



PATHWAYS TO EDUCATIONAL EXCLUSION IN SCHOOLS OF MEGHALAYA: THE DISENGAGEMENT–DISCONTINUITY–DROPOUT (DDD) CONTINUUM

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Abstract

School dropout remains a concern in primary education despite improved enrolment. Research shows that dropout is usually a gradual process linked with absenteeism, low achievement, weak participation, and reduced school attachment (Finn, 1989; Balfanz, Herzog, & Mac Iver, 2007; Rumberger, 2011). This study proposes the Disengagement–Discontinuity–Dropout (DDD) Continuum to explain how early disengagement can develop into educational discontinuity and later school dropout. The framework also presents an assessment battery to identify children at risk through indicators of ECCE exposure, school readiness, foundational learning, engagement, household support, continuity, and dropout risk. It is grounded in research on early childhood education, ecological systems, student engagement, and dropout prevention (Bronfenbrenner, 1979; Heckman, 2006; Fredricks, Blumenfeld, & Paris, 2004). The framework is relevant to rural and tribal contexts such as Meghalaya, where poverty, distance, language differences, limited preschool access, and weak learning support affect schooling. It also supports the priorities of the National Education Policy (2020), NIPUN Bharat Mission, and the National Curriculum Framework for the Foundational Stage (2022).

Keywords: *School disengagement; Educational discontinuity; Dropout; School readiness; Early Childhood Education; Foundational Learning; Educational assessment.*

1. Introduction

School dropout is best understood as a gradual process rather than a sudden event. Finn (1989) explains that weak participation reduces school identification, while Rumberger and Lim (2008) and Rumberger (2011) show that dropout is shaped by interacting student, family, school, and community factors. Early warning research identifies absenteeism, low achievement, behaviour problems, and poor progression as strong predictors of withdrawal (Balfanz, Herzog, & Mac Iver, 2007). Engagement studies further show that behavioural, emotional, and cognitive engagement are central to persistence and completion (Fredricks, Blumenfeld, & Paris, 2004; Appleton, Christenson, & Furlong, 2008; Christenson, Reschly,

& Wylie, 2012). Early childhood research also supports this pathway: early investment and skill formation improve later learning, readiness, and socio-emotional development (Heckman, 2006; Cunha & Heckman, 2007), while school readiness and foundational learning are essential for successful schooling (Britto, 2012; World Bank, 2022; UNESCO, 2024). Indian policy similarly prioritises ECCE, foundational literacy and numeracy, continuous assessment, and dropout reduction (Government of India, 2020; Ministry of Education, 2021; NCERT, 2022). This study therefore proposes the *Disengagement–Discontinuity–Dropout (DDD) Continuum*, which links weak ECCE exposure, poor readiness, learning gaps, disengagement, educational discontinuity, and dropout within one preventive framework for rural and tribal primary school contexts.

The study is justified because previous research often treats poverty, attendance, achievement, engagement, school climate, and family background as separate dropout predictors (Rumberger & Lim, 2008; Rumberger, 2011). The DDD Continuum addresses this gap by integrating these predictors into a staged pathway from early disengagement to educational discontinuity and dropout. Its central contribution is *educational discontinuity*, a measurable intermediate stage in which enrolled children show irregular attendance, learning gaps, weak engagement, declining confidence, and reduced school attachment before permanent withdrawal.

2. Review of Literature

Dropout is widely explained as a gradual developmental process shaped by attendance, achievement, engagement, family background, and school conditions (Finn, 1989; Rumberger & Lim, 2008; Rumberger, 2011). Finn's (1989) participation–identification model shows that reduced participation weakens school belonging, while Balfanz, Herzog, and Mac Iver (2007) identify attendance, behaviour, and course performance as powerful early warning indicators. Engagement research further confirms that behavioural, emotional, and cognitive involvement predict achievement, persistence, and completion (Fredricks, Blumenfeld, & Paris, 2004; Appleton, Christenson, & Furlong, 2008; Christenson, Reschly, & Wylie, 2012). Early childhood research also supports the model: early investment and skill formation strengthen later cognitive and socio-emotional outcomes (Heckman, 2006; Cunha & Heckman, 2007), while school readiness and foundational competencies are essential for successful transition and learning (Britto, 2012; NCERT, 2022; World Bank, 2022; UNESCO, 2024). Bronfenbrenner's (1979) ecological theory and Alexander, Entwisle, and Kabbani's (2001) life-course evidence show that family, school, peer, and community

systems shape educational continuity. However, much of the literature treats absenteeism, low achievement, disengagement, repetition, mobility, and weak belonging as separate predictors. The DDD Continuum addresses this gap by conceptualising *educational discontinuity* as an intermediate stage in which enrolled children show irregular attendance, learning gaps, declining confidence, weak engagement, and reduced school attachment before dropout occurs.

3. Theoretical Framework

The DDD Continuum is supported by ecological, developmental, sociocultural, engagement, dropout, and human capital theories. Bronfenbrenner (1979) shows that children's learning is shaped by family, school, peer, and community systems, while Piaget (1952) and Vygotsky (1978) explain the role of active learning, guided support, language, and social interaction. Finn (1989) links participation with school belonging, Rumberger (2011) explains dropout as the result of multiple interacting factors, and Heckman (2006) shows that early educational investment improves later outcomes. Together, these theories support the view that dropout develops gradually from weak early experiences to disengagement, educational discontinuity, and school withdrawal.

4. The Disengagement–Discontinuity–Dropout (DDD) Continuum: A New Conceptual Framework

The DDD Continuum views dropout as a cumulative process rather than a sudden event. Research shows that absenteeism, low achievement, weak progression, and disengagement often appear before withdrawal from school (Finn, 1989; Balfanz, Herzog, & Mac Iver, 2007; Fredricks, Blumenfeld, & Paris, 2004; Rumberger, 2011). The framework therefore links ECCE, school readiness, foundational learning, engagement, continuity, discontinuity, and dropout into one preventive pathway. The framework assumes that children's pathways are shaped by readiness, learning, engagement, family support, school climate, and community conditions. It also emphasises that ECCE strengthens later participation (Heckman, 2006; NCERT, 2022), educational continuity depends on ecological support (Bronfenbrenner, 1979), and early identification is more effective than late intervention (Balfanz et al., 2007).

5. Conceptual Model of the DDD Continuum

The proposed continuum consists of seven sequential developmental stages. The framework proposes that children's educational trajectories (Fig 5.1) may move in either direction depending upon the quality of educational experiences available during the early years.

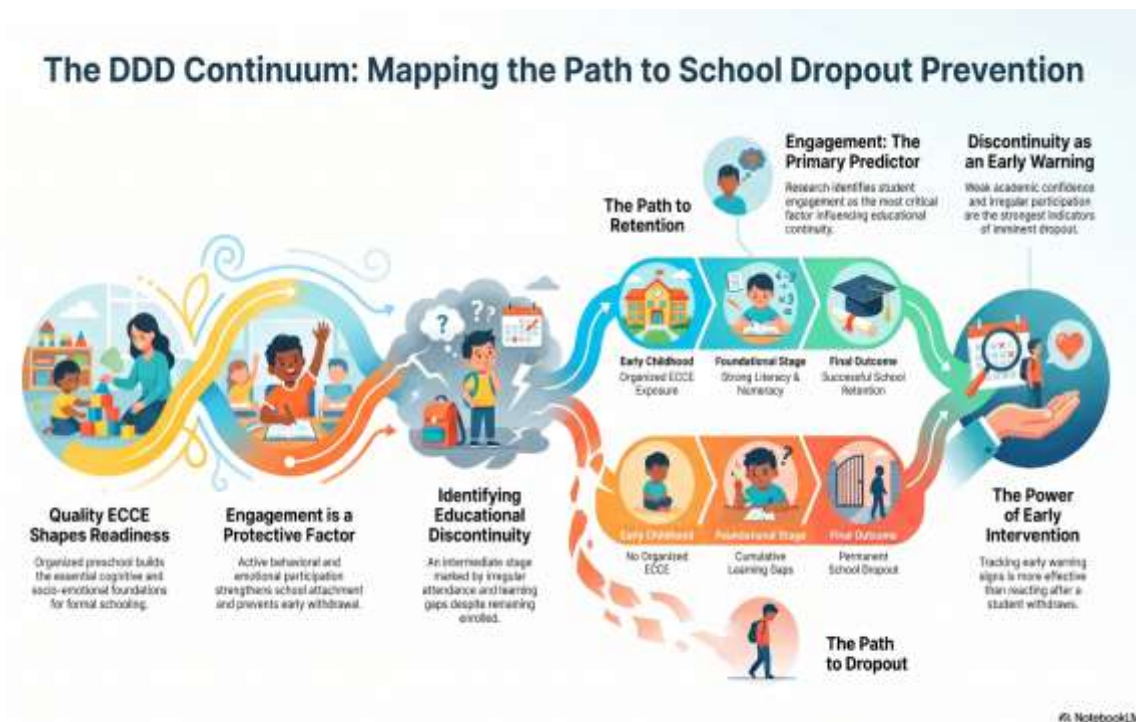


Fig 5.1 The Disengagement-Discontinuity-Dropout Continuum

5.1 Components of the DDD Continuum

Stage I: Organized Early Childhood Education Exposure

Organized ECCE strengthens early language, literacy, numeracy, socio-emotional skills, motor coordination, and self-regulation. Early investment and skill formation improve later learning (Heckman, 2006; Cunha & Heckman, 2007), while school readiness depends on children, families, and schools (Britto, 2012). Quality ECCE through Anganwadi Centres, Balvatikas, nursery, kindergarten, Montessori, and similar programmes therefore prepare children for formal schooling (NCERT, 2022; UNESCO & UNICEF, 2024).

Stage II: School Readiness

School readiness reflects children's preparedness for successful entry into Grade I. It includes physical, language, literacy, numeracy, cognitive, socio-emotional, and learning-disposition domains (Britto, 2012; NCERT, 2022). Equitable access to quality ECCE strengthens readiness and later foundational learning (UNESCO & UNICEF, 2024).

Stage III: Foundational Learning

Foundational learning—literacy, numeracy, and socio-emotional skills—is the basis for later learning and school success (World Bank, 2022; UNESCO, 2024). NEP 2020 and NIPUN Bharat identify foundational literacy and numeracy by Grade III as urgent national priorities (Government of India, 2020; Ministry of Education, 2021). Strong foundations promote

confidence, participation, and continuity; weak foundations increase disengagement and dropout risk.

Stage IV: School Engagement

School engagement includes behavioral, emotional, cognitive, and social participation. Fredricks, Blumenfeld, and Paris (2004) define engagement as behavioral, emotional, and cognitive involvement, while Finn (1989) shows that participation strengthens school identification. Engagement is linked with achievement, behavior, completion, and dropout prevention (Appleton, Christenson, & Furlong, 2008; Christenson, Reschly, & Wylie, 2012), making it a key protective factor in the DDD Continuum.

Stage V: Educational Continuity

Educational continuity means sustained attendance, learning progress, teacher support, family involvement, and school engagement across grades. Early school experiences shape later pathways (Alexander, Entwisle, & Kabbani, 2001), and children's development is influenced by family, school, peer, and community systems (Bronfenbrenner, 1979). Strong continuity therefore supports retention and success.

Stage VI: Educational Discontinuity

Educational discontinuity is the intermediate stage between disengagement and dropout, marked by irregular attendance, learning gaps, declining engagement, low confidence, and weak support. Dropout research shows that absenteeism, low achievement, weak engagement, and poor progression commonly precede withdrawal (Finn, 1989; Balfanz, Herzog, & Mac Iver, 2007; Fredricks, Blumenfeld, & Paris, 2004; Rumberger, 2011). Since children remain enrolled, this stage is critical for prevention.

Stage VII: School Dropout

School dropout is the final stage of educational exclusion, involving permanent withdrawal after prolonged disengagement and discontinuity. It is a cumulative outcome of weak participation, educational disadvantage, and interrupted schooling rather than a sudden decision (Finn, 1989; Alexander, Entwisle, & Kabbani, 2001; Rumberger, 2011).

6. Research Methodology

This study used a mixed-methods design to examine the developmental pathway proposed by the DDD Continuum. Quantitative data explored relationships among ECCE, school readiness, foundational learning, engagement, continuity, and dropout risk, while qualitative data from teachers and parents provided contextual insights. The study was conducted in West Garo Hills District, Meghalaya, a predominantly tribal area with varied access to educational

services. The sample included 800 respondents: Grade I children, Grade III–V children, teachers, parents or guardians, and school heads. Using multistage stratified random sampling, rural and urban government and recognised private schools were represented. Data covered preschool experience, readiness, foundational learning, participation, attendance, home support, and continuity, while interviews explored engagement, learning difficulties, and interrupted schooling. Quantitative data were analysed using descriptive statistics, independent-samples *t*-tests, Pearson correlations, and multiple regression. Qualitative data were analysed thematically. Ethical approval was obtained, participation was voluntary, consent was secured, confidentiality was maintained, and children's identities remained anonymous.

7 . Major Findings

The study developed and initially validated the DDD Assessment Battery and proposed the DDD Continuum to explain children's movement from early childhood education exposure to school retention.

Psychometric Findings

The DDD Assessment Battery showed good reliability and validity. The instruments were consistent in measuring children's school readiness, engagement, educational continuity, and dropout risk. Expert review also confirmed that the items were relevant, clear, and suitable for the study. Overall, the results indicate that the assessment battery is appropriate for educational assessment and research.

Early Childhood Education Exposure and School Readiness

Children who attended organised preschool showed better school readiness than those who did not attend preschool. They performed better in all major developmental areas, especially early literacy, language and communication, and approaches to learning. This shows that preschool experience helps children become better prepared for formal schooling.

Relationships among the Major Constructs

The major components of the DDD Continuum were closely connected. Early childhood education supported school readiness, which helped children develop foundational learning. Strong foundational learning encouraged school engagement, and engagement helped children continue their education. Children with stronger educational continuity were less likely to be at risk of dropout.

Predictors of Educational Discontinuity

School readiness, foundational learning, and school engagement were important factors in understanding educational discontinuity. Among these, school engagement was the most important. Children who were less engaged in school were more likely to experience interruptions in learning and participation.

Predictors of School Dropout

Educational discontinuity was the strongest indicator of possible school dropout. Children who experienced irregular attendance, learning gaps, low participation, and weak attachment to school were more likely to withdraw from schooling. Strong school engagement and foundational learning reduced this risk.

8. Interpretation of Findings

The findings are strongly supported by established literature. Early childhood investment and cumulative skill formation improve later learning, readiness, and socio-emotional development (Heckman, 2006; Cunha & Heckman, 2007). School readiness is shaped by children, families, schools, and communities (Bronfenbrenner, 1979; Britto, 2012), while active learning, guided support, language, and social interaction strengthen foundational development (Piaget, 1952; Vygotsky, 1978). Student engagement is a key protective factor: participation and school identification reduce withdrawal risk (Finn, 1989), and behavioural, emotional, and cognitive engagement are linked with achievement, persistence, and completion (Fredricks, Blumenfeld, & Paris, 2004; Appleton, Christenson, & Furlong, 2008; Christenson, Reschly, & Wylie, 2012). Dropout studies further show that absenteeism, low achievement, weak engagement, poor progression, and reduced attachment precede school withdrawal (Alexander, Entwisle, & Kabbani, 2001; Balfanz, Herzog, & Mac Iver, 2007; Rumberger & Lim, 2008; Rumberger, 2011). The findings also align with global and Indian policy emphasis on foundational literacy, numeracy, inclusion, early support, and dropout prevention (Government of India, 2020; Ministry of Education, 2021; NCERT, 2022; World Bank, 2022; UNESCO, 2024).

9. Discussion

The findings support a developmental view of educational participation. Children's schooling is shaped by interacting family, school, peer, and community systems (Bronfenbrenner, 1979), and early learning is strengthened through active exploration, language, and guided social interaction (Piaget, 1952; Vygotsky, 1978). School engagement emerged as a central protective factor, consistent with Finn's (1989) view that participation builds school

identification and with Fredricks, Blumenfeld, and Paris's (2004) model of behavioural, emotional, and cognitive engagement. Evidence linking engagement with achievement, behaviour, completion, and dropout prevention (Appleton, Christenson, & Furlong, 2008; Christenson, Reschly, & Wylie, 2012) supports its central place in the DDD Continuum. The results also confirm that dropout develops through early warning signs such as absenteeism, low achievement, weak engagement, and poor progression (Balfanz, Herzog, & Mac Iver, 2007; Rumberger, 2011). By identifying Educational Discontinuity as an intermediate stage, the DDD Continuum extends dropout literature (Alexander, Entwisle, & Kabbani, 2001; Rumberger & Lim, 2008) and strengthens the case for early intervention through ECCE, foundational learning, engagement monitoring, and continuous support (Heckman, 2006; Cunha & Heckman, 2007; Government of India, 2020; NCERT, 2022).

10. Theoretical Contributions

This study contributes to educational research by proposing the *Disengagement–Discontinuity–Dropout (DDD) Continuum* as a developmental framework linking Early Childhood Education Exposure to School Retention. Its main contribution is *Educational Discontinuity*, positioned between disengagement and dropout. This construct is supported by evidence that dropout develops gradually through weak participation, declining engagement, learning gaps, and ecological disadvantage (Bronfenbrenner, 1979; Finn, 1989; Fredricks, Blumenfeld, & Paris, 2004; Rumberger, 2011). By integrating child development, ecological systems, engagement theory, early childhood investment, early warning indicators, and foundational learning, the DDD Continuum shifts dropout research from post-dropout explanation to early risk identification and prevention (Heckman, 2006; Balfanz, Herzog, & Mac Iver, 2007; World Bank, 2022). The framework is strengthened by six instruments, expert validation, pilot testing, reliability analysis, content validity, exploratory factor analysis, correlation analysis, and regression analysis, showing that it can be measured, tested, and applied in school-based assessment and intervention.

11. Educational Implications

The findings inform policy, curriculum, teacher education, school leadership, and planning by shifting attention from post-dropout response to early identification of educational risk.

Implications for Early Childhood Education

Quality ECCE builds the foundation for later success. Children with organized preschool experience showed better readiness, highlighting the need for universal structured preschool support before Grade I.

Implications for Foundational Learning

School readiness strongly supports foundational literacy and numeracy. Foundational learning should therefore include continuous assessment, diagnostic support, individualized instruction, and remedial programmes before learning gaps become cumulative.

Implications for Teachers

Teachers are central to early risk identification because they observe daily engagement. Teacher education should strengthen developmental assessment, classroom observation, differentiated instruction, play-based pedagogy, socio-emotional learning, and foundational learning support.

Implications for School Leadership

School heads should monitor readiness, learning, engagement, continuity, family support, and risk indicators, not only attendance or examination results.

Implications for Educational Measurement

The DDD Assessment Battery strengthens educational measurement by assessing multiple stages of children's progress beyond academic achievement.

It measures readiness, engagement, continuity, household support, learning gaps, discontinuity, and dropout risk for better educational decision-making.

Implications for Educational Research

The study extends research by positioning Educational Discontinuity between disengagement and dropout. Future longitudinal studies should examine how children move through these stages and how timely interventions alter their pathways.

12. Suggested Policy Recommendations

The following policy recommendations are proposed.

Early Childhood Education

1. Ensure universal organized ECCE before Grade I.
2. Strengthening Anganwadi Centres and Balvatikas through infrastructure, trained educators, and age-appropriate resources.
3. Make school readiness assessment routine during preschool-to-primary transition.

Foundational Learning

4. Monitor foundational literacy and numeracy systematically in the first three years.
5. Provide remedial support before developmental delays or learning gaps become cumulative.

School Engagement

6. Establish early warning systems for behavioral, emotional, and cognitive disengagement.
7. Integrate teacher observation schedules into classroom assessment.
8. Promote inclusive climates and child-centered pedagogy to strengthen engagement.

Educational Continuity

9. Introduce Educational Continuity Monitoring Systems at school and district levels.
10. Track participation, learning progress, confidence, and family support along with attendance.
11. Provide multidisciplinary support for children experiencing Educational Discontinuity.

Teacher Education

12. Include specialized teacher training on:
 - Early Childhood Education;
 - School Readiness;
 - Student Engagement;
 - Educational Continuity;
 - Early Warning Indicators;
 - Educational Assessment.

Educational Administration

13. Establish district-level Child Educational Risk Monitoring Systems.
14. Include engagement, continuity, and readiness indicators in education databases.

13. Limitations of the Study

This study has three limitations.

First, the study was limited to one region, so wider generalization requires caution. Second, the assessment battery should be tested with larger and more diverse samples. Third, longitudinal and advanced statistical studies are needed to confirm the DDD pathway.

14. Conclusion

This study explains dropouts as a gradual process. The DDD Continuum shows how schooling moves from ECCE, school readiness, and foundational learning toward engagement, continuity, or risk of discontinuity and dropout. Its main contribution is Educational Discontinuity, which helps identify enrolled children by showing early risk signs. The DDD Assessment Battery supports school-based assessment of readiness,

engagement, continuity, and dropout risk. By promoting early assessment and intervention, the DDD Continuum supports inclusive and sustainable education aligned with NEP 2020, NCF-FS 2022, and SDG 4.

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