



Collaborative Phonetics Instruction for Inclusive Foundational Literacy: A Cross-Country Comparison in India and England

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Action Research Conducted at:

S. B. Patil Public School, Ravet, Pune, Maharashtra

Abstract

The ability to read fluently is crucial to foundational literacy and numeracy and achieve the targeted student learning outcome. With the implementation of common core standards for reading skills (phonetics/knowledge of phonemes) the reading expectations can be greatly increased in all subjects like Math, Science, Social Science and English. The achievement gaps for the targeted students will continue to increase in all subjects if they cannot increase their English reading fluency, which may lead them to be considered for remedial teaching, act out of school and at home, or fail and drop out of school before they even complete their elementary education in India. Early intervention is the key to the educational success of our students. As per the Nipun Bharat Mission (2026-27) target, the NEP 2020 FLN (Foundational Literacy and Numeracy) CBSE standard in India, a student must enter 3rd grade with the ability to read, write and perform basic operations in order to access the material taught in all subject areas. Keeping this in mind, we collaborated with Primary Teacher Ms. Susan Robinson, Walpole Cross keys Primary School, Norfolk, England for extending her valuable support in carrying out some activities with her students as well for making this Action Research a success. We learnt that by using effective AI tools and strategies, we can enhance this ability immensely and cater to the additional learning needs of the students.

Background and Purpose of the Research:

I was involved in a collaboration with the UK school in 2021 and had also attended the British Council Action Research online symposium in 2019. This opportunity developed my interest in Action Research as an educator. My Action Research primarily focused on improving reading fluency among the Additional Learning Needs (ALN) students of Grades II, III and IV in a CBSE School. I along with the team of English Teachers devised a teaching plan in collaboration with Primary Teacher Ms. Susan Robinson, Walpole Cross keys Primary School, Norfolk, England and her students of Grade I entry level students (age between 4 to 6). This teaching lesson plan covered small group guided reading lessons using digital AI tools and different strategies to improve reading skills and comprehension among the learners with additional learning needs. The team of teachers followed a "Student Study Success Team Process" and home support called "Parent Partnership" to improve students' reading skills. We advised parents on how they can assist their children at home in using the tools and strategies and recording their weekly progress. This Action Research culminated into a successful project that improved the student's capacity in reading and comprehension immensely and developed joyful learning and interest in

learning other subjects as well.

Problem Statement:

Some students are not able to achieve expected foundational literacy needs by grade four due to lack of English language skills.

Objective:

To develop and test the collaborative phonetics instruction for inclusive foundational literacy in India and England.

Research questions:

- 1) Can early intervention help (ALN) additional learning needs students in improving their academic performance and attention span in learning English and all English medium subjects?
- 2) Can teaching strategies used by English Language teachers in schools in England be used for effective learning outcomes for Indian students as well?
- 3) Can different digital techniques and methods of teaching phonemes and phonetics help build confidence in reading and English comprehension among students?
- 4) Can strategies like “Student Study group Teams” and “Parent Partnership” enable students to better engage with English Learning and comprehension?

Hypothesis:

Research Hypothesis: - There is a significant difference of mean scores in post- test after implementation of collaborative phonetics instruction for inclusive foundational literacy in India and England.

Null () Hypothesis: - There is no significant difference of mean scores in post- test after implementation of collaborative phonetics instruction for inclusive foundational literacy in India and England.

Scope:

1. Selected Primary school students of Grade II, III and IV (Age 6-8) in S. B. Patil Public School, Ravet, Pune, Maharashtra, affiliated to CBSE.
2. Selected Primary school students of Grade I (Age 4-6) entry level in Walpole Cross keys Primary School, Norfolk, England, a state funded school following National Curriculum for England.
3. Primary focus is on using the collaborative teaching Instruction and Lesson Plan (Annexure 1) with digital aids and tools like internet, Apps and AI Microsoft Immersive Reader for improving fluency in English reading and comprehension.

Time Duration:

The project was carried out from April,2021 to June, 2022 as a collaborative project between S. B. Patil Public School, India and Walpole Cross keys Primary School, Norfolk, England

Population and Sample:

Population:

- Primary school students of Grade II, III, IV (Age 6-9) from S. B. Patil Public School affiliated to CBSE (Central Board of Secondary Education)
- Primary school students of Grade I (Age 4-6) entry level in Walpole Cross keys Primary School, Norfolk, England, a state funded school following the National Curriculum for England.
- Primary school English Teachers of S. B. Patil Public School affiliated to CBSE (Central Board of Secondary Education) and Walpole Cross keys Primary School, Norfolk, England, a state funded school following the National Curriculum for England.

Sample:

- Purposive (Criterion based judgment) sample of selected 91 students of grade II, III, IV from S. B. Patil Public School affiliated to CBSE (Central Board of Secondary Education)
- All entry level 8 primary school students of Grade I (Age 4-6) in Walpole Cross keys Primary School,

Norfolk, England, a state funded school following the National Curriculum for England.

- Six primary school English teachers for II, III, IV from S. B. Patil Public School affiliated to CBSE (Central Board of Secondary Education)
- One Primary school English teacher for Grade I (Age 4-6) entry level in Walpole Cross keys Primary School, Norfolk, England, a state funded school following the National Curriculum for England

Research Design:

One Group Design Pretest – Posttest Research Design: Selected 91 students grade II, III, IV from S. B. Patil Public School affiliated to CBSE, India and 8 primary school students of Grade I (Age 4-6) entry level in Walpole Cross keys Primary School, Norfolk, England for this action research study and testing.

Variables of Study:

Independent Variable:

One group of selected 91 students grade II, III, IV from S. B. Patil Public School affiliated to CBSE, India and 8 primary school students of Grade I (Age 4-6) entry level in Walpole Cross keys Primary School, Norfolk, England.

Dependent Variable:

Pre-Test and Post-Test scores of students before and after the intervention.

Tools of Data collection:

- Pretest and Post-test scores were decisive to conduct the study and test the effectiveness of the method for achieving the desired learning outcomes and academic scores.
- Students Work.

Tools of Data Analysis:

- Mean of Pre and Post test scores

Tools of Data Representation:

Tables
Graphs
Charts
Google AI

Interventions: Students were divided into following groups in both schools: -

1. Green Team – Level A (below grade level learners)
2. Blue Team – Level B and C (At and Above grade level learners)
3. Red Team - Level D (Additional Learning Needs)

Report from the English Teachers at S. B. Patil Public School, India: -

List of students under three groups for Grade II: -

Sr. No.	Group A Green Team – Level A (below grade level learners)	Blue Team – Level B and C (At and Above grade level learners)	Red Team - Level D (Additional Learning Needs)
1	Ananya Itkarkar	Pranjal Ghumre - C Level	Swayam Kamble
2	Hardik Patil	Divyansh Palherkar - C Level	Akshita Bhondve
3	Pihu B	Aalap K - C Level	
4	Juber Pathan	Alok P - C Level	
5	Soham Z	Shlok P - B Level	
6	Savni B	Prateek K - B Level	
7	Aarya Sonar	Sharvari - B Level	
8	Aarohi	Ishita C - B Level	
9	Tanishka J	Tanuja Erandole - C Level	

10	Shambavi	Shripada - C Level	
11	Sparsh B	Stavya S - C Level	
12		Parnal K - C Level	
13		Sharanya D - C Level	
14		Pranav S - C Level	
15		Uditi C - C Level	
16		Heetansh K - C Level	

Link to individual student Observation report: - <https://shorturl.at/rQdKi>

Phonetics in Inclusive Classroom - Day 1 - Grade I and II - https://youtu.be/XSef5_tAdGM

Phonetics in Inclusive Classroom - Day 1 (part 1)- Grade III and IV - <https://youtu.be/EhZtEpFm4o8>

Phonetics in Inclusive Classroom - Day 1 (part 2)- Grade III and IV - <https://youtu.be/j3854L1aYYg>

Report from the English Teacher at Walpole Cross keys Primary School, England: - Phonic sessions

Note: It is important to state that the same children were also taught the systematic phonic scheme followed in our setting.

8 Reception (age 4) children took part in the sessions.

Pre session assessments (Pre-Test) showed:

- 2 children knew 26 phonemes
- 1 child knew 15 phonemes
- 5 children knew 0 phonemes.

Day 1.

Activity 1: All children were able to identify how many words were in the sentence. All children struggled with rhyming words, they needed lots of support and encouragement. They responded very well to the syllable activity and enjoyed taking turns.

Level A/D Activity 2: initial sounds.

- 3 children found this activity easy and were able to identify the words with the same sound and articulate the initial sound of the odd word. They were also able to think of other words with the same initial sound.
- 3 children struggled and needed some support. Unable to think of other words with the same sound.
- 2 children needed lots of support to recognize the initial sounds in any of the words.

Level B Activity 2: sing, sound and clap with me.

- All children were able to participate successfully with this activity.

Level C Activity 3: I can read.

- 2 children were able to read short phonetic sentences. I am sad, I can run, as I do not know the tricky word 'the'.
- 4 children could blend some words sad, can, rat.
- 2 children could sound out but were unable to blend words.

Day 2.

Activity 3: Word groups.

- All children are able to change initial sound cards to make rhyming words. Eg: using a 'c' card, 'a' card and 't' card made cat. Children changed the initial card to make a new word.

- Compound words not completed.

Day 3.

- All children are able to identify the number of syllables.
- 5 children were able to segment CVC (Consonant-Vowel-Consonant) and CVCC (Consonant-Vowel-Consonant-Consonant) words.

Day 4.

Activity 4: All were Children unable to complete the group written activity.

Day 5. All children completed Green Team activity.

- 5 children identified initial sounds and wrote it in sand.
- 3 children were able to segment whole words and write in books. Cup, rat, mat, tin, pin, pot, bin.

Final Assessment of 8 Students from Walpole Cross keys Primary School: -

- Children have enjoyed the syllable activities and highlighted the need for more sessions centered around rhyming words.

Data Collection for S. B. Patil Public School: -

1. No. Of Students selected for the Action Research Project (Grade II, III and IV) = 91
2. Total selected students after the Pretest (Grade II, III and IV) - Absent Students= 54
3. Total No. Of students after Post Test - Absent due to unavailability of online mode/other issues = 54 - 9 = 45
4. No. Of Teachers Involved = 6
5. Teacher Mentors and School Coordinators = 5
6. No. Of Boys = 31
7. No. Of Girls = 23
8. Gender Balance = 31:23(Boys: Girls) = 1.34 approximately 57.4% boys and 42.6% girls.
9. Percentage of Level A and D (Additional Needs Students) Post Test = (45 - 32) = 13 Students (Scores =< 5 out of 10 in Screening Test) = $13/54 * 100 = 24.07\%$
10. Percentage of Socio - Economically disadvantaged students = 16 = $16/91 * 100 = 17.58\%$
11. No. Of ALN students (Scores =< 4 out of 10 in Screening Test) = 2

Data Analysis of S. B. Patil Public School, Ravet, Pune, India Refer (Annexure 2):

Summary of Mean Score Comparison using Google AI

The following table highlights the shift from pre-lesson baselines to post-lesson achievements.

Group	Pre-Lesson Mean	Post-Lesson Mean	Gain in Score
Grade II	5.561	7.704	+2.143
Grade III	5.561	7.750*	+2.189
Grade IV	5.862	7.750*	+1.888

*Note: Post-test data for Grades III and IV were calculated as a combined group.

Key Analytical Findings: -

- **Significant Knowledge Gain:** There is a notable increase in the central tendency (average) of scores for every grade. An increase of approximately **2.0 points** on a likely 10-point scale indicates a substantial improvement in the "typical" student's understanding of phonetics.
- **Effectiveness of the Lesson Plan:** The consistent rise in mean scores across different cohorts (Grades II, III, and IV) serves as strong evidence for the effectiveness of the proposed lesson plan.
- **Reduced Performance Gap:** Before the intervention, Grade IV had a slightly higher baseline (5.862) than Grades II and III (5.561). After the intervention, all groups reached a similar high-performance plateau of **7.70–7.75**, suggesting the lesson plan was effective regardless of the starting baseline.
- **Impact of Attendance:** Your notes indicate that "students without scores were absent," meaning these mean scores accurately reflect the progress of the **present** and participating students.

● **Percentage Improvement, we use the following formula:**

$$\text{Percentage Improvement} = \frac{\text{Post Test Mean} - \text{Pre-Test Mean}}{\text{Pre-Test Mean}} \times 100$$

Percentage Improvement by Grade: Here is the quantified impact of the phonetics lesson plan:

Group	Pre-Lesson Mean	Post-Lesson Mean	Percentage Improvement
Grade II	5.561	7.704	+38.54%
Grade III	5.561	7.750	+39.36%
Grade IV	5.862	7.750	+32.21%

Analysis of Growth: -

- **Highest Growth: Grade III** saw the most significant relative improvement at **39.36%**.
- **Consistent Impact:** Both Grade II and Grade III experienced nearly identical growth (approx. 39%), suggesting the lesson plan was highly effective for those developmental levels.
- **Strong Performance:** While Grade IV had the "lowest" percentage of growth (32.21%), this is because they started with a higher baseline score; they still achieved the highest overall post-test mean of 7.75.

Result Analysis of Level A and D (Additional Learning Needs Students): -

Rubrics for reading score criteria after screening test of selected low performing students: -

Core group (Low Risk) = 52+ words per minute (Level B and C)

Strategic (Risk) = 37 - 51 words per minute (Level A)

Intensive Risk = 0 - 36 words per minute (Level D)

No. Of students (Level D) with IEP (Individual Remedial/Education program) = 2

No. Of students (Level A) = 11

Total Level A and D (Additional Learning Needs Students) = 13

Average words per minute (WPM) of Intensive students (Level A) = 25-30

Average words per minute (WPM) of Intensive students with IEP (Level D) = 25-30

No of ALN Boys = 5

No. Of ALN Girls = 8

WPM for ALN students after the SST (Student Success Team) lesson activity supported by "Parent Partnership" = 36- 42 words (Except Absent students)

WPM for ALN students in Remedial after school = 36 - 40 words (Except Absent students)

No. of Students who attended the final assessment = 43

No. of students who achieved the desired learning outcome from actual selected 54 students = 54 - (4+ 9 Students score less than 6 + Absent for Final assessment but attended all activities) = 41 (Students who scored => 6 out of 10)

Pre and Post Test Scores Rubric Wise Grade II Link: - <https://shorturl.at/EWzgW>

Post Test Result: -

Percentage of students achieved the desired learning outcome (**52+ words per minute**) from actual 45 students who gave the final assessment= $41/43 * 100 = 95.34\%$

Refer to data analysis of the mean scores of pre and posttests in the (Annexure 2).

Thus, the results reject the null hypothesis and accept the Research hypothesis to prove that there is a significant difference of mean scores in post- test after implementation of collaborative phonetics instruction for inclusive foundational literacy in India and England.

Major Findings:

- i.Result analysis is done by all English Teachers and Action Research Team Ms. Susan Robinson for Walpole Cross keys Primary School, Norfolk, England and Ms. Anjali Gugale for S. B. Patil Public School.
- ii.Pre-Test shows that students' scores are comparatively lesser than the scores in posttest.
- iii.Feedback and concerns about students' performance in English comprehension were received from the parents on the Open Day of EVA I.
- iv.The performance of the students was found to be better after the implementation of collaborative phonetics instruction for inclusive foundational literacy in India and England.
- v.This shows that the programme on innovative learning techniques was effective. The directional research hypothesis is accepted, and Null hypothesis is rejected.

Conclusion: -

Foundational Literacy is important to learn every subject taught in the English medium for every student. Teaching phonemes and phonetics is an essential skill to achieve that.

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 better learn the phonemes and phonetics and improve their English comprehension in their early years of education.
- This research would nurture and cater to additional learning needs (ALN) students in English and all subjects taught in English medium.
- This research would be of great help for the English teachers who would use the innovative techniques for teaching phonemes and phonetics for giving a good learning experience to the students.

Recommendations: -

Henceforth, the same strategy will be used for preprimary and primary grade I, II and III students to ensure foundational literacy among all students of Primary Section.

References

Action Research:

- https://ciet.ncert.gov.in/action_research
- <https://catalog.csub.edu/course-descriptions/edrs/>
- <https://ecampusontario.pressbooks.pub/actionresearchhandbook/>
- https://www.teachersnetwork.org/tnli/Action_Research_Booklet.pdf
- <https://www.fldoe.org/core/fileparse.php/7690/urlt/0070126-action-res.pdf>

Teacher Handbook on Phonological awareness and Phonetics: -

- <https://shorturl.at/2B296> - Phonetics Teacher Handbook from Walpole Cross keys Primary School, Norfolk, England
- <https://url-shortener.me/E72O> - Phonics Help Sheet

Annexure 1

Note: All Links have Restricted Access. Send a **Request Access** email or viewing the files.

S.B. Patil Public School selected to join a Collaboration with Norfolk School by British Council - Tue, June 15, 2021 - School Walkthrough Collaboration - Grade III and IV -

All Emails Interaction Drive Link (Request Access for viewing): -

- <https://shorturl.at/1RelN>
- <https://shorturl.at/p3NFf>
- <https://shorturl.at/RmEc4>
- <https://shorturl.at/BII3N>
- <https://url-shortener.me/E77T>

Teleconferencing Privacy Policy link: -

- <https://shorturl.at/Khm6i>

Collaborative Lesson Plans Links: -

- <https://shorturl.at/4uhTd> - S.B. Patil Public School, Ravet, Pune, India
- Steps to conduct Action Research - <https://url-shortener.me/E7I6>

Teacher Handbook on Phonological awareness and Phonetics: -

- <https://shorturl.at/2B296> - Phonetics Teacher Handbook from Walpole Cross keys Primary School, Norfolk, England
- <https://url-shortener.me/E72O> - Phonics Help Sheet

Attendance link of Grade II, III and IV students for Post Test: -

- <https://shorturl.at/B9dUK> - Grade II
- <https://shorturl.at/03dod> - Grade III and IV

Assessment Link of Students Grade II Post Test:

- Pre and Post Test Scores Rubric Wise Grade II Link: - <https://shorturl.at/EWzgW>

Link to individual student Observation report: -

- <https://shorturl.at/rQdKi>

Grade II - Activity Video links:-

- Phonetics in Inclusive Classroom - Day 1 - Grade I and II - https://youtu.be/XSef5_tAdGM

- Phonetics in Inclusive Classroom - Day 1 (part 1)- Grade III and IV - <https://youtu.be/EhZtEpFm4o8>
- Phonetics in Inclusive Classroom - Day 1 (part 2)- Grade III and IV - <https://youtu.be/j3854L1aYYg>

Student Feedback Link: -

- <https://shorturl.at/t0BSf>

Parents Feedback Link: -

- <https://shorturl.at/9Eer9>

Students certificate link: -

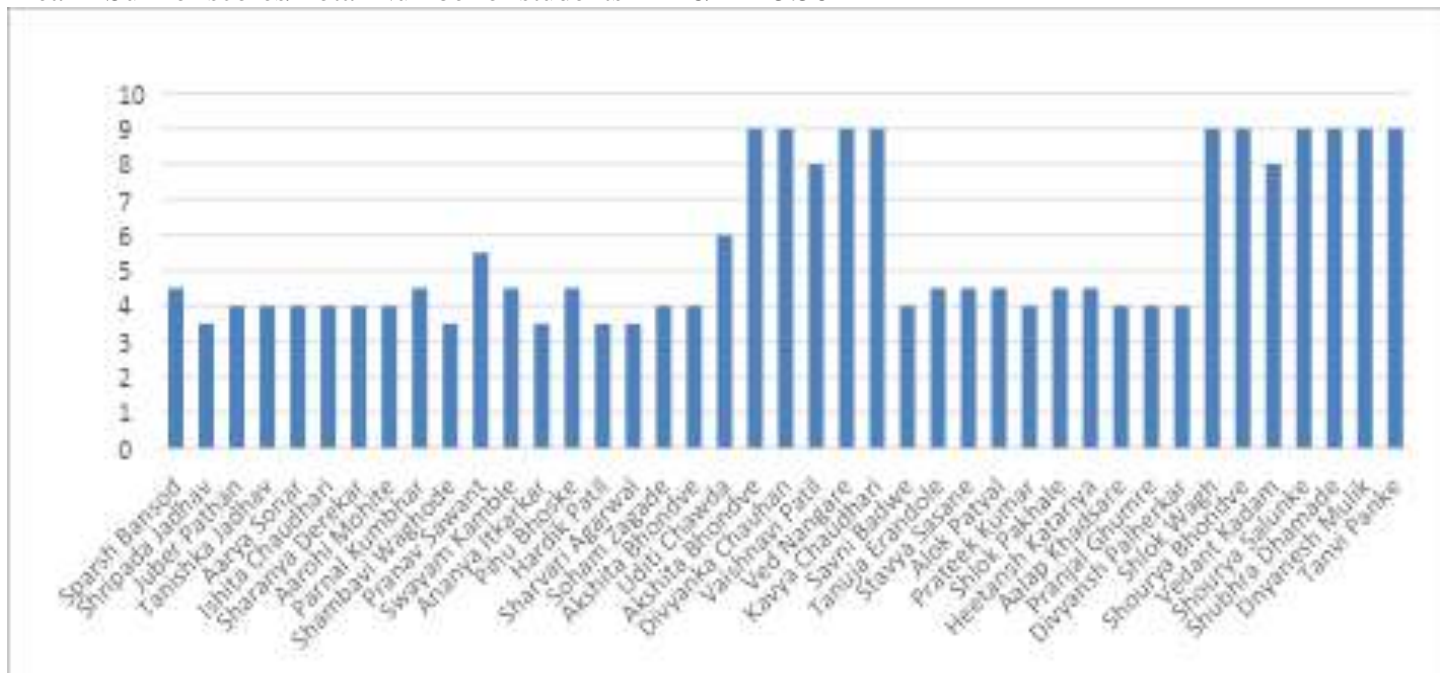
- <https://url-shortener.me/E762>
- <https://url-shortener.me/E768>

Annexure 2

**Assessment Result of screening Pretest (91 Students - absent students) before the proposed lesson plan on Phonetics: -
Grade II: -**

There are 41 present students with recorded scores.

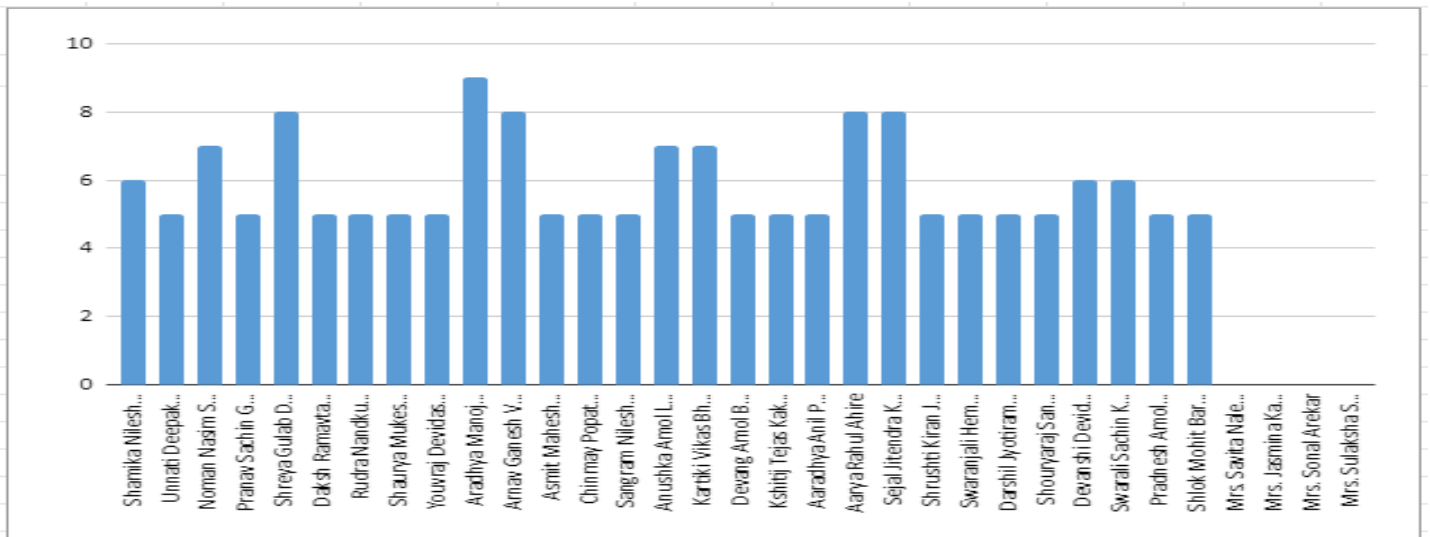
Mean= Sum of scores/Total Number of students = 228/41 =5.561



Grade III: -

There are 30 present students with recorded scores.

Mean= Sum of scores/Total Number of students = 174/30 = 5.561

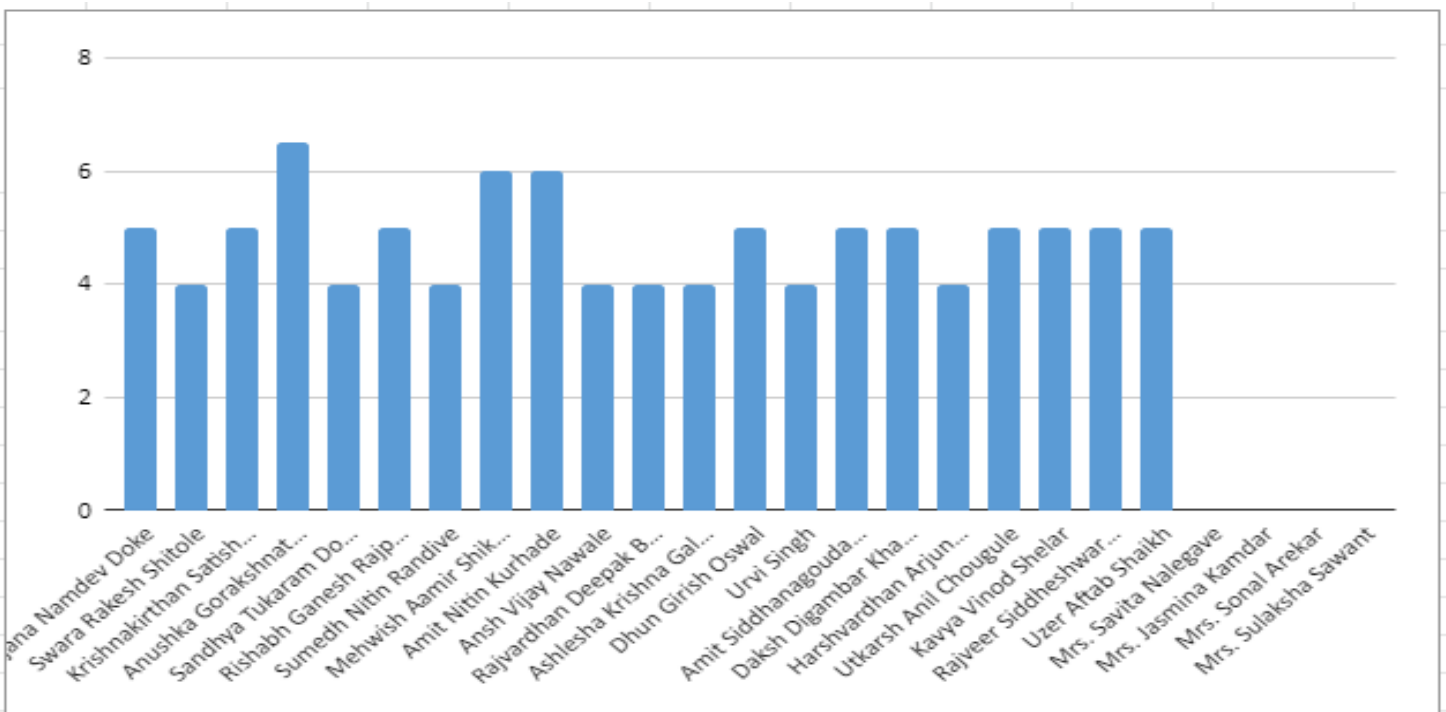


Note: Students without scores were absent for the test.

Grade IV: -

There are 29 present students with recorded scores.

Mean= Sum of scores/Total Number of students = 170/29 =5.862

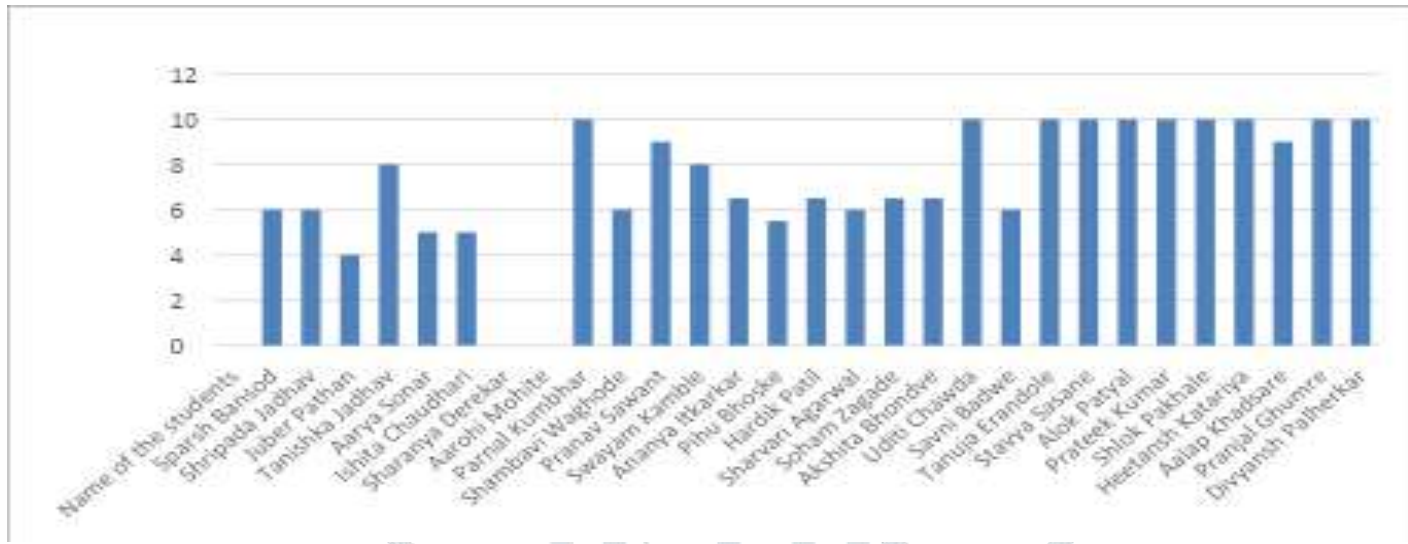


Post Test Assessment Result after the proposed lesson plan for actual selected (54 students) on Phonetics: -

Grade II: -

There are 27 present students with recorded scores.

Mean= sum of scores/Total Number of students = 208/27 = 7.704



Note: Students without scores were absent for the test.

Grade III and IV: -

There are 16 present students with recorded scores.

Mean= Sum of scores/Total Number of students = 124/16 = 7.75

