

# **Rauding – A Vital Bottom-up Processing Skill to Reach Automaticity in L<sub>2</sub> Academic Reading (A research Paper Based on Information Processing Strategies)**

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## **ABSTRACT**

Tertiary level academic involvement demands a high level academic language proficiency in L<sub>2</sub> academic reading. Since it is the entry to other productive skill enhancement, undergraduates in the Universities have to improve their reading efficiency. Among these undergraduates there are many low-proficiency L<sub>2</sub> readers. These low-proficiency L<sub>2</sub> readers with insufficient strategies in bottom-up processes are unable to activate their micro-level processing strategies in reading. All the theories and models classified under the information processing perspective have concluded that a reader's graphophonemic competence is the key factor that develops early reading efficiency and enables him/her to move toward other higher-level processing skills. Most researchers agree that poor phonological awareness is a primary cause that prevents readers reaching automaticity or fluency in reading. In order to make them competent readers, their graphophonemic awareness has to be enhanced. Research studies based on the rauding model have shown that low-proficiency ESL readers have difficulties with 'raudamatization' - the skill connecting graphemic information to the phonemic system. Using Carver's 'Rauding model' as an intervention strategy, this research study was conducted with the low-proficiency L<sub>2</sub> readers, at tertiary level in Sri Lanka. The intervention was designed for one month with rauding input along with Reading While Listening (RWL) methods which enabled low-proficiency L<sub>2</sub> readers to read the written texts while listening to the recorded versions of the same texts. This intervention was used with 56 low-proficiency L<sub>2</sub> readers from the Faculty of Science, University of Jaffna. Using the experimental and control method, a pre and the post-test were conducted to obtain quantitative data. The findings drawn from the pre and the post test marks in all the components of rauding (vocabulary access, syntactic parsing and semantic encoding) by the experimental group were proved statistically significant. The implications of the findings of this research confirm that the rauding model is an appropriate external scaffolding strategy which enhances the raudamatization,

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skills of the low proficiency L<sub>2</sub> readers, at undergraduate level in Sri Lanka.

**Key words** - Rauding, Automaticity, Bottom-up, processing, Grapho-phonemic awareness, Raudmatization.

## **1. INTRODUCTION**

Reaching automaticity level in L<sub>2</sub> academic reading is one of the essential academic involvements in the field of tertiary education in Sri Lanka. Most of our undergraduates enter into their undergraduate education with limited proficiency level in academic reading. Total exposure to the mother tongue instructions in schools and the very lack of exposure to L<sub>2</sub> general and academic reading are some of the preliminary factors which inhibit the students from reading automaticity in L<sub>2</sub> reading. These low proficiency level L<sub>2</sub> readers need adequate scaffolding facilities to improve their Comprehension Monitoring Competence levels. (CMC).

The ability to read academic texts efficiently and effectively particularly at University level is a major academic activity. Therefore, it is crucial for undergraduates to develop proficiency in second language L<sub>2</sub> reading. Among these undergraduates there are many low proficiency L<sub>2</sub> readers. These low proficiency L<sub>2</sub> readers with insufficient strategies in bottom-up processes are unable to activate their micro-level processing strategies in reading. Among these micro-level bottom-up processing strategies, L<sub>2</sub> readers' grapho-phonemic competence is the key factor that develops early reading efficiency and enables him/her to move toward other higher level processing skills which eventually lead to automaticity.

After identifying this basic problem, the researcher wanted to carry out a study which would recommend a useful scaffolding strategy to activate the grapho-phonemic competence level of the poor L<sub>2</sub> readers. This research paper is based on the study conducted by the researcher.

The researcher used a specific information processing model known as 'Rauding' which was introduced by Ronald Carver in 2004.

Rauding is a blended form with reading and 'auding'. According to this model, poor readers are unable to utilize their internal articulation to process the graphemes in the print. These readers have to develop their internal articulatory system (phonemic awareness) to process the print in the text. Simultaneous interaction between the internal sounding out and the print reading is what we refer as 'Rauding'. Therefore this study began with the notion that the poor L<sub>2</sub> readers in the undergraduate level have to improve their rauding technique.

### Aims and Objectives of the Study

This study was conducted among the low proficiency L<sub>2</sub> readers to meet the following objectives.

- To enhance the primary raudamatization skills of the poor L2 readers.
- To improve the L2 readers' grapho-phonemic competence.
- To activate the initial bottom up processing strategies of the poor L2 readers in the under graduate level.
- To promote the poor L2 readers to utilize their internal attention energy in comprehending academic texts.
- To guide the poor L2 readers to reach the level of automaticity in handling bottom up processing strategies.

### Literature Review

The labels of good reader and poor reader are the terms which are based on good and poor reading behavior, time taken for reading and the complexity of topic and the structure of a text. Therefore, readers can vary in exhibiting characteristics that may be good or poor in different contexts and to varying degrees. The good and poor reader dichotomy is better viewed as being situated on a continuum with extremely good readers at one end and extremely poor readers at the other [1].

Numerous studies in L<sub>2</sub> reading have revealed that language knowledge and processing ability are the two determinants which differentiate good and poor readers [2]. Poor L<sub>2</sub> readers are slower in word recognition and generally weak at rapid and automatic syntactic processing because they develop an overt knowledge of grammatical structures before they become fluent L<sub>2</sub> readers [3]. Several studies have investigated poor reader characteristics and have commented on situations which make poor readers 'stuck' in processing texts.

[4], in his study (Proficiency Constrained Model (PCM)) with Chinese EFL readers in comprehending ambiguous English sentences demonstrated that poor L<sub>2</sub> readers are particularly weak in processing more complex ambiguous sentences. He proposes that this weakness is a result of their lack of syntactic knowledge in the target language.

Poor readers are also very weak in their inference generation during reading comprehension. [5] claims that LL<sub>2</sub> readers' language proficiency has direct impact on inferences generation in L<sub>2</sub> reading. [5] after studying a group of five Chinese EFL learners' processing of reading expository texts using think-aloud protocols claimed that L<sub>2</sub> linguistic proficiency had a decisive effect on inference generation and on the construction and integration of propositional meaning at both the sentential and discourse levels.

[6] while speaking about the good and poor L<sub>2</sub> readers proposes four essential characteristics of L<sub>2</sub> reading. 1) Integration (integrating all the linguistic systems and knowledge) 2) Recognition of aspects of text structure 3) Use of schema 4) Response to extensive and reflexive modes. [6] believes that good readers are strategic since they are able to interact with all four factors. Strategic readers are able not only to use various strategies skillfully but also to monitor and regulate their strategy use with reference to the on-going comprehension process. Therefore as researchers we have to identify a suitable scaffolding model to enhance the bottom-up processing strategies of the poor readers.

### Carver's Rauding model

Carver's rauding model is one of the influential models under information / cognitive processing perspectives. In this model Carver focuses on activating the micro-level processing strategies which are very essential to comprehend a text. [7] proposed this model to assist low proficiency level readers whose micro level processing strategies are very weak.

### What is Rauding?

*'Rauding' is a morphologically complex term, blended with 'reading' and 'auding'; reading usually means to attempt to comprehend language in the form of printed words, and auding refers to the comprehension of language in the form of spoken words. [7].*

Briefly, auding refers to the sounding out done internally by the reader. The term rauding was developed by Carver in 1977 to focus on the similarity between reading comprehension and listening comprehension when individuals are comprehending sentences in

textual materials, without regard for whether words in the sentences are (a) being read as they are looked at in printed text or (b) being auded as they are read aloud by someone else [7].

Carver emphasizes that it is only during ‘rauding’ the reader becomes more attentive to the graphemic information given in the text. According to this view, a reader who connects his reading with his internal voicing (auding) would be able to recognize the morphological and morphosyntactic information displayed in the text. Carver thus highlights the role of auding in processing texts successfully. Therefore he combines the two terms ‘reading’ and ‘auding’ and blends a new term ‘Rauding’. The main purpose of introducing this ‘rauding’ model in this study was to scaffold the low proficiency L<sub>2</sub> readers through activating their lower level processors while comprehending any text.

### Rauding model and L<sub>2</sub> reading

Even though Carver’s rauding model is based on L<sub>1</sub> reading efficiency, the way the model has been structured provides opportunities for researchers studying L<sub>2</sub> reading issues. The research findings related to Rauding can be applied to poor or low proficiency level L<sub>2</sub> readers who are very weak in their raudamatization. Numerous research findings drawn from L<sub>2</sub> reading contexts have underlined the importance of activating the inner speech or the auding processing of the L<sub>2</sub> reader whose graphophonemic awareness is very low.

[8], while speaking on the role of Speech-Language Pathologists, (SLP), stress that there should be avenues for providing assessment and intervention services to individuals having reading disabilities. SLP targets learners who experience serious academic difficulties as a result of deficits in one or more of the processes necessary for proficient reading. It is salient to note that these researchers advocate Carver’s rauding model as an effective intervention to support such readers with deficits in various micro- skills in reading.

According to them, Carver’s rauding model introduces a framework to-

- a identify specific component skills of reading that should be assessed in a comprehensive reading evaluation.
- b describe the cascading effects deficits in one or more skills areas and
- c offer a paradigm for evaluating reader’s Reading Efficiency. (RE)

### Reading While Listening (RWL)

Having realized the necessity of enhancing the low-proficiency level L<sub>2</sub> reader’s graphophonemic awareness, researchers have conducted studies using the rauding model as the base for the research. The background support from rauding is based on combining the two processing skills reading and auding (listening). Listening is used here to provide support in the form of the auditory input where the readers are allowed to listen to the recorded version of the texts while they are rauding the graphemic information given in the print. Therefore, the reader undergoes two processes simultaneously. This specific method of automaticity training is known as Reading While Listening method.

RWL has been extensively studied in English in L<sub>1</sub> contexts and it has been shown to be effective in developing reading efficiency among the poor L<sub>2</sub> readers who lack lower level processing skills (Kuhn & Stahl 2003). Further, it has been evidenced that reading through RWL increases students’ oral reading rates and accuracy. [9], and [10]) found that RWL ultimately leads to better comprehension of passages.

Based on those theoretical background related to raiding, following research question was formed in the intended study,

### Research Question

Does the Rauding Supportive Mechanism (RSM) supported by Reading While listening increase the overall bottom-up processing skills.

## 2. RESEARCH METHODOLOGY

Experimental design was used by the researcher to implement the intervention along with the raudingsupportive mechanism (RSM). Fifty six (56) low proficiency L<sub>2</sub> readers from Faculty of Science were identified from a selection test on general and academic reading skills. The mean obtained by those sixty informants is 28.6%. They were divided into two groups known as experimental and control comprising 28 informants to each group. During the intervention , stage, Rauding Supportive Mechanism (RSM) was introduced to the informants in the experimental group. Conventional task based teaching method was used with the informants in the control group. A research assistant was appointed to teach the informants in the control group.

### Rauding Supportive Mechanism (RSM)

RSM is the intervention used in this experimental design. It includes the following components.

1. Ten academic texts in English along with the recorded versions. Each text was introduced with these recordings.
2. Students were given opportunities to listen and read the texts simultaneously. (Texts were read by the students)
3. Texts were recorded by the researcher in advance.
4. Tasks related to improve the vocabulary access, systematic parsing and semantic encoding were provided with the texts.
5. The duration of the intervention was 20 hours.

At the same time, the same texts were used with the informants in the Control group. However, they were not provided with the recordings or they were not exposed to RSM.

**Pre – test and Post - test**

A pre-test on academic reading skills was designed and administered to the 60 informants by the researcher before starting the intervention with RSM.

After the intervention a post- test was held with those two groups. The post – test was similar in structure to the pretest.

**Variables**

Two variables, dependant and independent were used in this study. Informants reading efficiency is considered as the dependent variable. RSM is treated as the independent variable. RSM influences the reading efficiency of L<sub>2</sub> readers.

**Qualitative Analysis**

A structured informal interview was held among the informants attached to the experimental group. This qualitative analysis was very useful to access the impact of reading while activating the grapho-phonemic awareness of L<sub>2</sub> readers. All the informants indicated that the reading while listening method improved their vocabulary accessing and syntactic passing abilities. They felt that there was an internal voicing created through the recordings to process the text successfully.

**3. RESULTS AND DISCUSSION**

The means obtained by the informants in the experimental and control groups were statistically analysed to find out whether the gain achieved by the informants in the EG was significant. SPSS version 13 was used to analyse the means statistically.

Following bar graphs and tables show the gains achieved by these groups.

Table 1: Means and Std. Deviation of the two tests

	Mean	N	Std. Deviation	Std. Error
EG Pre test	39.2143	28	10.28972	1.94457
EG Post test	80.0714	28	7.19016	1.35881
CG Pre test	38.0714	28	9.91045	1.87290
CG Post test	62.6429	28	13.52149	2.5532

EG = Experimental Group CG = Control Group

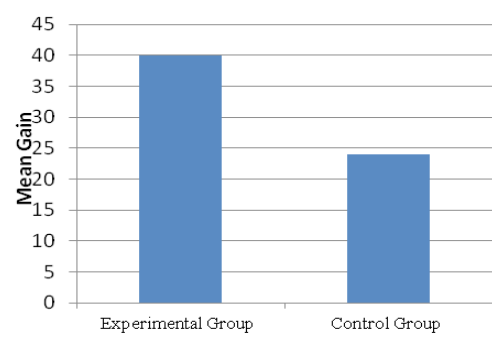
As seen from table 1, the informants in both groups scored poorly in the pre-test. On the other hand, informants in both groups have progressed well in the post-test. Particularly, the informants in the EG have shown mean difference higher than the informants in the CG.

Table 2 provides a comparison of the means obtained by these two groups, and the gain they achieved from the Pre test to the Post test.

Table 2:- Comparison of the means and the mean gains

Groups	Pre test Mean	Post test Mean	Gain
Experimental group	39.2143	80.0714	40.8571
Control group	38.0714	62.6429	24.5714

As seen in Table 2, the mean difference of the gain obtained by the EG is 40.85 and the mean difference of the CG is 24.57. Figure 4.1 presents the mean gain secured by the EG and the CG in the Pre and the Post tests graphically.



**Findings and recommendations**

It has been evidenced that the gains achieved by the informants in the EG are highly significant. The low-proficiency L<sub>2</sub> readers in this group found Reading Supportive Mechanism (RSM) as an effective scaffolding technique to develop their basic grapho-phonemic competence. Their undeveloped internal articulation was well activated when they were exposed to the recordings of the texts. The reading while listening strategies

gradually increased the reading processing of these L<sub>2</sub> readers in various academic reading contexts.

Based on these findings, it is realized that the RSM provided during the intervention session was a contributory factor to improve the bottom-up processing skills of the poor L<sub>2</sub> readers. These readers were unable to score well in the pre-test due to their underdeveloped strategies in the bottom-up processing capabilities. They were clue-less in vocabulary access and syntactic parsing. Once their internal articulation mechanism was activated through an external intervention they were able to improve their bottom up processing skills. This initial bottom-up skill is now realized as “effective automatization”. RSM contributes to improve the automatization of the low proficiency L<sub>2</sub> readers.

#### 4. RAUDING IN THE SRI LANKAN CONTEXT

Since the ELT mechanisms in schools are not carefully handled and supervised, there are many students entering the universities with poor L2 proficiency level in all the four skills. These poor L2 learners face numerous challenges in accessing and processing academic text in English. Rauding promotes these learners to access the primary skills in reading. It also provides an opportunity for the poor L2 readers to activate their primary bottom of strategies. The Rauding model is specially designed for the low proficiency readers. The materials prepared worldwide for these readers are usually supported by the Rauding strategies. Special materials supported by Rauding strategies have to be introduced in Sri Lankan schools to activate the processing capabilities.

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