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CLASP Model for Inclusive Classrooms: a pilot feasibility study of collaborative lesson planning active student participation and flipped personalization

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Inclusive education seeks to ensure equitable access, meaningful participation, and learner dignity within mainstream classrooms. Despite strong policy commitments such as UNESCO's inclusive education framework and India's National Education Policy (NEP, 2020), classroom-level implementation for students with intellectual and developmental disabilities (IDD) and specific learning difficulties (SLD) remains uneven, particularly in resource-constrained school contexts. These learners are often physically included but experience limited instructional access and participation. This study introduces the CLASP Model (Collaborative Learning through Active Student Participation), operationalised through a Curriculum Accessibility Architecture (CAA) that integrates collaborative planning, flipped personalization aligned with Universal Design for Learning (UDL), and activity-based student participation. A mixed-methods pilot feasibility study was conducted over six weeks in a mainstream inclusive middle school involving two divisions of Grade 7 ($N = 20$ students) and six teachers. Data were collected using two questionnaires (student evaluation and teacher feedback), classroom observation notes, and teacher reflection notes. Quantitative data were analysed descriptively, and qualitative data were analysed thematically. Findings indicate positive self-reported student engagement and learning experiences and favourable teacher perceptions of collaboration, instructional clarity, and classroom manageability. Given the pilot scope, small sample size, and short duration, findings are interpreted as evidence of feasibility and acceptability rather than effectiveness. The study contributes a practice-grounded, scalable framework for inclusive classroom instruction and outlines directions for future empirical validation.

KEYWORDS

CLASP model, collaborative lesson planning, curriculum accessibility architecture, flipped personalization, inclusive education, pilot feasibility study, active student participation

1 Introduction

Inclusive education is increasingly conceptualised as a rights-based and equity-driven approach that prioritises meaningful participation, curriculum accessibility, and learner dignity alongside physical access to mainstream classrooms (UNESCO, 2017). India's National Education Policy (NEP, 2020) similarly emphasises learner-centred pedagogy, collaborative professional practice, and flexibility in curriculum and assessment. Despite these commitments, translating inclusive principles into everyday classroom practice remains challenging, particularly in schools operating under time, resource, and staffing constraints.

Research indicates that students with IDD and SLD frequently experience hidden segregation, wherein physical inclusion is not matched by instructional access, peer interaction, or active participation (Slee, 2011). Classroom practices often remain teacher-centred and examination-oriented, while subject teachers and special educators work in parallel rather than collaboratively, resulting in fragmented responsibility for inclusion (Scruggs et al., 2007).

Recent scholarship calls for practice-grounded models that translate policy and theory into feasible classroom processes (Florian and Black-Hawkins, 2011). While collaboration, flipped learning, and student participation are individually supported by research, they are often implemented in isolation or through resource-intensive programmes. There remains a need for integrated, classroom-feasible frameworks that support inclusive pedagogy within routine practice.

Responding to this gap, the present study introduces the CLASP Model (Collaborative Learning through Active Student Participation), developed to operationalise inclusive pedagogy through structured collaboration, anticipatory access to content, and participation-oriented classroom activities. The study examines the feasibility and acceptability of CLASP within inclusive middle school classrooms.

2 Objectives of the study

1. To examine the feasibility of implementing the CLASP Model in inclusive middle school classrooms.
2. To examine the nature of collaborative planning and co-teaching within the CLASP framework.
3. To examine student engagement, participation, and perceived understanding during CLASP-based instruction.
4. To explore student preferences related to activity-based learning.
5. To examine teacher perceptions of instructional clarity, classroom management, and feasibility associated with CLASP implementation.

3 Research questions

RQ1. How feasible is the implementation of the CLASP Model within routine classroom practice?

RQ2. How do teachers experience collaborative planning and co-teaching under CLASP?

RQ3. What levels of engagement, participation, and understanding do students report following CLASP-based instruction?

RQ4. What are students' preferences regarding activity-based classroom learning?

RQ5. How do teachers perceive the impact of CLASP on instructional processes and classroom management

4 Review of literature

4.1 Inclusive education and classroom-level implementation

Inclusive education literature emphasises equity, participation, and responsiveness to learner diversity (UNESCO, 2017). However, empirical studies highlight a persistent gap between inclusive policy aspirations and classroom-level practice, particularly in mainstream schools with limited resources (Ainscow et al., 2006). Students with disabilities are often included nominally, without systematic instructional adaptation, leading to academic disengagement and reduced social belonging (Slee, 2011).

4.2 Teacher collaboration and Co-teaching

Collaboration between subject teachers and special educators is central to effective inclusive practice (Friend and Cook, 2017). Research suggests that collaborative planning supports proactive differentiation, instructional coherence, and shared responsibility (Florian and Spratt, 2013), though such collaboration often remains informal and episodic (Scruggs et al., 2007).

4.3 Flipped learning and universal design for learning

Flipped learning reallocates content delivery outside the classroom, enabling in-class time for interaction and application (Bishop and Verleger, 2013). When aligned with UDL principles of engagement and representation, flipped approaches can reduce cognitive load and support learner autonomy (CAST, 2018; Meyer et al., 2014). Research on flipped learning in inclusive school contexts remains limited.

4.4 Participation, quality of life, and ethical inclusion

Quality of Life (QoL) frameworks emphasise dignity, autonomy, emotional well-being, and social belonging as core outcomes for learners with disabilities (Schalock et al., 2021). Inclusive pedagogies that prioritise participation and collaboration align closely with these outcomes, supporting ethical, non-stigmatising inclusion (Florian, 2014; Nind, 2014).

4.5 Research gap and rationale

Existing approaches address collaboration, access, and participation as discrete strategies. There is a lack of integrated, classroom-feasible frameworks that combine these elements within routine instruction. The CLASP Model addresses this gap through a coherent design operationalised by a Curriculum Accessibility Architecture (CAA).

5 Conceptual framework: CLASP and the curriculum accessibility architecture

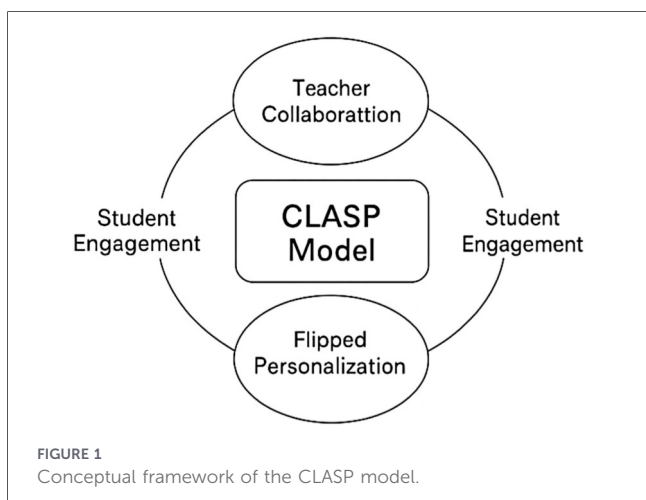
The CLASP Model is grounded in inclusive pedagogy, Universal Design for Learning, and socio-constructivist learning theory (Figure 1). Inclusive pedagogy emphasises extending what is ordinarily available to all learners (Florian and Black-Hawkins, 2011). UDL provides design principles for multiple means of engagement, representation, and expression (CAST, 2018). Socio-constructivist perspectives highlight learning through interaction and collaboration.

Within CLASP, the Curriculum Accessibility Architecture (CAA) functions as an integrative design layer connecting collaborative planning, flipped personalization, and active student participation into a coherent instructional system. Collaborative planning enables anticipatory design for learner variability; flipped personalization provides flexible access to content; and activity-based participation supports engagement, peer interaction, and dignity. The CAA operationalises inclusive pedagogy and UDL at the classroom level without reliance on segregated accommodations.

6 Methodology

6.1 Research design

A mixed-methods pilot feasibility design was adopted to examine implementation processes, usability, and stakeholder perceptions of CLASP. The focus was on feasibility and



acceptability rather than causal effectiveness. Pilot feasibility studies are recommended for assessing implementation procedures, acceptability, and methodological readiness prior to large-scale trials (Bowen et al., 2009; Eldridge et al., 2016).

6.2 Setting and participants

The study was conducted in a mainstream inclusive middle school in India. Participants included 20 students from Grade 7 two divisions and six teachers (subject teachers and special educators). Purposive sampling supported examination within a resource-constrained, routine instructional context.

6.3 Description of the intervention

The CLASP intervention was implemented as an integrated instructional process embedded within regular classroom practice rather than as an add-on or externally imposed programme. The intervention was designed to align with existing curricular goals, school schedules, and classroom routines, ensuring ecological validity and feasibility within a resource-constrained inclusive school context.

6.3.1 Phase 1: collaborative planning

Collaborative planning served as the foundational component of the CLASP Model (Pozas and Letzel-Alt, 2023). Subject teachers and special educators engaged in structured co-planning sessions prior to classroom implementation. These sessions focused on identifying key learning objectives, anticipating learner variability, and jointly designing instructional strategies that would be accessible to all students. Rather than planning individualised accommodations, teachers focused on extending access to the whole class, consistent with inclusive pedagogy principles. Planning interactions occurred through brief in-person meetings and technology-mediated coordination (e.g., WhatsApp), allowing flexibility within teachers' existing workloads.

6.3.2 Phase 2: flipped personalization

Flipped personalization was employed to operationalise Universal Design for Learning (UDL) principles of engagement and representation (Bergmann and Sams, 2012). Short instructional videos, simplified explanations, and task guidelines were shared with students prior to classroom lessons. These materials were selected or adapted collaboratively to ensure clarity, appropriate pacing, and accessibility. Pre-class exposure enabled students—particularly those requiring additional processing time—to familiarise themselves with key concepts in advance, thereby reducing cognitive load during in-class instruction and supporting readiness for participation.

6.3.3 Phase 3: active student participation

In-class instruction emphasised activity-based learning and structured peer collaboration. Classroom activities were designed to allow multiple modes of participation, including verbal responses, written work, drawing, and group discussion. Peer supporters were informally identified within groups to encourage cooperation and shared problem-solving without creating dependency. The presence of both subject teachers and special educators during instruction enabled real-time facilitation, clarification, and monitoring of participation across learners.

Across all phases, instructional adaptations were embedded within whole-class activities to avoid stigmatisation and to promote dignity and belonging. The integration of collaborative planning, flipped access, and participatory instruction ensured coherence across instructional phases, supporting inclusive learning experiences without disrupting routine classroom practice.

6.4 Data collection tools

Four tools were used: (a) Student Evaluation Questionnaire, (b) Teacher Feedback Questionnaire, (c) Classroom Observation Notes, and (d) Teacher Reflection Notes.

6.5 Tool validity and reliability

As this study was designed as a pilot feasibility investigation, the data collection tools were developed to capture stakeholder perceptions and instructional processes rather than to serve as standardised measurement instruments. Content validity was supported through alignment of questionnaire items and observation prompts with the CLASP Model, the Curriculum Accessibility Architecture, and study objectives. Tools were reviewed by inclusive education practitioners to ensure clarity and contextual relevance. Formal statistical reliability testing was not undertaken; instead, consistency of findings across student responses, teacher feedback, observations, and reflection notes supported the trustworthiness of the data within the pilot context.

6.6 Data analysis

Quantitative data were analysed descriptively using frequencies and percentages. Qualitative data from observations and reflections were analysed thematically. Triangulation enhanced interpretive credibility.

6.7 Implementation fidelity and ethics

Fidelity was monitored through observation of collaborative planning, flipped preparation, and participatory activities. Participation was voluntary, consent was obtained, and confidentiality maintained.

7 Data analysis and results

7.1 Student self-reported engagement and learning experiences

Interpretation: Student responses indicate generally positive self-reported engagement and learning experiences during CLASP-based instruction. These findings are interpreted as indicators of learner experience and instructional feasibility rather than measured improvement

7.2 Teacher perceptions of CLASP implementation

Interpretation: Teacher responses reflect positive perceptions of collaboration, instructional clarity, and classroom manageability, indicating feasibility and usability of CLASP.

7.3 Classroom observation findings

Interpretation: Observations support the feasibility of embedding accessibility within routine classroom practice.

7.4 Teacher reflection notes

Interpretation: Reflection notes indicate that while collaborative planning required additional coordination initially, teachers experienced a reduction in instructional strain during classroom implementation. The presence of a special educator was perceived as particularly valuable in supporting diverse learners through real-time clarification and shared facilitation, contributing to smoother classroom flow and reduced individual teacher burden. Overall, these reflections reinforce the feasibility and acceptability of CLASP as a practice-grounded framework that balances workload demands while enhancing inclusive support.

8 Discussion

The present pilot study examined the feasibility and acceptability of the CLASP Model as operationalised through the Curriculum Accessibility Architecture (CAA) in inclusive middle school classrooms. The findings, derived from student self-reports, teacher perceptions, classroom observations, and reflection notes, suggest that the model is practicable within routine instructional settings and supports inclusive participation without requiring structural or curricular disruption.

From a Universal Design for Learning (UDL) perspective, the flipped personalization component appears to have supported instructional readiness by providing anticipatory access to content. High levels of self-reported concept understanding and homework completion (Table 1) suggest that students experienced the instructional approach as accessible and manageable. Importantly, these outcomes are interpreted as perceptions of learning experience rather than objective achievement gains, consistent with the pilot feasibility scope.

TABLE 1 Student self-reported learning experience and engagement (N = 20).

Aspect	Students reporting positively (%)
Active participation	80
Homework completion	85
Peer collaboration	75
Concept understanding	88

TABLE 2 Teacher perceptions of CLASP implementation (N = 6 teachers).

Aspect	Agree (%)	Neutral (%)	Disagree (%)
Collaborative planning clarified instructional roles	100	0	0
Flipped lessons reduced classroom stress	75	20	5
Digital materials supported differentiation	90	10	0
Students showed greater independence	85	10	5

The collaborative planning component emerged as a central enabling factor. Teacher perceptions (Table 2) and reflection notes (Table 3) consistently indicated improved role clarity and shared instructional responsibility. This aligns with inclusive pedagogy literature, which emphasises extending access to all learners through proactive design rather than relying on reactive or individualised accommodations. In resource-constrained contexts, such structured collaboration may be particularly valuable in reducing instructional uncertainty and supporting sustainable inclusive practice.

Active student participation, facilitated through group-based and multimodal activities, was associated with positive student engagement and peer collaboration (Tables 1, 4). From a Quality of Life (QoL) perspective, these findings are significant because participation and peer interaction are closely linked to belonging, dignity, and emotional well-being. Observation and reflection data suggest that embedding adaptations within whole-class activities supported inclusive participation without stigmatizing learners.

Teacher reflection notes further highlighted the role of the special educator's presence in supporting real-time clarification, differentiated facilitation, and shared classroom management. While collaborative planning required initial coordination, teachers reported reduced in-class instructional strain and smoother lesson flow over time. This balance between planning effort and instructional ease is critical when considering the scalability of inclusive models.

Given the pilot nature of the study, alternative explanations must be acknowledged. Positive perceptions may have been influenced by novelty effects, increased teacher motivation, or heightened attention during implementation. Additionally, reliance on self-reported data may introduce response bias. Nevertheless, the convergence of findings across multiple data

TABLE 3 Synthesis of teacher reflection notes.

Theme	Illustrative insight
Planning experience	Reduced uncertainty during lesson delivery
Classroom management	Co-teaching supported activity facilitation
Student response	Increased willingness to participate
Feasibility	Manageable within existing structures
Teacher workload	Initial increase during planning, reduced in-class strain
Presence of special educator	Enabled real-time support and shared responsibility

TABLE 4 Summary of classroom observation findings.

Observed aspect	Descriptive observation
Collaborative teaching	Shared instructional roles during activities
Student participation	Most students engaged in group tasks
Classroom flow	Smoother transitions with fewer disruptions
Accessibility	Instructions and materials accessible to diverse learners

sources strengthens confidence in the feasibility and acceptability of the CLASP Model within the examined context.

9 Conclusion

This pilot study presents the CLASP Model, operationalised through a Curriculum Accessibility Architecture, as a feasible and acceptable framework for inclusive classroom instruction. Evidence from student self-reports, teacher perceptions, classroom observations, and reflection notes indicates that the model can be integrated into routine middle school practice to support collaboration, accessibility, and participation.

The study does not establish instructional effectiveness or learning outcomes. Rather, it demonstrates that structured collaborative planning, anticipatory access to content, and activity-based participation can be implemented ethically and practically within mainstream inclusive classrooms. By embedding accessibility within whole-class instruction, CLASP supports inclusive participation while preserving learner dignity and classroom coherence.

As a pilot investigation, the study provides practice-grounded insights that can inform subsequent phases of empirical research and professional development initiatives aimed at strengthening inclusive pedagogy.

10 Limitations of the study

Several limitations should be considered when interpreting the findings. First, the study was conducted in a single school with a small sample of students and teachers, limiting generalisability.

Second, the six-week duration restricted examination of longer-term instructional patterns and sustainability. Third, data relied primarily on self-reported perceptions and qualitative observations rather than objective measures of learning outcomes. Finally, the absence of a comparison or control condition limits conclusions regarding relative effectiveness.

These limitations are inherent to pilot feasibility research and were intentionally accepted to prioritise ecological validity and ethical classroom inquiry.

11 Recommendations and future directions

Based on the findings and limitations of the present study, the following recommendations are proposed:

Further Research: Future studies should examine the CLASP Model across larger and more diverse samples, including multi-site and longitudinal designs, to explore sustainability and broader applicability.

- **Outcome Measures:** Subsequent research may incorporate additional outcome measures, including academic indicators, engagement scales, and Quality of Life metrics, while maintaining ethical inclusive practices.

Teacher Professional Development: Structured training in collaborative planning, UDL-aligned lesson design, and participatory strategies is recommended to support effective implementation of CLASP.

Policy and Practice: Educational policymakers and school leaders may consider CLASP as a low-cost, adaptable framework that aligns with inclusive education policy goals, particularly in resource-constrained settings.

Role of Special Educators: The reconceptualisation of the special educator as a curriculum accessibility facilitator warrants further exploration to strengthen co-teaching models and shared instructional leadership.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

Ethics statement

The requirement of ethical approval was waived by St. Mary's Residential Public School for the studies involving humans because this independent, non-interventional educational research study involved voluntary surveys and interviews in natural learning environments. No medical or experimental procedures were used. School permission, informed consent (and assent for students with IDD), confidentiality measures, and withdrawal rights were ensured. As no institutional or clinical ethical review was required, this study qualifies for an ethics committee waiver. The studies were conducted in accordance with the local legislation and institutional

requirements. Written informed consent for participation in this study was provided by the participants' legal guardians/next of kin.

Ethics statement

Ethical approval was obtained from the participating school's Institutional Review Committee. Written informed consent was obtained from teachers and parents/guardians.

Author contributions

SJ: Conceptualization, Investigation, Resources, Methodology, Visualization, Writing – review & editing, Writing – original draft.

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Conflict of interest

The author declares that this work was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Generative AI statement

The author declares that generative AI was used in the creation of this manuscript. AI tools (ChatGPT, OpenAI 2025 version) were used solely for language refinement and formatting; all content was reviewed and verified for accuracy and originality by the author.

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