A Study of Developmental Stages and Developmental Milestones for Grades I and II

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Action Research Conducted at:
S. B. Patil Public School, Ravet, Pune, Maharashtra

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Abstract

This research concerns into the intricate progression of human development from prenatal stages through early childhood, specifically focusing on the critical developmental milestones from conception to age eight. The study explores three key phases: prenatal development, infancy, and foundational early childhood stages.

Prenatal development is examined through its critical phases—germinal, embryonic, and fetal—highlighting the complex biological and environmental factors that influence fetal growth and the establishment of fundamental physiological and neurological foundations.

Infancy, spanning from birth to approximately two years, is analyzed for its significant milestones including motor skills development, sensory and perceptual growth, and the establishment of early social and emotional bonds. The transition from reflexive actions to purposeful behaviors during this stage sets the stage for subsequent developmental progress.

The **foundational stage (0-8 years)** is further dissected into early childhood and middle childhood phases, emphasizing cognitive, linguistic, and social-emotional development. This stage encompasses critical milestones such as language acquisition, cognitive development as per Piagetian stages, social interaction patterns, and the formation of self-concept.

The study integrates contemporary research findings and theoretical perspectives to provide a comprehensive overview of how these developmental stages interconnect and influence each other. By understanding these milestones, the research aims to contribute valuable insights into early childhood development, informing both educational practices and parental guidance.

Research Background

Human development is a complex and dynamic process that unfolds from conception through early childhood, involving a series of transformative stages. Understanding these developmental stages and milestones is crucial for comprehending how individuals grow, learn, and adapt during their formative years. This research explores the developmental trajectory from prenatal stages through early childhood, highlighting the milestones that characterize each phase.

Objective

To study the stages of development age group 5-7 in detail.

Research Questions

1) Does the volume of content affect the students' performance in written exams?
2) Can different techniques and methods help build confidence in such differently abled students towards learning the subject?
3) Can different creative strategies of CW and HW enable students to better engage with basic academic performance?

Hypothesis

Research Hypothesis: Children with intellectual disabilities who can have regular exercise can show greater improvements in motor skills and exhibit fewer behavioral problems compared to those without a structured routine."

Scope

In the scope of the study were: -
1. All middle school students in S. B. Patil Public School, Ravet, Pune, Maharashtra, affiliated to CBSE.
2. The present study focuses on students with lower performances due to prenatal problems.
3. Primary focus is for implementation of guided and innovative practice in the teaching of such mentally challnges students for improving their academic scores and learning outcomes.

Time Duration

The project was carried out for 8-9 months from June 23-December 23. During this period there were some holidays (Diwali Vacation).

Population and Sample

Population

- Students of Standard I from S. B. Patil Public School affiliated to CBSE (Central Board of Secondary Education)
- Teachers of schools affiliated to CBSE Board teaching all subjects for Grade I

Sample

- Five Teachers teaching grade I Schools affiliated to CBSE for implementing the innovative strategies and guided practice for teaching all subjects.

Research Design

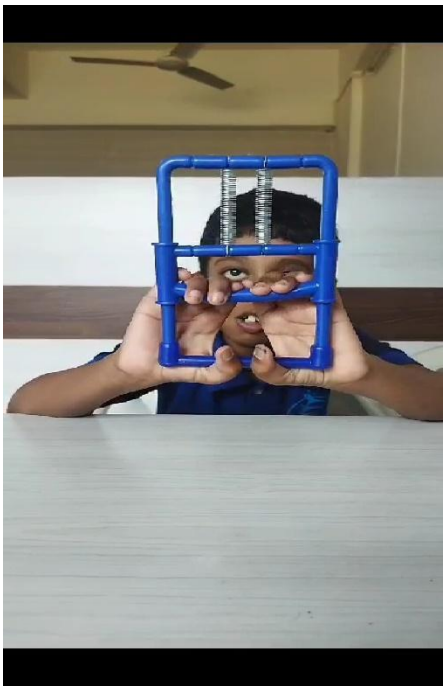
One special child was studied hereby for this research Design: Games, puzzles, and structured teaching methods.

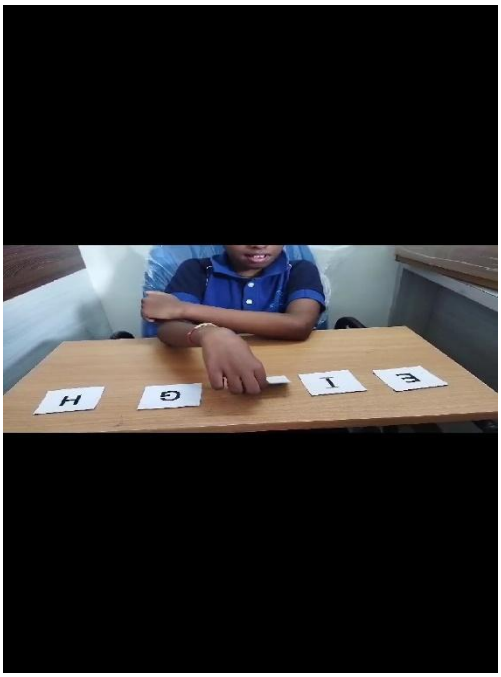
Tools of Data collection

1. Pretest EVA 3-The books for Sr kg JrKg were referred for framing the worksheets and question papers for the student specific.
2. Students' worksheets and question papers.

Interventions

- Teachers used following ways to conduct the various activities-
- **Puzzle Palooza:** An activity involving assembling simple jigsaw puzzles to develop problem-solving and fine motor skills.





https://drive.google.com/file/d/1CJeLazKXlUfPxi36V4Dr6mern6xayHND/view?usp=sharing

Similarly, the student is able to perform the activities of fine motor and gross motor skills under guidance.

https://drive.google.com/file/d/1Bk6wn-cChcg6iiKeAZqlpyhYciGTZTRa/view?usp=drive_link

HPC holistic report card-

https://drive.google.com/file/d/1PYKIryDv1qo3iSoWKpAOCVF9ujx9izkg/view?usp=drive_link

Revision worksheet and papers-

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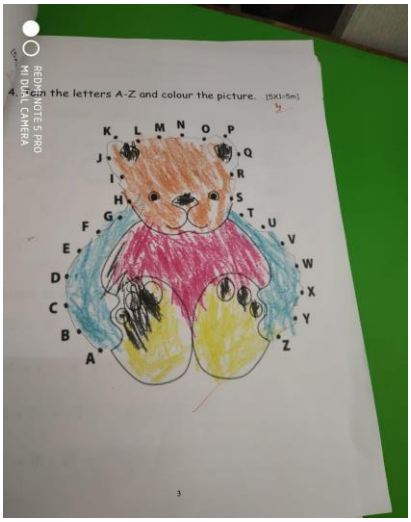
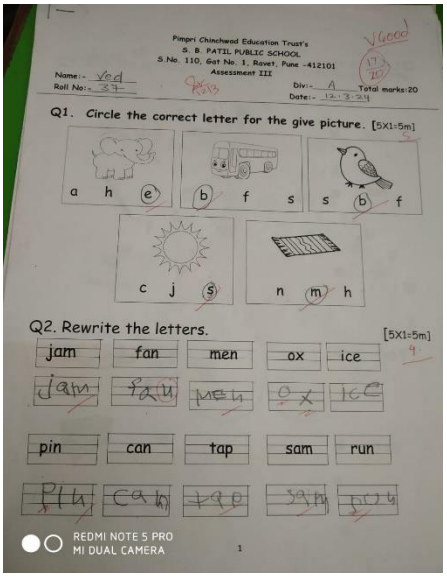
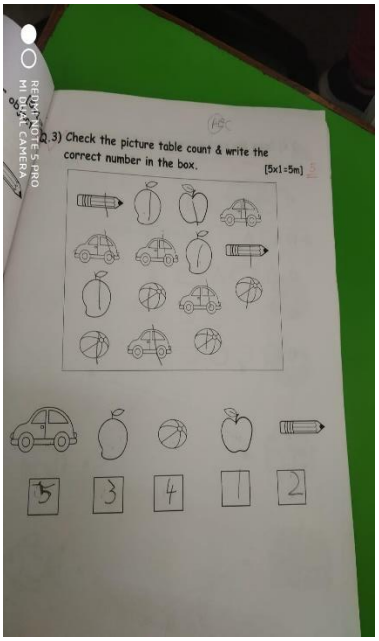
https://drive.google.com/file/d/1_q4gyIIeXOJBZ95hXduiy5fGjbsEntUm/view?usp=drive_link

Creative worksheets were prepared using different techniques and framing different types of questions such as crosswords, and label-the diagram.







Data Collection

Data Analysis
Refer to data analysis of the mean scores of pre and posttests in the annexture 2.

Thus, the results reject the null hypothesis and accept the Research hypothesis to prove that there is a significant increase in the post tests after the implementation of Guided and Innovative Practice.

Major Findings

- Result analysis of the student done by subject teachers.
- Evaulation shows that student's behavior is comparatively different than the other students in some aspects as physical apperances,social behaviour,lack in academic progress.

1. General Overview

- **Name:** Ved Divekar
- **Age:** 9 years
- **Diagnosis:** Intellectual Disability alongwith mental retardation.
- **Date of Assessment:** September 2023
- **Data Collector:** Subject teachers.

Medical and Developmental History

- **Prenatal and Birth History:** Complications regarding the oxygen intake during the delivery led to abormal growth and development in early infancy resulting into mental retardation.
- **Developmental Milestones:** Mental retardation resulted into non achievement of some milestones.

Physical Development

- **Growth Measurements:**
  - **Weight:** 28 kg
  - **Height:** 144 cm

- **Motor Skills:**
  - **Gross Motor Skills:** Can walk with assistance and is unable to balance body. Gross motor skills are slightly delayed but improving.
  - **Fine Motor Skills:** Can use a spoon and fork with assistance; struggles with tasks requiring fine motor precision such as writing.

4. Cognitive Development

- **Problem-Solving Skills-**Tries to get involve the puzzle solving but is unable to do**.**

- **Attention Span:** Maintains attention for approximately 10 minutes during structured activities. Needs frequent breaks to remain engaged.
- **Language Development:** Uses 2-3 word sentences and can follow simple instructions. Vocabulary is limited but improving with support.
- **Memory:** Shows good short-term memory which needs to express it in various chores. Long-term memory is less developed.

5.Social and Emotional Development

- **Social Skills:** Engages well with a small group of peers, enjoys interactive play, and takes time to show interest in group activities. Needs support with sharing and turn-taking.
- **Emotional Regulation:** Can express basic emotions such as happiness and frustration. Requires help to manage emotional outbursts in new or stressful situations.
- **Self-Concept:** Recognizes self in the mirror and can identify some basic personal traits. Developing self-awareness.

6. Daily Living Skills

- **Self-Care Skills:**
  - **Personal Hygiene:** Can brush teeth and wash hands with minimal assistance. Requires supervision for daily hygiene routines.
  - **Dressing:** Can dress with assistance; struggles with buttons and zippers.
- **Eating:** Eats with a spoon and fork with assistance; able to manage simple foods independently.
- **Toileting:** Fully toilet trained, manages toileting independently.

7. Educational and Behavioral Observations

- **Academic Skills:** Recognizes numbers 1-10 and some letters. Requires individualized support to engage with educational materials.
- **Learning Environment:** Benefits from visual aids and hands-on learning experiences. Responds well to structured routines.
- **Behavioral Challenges:** Occasionally exhibits aggressive behavior when frustrated or overwhelmed. Requires consistent behavior management strategies.
- **Positive Behaviours:** Enthusiastic about art and interactive play. Shows motivation and enjoyment in creative activities.

8. Interventions and Support

- **Types of Therapy:**
  - **Speech Therapy:** Attending sessions 3 times a week to improve language skills and communication.

Conclusion

Ved is a 9-year-old with intellectual disability and mental retardation who can show progress in future in many areas of development, including physical growth, cognitive skills, and daily living abilities. He benefits from structured support and speech therapy. With continued support, positive reinforcement, and appropriate educational strategies, Ved is likely to continue making meaningful progress in his development.

This structured format ensures that the findings are comprehensive, actionable, and useful for planning future interventions and supports.

Significance of the study

The present study would possibly contribute in various areas of teaching and learning. Some of them are highlighted as under:

- This research would be helpful to the students to understand the concepts and use mind mapping, flow charts, and other innovative techniques in their daily note taking and learning.
- This research would be of great help for the teachers who would use the innovative techniques in their teaching for giving a good learning experience to the students.

Recommendations

- Henceforth, the same strategy could be used for the 6th Graders to enhance their exam score in the initial stages.
- The research to be continued for the same group of students in the next academic year.

References

1. Effectiveness of Experiential Learning in History Among CBSE Secondary School Students, Anjali Chetan Gugale, 2022
2. Experiential Learning in School Education: Prospects and Challenges, Komal Rani, Tarun Kumar, 2022
3. Programme Based on Mind Maps for Teaching Science, Gargee D. Mitra, 2014

Annexures

- Answer sheet of EVA 3
- Practice Worksheet for EVA 2
- Practice worksheet for EVA 3