# Revolutionizing Reading With The Let's Read-Reading Age Diagnostic Test

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#### **ABSTRACT**

Measuring the level of literacy has been of interest to educators for decades. Reading involves many different components-phonemic awareness, ability to decode and construct sounds, comprehension, fluency and speed- most batteries differ in the methodology that they use and in the abilities that they assess. Some international tools - like **PIRLS** (Progress in International Reading Literacy Study, International Association for the Evaluation of Educational Achievement), **PISA** (Program for International Student Assessment, OECD) measure reading ability for children above the age of 7-8 years. This makes intervention difficult for poor readers. The Let's Read Reading Age Diagnostic Tool (LR-RADT) is based on the Let's Read program and follows the common pattern of teaching reading through phonics in most of the Montessori and preschools in India. It was developed to track the acquisition of decoding and syllabification reading skills in children as early as four years. This article is written to establish the validity and reliability of this tool as an effective and efficient test for acquisition of phonetic reading skills in Early Years.

**KEYWORDS:** Reading Age, Diagnostic tool, phonetic reading, phonological awareness, decoding, encoding, Montessori, preschools, Early Years, reading in early years

#### 1. Introduction

### Reading Acquisition- A Brief Insight

Basic literacy is the foundation that children need to be successful in all other areas of education. Children first need to "learn to read" so that they can "read to learn." That is, as children pass through the grade levels, more and more academic content is transmitted to them through text, and their ability to acquire new knowledge and skills depends largely on their ability to read and extract meaning from text. For example, math is an important skill, but using a math book requires the ability to read. Acquiring literacy becomes more difficult as students grow older; children who do not learn to read in the first few grades are more likely to repeat grades and to eventually drop out of school. That is, if strong foundational skills are not acquired early on, gaps in learning outcomes (between students who have mastered foundational reading skills and those who have not) grow larger over time (Adolf, Catts, & Lee, 2010; Daniel et al., 2006; Darney, Reinke, Herman, Stormont, & Ialongo, 2013; Scanlon, Gelzheiser, Vellutino, Schatschneider, & Sweeney, 2008).

Standardized testing and the International Tools for Reading Assessment that were considered before making LR-RADT A standardized reading test is an instrument designed to provide a quantitative measure of one or more aspects of reading behaviour (Teale, William H.; Rowley, Glenn; Standardized Testing and the Teaching of Reading: A Practical Guide with Evaluations of Reading Tests Commonly Used in Australian Schools, 1984). Reading tests cannot measure every component which contributes to effective reading, and so can never present a complete picture of a child's achievements in reading. The tests usually focus on a small number of dimensions which are thought to be important, such as reading comprehension, word recognition and reading vocabulary.

#### There are four purposes for which standardized reading tests are used:

- (i) To assess a student's achievement (attainment) in reading and thereby estimate his/her growth in reading ability.
- (ii) To diagnose a student's strengths and weaknesses in reading and thereby plan instruction. (iii) To assess success in achieving stated goals in the teaching of reading (curriculum evaluation, by individual teacher or school-wide).
- (iv) To deploy resources and/or staff to school. (Teale, William H.; Rowley, Glenn; Standardized Testing and the

Teaching of Reading: A Practical Guide with Evaluations of Reading Tests Commonly Used in Australian Schools, 1984)

Standardized tests are limited in terms of what they can tell the teacher. However, for the teacher who knows how to use

and interpret them, such tests can provide information useful for estimating growth in reading and for diagnosing reading strengths and weaknesses.

Some reading tests are constructed to be attainment (achievement) tests; others are diagnostic tests to plan intervention.

The A.C.E.R. Primary Reading Survey, the A.C.E.R. Word Identification Test, the Co-operative Reading Comprehension Test, GAP/GAPADOL, the Progressive Achievement Test and the Schonell Reading Tests are all achievement tests. They are designed to give an indication of a student's level of attainment in reading (or in some aspect of reading) vis-a-vis the students in the group upon whom the test was normed.

The Neale Analysis and the Standard Reading Tests, on the other hand, are diagnostic tests. These tests are designed not only to tell the teacher the extent of the reader's achievement but also to indicate specific areas of strengths and weaknesses (e.g., comprehension, vocabulary, auditory, discrimination, syllabification, blending, and so forth). (Teale, William H.; Rowley, Glenn; Standardized Testing and the Teaching of Reading: A Practical Guide with Evaluations of Reading Tests Commonly Used in Australian Schools, 1984).

# The most popular reading tests are the following: PRATHAM

Pratham gives guidance to education systems in order to improve their early literacy programs. It was established in 1995 to provide education to the children in the slums of Mumbai. It has initiated the nationwide Annual Status of Education Report (ASER) in every rural district in India since 2005. (https://www.flnhub.org/about#introduction). Pratham has developed low cost and high impact interventions that help children acquire foundational skills in literacy and numeracy. The Pratham reading test is done to assess the achievement of a child in early years. It is simple to administer but requires training. Reading test starts from the "Grade 1 paragraph" level, then moves to "Grade 2 story" level if the reader is good, otherwise 'familiar common word' level and 'random letter' level (if the reader is not able to read the paragraph) according to the ability of the learner. The data is recorded meticulously and then an analysis report is given to the school and parents. It also gives direction for action by the school after the assessment.

### **EGRA - Early Grade Reading Assessment**

EGRA is a reading test that is done at the pre-reading and reading level. It is a one-to-one test done for kindergarten and primary school children. An EGRA can be done in different contexts and in different languages. The program believes that learning to read requires similar basic skills, but the importance of those skills can differ in different languages. It tests students for understanding language (concept of print and language), recognising words (sounding out letters and their names, familiar words), fluency and comprehension. (RTI International. 2015. Early Grade Reading Assessment (EGRA) Toolkit, Second Edition. Washington, DC: United States Agency for International Development). Each subtest is detailed and is mostly done orally with an assessor.

# Example: For the substest of letter sound identification, the child's score is calculated as the number of correct letter sounds read per minute.

clspm = (Total letter sounds identified – Total incorrect) / [(60 – Time remaining on device) / 60]

Similar to the letter sound identification exercise, in the 'familiar word reading test' three variables are collected for calculating this result: total words read, total incorrect words, and time remaining.

Because the data collection was time consuming, the EGRA team has now shifted from manual data entry to electronic data collection. The implementation of the test requires candidates who go through an intensive selection and training process. (https://earlygradereadingbarometer.org/downloads/EGRA\_Toolkit\_Second\_Edition\_March\_8\_2016\_Final\_English.pdf)

# **BURT Reading Test**

The Burt Reading Test (1974) Revised is a standardized test that was designed by Burt Ingalls, (1974). It was later revised in 2007 by the Scotland Centre Research in Education (SCRE) at the University of Glasgow. It was designed to be used for children aged 6 years 5 months and over and was meant to be used by teachers in class to identify children with reading difficulties. The test comprises 110 words arranged in groups of ten and presented with increasing order of difficulty. This is dependent on the reading level of the child. The test is discontinued when the child makes 10 errors in succession. A raw score is calculated by counting the number of words that have been read correctly. It is then converted into a reading age

by comparing it with the corresponding reading age on a given table. The discrepancy in reading is then obtained by getting the difference between the reading age obtained and the child's chronological age. A discrepancy of more than 9 months indicates that the learner is struggling with reading.

#### Schonell's Reading Age Test

The Schonell's Reading Test was written in Australia and first published in Britain in 1950. Although there is no standardization data for the test, it is widely used by teachers globally to identify children with reading difficulties. The Schonell Reading Tests consist of four parts: a Graded Word Reading Test (R1, a word recognition test), a Simple Prose Reading Test (R2) and two Silent Reading (R3 and R4). The R1 is the most common test used across the world, and the R2,3,4 are hardly administered. The R1 test comprises 100 words arranged in groups of ten and presented with increasing order of difficulty. This is dependent on the reading level of the child. The test is discontinued when the child makes 10 errors in succession. A raw score is calculated by counting the number of words that have been read correctly. It is then converted into a reading age by comparing it with the corresponding reading age on a given table. The discrepancy in reading is then obtained by getting the difference between the reading age obtained and the child's chronological age. A discrepancy of more than 9 months indicates that the learner is struggling with reading.

# **Hertfordshire Sentence Reading Test**

The Hertfordshire Sentence Reading Test was devised by teachers of Hertfordshire school and validated by class teachers and headteachers from 70 schools in the district. A reading age, increasing in three-monthly intervals, is awarded for each consecutive sentence. Testing stops on the sentence that the fourth error is made.

#### Neale Analysis of Reading Ability (1966)

The Neale analysis of reading ability (NARA) is the most widely used standardized and diagnostic test of reading in Australia. It assesses the oral reading, accuracy, comprehension, and fluency of students aged 6 to 12 years. The test is designed to assess oral reading ability in terms of reading rate, accuracy and comprehension that can be used as a diagnostic assessment tool. The material consists of a test book. It contains three sub-tests, each consisting of six pictures with stories related to these pictures. There is increasing difficulty in the stories both in terms of letter size and length and difficulty of words. These tests are designed according to age. Every story or passage has four or five comprehension questions that follow. The learner is marked for mispronunciation, substitution, refusal, omissions, additions and reversals. Material also consists of three additional tests with a focus on alphabet, auditory discrimination and phoneme synthesis / recognition of syllables. NARA has a detailed qualitative assessment report that is filled by trained assessors.

# The need for a new tool and the purpose of LR-RADT

Although schools across India still follow the alphabet-spelling method to teach reading in English, a lot of schools have recently started experimenting and adopting the phonics-based approach. Research shows that students who receive one or two years of phonics instruction outperform those who do not learn to read through phonics. (Shenoy, S., Iyer, A. & Zahedi, S. Phonics-Based Instruction and Improvement in Foundational Reading Skills of Kindergartners in the Indian Schooling Context. Early Childhood Educ J 52, 73–85 (2024)). In India, English is still considered as a language for upward mobility, and schools are committed to use English as a medium of instruction. (Lightfoot et al., 2022)

Systematic phonics instruction is the method with strongest empirical support for developing decoding skills and reading comprehension (Castles et al., 2018; Ehri et al., 2001). Systematic instruction is characterized by a specific scope and sequence, building on prior knowledge and moving from simple to complex skills (Ehri, 2020). In addition, phonics instruction is considered most effective when it is explicit; explicit instruction entails direct instruction and explanation of a concept, modelling of the concept's application, and guided practice combined with feedback (Piasta & Hudson, 2022). In English, the 26 letters (graphemes) represent 44 sounds (phonemes) and understanding the relationship between a single letter/letter combinations and sounds aids in decoding words. Thus, a goal of phonics instruction is to understand patterns and generalizations of letter-sound connections for accurate decoding (Ehri, 2020). Evidence on classroom phonics instruction for struggling readers in India is currently limited. In a study targeting low-income private schools in India, Dixon and colleagues (2011) utilized a phonics programme called Jolly Phonics including lesson plans for instruction. The experimental group showed significant improvement in reading and spelling skills and classroom instruction had a strong effect (d = 1.20) on students' ability to blend three-letter sounds and pronounce words. In a recent study (2022), Shenoy

and colleagues examined gains in English literacy skills of students when exposed to zero to two years of phonics instruction in a private mid-income pre-primary school in India. Their results indicated that students receiving one-two years of phonics instruction made statistically significant gains in phoneme segmentation, first sound fluency, and nonsense word fluency (d = 1.19, p < 0.01; d = 1.42, p < 0.01). Their scores were one standard deviation higher than the students who did not receive phonics instruction. In fact, the effect size of the programme was two-three times larger than the effect size (d = 0.41) reported by the US National Reading Panel (Ehri et al., 2001). Results of these studies provide evidence on the effectiveness of phonics instruction as opposed to the alphabet-spelling based instruction for English as a second or third language learners in India.

Classroom phonics instruction has shown potential for phonological awareness and reading skills development in learners with low-reading levels in India. To obtain strong learning outcomes, it is equally important that teachers find the motivation to incorporate the diagnostics data into their classroom teaching. (Bora, D., Patel, P., Psyridou, M., Ruotsalainen, J., Richardson, U., & Torppa, M. Foundational English literacy development in India: a randomized-control trial using phonics instruction and GraphoLearn.)

Thus, we establish that the alphabet-spelling method is prevalent in India and reading is acquired through sight word memory and rote learning method and phonics reading requires letter to sound association which takes time but gives better results. Both the popular classroom tests - Schonell and Burt - have 100 words given in groups of ten. These words are arranged from common and simple words to complex and uncommon words. They are mostly non-phonetic sight words which learners learn from memory if they are given enough exposure.

Moreover, there are NO tests which are entirely phonetic in nature and test the decoding skill of the learner. Hence, LR-RADT is unique because it progressively tests the decoding skills of the learner and makes the result coherent to stakeholders like parents by associating it with a 'Reading Age'. Moreover, the test is quick and hardly requires any training.

#### 2. What is LR RADT?

Let's Read-Reading Age Diagnostic Tool (Appendix A) is a simple test of words and phrases to test reading ability in Early Years. 85% of selected words are phonetic and the test is done to administer whether the learner has learnt the skill of "decoding" a phonetic word. The test is 'diagnostic' because it not only tells the teacher the ability of achievement of a child but also helps the teacher to identify instructional needs of every child. The LR-RADT is also a criterion-referenced tool i.e it focuses on what a learner can and cannot read instead of comparing the learner to other children. The term "Reading Age" has been used to make the score interpretable for all stakeholders. The Reading Age is meant to be an estimate or be a reference point of the reading ability in order to track progress or plan for effective intervention. The colour code key (Appendix B) that is given along with the test pinpoints the criteria for which the Reading Age is allotted. This enables teachers who follow a different pattern of teaching and learning to evaluate the discrepancies.

The LR-RADT is designed to match the Let's Read program, which has a similar progression to the most common and popular pattern of teaching phonetic English reading skills (https://www.twinkl.co.in/teaching-wiki/order-of-phonics-teaching) in Montessori schools (https://montessori-ami.org/questions/phonetic-approach-language) and preschools in India (https://www.jollylearning.co.uk/jolly-phonics).

The words in the test have been divided into 5 main categories- Level 1 has CVC words which children mostly learn in junior KG in school, Level 2 has words with blends, digraphs and magic-e which children mostly learn in Sr. KG, Level 3 has word families with long vowel sounds, phonograms, spelling alternatives and silent letter words that students learn to read mostly in Grade 1. After that is a group of tricky words with alternate spelling rules that avid readers would commonly come across or should be able to read independently. The last group of words are uncommon and meant for those who have high exposure to reading (Appendix C). Thus, the test maps out the Reading Age according to the most probable age in which those reading skills should be acquired according to the Let's Read program. (Appendix D) Throughout the test, the teaching/learning period for acquiring reading skills has been considered. Learning to read CVC words has been stretched for a whole year, because it usually takes young children (approx. 3 years old) that long to develop fluency in reading CVC words and passages in the first year of school.

The test is administered from top to bottom, left to right and is discontinued when a child makes three consecutive errors. The discontinuation count of 3 mistakes is because after every three words approximately, there is a new spelling rule.

Discontinuation after the usual count of five/ten errors would mean skipping a lot of groups in between. Children in India start their education in Nursery class at three years of age. In most preschools, children learn phonological awareness, isolating sounds, identifying symbols and associating them with sounds in Nursery. Thus, errors in the first three words of the test indicate that the child has not yet learnt to join sounds to make words or maybe the child has not learnt to identify all the letters and their sounds. In this case, the Reading Age may be written as B4 (Below 4 years) or simply 3. The reading age is monitored and recorded in a table (Appendix D) and compared to the chronological age of the child at the beginning of the year (BOY), middle of the year (MOY) and end of the year (EOY). The ideal situation is to have a Reading Age that is equal to the Chronological Age.

In the LR-RADT, the Reading Age does not have to be calculated (as in other tools). The first of the three consecutive mistakes that a child makes is directly translated into the reading age in a table given (Appendix B). The discrepancy in reading is then obtained by getting the difference between the reading age obtained and the child's chronological age. A discrepancy of more than 6 months indicates that the learner is struggling with reading.

#### 3. Analyzing the Reading Age derived from LR-RADT

The Reading Age in LR-RADT is meant to be a starting/ reference point for a teacher to plan for intervention and differentiation. A colour code key is given for the reference of the teacher and recommends areas for intervention. These colour codes refer to the exact area of learning where the child is struggling. Example: A reading age of 6.4 years indicates a struggle in reading words with the Long vowel I family (ie, igh, ia, y). So, the teacher clearly knows that the child has read A family combinations (ai,ay,eigh, ei) = RA 6.2 years and E family combinations (ee,ea,y) RA= 6.3 years but has not yet learnt I family combinations RA=6.4 years, and this is where the intervention has to start.

In a classroom set up, the teacher can make groups of children who are struggling in common areas and plan intervention accordingly. This makes differentiation within a class more effective and efficient. After two months of intervention, when the new RA is recorded, the groups should be shuffled again.

LR-RADT helps to track every child's individual progress over a period of time. In spite of intervention and effort by the teacher, if a child has consistently poor reading age, then it is an indication of a red flag (especially if a child is stuck in the first two rows). Teachers should consider all possible reasons for the poor reading record and if there is still no valid explanation then, the child should be referred for screening of learning difficulty by a professional. Early diagnosis and intervention is crucial.

The data generated for the whole class is also indicative of the effort of the teacher! In a few schools it was observed that on comparing two sections of the same grade, the consistently below average reading age of students of one class reflected the inability of the teacher to do proper intervention and when the teacher was changed, the reading age for most of the class improved.

# Difference between LR-RADT and other Reading Tests and Comparison to the scores of BURT and Schonell Reading Assessment

Paired Samples Statistics								
		Mean	N	Std. Deviation	Std. Error Mean			
Pair 1	LRRADTLetsRead	6.256230	61	.9313201	.1192433			
	SchonellsTest	7.170984	61	1.1808397	.1511910			
Pair 2	LRRADTLetsRead	6.256230	61	.9313201	.1192433			
	BURTReadingTest	7.087377	61	1.2589055	.1611863			
Pair 3	SchonellsTest	7.170984	61	1.1808397	.1511910			
	BURTReadingTest	7.087377	61	1.2589055	.1611863			

# **Paired Samples Correlations**

Paired Samples Correlations						
		N	Correlation	Sig.		
Pair 1	LRRADTLetsRead & SchonellsTest	61	.706	.000		

Pair 2	LRRADTLetsRead & BURTReadingTest	61	.755	.000
Pair 3	SchonellsTest & BURTReadingTest	61	.816	.000

Paired Samples Test								
	Paired Differences							
		Mean Std. Deviation Std. Error M						
Pair 1	LRRADTLetsRead - SchonellsTest	9147541	.8424896	.1078697				
Pair 2	LRRADTLetsRead - BURTReadingTest	8311475	.8252012	.1056562				
Pair 3	SchonellsTest - BURTReadingTest	.0836066	.7435299	.0951993				

Paired Samples Test							
		Paired Differences					
	95% Confidence Interval of the Differe						
		Lower	Upper				
Pair 1	LRRADTLetsRead - SchonellsTest	-1.1305257	6989825				
Pair 2	LRRADTLetsRead - BURTReadingTest	-1.0424914	6198037				
Pair 3	SchonellsTest - BURTReadingTest	1068203	.2740334				

In the tables above, we compare the Let's Read test with the BURT Reading test and the Schonell Reading test, followed by a comparison between the BURT and Schonell tests.

Table 1 presents the mean reading age of students, derived from our analysis with a sample size of N=61. The standard deviations and standard error of the mean indicate that the Let's Read test demonstrates greater accuracy compared to the other tests.

Tables 3 and 4 show the relative mean reading ages across the tests, revealing a significant difference between them. This difference is attributed to the fact that the Let's Read test includes more novel and less frequent words that have to be decoded by the reader compared to the BURT and Schonell tests that have more common high frequency words.

# 4. LR\_RADT - its merits and limitations

LR-RADT helps in orthographic mapping. Orthographic mapping is the cognitive process that we use to store and retrieve words by connecting their pronunciation, spelling, and meaning automatically and effortlessly. Orthographic mapping helps explain the process of how students read fluently, spell words, and learn new vocabulary when reading.

### Merits of LR-RADT

- 1. It is a very simple test.
- 2. Execution of the test does not require extensive teacher training
- 3. Calculating Reading Age is not a tedious process. It is a simple reference only to the key.
- 4. Interpretation of the Reading Age is made simpler by using the color code key.
- 5. The Reading Age makes lesson planning for intervention easier.
- 6. Reading Age helps the teacher to plan for differentiation in the classroom.
- 7. Overall, RA of different classes helps to see progression in reading for a period of time, the quality of the school and can help to predict academic success and learning outcomes.

#### Limitations of the LR-RADT

- 1. It does not test for word meanings
- 2. It does not test for reading comprehension passage
- 3. It does not test reading fluency or speed

#### CAUTION ADVISED WHILE INTERPRETING THE READING AGE

- 1. The Reading Age is meant to be a reference point to track progress in reading and NOT a "label" for the child.
- 2. The Reading Age should not be misinterpreted for intelligence, age related skills or excellence in academics. For example, if a six-year-old child has a RA of eight years, then it does NOT mean that the child is capable of doing tasks that an eight-year-old can do. Nor does it mean that the child should be doubly promoted because of "excellence" in reading (misunderstood as academics).
- 3. In a classroom, variation is expected. Some of the students will either be below average or above average, and some will have a RA that matches their CA.
- 4. Reading Age is also dependent on the teacher and her method of teaching. If the Reading Age of the majority in class does not improve, then it will be worthwhile to check the skills of the teacher.
- 5. The ability to read and write depends heavily on physical development, integration of primitive reflexes (Measuring Primitive Reflexes in Children with Learning Disorders, 2017), sensory integration (Whiton, M. B., Singer, D. L., & Cook, H.,1975), exposure to good vocabulary and communication at an early age (Hirsch, E. D.,2003). All these factors develop naturally in children who live in a nurturing and stimulating environment. However, children who are isolated, exposed to excessive screens and TV, have less physical movement, may consequently have poor concentration (Marie Jourdren, Aurélie Bucaille, Juliette Ropars), reading skills (McArthur, B. A., Browne, D., McDonald, S., Tough, S., & Madigan, S., 2021), working memory and learning difficulty (Mostafa, A. M., Taha, M., & Mostafa, S., 2024).

#### The Scope of the tool - Using LR- RADT across India, Africa and Middle East

As a pilot, the LR-RADT was used to track the reading progress of learners in Tanzania, across states in India (Kashmir, Kagil, Leh, Sangli, Pune, Mumbai, Hyderabad and Kerala), Dubai and Oman. It was used by private tutors, after school learning centres and preschools to check validity and reliability of the tool. The teachers were asked to compare their personal anecdotes of reading ability of the child and the score of Reading Age by the LR-RADT and most of them said it was nearly accurate.

#### Testimonials of pre-primary teachers who have used the LA-RADT

In a survey done to check the parameters of the tool, its validity and reliability,

- 1. 52.9% teachers said that the tool was very simple and easy to use and 34.8% said it was mostly simple and easy to understand, 13% teachers thought they needed support to use it effectively.
- 2. 55.9% said that the tool did not require teacher training at all, 38.2% said that it was easy to implement with a little bit of instructions, 6% teachers said that they needed more training.
- 3. In terms of time taken to implement the tool, 14.7% said that they could do the test within a minute and 61.8% said that it was not time consuming, 24% said that with older children it was time consuming.
- 4. 32.4% teachers said that the test scores matched exactly to the level of the child, 55.9 % said that it was very close to the actual ability of the child. 11.9% said that it was 50-50, some were accurate and some results were not.
- 5. 72 % of the teachers said that the color code key was excellent for interpretation while 38% said that the color code key was very good for interpretation of reading age. No candidates said that the information was not helpful or irrelevant.
- 6. 55.9% teachers said that LR-RADT made teaching and planning much simpler and efficient, 35.9% teachers said that it helped with planning for games and activities in class. No teacher said that it was not helpful.
- 7. 81.8% teachers said that they received clear and efficient instructions for recording and analyzing data. 18.2 % teachers said that the instructions were clear but they still needed training on recording data. No teacher said that documentation was confusing or exhausting.
- 8. 91.2% teachers said that the LR-RADT was "extremely helpful" and 5.9% teachers rated the tool as "very helpful", the rest of the teachers rated it as "helpful".

# 5. Conclusion

LR-RADT has proved to be a useful tool that gives the teacher a fairly good idea of the reading level of the learner. It is efficient, simple to use, valid and reliable.

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yak	fed	pot	mix	rum	the	
4.0y	4.1u	4.2u	4.3u	4.4u	4.5u	
and	and a tin can 4.6y 4.7y		big bag	fix the wig	rub the dog	
qet the wax	4.7y	4.8y	4.8y pact	4.9y	4.9y bulb	
4.10y 5.0y		5.0y	5.1y	5.1y	5.2y	
tramp	a bell on the hill	sell the lamp	mum swept	crash	chimp	
5.2y	5.3y	5.4y	5.4y	5.5y	5.6y	
patch	thumbkin	shrimps for lunch	decade	compete	reptile	
5.6y	5.7y	5.8y	5.9y	5.10y	5.11y	
cube	look at the waves	waif	whey	vein	cheese	
5.11y	6.0y	6.1y	6.2y	6.2y	6.3y	
weave	chimney	industry	night	diameter	fried	
6.3y	6.3y	6.3y	6.4y	6.4y	6.4y	
ply	moan	throw	soak	shadow	cinder	
6.4y	6.5y	6.5y	6.5y	6.5y	6.6y	
cereal	space	juicy	measure	future	adventure	
6.6y	6.6y	6.6y	6.7y	6.7y	6.7y	
capture echo		mechanic	oblique	quaint	orchestra	
6.7y 6.8y		6.8y	6.8y	6.8y	6.8y	
alphabet cough		sphere	storage	hedgehog	ginger	
6.9y 6.9y		6.9y	6.10y	6.10y	6.10y	
gypsum creation		dictionary	chiffon	chauffeur	moustache	
6.10y 6.11y		6.11y	6.11y	6.11y	6.11y	
parachute	electrician	auspicious	dose	example	busy	
6.11y	6.11y	6.11y	7.0y	7.0y	7.0y	
cousin	dessert	prison	xylem	bruise	glue	
7.1y	7.1y	7.1y	7.1y	7.1y	7.2y	
droop	wound	souvenir	stew	bull	would	
7.2y	7.2y	7.2y	7.2y	7.3y	7.3y	
germ	hurl	swirl	moist	disloyal	jackdraw	
7.4y	7.4y	7.4y	7.5y	7.5y	7.6y	
henry has a coil of rope 7.6y	the lady won a new toy 7.6y	people wear masks 7.6y	sought 7.6y	query 7.7y	sheer 7.7y	
gnome	calm 7.11y	wriggle 7.11y	honour 7.11y	crustacean 8.0y	ocean	
7.10y	7.Hg	9		0.09	8.2y	
ancient	magician	glacier	fuchsia	bolognese	rendezvou	
8.4y	8.6y	8.8y	8.10y	9.0y	9.2y	
queue	plateau	audience	campaign	yacht	colonel	

10.0y

grotesque

12.0y

9.8y

miscellaneous

11.8y

9.6y

scintillate

11.4y

9.4y

conscience

11.0y

10.4y

somnabulist

12.4y

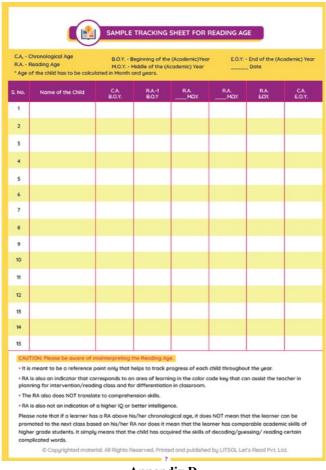
10.6y

idiosyncrasy

12.6y

4.0y-4.10y	5.0y-5.4y	5.5y-5.8y	5.9-6.0y	6.1y-6.2y	6.3y	6.4y	6.5y	6.6y	6.7y	6.8y	6.9y
Level 1 CVC	Level 2 Blend Words	Level 2 Digraphs (ch/sh/th)	Level 2 Magic e (a_e, i_e)	Level 3 A family (वं, व्यु. बं, ब्यु)	Level 3 E family (ee, ea, ie, y)	Level 3 I family (gh, ia, is, y)	Level 3 O family (oq. oe, ow)	Level 3 S family (ce, ci, cy)	Level 3 ch family (tch,ture,sure)	Level 3 /k/ family (que, dt, qu)	Level 3 F family (ph.gh)
Level 3 J family (ge.dge.gl.gu)	Level 3 Sh family	Level 3 /z/ family (x.s)	Level 3 00 family (00, ut. ue)	Level 3 Bossy R family (or, or, ir)	Level 3 oi/oy family	Level 3 /aw/ words	Level 3 Phonogram (cir, ere, eer)	Level 3 Silent letter family (wr,kn,gn,lm)	Level 3 /sh/ alternatives	Level 3 Non Phonetic Words	Level 3 Uncommon words
6.10y	6.11y	7.0y-7.1y	7.2y-7.3y	7.4y	7.5y	7.6y	7.7y-7.9y	7.10y-7.11y	8.0y-8.10y	9.0-10.6y	11.0-12.6y

Appendix C



Appendix D