

# Effect of Co-Scholastic Activities and Activities of Daily Living (ADL) Skills in Enabling Children with Multiple Disabilities for Active Classroom Participation

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## Abstract

*This study examines the effect of co-scholastic activities and Activities of Daily Living (ADL) skills in enabling children with multiple disabilities to actively participate in classroom activities. The children were engaged in curricular, co-curricular, and independent living skill (ADL) activities. The intervention was implemented over a period of three months, following a structured weekly timetable, that included activities such as yoga, ADL skills training, reading and writing concepts, play activities (rolling balls), musical dance, number skills, passing balls, and throwing balls into baskets on all working days. Pre-test assessments were conducted before the intervention, and post-test assessments were carried out after the completion of the intervention period. The level of classroom participation of children with multiple disabilities was recorded periodically. The study explores the effectiveness of co-scholastic activities and ADL skills in enabling children with multiple disabilities to actively participate in classroom activities.*

**Keywords:** Multiple Disabilities, Co-scholastic Activities, Inclusion, ADL Skills

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## INTRODUCTION

Children with multiple disabilities often experience significant challenges in actively participating in classroom environments. These challenges are

not just limited to the academics but extend to social, emotional, and physical engagement. Two important areas that influence their participation are Activities of Daily Living (ADL) and co-scholastic skills.

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Activities of Daily Living (ADL) refer to essential self-care tasks, such as eating, dressing, toileting, mobility, and functional communication. Mastery of these skills enables children with disabilities to achieve greater independence and confidence, which in turn supports classroom engagement. Co-scholastic skills include non-academic activities such as yoga, music, dance, play, and art, which enhance social interaction, creativity, physical fitness, and emotional well-being. Together, ADL and co-scholastic activities provide a holistic foundation that promotes independence, social inclusion, and academic readiness.

Despite growing recognition of their importance, research exploring the combined effect of ADL and co-scholastic activities for children with multiple disabilities remains limited. This study addresses this gap by examining how structured interventions in these areas can enhance classroom participation and engagement.

The study explains the effect of participation levels of children with multiple disabilities in classroom settings. It was observed that active participation in indoor classroom activities increased after sessions of outdoor or co-curricular activities. This study explores the effect of co-scholastic and ADL skill activities in enabling children with multiple disabilities to actively participate in classroom activities.

Co-scholastic activities, encompassing extracurricular and non-academic pursuits, have been recognised for their positive impact on various aspects of child development (Kohlberg, 2009; UNESCO, 2017). While these benefits are well documented for developing children, there is a significant gap in understanding their effectiveness for children with multiple disabilities.

## RESEARCH GAPS

Existing studies have primarily focused on co-scholastic activities for developing children, highlighting their role in promoting creativity, motor development, and social integration. However, limited research examines their impact on the children with multiple disabilities, particularly when combined with ADL skills development. This gap highlights the need for holistic intervention-based studies in inclusive education settings.

## STUDY RATIONALE

Inclusive education requires strategies that address both academic and non-academic dimensions of learning. By integrating ADL skills and co-scholastic activities into daily routines, children with multiple disabilities would be able to participate more actively in classroom environments. This study provides evidence-based insights into the effectiveness of these interventions in enhancing classroom engagement and overall well-being.

## DEFINITIONS OF KEY TERMS

- **Multiple Disabilities:** The coexistence of two or more disabilities, including physical,

cognitive, sensory, or developmental impairments.

- **Activities of Daily Living (ADL):** Basic self-care tasks such as dressing, grooming, toileting, feeding, and mobility.
- **Co-scholastic Activities:** Non-academic activities such as yoga, dance, art, sports, and play that complement academic learning and support overall development.
- **Classroom Participation:** The extent to which children actively engage in academic and social activities within the classroom setting.

**OBJECTIVES OF THE STUDY**

- To evaluate the effect of daily co-scholastic activities (for example yoga, play, musical dance, role-play) on classroom participation and social interaction among children with multiple disabilities.
- To examine the role of ADL skills (for example feeding, grooming, mobility, toileting) in enhancing independence, social engagement, and readiness for academic learning.
- To assess the combined effect of co-scholastic activities and

ADL skills on active classroom participation and determine whether integrated interventions are more effective than individual approaches.

**RESEARCH QUESTIONS**

- How do co-scholastic activities influence classroom participation among children with multiple disabilities?
- Does the combination of co-scholastic activities and ADL skills result in greater improvement than when implemented individually?

**METHODOLOGY**

**Research Design**

The study employed a quasi-experimental pre- and post-test design to evaluate the impact of co-scholastic activities and ADL interventions on classroom participation among children with multiple disabilities.

**Participants**

Five children with multiple disabilities (Cerebral Palsy and Autism Spectrum Disorder), aged 8–11 years, were selected for the study with parental consent.

**Table 1**  
**Details of Participants**

| S.No | Sample   | Class       | Age      | Intervention Time |
|------|----------|-------------|----------|-------------------|
| 1.   | Sample 1 | CP-primary  | 10 years | 12 Session        |
| 2.   | Sample 2 | CP-Primary  | 8 years  |                   |
| 3.   | Sample 3 | ASD-primary | 10 years |                   |
| 4.   | Sample 4 | CP-Primary  | 11 years |                   |
| 5.   | Sample 5 | ASD-Primary | 10 years |                   |

### Intervention Procedures

A structured weekly timetable was developed to integrate both co-scholastic and ADL activities into daily classroom routines. The interventions were implemented over a period of three months, with sessions held five days a week.

The activities included:

- **Co-scholastic activities:** Yoga, musical dance, and play activities (ball passing, role play, rolling balls, and throwing balls into baskets).
- **ADL activities:** Grooming, feeding skills, toileting, dressing, and fine-motor tasks.
- **Academic integration:** Reading, writing, and number concepts were integrated alongside co-scholastic activities.

Each session was supervised by teachers and therapists, who guided the children through structured tasks while recording their level of engagement.

### Scoring Student Received

- Point for participation
- Points for Participation for 2 minutes
- Points for Participating effectively 1–5 minutes
- Points for sitting and participating actively for 5–7 minutes
- Points for participating actively, individually, for more than 7 minutes

### Assessment Tools

A five-point observation scale was developed to measure classroom participation:

- Minimal participation
- Brief engagement (2 minutes)
- Effective participation (1–5 minutes)
- Active engagement (5–7 minutes)
- Independent participation (7+ minutes)

Pre-test scores were collected before the intervention, and post-test scores were recorded after three months.

**Table 2**  
**Daily Activity Schedule**

| Time<br>Days | 10:00<br>am to<br>10:15<br>am | 10:15<br>am to<br>11:15<br>am | 11:15<br>am to<br>11:30<br>am | 11:30<br>am to<br>12:30<br>pm | 12:30<br>pm to<br>1:00 pm  | 1:00<br>pm to<br>2:00<br>pm | 2:00 pm<br>to<br>2:15 pm | 2:15 pm<br>to<br>2:45 pm    | 2:45 pm<br>to<br>3:30 pm |
|--------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|----------------------------|-----------------------------|--------------------------|-----------------------------|--------------------------|
| Monday       | P<br>R<br>A<br>Y<br>E<br>R    | Yoga                          | B<br>R<br>E<br>A<br>K         | Reading<br>concept            | Play-<br>rolling<br>ball   | L<br>U<br>N<br>C<br>H       | Number<br>skills         | Passing<br>the ball<br>play | Writing<br>concept       |
| Tuesday      |                               | Yoga                          |                               | Writing<br>concept            | Musical<br>dance           |                             | Number<br>concept        | Play                        | ADL<br>skills            |
| Wednesday    |                               | Yoga                          |                               | ADL<br>skills                 | Throw<br>ball to<br>basket |                             | Reading<br>concept       | Musical<br>dance            | Number                   |
| Thursday     |                               | Yoga                          |                               | ADL<br>skills                 | Role<br>play               |                             | Writing<br>concept       | Rolling<br>the ball         | Number<br>concept        |
| Friday       |                               | Yoga                          |                               | Writing<br>concept            | Passing<br>the ball        |                             | ADL<br>skills            | Throw<br>ball to<br>basket  | Reading<br>concept       |

**Table 3**  
**Review of literature**

| <b>Author Name</b>   | <b>Year</b> | <b>Method of Study</b>                                                                                                                                 | <b>Findings</b>                                                                                                                                                                             |
|----------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Saracho and Spodek   | 2007        | Their exploration of various perspectives on play, establishes the context for evaluating the impact of play-way methods on children with disabilities | Provides a foundational understanding of play in early childhood education.                                                                                                                 |
| Christie and Johnsen | 2011        | Literature review synthesising various perspectives on play in early childhood education.                                                              | Laid the groundwork for understanding diverse views on play, establishing a context for evaluating the impact of play-way methods on children with disabilities.                            |
| Ostrosky and Jung    | 2016        | Longitudinal study, examining the relationship between play and early childhood development.                                                           | Emphasised the pivotal role of play in fostering critical skills, providing a basis for recognising potential benefits of play-based interventions for children with multiple disabilities. |
| Movahedaza-rhouligh  | 2018        | Examined research-based interventions for teaching play skills to children with disabilities.                                                          | Provides an overview of effective practices and recommendations for improving play skills in early childhood and special education.                                                         |

## **METHODOLOGY**

### **Study Design**

A quasi-experimental pre–post design was used and children with multiple disabilities were included with parental consent. A weekly timetable incorporating co-scholastic activities was implemented. Pre-test assessments were conducted before the intervention, and post-test assessments were carried out after

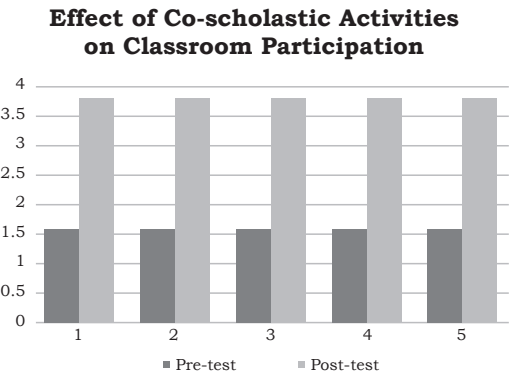
the intervention period. A 1–5 scoring system was designed to measure levels of classroom engagement. Quantitative data were collected through direct observation.

### **Results and Interpretation**

**RQ<sub>1</sub>:** How do co-scholastic activities influence classroom participation among children with multiple disabilities?

**Table 4**  
**Effect of Co-scholastic Activities on Classroom Participation**

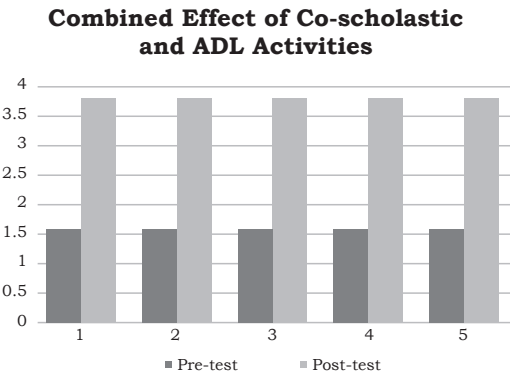
| <b>Participant</b> | <b>Pre-test Score (Mean)</b> | <b>Post-test Score (Mean)</b> | <b>Improvement</b> |
|--------------------|------------------------------|-------------------------------|--------------------|
| 1                  | 1.6                          | 3.8                           | ↑ 2.2              |
| 2                  | 1.6                          | 3.8                           | ↑ 2.2              |
| 3                  | 1.6                          | 3.8                           | ↑ 2.2              |
| 4                  | 1.6                          | 3.8                           | ↑ 2.2              |
| 5                  | 1.6                          | 3.8                           | ↑ 2.2              |



*Fig. 1: Graphical Representation of the Effect of Co-scholastic Activities on Classroom Participation*

**Result (RQ<sub>1</sub>):** Co-scholastic activities such as yoga, musical dance, and play-based tasks produced a consistent improvement in participation, increasing average engagement levels from 1.6 (pre-test) to 3.8 (post-test). These activities enhance attention span, motivation, and social interaction.

**RQ<sub>2</sub>:** Does the combination of co-scholastic activities and ADL skills result in greater improvement compared to implementing them individually?



*Fig. 2: Graphical Representation*

**Result (RQ<sub>2</sub>):** When co-scholastic activities and ADL skills were combined in a structured weekly schedule, children achieved the highest and most consistent gains in participation. The integrated approach proved more effective than focusing on either intervention separately, showing improvements in social integration, independence, and academic engagement across all participants.

These findings are supported by earlier studies that emphasises the importance of combining non-academic interventions with life-skills training for children with disabilities.

**Table 5  
Combined Effect of Co-scholastic and ADL Activities**

| Participant | Overall Mean of Pre-test Score | Overall Mean for Post-test Score | Improvement Level |
|-------------|--------------------------------|----------------------------------|-------------------|
| 1           | 1.6                            | 3.8                              | Significant       |
| 2           | 1.6                            | 3.8                              | Significant       |
| 3           | 1.6                            | 3.8                              | Significant       |
| 4           | 1.6                            | 3.8                              | Significant       |
| 5           | 1.6                            | 3.8                              | Significant       |

For example, Saracho and Spodek (2007) highlighted the developmental value of play-based activities, while Ostrosky and Jung (2016) confirmed the role of structured play in improving engagement. Similarly, Movahedazarhouli (2018) found that teaching daily living and play skills together leads to better independence and inclusion. The findings of the present study are consistent with these perspectives, reinforcing that an integrated model of co-scholastic and ADL interventions maximises participation and holistic development.

## **FINDINGS**

The findings of the study highlight the positive impact of co-scholastic activities and ADL skills on the classroom participation of children with multiple disabilities:

### **Co-scholastic Activities (RQ<sub>1</sub>)**

Children demonstrated a significant improvement in classroom participation after engaging in yoga, music, play, and role-play activities.

The average participation level increased from 1.6 (pre-test) to 3.8 (post-test) across all participants.

These activities improved attention span, motivation, and peer interaction, indicating that co-scholastic activities contribute directly to both social and academic engagement.

### **Combined Effect of Co-scholastic and ADL Skills (RQ<sub>2</sub>)**

The integrated intervention model, involving a daily schedule combining

both co-scholastic and ADL activities, produced the most consistent and significant improvements.

Children's mean scores increased from 1.6 (pre-test) to 3.8 (post-test), demonstrating gains across the entire week (Monday–Friday).

The integrated approach promoted holistic development by enhancing classroom participation, social inclusion, independence, and academic engagement.

## **Overall Finding**

The study establishes that while both co-scholastic activities and ADL skills independently improve classroom participation, their combined implementation is the most effective, offering a comprehensive strategy for the inclusive education of children with multiple disabilities.

## **CONCLUSION**

In conclusion, the integration of co-scholastic activities and ADL skills within a structured timetable proves to be an effective approach for enabling active participation among children with multiple disabilities. This research contributes valuable insights to inclusive education practices by highlighting the importance of consistent and diverse interventions. The findings underscore the need for multifaceted strategies to address the varied needs of students with multiple disabilities. Further research and continued implementation efforts are encouraged to refine and strengthen inclusive practices in educational settings.



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