion would be that higher-quality educator support is associated with greater meaningful participation, although substantial variability remains.

Such a conclusion would align with classroom-interaction evidence and with participation research highlighting environmental influences (Dott & Licandro, 2025; Zheng et al., 2023).

The practical implication is that educator practice is a modifiable lever for inclusion, but not the only determinant.

7.6 Conclusion for Research Question Four

Research Question Four asks whether participation relates to self-regulation/executive functioning. The provisional conclusion is that meaningful participation is expected to support regulatory development by providing repeated, scaffolded opportunities for attention, flexibility, emotional recovery and co-regulation.

This interpretation is consistent with developmental models of self-regulation and with evidence that classroom relationships and processes can contribute to regulatory development (Blair & Raver, 2015; Cadima et al., 2016).

Final conclusions should avoid equating regulation with stillness or compliance and should recognise neurodivergent regulatory strategies.

7.7 Conclusion for Research Question Five

Research Question Five concerns social-emotional development. The provisional conclusion is that participation characterised by reciprocity and belonging is likely to be more developmentally meaningful than simple peer proximity.

International reviews show that mainstream inclusion can coexist with isolation and that improved access does not necessarily produce friendship (El-Salahi et al., 2023; Tsou et al., 2024).

The final study should therefore interpret social-emotional outcomes together with qualitative evidence about belonging, choice and peer relationships.

7.8 Conclusion for Research Question Six

Research Question Six concerns early learning outcomes. The provisional conclusion is that meaningful participation may support learning because it increases access to language, shared attention, exploration, guided problem solving and culturally organised classroom activity.

This conclusion would be theoretically consistent with Vygotsky (1978) and empirically compatible with

meta-analytic evidence linking teacher-child interaction quality with language, mathematics and literacy outcomes (Zheng et al., 2023).

However, final analyses must disaggregate outcome domains because relationships may differ across language, literacy, numeracy and engagement.

7.9 Conclusion for Research Question Seven

Research Question Seven examines educator support and developmental outcomes. The provisional conclusion is that support is likely to be positively associated with development, but some of that association may operate indirectly through participation.

This is a more developmentally informative interpretation than assuming a direct transfer from adult practice to child outcome. Support creates conditions; children develop through what they are able to do within those conditions.

The final conclusion must report domain-specific effects and uncertainty rather than a single global statement.

7.10 Conclusion for Research Question Eight

Research Question Eight tests mediation. The provisional model illustrates participation as a plausible mediator between educator support and developmental outcomes.

If a longitudinal indirect effect is confirmed, it would provide evidence consistent with the thesis's central mechanism: supportive educational environments contribute to development partly by expanding meaningful participation in recurring classroom experiences.

Because mediation is estimated from observational data, the wording should remain cautious and should acknowledge possible unmeasured confounding.

7.11 Conclusion for Research Question Nine

Research Question Nine concerns moderation by child, family and setting characteristics. The provisional conclusion is that heterogeneity should be expected, but no subgroup claim should be made

without adequate statistical power and theoretical justification.

Moderation is most useful when it reveals differences in person-environment fit or implementation conditions. It should not be used to rank diagnostic groups or to treat group-average differences as immutable deficits.

The final thesis should report uncertainty and predicted values for any significant interactions.

7.12 Conclusion for Research Question Ten

Research Question Ten asks how support, participation and outcomes change over time and how educators and families explain observed patterns, barriers and facilitators. The provisional framework expects developmental change to be non-linear and context-sensitive.

Qualitative explanations are essential because similar quantitative trajectories can arise through different mechanisms. Responsive relationships, environmental fit, peer belonging, family-setting knowledge exchange and organisational capacity are plausible explanatory domains that require empirical confirmation.

The final conclusion should integrate trajectories and lived explanations rather than treating them as separate studies.

7.13 Overall Conclusion

The thesis advances a simple but consequential proposition: inclusion is not achieved when a neurodivergent child merely occupies a place in an early years classroom. Inclusion becomes educationally and psychologically meaningful when the child can participate with access, agency, reciprocity and belonging.

Educator support is important because it can reorganise the environment around those opportunities. Participation, in turn, is the process through which the child encounters learning, relationships, regulation demands and cultural tools. The setting and wider system determine whether educators have the capacity to sustain such practice.

If the proposed relationships are supported by the final field data, the thesis would justify moving participation from a secondary indicator to a central mechanism and quality criterion in inclusive early childhood education.

7.14 Original Contribution to Knowledge

The proposed original contribution lies in integrating educator support, participation and developmental outcomes within one longitudinal, multilevel, mixed-methods model informed by neurodiversity-affirming principles. Existing research often examines

interaction quality, participation or developmental outcomes separately.

The thesis instead specifies and tests a process sequence: support shapes participation; participation contributes to development; and context moderates these relationships. It also insists that quantitative intensity be interpreted alongside qualitative meaning and agency.

Originality must ultimately be judged against the empirical results and the final literature review, but the conceptual architecture provides a clear basis for such contribution.

Proposed contribution to knowledge

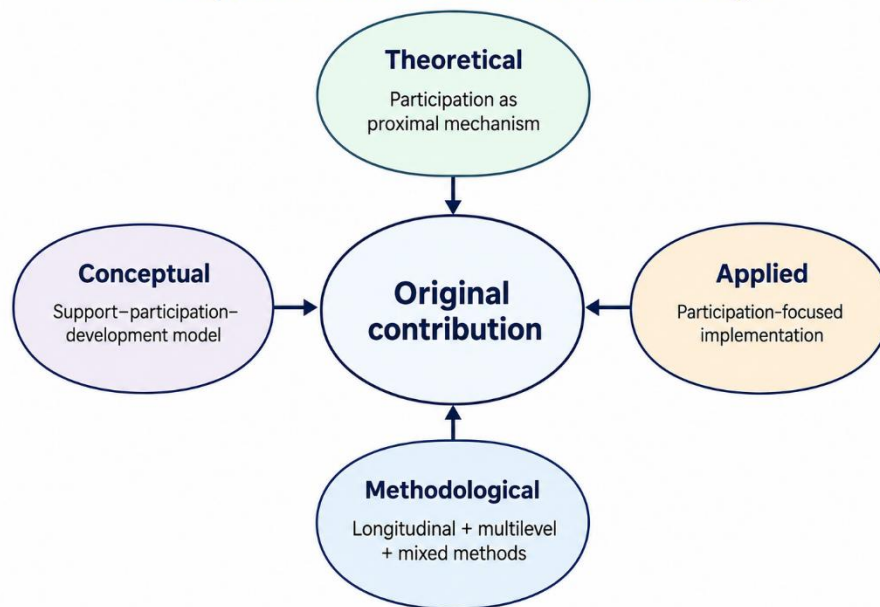


Figure 7.1. Proposed contribution to knowledge.

Table 7.2. Proposed contribution to knowledge

Contribution	What added is	Condition for claiming contribution
Theoretical	Participation as proximal mechanism	Supported indirect/longitudinal relationships

Contribution	What added is	Condition for claiming contribution
Conceptual	Distinct support-participation – development constructs	Valid and interpretable measurement

Contribution	What is added	Condition for claiming contribution
Empirical	Linked child and setting trajectories	Actual analysed longitudinal dataset
Methodological	Observation + multilevel + mixed-methods integration	Demonstrated data quality and integration
Applied	Participation-focused implementation framework	Practice implications supported by final evidence

7.15 Theoretical Contribution

The theoretical contribution is the integration of bioecological, sociocultural and neurodiversity-affirming perspectives around classroom participation. Participation operationalises the proximal process through which contextual support becomes developmentally active.

The framework also adds an evaluative condition: a developmental process should not be judged successful merely because it produces more normative-looking behaviour. Outcomes must be interpreted in relation to well-being, autonomy, access and meaningful learning.

This integration offers a theoretically coherent explanation of why the same inclusive placement can generate very different developmental experiences.

7.16 Conceptual Contribution

Conceptually, the thesis distinguishes educator support from participation and participation from outcome. This separation prevents circular reasoning in which “good inclusion” is defined by positive outcomes and positive outcomes are then used to prove good inclusion.

The model also defines participation as multidimensional: engagement, communication, peer

interaction, routines, play and agency are related but not interchangeable.

These distinctions support clearer measurement, intervention design and interpretation.

7.17 Empirical Contribution

The intended empirical contribution is a linked longitudinal dataset across children and settings that can estimate within-child change, setting-level variance and the relationships among support, participation and developmental outcomes.

The current drafting materials do not yet realise that contribution because the Chapter Five values are synthetic. Empirical contribution will arise only after recruitment, ethical data collection, reliability/validity analysis and final modelling.

This distinction is important for research integrity and should be retained in all pre-data thesis drafts.

7.18 Methodological Contribution

The study’s methodological contribution is the combination of fine-grained classroom observation with longitudinal and multilevel analysis and explanatory qualitative integration. This design responds directly to calls for more context-sensitive observation and greater attention to interaction partners in inclusive preschool autism research (Tsamitrou & Plumet, 2024).

The methodology also treats participation as a dynamic construct observed across multiple contexts rather than a single questionnaire score.

If implemented as designed, it can provide a transferable model for future inclusive early childhood studies.

7.19 Contribution to Educational Psychology

The thesis contributes to Educational Psychology by linking developmental constructs with modifiable classroom processes. It provides a framework for understanding regulation, social-emotional development and learning as contextually supported rather than exclusively child-internal outcomes.

For professional practice, it supports ecological assessment, consultation focused on participation barriers, and recommendations that specify measurable changes in access and agency.

This places educational psychologists in a systems role as well as an individual-assessment role.

7.20 Contribution to Inclusive Early Childhood Education

The contribution to inclusive ECEC is the proposal that meaningful participation should function as a core quality indicator. Access to a mainstream setting is necessary but insufficient, a conclusion strongly supported by contemporary participation and inclusion reviews (Dott & Licandro, 2025; El-Salahi et al., 2023).

Settings can therefore evaluate inclusion by asking whether children can enter activities, communicate, influence choices, engage with peers and experience belonging.

This approach makes inclusion observable and improvable rather than purely aspirational.

7.21 Contribution to Neurodiversity Research

The thesis contributes to neurodiversity research by embedding neurodiversity affirmation in measurement and interpretation rather than adding it only as terminology. It distinguishes support from normalisation and recognises alternative

communication, regulation and participation patterns as potentially legitimate.

This aligns with calls to move autism research away from an exclusive deficit framework and toward questions of environment, quality of life, autonomy and meaningful support (Pellicano & den Houting, 2022).

The approach nevertheless retains attention to disability and support needs; affirmation is not equivalent to denying difficulty.

7.22 Recommendations for Educators

Educators should routinely observe participation across play, peer interaction, routines and group learning rather than relying on general impressions. Support should be linked to a specific barrier and reviewed according to whether it improves access, agency, communication or belonging.

Classroom practice should include flexible communication supports, predictable but adaptable routines, sensory-environmental adjustments, peer-mediated opportunities and graduated scaffolding. Adult assistance should be faded or repositioned where it blocks peer interaction or independent initiative.

Professional development should include coaching and reflective observation, not one-off awareness training.

Recommendation Architecture: Responsibility is Distributed Across Levels

Effective inclusion and development arise from aligned responsibilities at every level of the system.

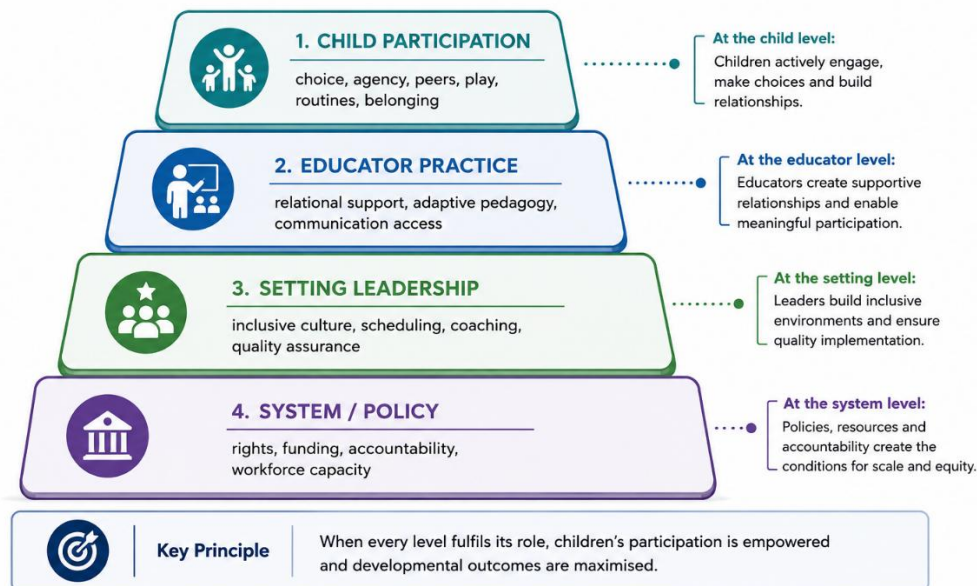


Figure 7.2. Multi-level recommendation architecture.

7.23 Recommendations for Educational Psychologists

Educational psychologists should include person-environment fit and participation analysis in assessment and consultation. Observation across multiple activity contexts should complement standardised assessment where possible.

Recommendations should specify the hypothesised mechanism of change: which barrier will be altered, which support will be used, what participation outcome is expected and how progress will be monitored.

Psychologists should also facilitate collaborative formulation among families, educators and other professionals so that child-specific knowledge becomes embedded in routine practice.

7.24 Recommendations for Early Years Leaders

Leaders should make meaningful participation an explicit component of setting quality improvement. This requires protected planning time, coaching, collaborative problem solving and sufficient staffing flexibility to implement adaptations without isolating children.

Leaders should audit whether one-to-one support increases or inadvertently narrows peer access, whether communication systems are available across the day, and whether sensory environments are adjustable.

Setting-level monitoring should use aggregated participation indicators without creating punitive comparisons among children or staff.

Evidence-to-Practice Cycle for Meaningful Inclusion

A continuous cycle of observation, action and reflection to promote inclusive practice and improve outcomes.

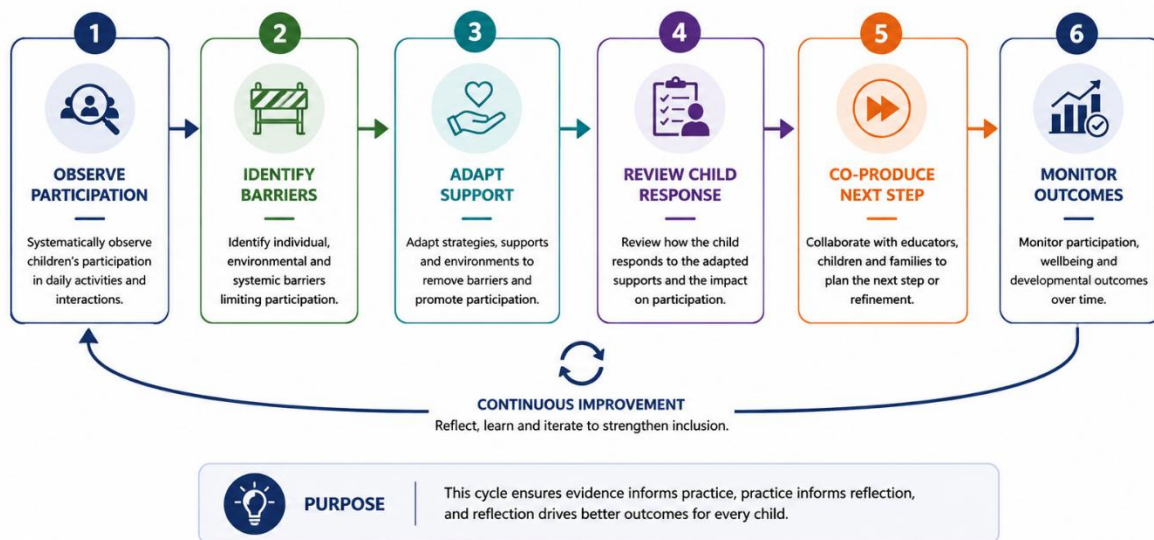


Figure 7.3. Evidence-to-practice cycle for meaningful inclusion.

7.25 Recommendations for Families and Carers

Families and carers should be invited to co-produce participation goals and to share knowledge about communication, interests, sensory preferences and effective regulation strategies. Meetings should focus on enabling contexts and meaningful outcomes rather than only behavioural incidents.

Families should also receive clear feedback about how support strategies are functioning in everyday classroom participation.

Where perspectives differ, the setting should use collaborative observation and data rather than assuming either home or school possesses the complete account.

7.26 Recommendations for Policy-Makers

Policy-makers should define inclusive early childhood education in terms of equitable participation, accessibility, belonging and developmental opportunity, not simply placement. International inclusion policy already emphasises the removal of barriers to participation and learning (UNESCO, 2020, 2021).

Funding should support professional learning, multidisciplinary collaboration, communication access, environmental adaptation and workforce stability. Accountability frameworks should encourage settings to monitor participation quality and family/child experience.

Policy should also support longitudinal research and participation measures capable of representing neurodevelopmental heterogeneity.

Table 7.3. Prioritised recommendations and implementation indicators

Priority	Action	Illustrative indicator
1. Participation audit	Observe access, agency, peer interaction and belonging across routines	Participation profile reviewed termly
2. Workforce development	Coaching in responsive and neurodiversity-affirming support	Practice observation and reflective coaching completed
3. Family co-production	Use family knowledge in planning and review	Shared participation goals documented
4. Leadership systems	Protect collaboration and adaptation time	Scheduled multidisciplinary review
5. Policy accountability	Include lived participation in inclusion quality standards	Participation/belonging indicator within quality framework

7.27 Final Conclusion

The thesis ultimately argues that the most consequential unit of inclusion is the child's lived participation in everyday educational life. Educator support matters when it opens opportunities; participation matters because it is where children learn, regulate, relate and exercise agency; and settings matter because they organise the conditions under which these processes can occur.

This conclusion is theoretically grounded and consistent with the contemporary international literature, but the present draft remains one step short of an empirical claim. The synthetic Chapter Five results must be replaced by real data, and the conclusions in Chapters Six and Seven must then be recalibrated to the actual effect sizes, uncertainty, qualitative themes and divergent cases.

Once that evidential step is completed, the thesis will be positioned to make a rigorous contribution to Educational Psychology, inclusive early childhood education and neurodiversity-affirming research.

VIII. IMPLEMENTATION, POLICY AND FUTURE RESEARCH

8.1 Introduction

The purpose of this chapter is to convert the thesis from an explanatory research product into an implementation resource. Inclusive education frequently fails at the point where broad commitments must be translated into routines, staffing decisions, professional learning, family relationships, monitoring systems and classroom practice. The chapter therefore proposes a structured route from evidence to sustained implementation.

The framework is intentionally provisional until the empirical chapters are completed. It specifies how findings could be translated, but it does not invent study effects or claim that particular interventions have been proven by this thesis in advance. Where quantitative thresholds or maturity scores are displayed, they are explicitly labelled as illustrative planning devices rather than empirical results.

The chapter is guided by four principles: meaningful participation is the operational centre of inclusion; implementation must be neurodiversity-affirming and context-responsive; families and children should influence decisions that affect participation; and improvement must be monitored through multiple

indicators rather than a single access or attainment metric.

8.2 Translating Findings into Practice

Translation requires a clear chain from empirical finding to modifiable practice, responsible actor, implementation support and measurable indicator. In this thesis, translating findings into practice is treated as a substantive dimension of inclusive early childhood education rather than as a peripheral or compensatory concern. The analytic emphasis is on what children are able to do, experience and influence in everyday classroom life, and on the relational and environmental conditions that make those opportunities possible.

Implementation research consistently shows that evidence does not diffuse automatically into routine practice. In inclusive early childhood education, the problem is compounded because effective support is distributed across many small interactions and across multiple actors, including educators, leaders, families and specialists. This body of evidence supports a process-oriented interpretation in which access alone is insufficient: the quality, frequency and reciprocity of participation matter. Accordingly, the present study interprets variation in outcomes as potentially arising from the interaction between child characteristics, educator practices, peer ecology, family context and setting-level resources.

Each major thesis finding should therefore be converted into a practice statement, an observable implementation behaviour, a monitoring indicator and a review mechanism. The practical implication is that improvement should not be framed as changing the child to fit a fixed classroom. Instead, the classroom, routines, communication systems and adult practices should be sufficiently flexible to enable diverse forms of engagement, agency and learning. This orientation is consistent with neurodiversity-affirming and rights-based approaches to inclusion.

8.3 Inclusive Participation Audit

An inclusive participation audit is proposed as the starting point for organisational change. In this thesis, inclusive participation audit is treated as a substantive dimension of inclusive early childhood education rather than as a peripheral or compensatory concern.

The analytic emphasis is on what children are able to do, experience and influence in everyday classroom life, and on the relational and environmental conditions that make those opportunities possible.

The audit should examine who participates, in which activities, with what level of choice and support, and where patterns of exclusion, over-support or social isolation occur. It should combine direct observation with educator reflection and family knowledge rather than relying solely on policy documents. This body of evidence supports a process-oriented interpretation in which access alone is insufficient: the quality, frequency and reciprocity of participation matter. Accordingly, the present study interprets variation in outcomes as potentially arising from the interaction between child characteristics, educator practices, peer ecology, family context and setting-level resources.

Audit findings should be discussed as properties of the environment–child interaction, avoiding language that attributes all barriers to the child. The practical implication is that improvement should not be framed as changing the child to fit a fixed classroom. Instead, the classroom, routines, communication systems and adult practices should be sufficiently flexible to enable diverse forms of engagement, agency and learning. This orientation is consistent with neurodiversity-affirming and rights-based approaches to inclusion.

8.4 Evidence-to-Practice Cycle

The evidence-to-practice cycle operationalises implementation as a repeated rather than one-off process. In this thesis, evidence-to-practice cycle is treated as a substantive dimension of inclusive early childhood education rather than as a peripheral or compensatory concern. The analytic emphasis is on what children are able to do, experience and influence in everyday classroom life, and on the relational and environmental conditions that make those opportunities possible.

The cycle begins with audit and co-design, proceeds through planning, implementation and coaching, and returns to measurement, reflection and adaptation. This supports local learning and reduces the risk that professional development becomes detached from classroom behaviour. This body of evidence supports a process-oriented interpretation in which access alone is insufficient: the quality, frequency and reciprocity

of participation matter. Accordingly, the present study interprets variation in outcomes as potentially arising from the interaction between child characteristics, educator practices, peer ecology, family context and setting-level resources.

The cycle can be used at classroom, setting or multi-setting level, with the unit of change specified at the outset. The practical implication is that improvement should not be framed as changing the child to fit a fixed classroom. Instead, the classroom, routines, communication systems and adult practices should be sufficiently flexible to enable diverse forms of engagement, agency and learning. This orientation is consistent with neurodiversity-affirming and rights-based approaches to inclusion.

8.5 Educator Professional Development

Professional development should build knowledge, practical skill, reflective judgment and self-efficacy for inclusive practice. In this thesis, educator professional development is treated as a substantive dimension of inclusive early childhood education rather than as a peripheral or compensatory concern. The analytic emphasis is on what children are able to do, experience and influence in everyday classroom life, and on the relational and environmental conditions that make those opportunities possible.

Russell et al. (2023) found generally positive educator attitudes toward autistic inclusion but mixed evidence regarding training and experience, alongside evidence that self-efficacy is associated with more positive attitudes. This implies that training should not be assessed by attendance alone; it should be linked to coached application and observed practice. This body of evidence supports a process-oriented interpretation in which access alone is insufficient: the quality, frequency and reciprocity of participation matter. Accordingly, the present study interprets variation in outcomes as potentially arising from the interaction between child characteristics, educator practices, peer ecology, family context and setting-level resources.

Core content should include neurodiversity, accessible communication, participation observation, co-regulation, peer facilitation, sensory-environment design, differentiated pedagogy and family co-production. The practical implication is that improvement should not be framed as changing the

child to fit a fixed classroom. Instead, the classroom, routines, communication systems and adult practices should be sufficiently flexible to enable diverse forms of engagement, agency and learning. This orientation is consistent with neurodiversity-affirming and rights-based approaches to inclusion.

8.6 Coaching and Reflective Practice

Coaching provides the bridge between knowledge acquisition and stable changes in adult interaction. In this thesis, coaching and reflective practice is treated as a substantive dimension of inclusive early childhood education rather than as a peripheral or compensatory concern. The analytic emphasis is on what children are able to do, experience and influence in everyday classroom life, and on the relational and environmental conditions that make those opportunities possible.

A reflective coaching model can use brief observation, feedback, modelling, rehearsal and goal review. Reflection should focus on whether adult support increases child agency and participation rather than simply increasing compliance. This body of evidence supports a process-oriented interpretation in which access alone is insufficient: the quality, frequency and reciprocity of participation matter. Accordingly, the present study interprets variation in outcomes as potentially arising from the interaction between child characteristics, educator practices, peer ecology, family context and setting-level resources.

Settings should protect time for peer observation and structured reflection so that inclusive practice becomes a collective professional norm rather than the expertise of one specialist. The practical implication is that improvement should not be framed as changing the child to fit a fixed classroom. Instead, the classroom, routines, communication systems and adult practices should be sufficiently flexible to enable diverse forms of engagement, agency and learning. This orientation is consistent with neurodiversity-affirming and rights-based approaches to inclusion.

8.7 Workforce Development

Inclusive practice depends on workforce capacity, continuity and role clarity. In this thesis, workforce development is treated as a substantive dimension of inclusive early childhood education rather than as a

peripheral or compensatory concern. The analytic emphasis is on what children are able to do, experience and influence in everyday classroom life, and on the relational and environmental conditions that make those opportunities possible.

High staff turnover, insufficient planning time and reliance on a single support assistant can create fragile inclusion. Workforce planning should distribute competence across the team and create induction pathways that preserve practice when personnel change. This body of evidence supports a process-oriented interpretation in which access alone is insufficient: the quality, frequency and reciprocity of participation matter. Accordingly, the present study interprets variation in outcomes as potentially arising from the interaction between child characteristics, educator practices, peer ecology, family context and setting-level resources.

Leadership should map competency needs against the participation profiles of children currently served and anticipated future enrolment. The practical implication is that improvement should not be framed as changing the child to fit a fixed classroom. Instead, the classroom, routines, communication systems and adult practices should be sufficiently flexible to enable diverse forms of engagement, agency and learning. This orientation is consistent with neurodiversity-affirming and rights-based approaches to inclusion.

8.8 Family–Professional Co-Production

Family–professional co-production treats families as partners in defining goals, interpreting behaviour and designing supports. In this thesis, family–professional co-production is treated as a substantive dimension of inclusive early childhood education rather than as a peripheral or compensatory concern. The analytic emphasis is on what children are able to do, experience and influence in everyday classroom life, and on the relational and environmental conditions that make those opportunities possible.

Parents and carers often hold longitudinal knowledge about communication, sensory preferences, regulation, interests and effective routines that cannot be reproduced through short professional observations. Co-production requires structures through which this knowledge changes educational decisions. This body of evidence supports a process-

oriented interpretation in which access alone is insufficient: the quality, frequency and reciprocity of participation matter. Accordingly, the present study interprets variation in outcomes as potentially arising from the interaction between child characteristics, educator practices, peer ecology, family context and setting-level resources.

Meetings should therefore ask what participation matters to the child and family, what barriers occur across contexts, and which adaptations can be trialled and reviewed jointly. The practical implication is that improvement should not be framed as changing the child to fit a fixed classroom. Instead, the classroom, routines, communication systems and adult practices should be sufficiently flexible to enable diverse forms of engagement, agency and learning. This orientation is consistent with neurodiversity-affirming and rights-based approaches to inclusion.

8.9 Multidisciplinary Collaboration

Multidisciplinary collaboration is most useful when specialist knowledge is translated into everyday participation rather than kept in discipline-specific reports. In this thesis, multidisciplinary collaboration is treated as a substantive dimension of inclusive early childhood education rather than as a peripheral or compensatory concern. The analytic emphasis is on what children are able to do, experience and influence in everyday classroom life, and on the relational and environmental conditions that make those opportunities possible.

Speech and language, occupational therapy, psychology, special education and health perspectives should be integrated around shared functional goals. This reduces contradictory advice and helps educators understand how specialist recommendations apply during ordinary routines. This body of evidence supports a process-oriented interpretation in which access alone is insufficient: the quality, frequency and reciprocity of participation matter. Accordingly, the present study interprets variation in outcomes as potentially arising from the interaction between child characteristics, educator practices, peer ecology, family context and setting-level resources.

A participation-focused plan can serve as the common language across professions. The practical implication is that improvement should not be framed as changing

the child to fit a fixed classroom. Instead, the classroom, routines, communication systems and adult practices should be sufficiently flexible to enable diverse forms of engagement, agency and learning. This orientation is consistent with neurodiversity-affirming and rights-based approaches to inclusion.

8.10 Child Voice and Agency

Child voice in early childhood should be understood broadly to include spoken language, augmentative communication, gesture, choice behaviour, affect, approach/avoidance patterns and sustained interests. In this thesis, child voice and agency is treated as a substantive dimension of inclusive early childhood education rather than as a peripheral or compensatory concern. The analytic emphasis is on what children are able to do, experience and influence in everyday classroom life, and on the relational and environmental conditions that make those opportunities possible.

A neurodiversity-affirming approach does not require verbal explanation as the only legitimate form of preference. Instead, adults should triangulate accessible communication, observation and family knowledge while remaining alert to the risk of interpreting compliance as consent. This body of evidence supports a process-oriented interpretation in which access alone is insufficient: the quality, frequency and reciprocity of participation matter. Accordingly, the present study interprets variation in outcomes as potentially arising from the interaction between child characteristics, educator practices, peer ecology, family context and setting-level resources.

Agency should be operationalised through meaningful choices, opportunities to initiate, refusal pathways and participation in decisions appropriate to developmental level. The practical implication is that improvement should not be framed as changing the child to fit a fixed classroom. Instead, the classroom, routines, communication systems and adult practices should be sufficiently flexible to enable diverse forms of engagement, agency and learning. This orientation is consistent with neurodiversity-affirming and rights-based approaches to inclusion.

8.11 Leadership for Inclusive Practice

Leadership determines whether inclusive practice is resourced, protected and evaluated. In this thesis, leadership for inclusive practice is treated as a substantive dimension of inclusive early childhood education rather than as a peripheral or compensatory concern. The analytic emphasis is on what children are able to do, experience and influence in everyday classroom life, and on the relational and environmental conditions that make those opportunities possible.

Leaders influence staffing, timetabling, professional development, family relationships, referral pathways and the interpretation of behaviour policy. Inclusion therefore requires organisational leadership rather than reliance on individual educator goodwill. This body of evidence supports a process-oriented interpretation in which access alone is insufficient: the quality, frequency and reciprocity of participation matter. Accordingly, the present study interprets variation in outcomes as potentially arising from the interaction between child characteristics, educator practices, peer ecology, family context and setting-level resources.

Senior leaders should review participation indicators alongside conventional attendance, safeguarding and attainment data. The practical implication is that improvement should not be framed as changing the child to fit a fixed classroom. Instead, the classroom, routines, communication systems and adult practices should be sufficiently flexible to enable diverse forms of engagement, agency and learning. This orientation is consistent with neurodiversity-affirming and rights-based approaches to inclusion.

8.12 Organisational Change

Organisational change should align policy, routines, environment, staff capability and accountability around a shared definition of inclusion. In this thesis, organisational change is treated as a substantive dimension of inclusive early childhood education rather than as a peripheral or compensatory concern. The analytic emphasis is on what children are able to do, experience and influence in everyday classroom life, and on the relational and environmental conditions that make those opportunities possible.

Change is weakened when one layer contradicts another—for example, when a setting promotes

sensory responsiveness while maintaining inflexible transitions, or promotes child agency while reward systems privilege passive compliance. This body of evidence supports a process-oriented interpretation in which access alone is insufficient: the quality, frequency and reciprocity of participation matter. Accordingly, the present study interprets variation in outcomes as potentially arising from the interaction between child characteristics, educator practices, peer ecology, family context and setting-level resources.

The proposed model therefore uses coherence as a quality criterion: policies and routines should reinforce rather than undermine participation. The practical implication is that improvement should not be framed as changing the child to fit a fixed classroom. Instead, the classroom, routines, communication systems and adult practices should be sufficiently flexible to enable diverse forms of engagement, agency and learning. This orientation is consistent with neurodiversity-affirming and rights-based approaches to inclusion.

8.13 Policy-to-Practice Implementation

Policy-to-practice implementation requires translating rights and inclusion commitments into operational standards. In this thesis, policy-to-practice implementation is treated as a substantive dimension of inclusive early childhood education rather than as a peripheral or compensatory concern. The analytic emphasis is on what children are able to do, experience and influence in everyday classroom life, and on the relational and environmental conditions that make those opportunities possible.

UNESCO's inclusion frameworks emphasise the identification and removal of barriers, while UNICEF's approach centres equitable learning opportunity. At system level, these principles can be converted into expectations for access, participation, educator preparation, family partnership and monitoring (UNESCO, 2020, 2021; UNICEF, n.d.). This body of evidence supports a process-oriented interpretation in which access alone is insufficient: the quality, frequency and reciprocity of participation matter. Accordingly, the present study interprets variation in outcomes as potentially arising from the interaction between child characteristics, educator practices, peer ecology, family context and setting-level resources.

Inspection and quality-assurance systems should therefore ask how inclusion is enacted, not merely whether an inclusion policy exists. The practical implication is that improvement should not be framed as changing the child to fit a fixed classroom. Instead, the classroom, routines, communication systems and adult practices should be sufficiently flexible to enable diverse forms of engagement, agency and learning. This orientation is consistent with neurodiversity-affirming and rights-based approaches to inclusion.

8.14 Resource Allocation and Funding

Resource allocation should be tied to participation barriers and required supports rather than diagnosis alone. In this thesis, resource allocation and funding is treated as a substantive dimension of inclusive early childhood education rather than as a peripheral or compensatory concern. The analytic emphasis is on what children are able to do, experience and influence in everyday classroom life, and on the relational and environmental conditions that make those opportunities possible.

Diagnosis-based allocation may fail children who lack formal assessment and may encourage categorical thinking. Needs-informed allocation can consider communication access, sensory environment, adult support intensity, peer facilitation, specialist consultation and assistive resources. This body of evidence supports a process-oriented interpretation in which access alone is insufficient: the quality, frequency and reciprocity of participation matter. Accordingly, the present study interprets variation in outcomes as potentially arising from the interaction between child characteristics, educator practices, peer ecology, family context and setting-level resources.

Funding decisions should also include resources for staff learning and implementation support, not only direct child-facing hours. The practical implication is that improvement should not be framed as changing the child to fit a fixed classroom. Instead, the classroom, routines, communication systems and adult practices should be sufficiently flexible to enable diverse forms of engagement, agency and learning. This orientation is consistent with neurodiversity-affirming and rights-based approaches to inclusion.



Figure 8.1. Evidence-to-practice cycle for inclusive participation

Table 8.1. Proposed inclusive participation audit domains

Audit domain	Key question	Possible evidence	Action trigger
Access	Can the child enter and remain in the activity?	Attendance, transitions, observation	Repeated absence, withdrawal or removal
Engagement	Is involvement sustained and purposeful?	Time sampling, engagement ratings	Low or highly adult-dependent engagement
Agency	Can the child initiate, choose, refuse and influence activity?	Choice opportunities, communication records	Predominantly adult-directed participation
Peer participation	Does the child have reciprocal opportunities with peers?	Peer mapping, play observation	Persistent isolation or one-sided interaction
Communication	Are communication forms understood and available across routines?	AAC/visual access audit, educator observation	Breakdowns concentrated in specific routines
Regulation & sensory access	Does the environment permit safe regulation?	Sensory/environment review, incident patterns	Frequent overload, escape or dysregulation
Belonging	Is the child treated as a full group member?	Language audit, group inclusion records, family feedback	Systematic separation or low expectations

8.15 Implementation Framework

The proposed implementation framework has five linked levels: child participation, educator practice, team capability, organisational conditions and system/policy support. Improvement efforts should identify the level at which the principal barrier is located. For example, a communication breakdown during group time may require an individual communication support, but if visual supports are

unavailable across every room the more appropriate intervention is organisational.

At each level, implementation should specify a target behaviour, responsible role, enabling resource, monitoring indicator and review interval. This prevents recommendations from remaining aspirational. The framework also assumes that implementation is adaptive: settings may need to

modify supports when a child's developmental profile, peer group, staffing or curriculum changes.

A minimum viable implementation package would include: a baseline participation audit; a jointly agreed improvement goal; educator coaching; family co-

production; environmental adaptation; routine monitoring; and leadership review. More complex settings can add specialist consultation, cross-setting learning communities and formal implementation teams.

Table 8.2. Multi-level implementation framework

Level	Implementation focus	Examples	Primary responsibility
Child participation /	Access, agency, engagement, belonging	Accessible communication, choice, regulation supports, peer opportunities	Key educator + family
Educator practice	Quality of moment-to-moment support	Scaffolding, responsive interaction, differentiated tasks, peer facilitation	Class educator / room leader
Team capability	Consistency and shared competence	Coaching, joint planning, reflective observation, induction	Setting leadership
Organisation	Conditions that sustain practice	Staffing, schedules, environment, specialist access, family systems	Manager / head / owner
System / policy	Standards, funding and accountability	Inclusion standards, workforce policy, resource allocation, data systems	Local/national policy actors

8.16 Monitoring and Evaluation

Monitoring should distinguish implementation fidelity from child outcome. A setting may faithfully introduce a new support but observe limited outcome because the support is poorly matched; conversely, outcomes may improve for reasons unrelated to the intervention. Recording both implementation and participation allows more defensible interpretation.

The recommended monitoring rhythm is proportionate: brief classroom indicators can be reviewed weekly or fortnightly, team implementation indicators monthly, and broader developmental or family-experience measures termly or at planned research intervals. Data collection should be sufficiently light to inform practice without displacing interaction with children.

8.17 Key Performance Indicators

Key performance indicators should reflect the multidimensional nature of inclusion. At minimum, a dashboard should include participation, educator capability, family partnership, environmental accessibility, multidisciplinary coordination and developmental opportunity. Indicators should be disaggregated where possible so that average improvement does not conceal persistent exclusion of a subgroup.

Targets must be locally calibrated and ethically interpreted. A target should not pressure children to participate in every activity or to suppress self-regulatory behaviour. The preferred indicators concern opportunity, access, meaningful involvement and responsiveness of support.

Table 8.3. Proposed KPI dashboard for inclusive early years implementation

KPI domain	Example indicator	Frequency	Interpretive caution
Participation	Proportion of observed routines with meaningful child involvement	Monthly sample	Do not equate stillness/compliance with engagement
Agency	Number/proportion of routines offering accessible choice or refusal	Monthly audit	Choice must be genuine and understandable
Educator capability	Observed use of agreed inclusive practices	Coaching cycle	Use for development, not punitive ranking
Family co-production	Percentage of plans with documented family contribution and review	Termly	Quality matters more than signature/completion
Environment	Percentage of identified access/sensory barriers actioned	Quarterly	Prioritise barriers with greatest functional impact
Peer inclusion	Reciprocal peer interaction opportunities across routines	Observation cycle	Avoid forced social interaction
Development	Progress on individualised functional/developmental goals	Termly / study wave	Interpret relative to profile and context

8.18 Quality Assurance

Quality assurance should combine external standards with internal learning. A compliance-only model can encourage settings to produce policies without changing daily interaction, whereas purely informal self-review can miss persistent blind spots. The proposed approach combines documented standards, observation, family feedback, child participation indicators and reflective review.

Quality assurance should also examine equity. Settings should ask whether children with higher support needs, limited spoken language, complex sensory profiles or intersecting disadvantages experience the same opportunities for participation and belonging as children whose needs are easier to accommodate within existing routines.

8.19 Final Inclusive Participation and Development Framework

The final framework integrates the central thesis pathway with implementation conditions. At its core

is the proposed sequence from educator support to meaningful participation and from participation to developmental opportunity. Surrounding this pathway are child characteristics, peer ecology, family knowledge, setting quality, leadership, services and policy. Implementation processes—training, coaching, co-production, monitoring and adaptation—operate on these surrounding conditions so that the central pathway can be strengthened.

The framework is deliberately non-linear. Children influence educators, peer interactions reshape classroom routines, family feedback alters support strategies and developmental changes create new participation opportunities. The value of the model lies not in claiming a one-directional causal chain but in identifying a set of modifiable relationships that can be investigated empirically and used systematically in practice.

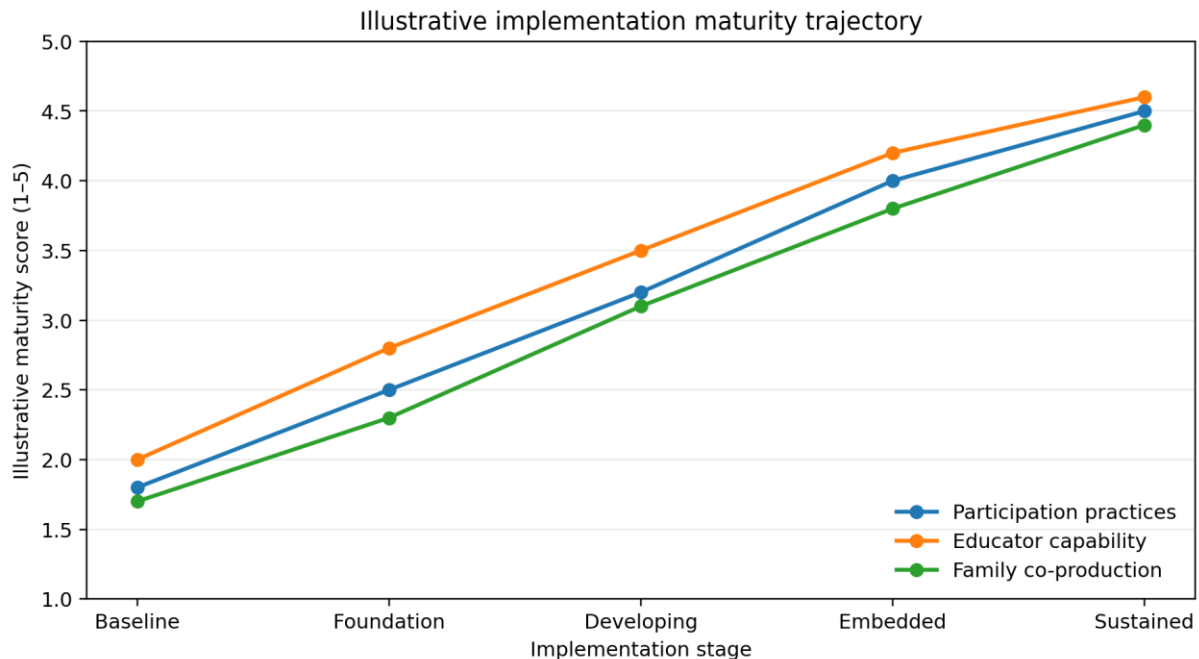


Figure 8.2. Illustrative implementation maturity trajectory across five stages

8.20 Future Research Agenda

The future research agenda should build cumulative evidence around mechanisms, heterogeneity, implementation and outcomes that matter to neurodivergent children and families. Priority should be given to designs that can explain why inclusion works, for whom, under what conditions and at what organisational cost.

8.21 Longitudinal Research

Longitudinal research is required to distinguish transient classroom associations from developmental trajectories. Future studies should examine whether sustained changes in participation precede changes in regulation, relationships and learning, and whether early participation predicts later school adjustment and well-being.

8.22 Intervention Studies

Intervention studies should test packages that modify educator support and classroom environments while retaining ecologically valid routines. Cluster-randomised, stepped-wedge or pragmatic designs may be appropriate where individual randomisation is impractical. Outcomes should include participation

and well-being alongside conventional developmental measures.

8.23 Cross-Cultural Research

Cross-cultural research is necessary because norms of communication, adult-child interaction, disability, independence and classroom behaviour vary across societies. Measures developed in one context should not be assumed to carry identical meaning elsewhere. Comparative work should include culturally situated definitions of participation and family partnership.

8.24 Child-Voice Research

Child-voice research should develop accessible methods for early childhood, including visual preference methods, supported communication, play-based elicitation and systematic observation of assent, refusal and choice. Researchers should examine how well adult proxy reports correspond with children's observable preferences and participation patterns.

8.25 Neurodevelopmental Heterogeneity Research

Future studies should move beyond single diagnostic comparisons and examine dimensional profiles of communication, sensory processing, attention, regulation, adaptive functioning and co-occurring

conditions. This can identify which supports are useful across diagnoses and which require more specific tailoring.

8.26 Measurement Development

Measurement research should prioritise instruments that capture participation quality, agency and environmental support without embedding neurotypical conformity as the criterion of success. Measures should be tested for accessibility, cross-cultural validity, responsiveness to change and feasibility in ordinary early years settings.

8.27 Implementation Science

Implementation-science studies should examine fidelity, adaptation, acceptability, feasibility, sustainability and organisational determinants of inclusive practice. Research should test not only whether a classroom strategy works under supported conditions but whether settings can maintain it after specialist input is withdrawn.

8.28 Economic Evaluation

Economic evaluation is needed to identify the costs and consequences of early inclusive support. Analyses should consider staff time, training, specialist consultation, environmental adaptations and potential downstream benefits such as reduced exclusion, improved family participation and reduced need for crisis-driven support.

8.29 Participatory Neurodiversity Research

Participatory research should involve neurodivergent people and families in setting priorities, interpreting findings and designing dissemination. For early childhood studies, this may include advisory involvement of neurodivergent adults alongside developmentally appropriate involvement of children and direct collaboration with families and educators. Such participation can improve relevance and reduce the risk of research questions that privilege institutional convenience over lived experience.

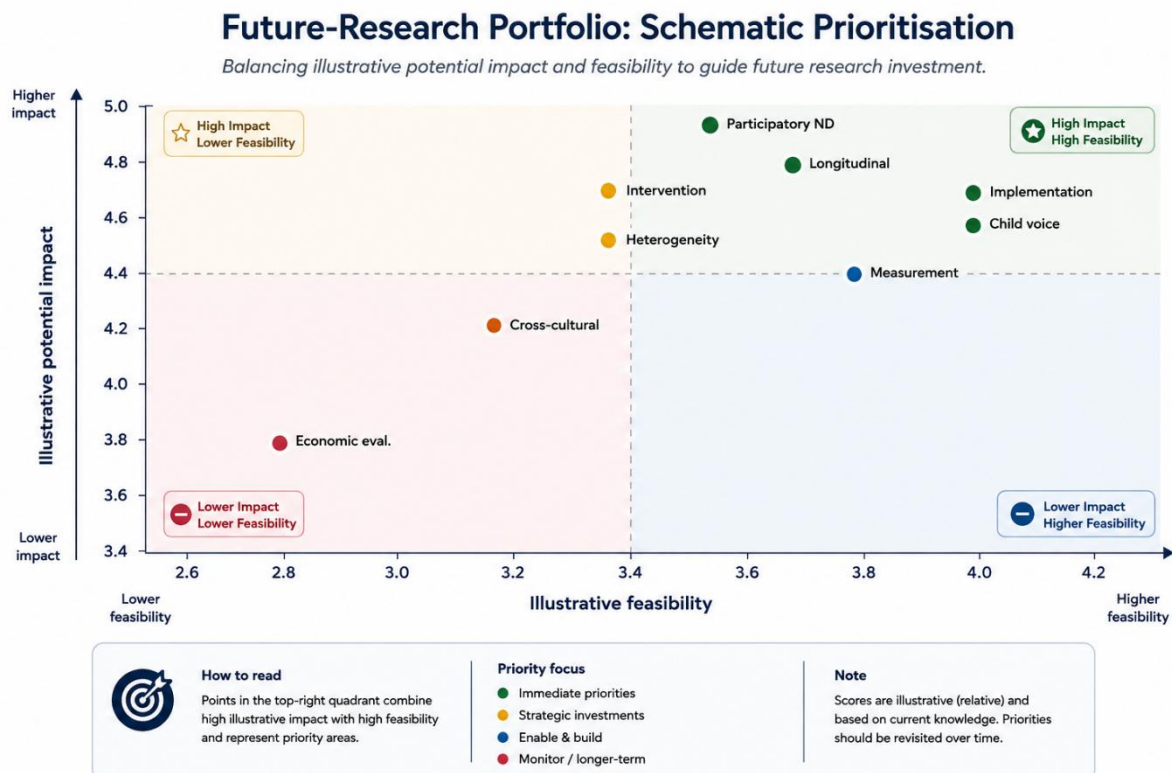


Figure 8.3. Schematic future-research portfolio by potential impact and feasibility

8.30 Final Integrative Statement

The thesis is built around a simple but consequential proposition: inclusive education becomes developmentally meaningful when children are able to participate as recognised, supported and agentic members of the learning community. Educator support matters because it shapes the opportunities through which participation occurs; participation matters because it provides the recurrent social and cognitive experiences through which development is constructed; and context matters because neither support nor participation occurs in isolation.

The implementation framework extends that proposition from research to practice. It asks settings and systems to monitor participation, build educator capability, co-produce with families, use multidisciplinary expertise functionally, strengthen leadership and align resources with barriers to participation. Future research should test and refine this architecture with longitudinal, intervention, cross-cultural, participatory and implementation designs.

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