Progressive Stages or Levels of Technical Reading with Sample Reading Components Indicator: For Fourth Year B. Tech Students

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KEYWORDS
Emergent stage, transitional stage, early stage, fluent-stage, technical, reading

ABSTRACT
The researchers are interested in finding the technical reading proficiency of fourth-year students. Hence the sample technical scripts are distributed and assessed for their reading efficacy. The entire class of students is subjected to the technical reading using the literary indicators. However, the class students are not divided into early-stage readers, transitional readers, and fluent readers. The researchers noticed the development of reading skills among students and the percentage is taken into account. The paper also helps the teachers to exercise a self-reflective assessment of their teaching every semester.

Discipline- Interdisciplinary(English language and technical subjects)

Introduction

Teachers may develop the interest to know the technical reading abilities of the students. Efficient teachers strategically and technically observe their students' speaking, listening ,reading and writing behaviors and identify the specific characteristics each student is displaying as a literacy learner in four different major skills.

Selecting the Problem

Teachers maybe unable to notice the students in the light of their reading behaviors.

Defining the Problem/Research Questions

1. What is an emergent stage in reading?
2. What are the characteristics of an emergent reader?
3. How can the early reader be transformed intoa transitional reader?
4. How do we decide the comprehension levels of the readers?
5. What is the status of the vocabulary of a transitional reader?
6. When do we conclude the fluent reader?

Hypothesis

The final-year technical students who would show readiness for industry recruitment are lagging in their Reading and communication skills. Hence the researchers assumed that there must be a problem either in English language or understanding the content itself.

Objectives

- Subjecting the students to different levels of reading
- Finding the developmental stages
- Participating in literacy levels
- Differentiating significant and supporting details

Scope of the Research

The researcher deals with the IV-year technical students of AIML.

Limitations of the Research

The **researcher does not take the other fields of technical students.**

Primary Data

Sample reading content was provided to them from the technical books.

Secondary Data

Mechanics of Reading skills such as fluency, awareness and word recognition materials are taught to decode written language.

Literary survey

Some of the researchers felt that intellectual disability hinders the students for literacy comprehension. A test was constructed for "reading comprehension (literal and inferential) and various linguistic features of these texts". Results proved in the test that participants correctly answered 80% of the comprehension questions, showing significantly higher scores for literal questions than for inferential questions.

Levels of Reading Comprehension in Higher Education article the author states "In higher education, this reading comprehension has to provide students with autonomy to self-direct their academic professional learning and provide critical thinking in favor of community service (UNESCO, 2009)".

Stay Ann and David Klingbeil opine that In *Universal Screening in Grade K-2: A Systematic Review and Meta-analysis of Early Reading Curriculum* Stay Ann and David Klingbeil opine that "The development of reading proficiency is a critical indicator of later success in academic achievement, social-emotional functioning, and other important life outcomes".

In "The roles of social–emotional skills in students' academic and life success: A multi-informant and multicohort perspective" Guo, Jiesi, Tang, Xin, Marsh, Herbert W.,Parker, Philip, Basarkod, Geetanjali, Sahdra, Baljinder,Ranta, Mette, Salmela-Aro, Katariina opine that "Overall, self-control, trust, optimism, and energy were found among the four most important skills for academic and life success. We further identified the **unique contribution of each skill for specific outcomes**, pointing the way to effective and precise interventions".

Research Design

Research design facilitates the smooth sailing of the various research operations, yielding maximal information. The features included:

- The means of obtaining the information
- The availability of the skills of the researcher
- The objective of the problem
- The nature of the problem studied
- Identifying the stage of their problem

Procedure

Efficient and effective teachers identified the stages of the technical readers and categorized them. The period to bring them from the emergent stage to fluent-stage took 8 weeks period.

Experience survey

The survey is on the students of final year students of a field who have practical experience with the problem to be studied. The object of the survey is to obtain insight into the relationships between the variables such as emergent, early, transition, and fluent readers.

Materials and Methods

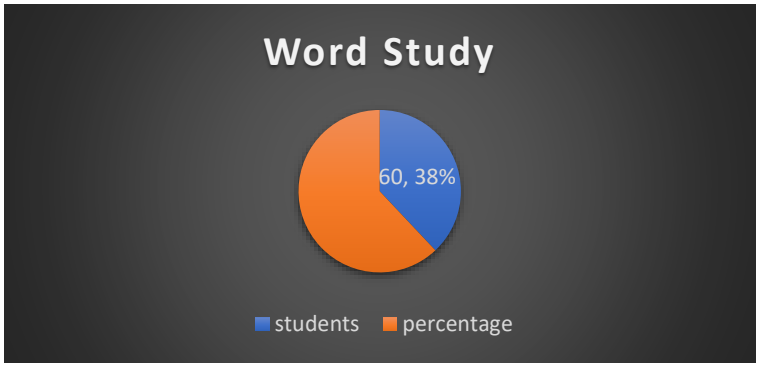
A pilot survey is a mini-survey where the researcher sends out a questionnaire to a smaller pattern size as compared to the real target audience. In the experience survey, the selected respondents are ensured a representation of different types of experience. The researcher may prepare an interview schedule for the systematic questioning of the informants. However, the respondent can raise issues during the process.

Discussion, Results, and Interpretation

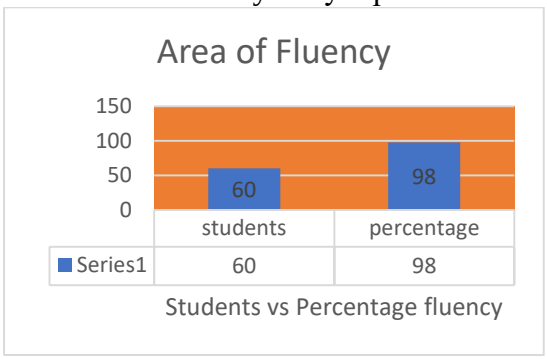
In the Emergent Stage of Technical Reading:

- The word study
- Area of Fluency
- Level of Comprehension

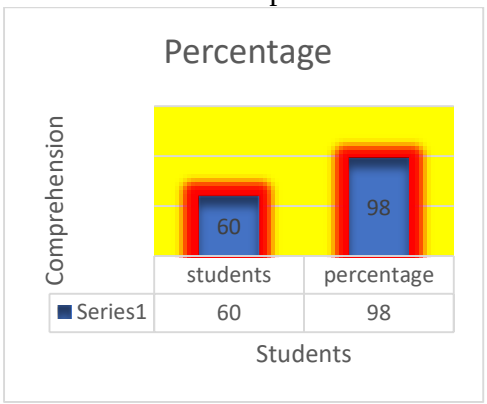
The word study: The target group of the students expresses an awareness of some of the words.



The area of Fluency: they repeat the teacher's words



Level of comprehension: They could make meaningful predictions based on the illustrations; understand what the printed text means; actively participate in the content discussion



2. Early-Stage Technical Reading

- Word Study
- Vocabulary
- Fluency
- Comprehension

Word Study	Vocabulary	Fluency	Comprehension
Uses letter-sound correspondence (80%); recognized high-flown words (70%)	Express a mindfulness of word meaning (70-80%); unable to use the new words in conversation (80%)	Don't recognize mechanics of writing (60%) and tone of voice is not appropriate while reading (80%)	Re-reading of the text and illustration to foretell, verify, and confirm meaning through intensive reading (80%)

3.**Transitional -Stage of Technical Reading**

- Word Study
- Vocabulary
- Fluency
- Comprehension

Word Study	Vocabulary	Fluency	Comprehension
Autonomous reading(80%); recognized intermediate-frequency words (80%)	Able to demonstrate an increased analogy through word relationships(80-90%); distinguish the meaning of hedging; affixes; synonyms; antonyms, and inflectional endings (80%)	Don't recognize punctuation marks (60%) and adjustment of voice is not done while reading (80%)	Participates in a discussion about literary elements(60%); uses text pieces of evidence to bring inferences (90%).

Fluent -Stage of Technical Reading

Word study	**Vocabulary**	**Fluency**	**Comprehension**
Demonstrating Complex word analysis (60%); integrated cross-checked cueing system (57%)	Uses contextual words with reliance; examine the words to determine meaning	Demonstrate arguments with back and forth expression, and precision on oral loud reading (60%)	Identify the main themes and able to synthesizes text; distinguishes between topic statement and sub-topic details (60%)

Conclusion

Efficient and effective teachers are successful in identifying the stages of the technical readers and categorizing them. The period to bring them from the emergent stage to the fluent stage took 8 weeks period. The experiment stages helped the students face and categorize the stages of technical readers. The experiment stages helped the students to face interviews freely and confidently.

The article is also a kind of self-reflective teaching of the teachers.

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Appendix-I(Emergent stage of Technical Reading)

Essentials of Data Science

Hello friends welcome to the course Essentials of Data Science with R Software 1.

This is about probability theory and statistical inference.So, this is our first lecture, and nowadays this word this Data Science this has becomea very popular word.And if you try to see this word was not there a couple of years back but it has originatedonly in the last couple of years and nowadays this is one of the most popular topics to learnto get a job, etc.So, it has gained a lot of importance.

So, my first question to you is what is this Data Science?

And what do you understand?Well, the Data Science word was not there when I was a student, so how it developed how itoriginated, and how it is related to the basicfundamental topic of statistics is whatI thought. I would like to explain to you in this lecture. So, in this lecture, we are going to talk about the topic of Data Science why, what, and how.So, let us begin our lecture.So, you see that the topic of this lecture here is Data Science, why, what, and how right, and as I told you earlier now, I change the color of my pen so you do not get confusedif you see these types of action during your lecture.

Now, the first question comes- what is a science?

What do you mean by science?

Now, grades as A, B, C, D, E, F, and so on. So, now I have two approaches, I can say, those students who are coming to my classwith this sky-blue shirt will be getting a grade A, and those who are coming with a white shirt, they will be coming they will get a grade, B those

who are coming with yellowshirt,they will be getting a grade C and so on.Do you think that you will agree to these things?Surely not.in case if you ask me, what is science I will say simply suppose there are 100 studentsin my class and I am teaching them statistics and suppose my basic objective is that I wouldlike to give them What you will say this is not the scientific way.

Now, then my question is this once you know what is the way which is not scientific then you also know what is the scientific approach.For example, if I give you an option that you come to my class I will take your exams, I will give you some questions based on that what I am going to teach you and then youare going to solve them and I will try to give you some marks.And then I will take say a couple of examinations of 15 minute duration, half an hour duration,1 hour duration, 2 hour duration and so on and then at the end I will try to add allthe marks and then I will try to see that whoso however is getting say more than 80percent marks that student will be given a grade A, any student who is getting a marksbetween say 70 percent and 80 percent that student will be getting a grade B. Any studentwho is getting marks between say 60 and say 70 percent, that student will be gettinga grade C, and so on.

Do you think that if I give you this option, will you agree with me?

I am sure your answer will be yes.

Appendix-II(Early- Stage of Technical Reading)

Appropriate Problems for Decision Tree Learning

Although a variety of decision-tree learning methods have been developed with somewhat differing capabilities and requirements, decision-tree learning is generally best suited to problem with the following characteristics:

Instances are represented by attribute-value pairs. Instances are described by a fixed set of attributes (e.g., Temperature) and their values (e.g., Hot)The easiest situation for decision tree learning is when each attribute takes on a small number of disjoint possible values(e.g.,Hot, Cold, Mild). However, extensions to the basic algorithms allow handling real- valued attributes as well.

The target function has discrete output values: The discussion tree assign a Boolean classification(e.g., yes or no) to each example. Decision tree methods easily extend to learning functions with more than two possible output values. A more substantial extension allows learning target functions with real valued outputs, though the application of decision trees in this setting is less common.

Disjunctive descriptions may be required. As noted above decision trees naturally represent disjunctive expressions.

The training data may contain errors. Decision tree learning methods are robust to errors, both errors in classification of the training examples and errors in the attribute values that describe examples.

The training data may contain missing attribute values.Decision tree methods can be used even when some training examples have unknown values (e.g., if the Humidity of the day is known for only some of the training examples)

Many practical problems have been found to fit these characteristics. Decision tree learning has therefore been applied to problems such as learning to classify medical patients by their disease, equipment malfunctions by their cause, and loan applicants by their likelihood of defaulting on payments. Such problems, in which the task is to classify examples into one of the discrete sets of possible categories, are often to as *classification problems.*

The Basic decision Tree Learning Algorithms

Most algorithms that have been developed for learning decision trees are variations on a core algorithm that employs a top-down, greedy search through the space of possible decision trees. This approach is exemplified by the ID3algorithms which form the primary focus of our discussion here. Our basic algorithm, ID3, learns decision trees by constructing them top-

down, beginning with the question “Which attribute should be tested at the root of the tree?” To answer this question, each instance attribute is evaluated using a statistical test to determine how well it alone classifies the training examples. The best attribute is selected and used as the test at the root node of the tree.

Appendix-III(Transitional- Stage of Technical Reading)

The Level of the model
Before we set to do something, it is a good idea to decide exactly what we are trying to do. So, we must ask ourselves, “What is our goal in trying to produce programs that do the intelligent things that people do? ”Are we trying to produce programs that do the tasks the same way people do? Or, are we attempting to produce programs that simply do the tasks in whatever way appears easiest? There have been AI projects motivated by each of these goals.
Effects to build a performance that performs tasks the way people do can be divided into two classes.Programs in the first class attempt to solve problems that do not fit our definition of an AI task. They are problems that a computer could easily solve, although an easy solution would exploit mechanisms that do not seem to be available to people. A classic example of this class of program is the Elementary Perceiver and Memorizing pairs of nonsense syllables is easy for a computer. Simply input them. Toretrieve a response syllable given in associated stimulus one, the computer just scans for the stimulus syllabus and responds with the one stored next to it. But this task is hard for people. EPAM stimulated one way people might perform the task. I built a discrimination net through which it could find images of the syllables it had seen. It also scored, with each stimulus image a cue that it could later pass through the discrimination net to try to find the correct response image. But it stored as a cue only as much information about the response syllable as was necessary to avoid ambiguity at the time the association was stored. This might be just the first letter, for example: but, of course, as the discrimination net grew and more syllables were added, an old cue might no longer be sufficient to identify a response syllable uniquely. Thus EPAM, like people, sometimes “forgot” previously learned responses. Many people regard programs in this first class to be uninteresting, and to some extent, they are probably right. These programs can, however, be useful tools for psychologists who want to test theories of human performance.(AI by Elaine Rich)

Appendix-IV (Fluency-Stage of Technical Reading)

Software engineering is an engineering discipline that is concerned with all aspects of software production from the early stages of system specification through to maintaining the system after it has gone into use. In this definition, there are two key phrases:
1.Engineering discipline: Engineering make things work.They apply theories, methods, and tools where these are appropriate.However, they use them selectivelyand always try to discover solutions to problems even when there are no applicable theories and methods. Engineers also recognize that they must work within organizational and financial constraints, and they must look for solutions within these constrains.
2.All aspects of Software production: Software engineering is not just concerned with technical processes of software development. It also includes activities such as software project management and the development of tools, methods and theories to support software development.

Engineering is about getting results of the required quality within schedule and budget. This often involves making compromises-engineers cannot be perfectionists. People writing programs for themselves, however, can spend as much time as they wish on the program development.

In general, software engineers adopt a systematic and organized approach to their work, as this is often the most effective way to produce high- quality software.However, engineering is often the most appropriate method for a set of circumstances, so a more creative, less formal approach to development may be the right one for kinds of software. A more flexible software process that accommodates rapid change is particularly appropriate for the development of interactive web-based systems and mobile apps, which require a blend of software and graphical design skills.

Software engineering is important for two reasons:

1. More and more, individuals and society rely on advanced software systems. We need to be able to produce reliable and trustworthy systems economically and quickly.
2. It is usually cheaper, in the long run, to use software engineering methods andtechniques for professional systems rather than just write programs asa personal programming project. Failure to use software engineering method leads to higher costs for testing, quality assurance, and long-term maintenance.