GLOBAL ACADEMIC RESEARCH INSTITUTE

COLOMBO, SRI LANKA

GARI International Journal of Multidisciplinary Research

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ATTENTION DEDUCTION MECHANISM (ADM) FOR LOW - CAPACITY

L₂ ACADEMIC READERS

(A CONNECTIONIST APPROACH TO AUTOMATIZE TEXT - PROCESSING CAPABILITIES)

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ABSTRACT

The manipulation of readers' attention and the application of attentional energy while processing academic texts in English are ongoing and paramount tasks of growing academics in universities. The cognitive models drawn from the school of connectionism insists the role of attention in reading as a major cognitive exercise since it controls all the strategic manipulations and processing capabilities in reading as well as in academic reading. Attentional energy of the L2 reader is utilized for processing various components and structures of the texts. Particularly for the automatized readers, attentional energy, while processing texts is not focused on a particular area or areas in the texts. Theses readers have the capability of balancing and utilizing their attention (smooth flow of the various text processing components. Therefore they can reduce their time of focusing their attention on bottom up processors (word level and sentence level). They focus their attention on situation model of comprehension since their bottom up processing abilities are already automatized. But this is not the case with the low capacity   L2 readers. They spend more time on their utility of attentional energy on basic bottom up processors as they are not automatized. Having the above gap of utilizing attentional energy, this study was conducted among the 20 very low capacity L2 readers who focus more time in manipulating their attentional energy in bottom up processing capabilities. As a result of this, they never reach the level of semantic proposition formation. This paper, while investigating the above phenomena introduces a mechanism known as 'Attention Deduction Mechanism' (ADM) through which low capacity L2 readers are provided with certain 'Automaticity Training Tasks' which can eventually reduce or deduce the time these readers spend on utilizing their attention on linguistic information of the text. After the application of ADM it has been observed that most of the informants have gained well in comprehending academic texts.Keywords: attentioal energy, automatized readers,low capacity L2 readers, Attention deduction,   bottom up processors.

INTRODUCTION

Reaching 'automaticity' in various text-processing components depends on several factors, such as cognitive and metacognitive strategies, readers' linguistic and discourse competence, readers' schematic competence and utilizing the level of attentional energy.

The last factor, utilizing the level of attentional energy is a crucial one. This phenomena cannot be measured. But, the pre- attentive stages can be observed and accessed during the text-processing stages in which readers attempt to comprehend texts.

Cognitive psychologists and linguists have discussed the role of attention and attentional energy in reading. Automatic readers are not worried about the way how attentional energy is utilized or manipulated. They are capable of handling both bottom up and top-down processors. Due to this automatization, their comprehension monitoring abilities are highly advanced.

On the other hand, the low capacity L_2 readers' utilization of attentional energy imposes some serious thoughts to the researchers.

These readers are usually stuck. spending more time on manipulating their 'Attention' on the linguistic components of the texts. Since they are cognitively delayed in handling their attentional energy or potentials, more time is spent on processing micro-level components such as accessing words, connecting them with their grapho-phonemic counterparts, understanding sentences, and encoding meaning from the texts. The major hurdle which prevents these readers reaching automaticity is the lack of proper 'Automaticity Training Programmes' along with "Attention deduction mechanisms. Much attentional and cognitive energy is seriously focused on linguistic elements in the texts. These linguistic elements are vital for bottom-up information processing. Since these low-capacity L_2 readers are not automatized well in processing the linguistic elements, they focus their attentional energy on these basic structures of the text. Furthermore, these readers are unable to comprehend the full text due to the above stagnated conmndition of the attentional energy. This is one of the reasons why the attention deduction mechanism is associated with an 'Automaticity Training Programme' (ATP). It is quite obvious that any ATP interventioned indirectly deals with attention deduction mechanism (ADM).

Let us now see in what manner the notion of automaticity and attention are approached in current literature.

2. LITERATURE REVIEW

The impact of attention and pre-attention in Automaticity theory

Automatic processes and pre-attentive processes are similar in many respects, both theoretically and empirically (Logan 1992). They are often defined in terms of attention, and they have played important roles in the development of current theories of attention. They are fast and effortless capable of execution while the subject is engaged in another task.

Pre-attentive Processes

Pre – attentive process are essential as they provide the informational basis for attentional selection. They are temporally prior to attention because attentional selection depends on the results of their computations; selection cannot occur until their computations are finished. Pre attentive processes are independent of attention. They are usually driven by stimulus presentation.

Many people consider pre-attentive processes to be automatic. Advocates of early selection argue that only elementary physical features can be processed without attention. Advocates of late selection argue that semantic features and meaning can be processed without attention. Pre attentive processing is parallel, whereas attentional processing is serial. (Treisman, 1985).

The modal view of automatic processing

Automaticity is often defined as processing without attention – that means without much attentional energy. Attention is necessary to support initial performance but gradually with practice, the need for attention diminishes, until ultimately performance can proceed without attention (LaBerge & Samuels 1974). Automatic processes can also bypass attention. The modal conception of automatization is the development of the ability to bypass attention (Logan, 1978).

The modal view defines what automaticity is not rather than what automaticity is. It defines automaticity as processing without attention. More recent theories focus on what automaticity is rather than what it is not. The modal view claims that attention is gradually withdrawn from processing as practice progresses without providing a theory that explains how attention is withdrawn. More recent theories on automaticity focus on learning mechanism. Deduction of gestential energy on focusing low-level processes is one of the steps towards automaticity. This study attempts to focus on various deduction strategies to minimize the serious focus of the attentional energy.

3. Key Objectives of the study

The study conducted among the low capacity L_2 readers was structured to meet the following objectives, particularly in the field of L_2 academic reading.

to overcome the constraints experiences by the low capacity L_2 readers in manipulating their attentional energy.

to provide a feasible ADM for these readers to divert their attention towards global or situation model of comprehension.

to automatize the bottom up processing strategies through which the deduction of attention is experienced.

4. Methodology

The study was purely experimental as it was conducted to scaffold the low capacity L_2 readers. Altogether 20 very low capacity L_2 readers were used as informants for this purpose. Time counts and marks were primarily used as the data to comment about the attentional energy of these informants.

Attention is an innert cognitive controller of the readers and it can be spread over fluently by the high capacity readers whose text – processing capabilities are usually automatized.

Since it is an innert operational trend, attention cannot be measured with surface level parameters.

However, readers' overt behaviour with text processing is an appropriate indicator for assessing the way how attention' is manipulated or utlizied by the readers or informants.

Using those three definitional outlines of attention, this study designed a feasible "Attention Deduction Mechanism" (ADM) along with the major intervention 'Automaticity Training Programme'(ATP).

Here, in this study, ADM is the byproduct of ATP. This paper specifically focuses the issue of "Attention Deduction Mechanism". The paper is one of the reflections of the major research dealing with "Automatizing L_2 academic reading discourse processing".

Attention Deduction Mechanism (ADM)

As mentioned earlier, low capacity L_2 readers spend more time on processing the linguistic information rather than interpreting and inferencing the whole text. Therefore their attention is almost wasted on processing the components than processing the information or meaning. Their attention has to be diluted towards meaning extraction. These readers have to deduce the time of spending their attentional energy on linguistic elements or bottom up processors while comprehending texts. These readers have to be exposed to an intervention in the form of 'Attention Deduction Mechanism'(ADM).

ADM includes the following components.

Rauding Mechanism.

Word attack skills.

Sentence monitoring skills.

Vocalization Latency.

Semantic Priming.

Discourse monitoring.

All the above introduced abilities were pre-tested before administering the ADM to the informants. The lessons in the class consisted a series of tasks and activities which could guide the informants to spread away their attentional energy towards achieving better comprehension monitoring abilities.

The ADM was administered for 20 hours. During this intervention, informants were introduced various tasks related to automatizing bottom-up processing capabilities of the low capacity L_2 readers. The whole study is an ongoing process of identifying a suitable, 'Automaticity Training Programme' for the low capacity L_2 readers in the undergraduate level,. Attention Deduction Mechanism is one of the outcome or the by product of this continuous effort.

At the end of the therapy of ADM, the informants were post-tested with the same components mentioned above. It has been noted that the gains in the post-tests were considered significant. The final full study will focus and reveal all the data related to this achievement.

Recommendations and conclusion

Attention deduction is the innert behavioutr of the readers. Particularly L2 academic readers should exercise this cognitive mechanism to reach a target of comprehending complex academic information usually inlaid in longer texts. Poor or underdeveloped text processing abilities can cause or impose severe stagnation in spreading the attentional energy of the readers.

The low capacity L2 readers in this nature need a mechanism which could divert or dilute this stagnation or delay.

This paper has microscopically analysed the impact of designing and introducing a workable ADM for these poor L2 academic readers.

The routine reading lessons and tasks we introduce in the ESL classes should be coupled with a kind of ADM which could prevent the readers focusing their attention on bottom-up processing abilities. Otherwise, there will be numerous low capacity L2 readers in the academic contexts.

Failing in terms of providing a feasible ADM may bring adverse consequences in the field of teaching academic reading. We have many L2 readers in Faculty of Arts who are unable to score well in the University Test of English language (UTEL). The main reason for this poor performance relies on our lesson planning strategies. ADM will provide an insight of converting these poor scorers into successful performers in UTEL.

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