



REDUCING ACADEMIC STRESS SPIRALS FOR EFFECTIVE READING COMPREHENSION

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ABSTRACT

Reading skill is essentially a significant literacy tool. It enhances effective communication in written and oral discourses. Thus, acquiring a good level of reading ability should not be undermined since textual context-oral and written- discourses are only interpreted through reading and this gives credence to the understanding of reading as a mental interpretation of codes. Most often, reading challenges are often perceived as learners' phonemic limitations and/or poor exposure to linguistic codes. However, there are possible psychological impediments that are social forms that impede reading ability. One of such is the concept of stress spirals. Stress spirals are formed or repeated stress patterns that affect psychological balance which controls neurological processes that are activated during reading. Traditional perceptions on stress spirals did not concern itself so much with academic induced spirals but assessed other stress stimulants. However, it is necessary to evaluate the academic environment as a stress stimulant that affects reading. This study therefore focused on assessing the academic stress spirals for reading comprehension using a population of ten students from a private institution at the secondary level, a structured comprehension as an instrument for the study and adapting a Linkert scaled self-developed questionnaire as a tool for data collection. These data were subjected to descriptive analysis. The results of the study showed that academic designs are stress stimulants that forms patterns (spirals) that affect effective reading. It suggested the adoption of a practical learning systems through multimodal forms as a strategy to reducing academic stress spirals and for effective reading.

INTRODUCTION

Reading is a cognitive activity that is activated based on the neurological responses of the reader. It combines internal and external stimulant or factors in its process. Importantly, it is the bane of literacy acquisition. By literacy knowledge, we imply knowledge not limited to learnings in language but a wholesome ability to see and interpret codes in any subject area or field of study. When reading is effective, the learner's performance output is equally efficient but where reading is ineffective, the output is valued in the reverse.

Blakeley (2022) defined the concept of reading 'as a cognitive process that involves decoding symbols to arrive at meaning...an active process of constructing meaning of words' (p.1). This simply explains the fact that reading is not an isolated activity but a process which weaves its activity with the brain. By cognition, it is implied that there is a mental (abstract) processing of information. And this can be consciously or unconsciously processed. This information can be acquired through learned experiences or actual experiences as well as senses.

Reading appeals to the sense of sight as the eyes serve as the visible organ in the reading process. However, the eye is connected by several internal organs that are elastic to the

experienced activity carried out while reading. Notwithstanding its elasticity, there are permissible limits of effectiveness. If stretched beyond its capacity, the simulative response of the sight senses (eyes) becomes weakened and therefore inhibits reading. This perspective describes the wholesome concept of stress in reading.

Stress is the result from tension or a reaction to internal or external forces that affects an individual emotionally, psychologically or physically. Whatever the effect, it causes a breakdown of the human system and thus improper functioning which results in poor or no result at expected task. Basically, stress is attributed to the result of a laborious work done and/or an entrenched thought cycle.

In the academic environment which is designed for cognitive task, there is a possibility of being exposed to stress. Stress from this environment is resultant from pecked social or self-imposed expectations that reduces the learners' psychological ability. This could include such factors as excessive assignment, poor time management, extensive class duration, poor social activities or unhealthy peer competition. Richards (2009) quoted a direct statement from a subject in his study; 'there is constant pressure to do really well and live up to



the community's expectations' (p. 1). And when this occurs overtime, it becomes a spiral (pattern).

Jones (2006) voiced that in the world of academics today, the sequence of activities and set expectations have formed the most anxious, stressed, sleep-deprived generation ever. More so, in a society where academic scores are more valuable than residual knowledge, the stressor is also sometimes a transfer from the external academic environment and educational institutions in striving to satisfy societal demands, overburden the learners thereby helping them develop stress spirals in the academic environment.

This academic stress may be absent in some learners but worrisome in others even within the same learning activity. For these affected learners, it is imperative to differentiate learning patterns that will reduce the spirals. Though our bodies are naturally designed to accommodate stress, this could be consequential for learners who cannot fight but adopt the freeze or flight stress management technique.

Undoubtedly, there is a competition of relevance among learners in the world today but the package for it achievement can be redesigned by schools to help learners at all levels experience a reduction in stress spirals as a result of their academic engagements. Parents demand from schools a high level of performance and the students are made to believe same. These demands are sometimes measured from the number of subject offerings and the duration of school hours per day. In this view, there is no consideration of the educational principles that govern learning and content as well as age classification.

The trend and competition among schools especially the basic and secondary schools are channeled towards accommodating this high expectation. However, this is not wrong in totality but not plausible if not carefully managed. The after effect of some of these demands will be a reduction in psychological, emotional and even academic performance. Once the learner's adaptability limit is stressed out, there is a feel of frustration and lack of interest for academics.

Observing these patterns and its function as a factor for developing stress spirals in the academic environment, this paper focused on proposing an alternative method to the inclusion of these demands without an increase in psychological demands thus reducing the learner's stressor. It values that in the 21st Century where creativity and critical thinking are parts of the major definition of the education system, new learnings or expansive learning and all learnings in general should be fashioned in applied forms and less theoretical. The learner would have less codes to simulate to make meaning and learning becomes self-activated and not super-imposed.

LITERATURE REVIEW

Reading is a key factor in the educational learning process. It is important for every learner to acquire a good and efficient level of competence in reading. To understand any given text, the learner must have the ability to decode the information. The

challenge however is that reading can be easily affected because of its neurological functioning.

Scholars have very much researched on reading and the reading process and have explained this process as solely mental and abstract. Blakeley (2022) emphasized that reading involves a thinking process. The reader defines the information in the present text based on previous knowledge which helps in the organisation of the meaning in the new text. She further mentioned that the process comes in stages of pre-reading, reading and post-reading. The first involves the reader's ability to identify the text and from previous knowledge identifies the purpose of the text and in reading, the information in the text is predicted and confirmed and the last stage involves the ability to recast the information retrieved. It is therefore important to understand that for this to be effective, the learner's psychology and emotions should be in a balance. However, stress acts against such balances and this affects reading.

Equally of importance is Essberger's (n.d) view of reading and the reading process. He defined reading as an act of obtaining meaning by looking at a series of scripted symbols. He noted that reading is a receptive skill (obtaining information and processing same internally) which begins with the use of the eye to identify symbols and then transferred to the brain for conversion into words or structures that are meaningful.

Interestingly, it should be obtained from these definitions that reading is a productive skill that involves a connection and reconnection of organs for meaning to be produced. Therefore, it requires a well fitted psychological composition. The reader must beyond the knowledge of phonemic awareness and other literary awareness skills which help in the identification of the codes or symbols have a composed frame to make meaning out of the retrieved information. In this situation, it is expected that internal and external structures are communicatively balanced but oftentimes, this perceived balance is absent and can be as a result of weakened brain stems, poor visual processing, deficit literacy competence and/or external factors such as psychological imbalance which is factored by such activity as stress.

Marks (2021) defined stress as 'the body's reaction to harmful situations-whether they are real or perceived.' (p. 1). He added that it is a chemical reaction that is activated when an individual feels threatened either by internal or external factors. And often the reaction or response is either a fight or flight technique. According to him, the body can handle a little stress but where this becomes long-term or chronic, consequences are inevitable. Some of the symptoms of stress include frustration, depression, headaches, low energy, racing thoughts, poor judgement, inability to focus, disorganisation, etc. A careful look at these symptoms explains the need to address the challenges caused by stress especially in the academic environment if the learner is expected to be competent. Symptoms such as poor judgement and racing thoughts among others are directly consequentially to reading effectiveness.



Equally from the clinical perspective, Tsigos, Kyrou, Kassi and Chrousos (2020) opined that stress constitute a state of threatened homeostasis triggered by intrinsic or extrinsic adverse forces (stressors) and is counteracted by intricate repertoire of physiologic and behavioural responses aiming to maintain/reestablish the optimal equilibrium (eustasis). The adaptive stress response depends upon a highly interconnected neuroendocrine, cellular, and molecular infrastructure, i.e. the stress system. Key components of the stress system ...interact with other vital centers in the central nervous system (CNS) and tissues/organs in the periphery to mobilise a successful adaptive response against the imposed stressor(s). (p. 1).

The implication is clear that a dysregulation in this interconnection will produce an imbalance which undoubtedly affects effective reading. In this state, it may be possible to read but the effectiveness of the reading remains the unanswered question.

Consequently, the academic environment which is designed for learning success has become a source for academic stress. In the 21st Century, academic demands are on the increase and institutions are compelled to approach this demand competitively with little or no consideration of its effects on the recipients (students) of this choice. Thus, we can refer to school elements as factors of academic stress. It has been long existent though an unidentified factor that has affected academic success.

Studies have researched on what constitutes academic stress as well as its consequences. The need to understand the complexity of learning and the importance of a balanced learning environment have been echoed and re-echoed. However, the academic cry for competitive measurement has left the points unattended and a cyclic repetition of entrenched academic responsibilities. So, we realise that as it were the pressure presently is unconsciously fixed to the learning system.

Academic stress is unarguably a mental distress that is frustrating and demotivating. A study by a group of scholars revealed that learning should not be stressful as the only expected task of the learner is to study. However, they observed that adolescents are very vulnerable to the problems of academic stress due to the physiological and psychological transitions they experience. The main objective of their study was to ascertain the presence of academic stress. They assessed students and reported that academic demands were challenging and stressful to the students. It was considered that the perceived experience of the learners was a factor for the poor academic performance record as learners feel demotivated to reading and learning in general (Reddy, Menon & Thattil, 2018).

Gunnar (1998) simply defined academic stress as the anxiety and stress that comes from schooling and education. Explaining the challenges of the school system and the expectation from learners which contributes to the perceived academic stress Saqib and Rehman (2018) described the need for a parent-teacher relationship for effective learning. In their view it is assumed that the experience of the learner becomes

stressful if learning outcomes are not well detailed by the teacher and when the parents fail to guide appropriately. However, they also agree to the negative effect of educational stress on the learners' performance.

Interestingly, Lal (2014) conducted a study on the challenges of students. His study was specific to assessing academic challenges based on gender difference and intelligence. He observed that the female gender was more prone to academic stress than the male counterpart. Teachers were encouraged to vary teaching patterns and demystify assignments as strategies of helping the learner cope with academic stress. For the adolescents, he mentioned key causes of academic stress to include: academics, dating, extra-curricular activities, peer pressure, and parental expectation. Students who in this sort of environment are likely to feel the pressure of academics.

Going further, MK, Nasla and Thomas (2021) disagreed with the correlation between academic stress and study habit. They opined that academic stress is a subjective feeling and unconnected to study habit. By study habit they referred patterns or modes of preparation for assessment. Invariably, their study posits the non-relevance of academic stress in the learners' academic performance. However, they acknowledged the weakening effect of stress in general to human psychology which subjectively interprets that academic stress as stress would have an effect on a learner.

From these literatures, it is obvious that the academic environment is a stressor and its effect is obvious in evaluative performance and it is long-lasting. This can be held true understanding that academics is a cyclic process and the stress in the process follows same pattern. Therefore, overtime, stress becomes a spiral and the adaptive technique determines the outcome. Stress spirals are recurring patterns of stress that unnoticeably heightens an individual's alertness at which point the individual had developed a pattern of adaptation.

When an individual is stressed, the brain shuts down the higher thinking areas of the frontal cortex and moves to control the brain stems. The reaction thus is a raised emotion that depletes active cognitive functions. Reading requires an active cognitive ability. David Morgan Education (2012) said it is very demanding and often involves a lot of "public" failure. The symptoms of a stress pattern like this are fairly obvious: strong negative emotions to reading, coupled with an apparent ability to read satisfactorily at moments which can downgrade into spiral of stress when making reading mistakes (p.1).

Naturally such level of anxiety should be unexpected from a learner who consciously goes to school for the strict purpose of learning. The reality however is that the demands are much higher than the expectations therefore creating a fear when exposed to them. It is more critical today when competitive education is at its peak. Children are exposed to volumes of work and often scripted. They are expected to read and comprehend within stipulated timelines. This does not only affect general knowledge acquisition but can be measured even in reading comprehension which should serve as a formation for



other reading activities. In spite of this reality of a deficit in reading, there is still a workout to balancing academic stress and effective reading.

McEwan (2007) discussed about the strategies for effective reading. She listed these to include activating, inferring, monitoring-clarifying, questioning, searching-selecting, summarising, and visualising-organising. In a detailed explanation of these strategies she explained that reader for adolescents must be creatively impactful to stimulate the learners interest. This simply would involve not just a mere scripting of content but an emphasis on pictorials that would supply the questioning mind and provide a link to the hidden information required for effective comprehension. This position is applicable and effective in depressing the stress consciousness of the learner in relation to reading. The reader's cognitive function is suppressed to processing visuals and this is more effective than raising a consciousness to process abstract codes. Neuroscience explains that weakened brainstems or gray matters can be entrenched by an enrichment via multimodal concepts.

METHODOLOGY

This study was conducted at Sacred Heart High School, Aka Offot, Uyo with a population of fifteen JSS2 students and a sample size of ten students purposively selected. The students were randomly divided into two sets. Group A served as the experimental group while group B was control. The structured comprehension was given to group A while group B had a corresponding passage that was unstructured; a corresponding comprehension question was also given after ten minutes of reading time. The passage was withdrawn before administration of the questionnaire. The stipulated time for reading under same condition was ten minutes. The simple self-developed questionnaire with a Linkert scale was administered to individual participants based on groups. The information retrieved were coded and analysed descriptively after a mean score evaluation.

DATA PRESENTATION AND ANALYSIS

TABLE I: Individual Responses

S/N	Reading Skills	Group A					Group B				
		Respondent ID					A	B	C	D	E
1	Recognizing definitions and examples	4	3	4	2	4	3	2	1	3	2
2	Recognizing enumerations	4	5	5	4	3	3	3	3	2	3
3	Identifying headings and subheads	5	5	5	5	5	4	3	3	2	3
4	Identifying signal words	3	4	3	3	4	2	1	-	2	3
5	Identifying contextual clues for vocabulary	3	3	2	4	-	2	2	2	1	2
6	Identifying the main idea	4	4	4	4	4	2	3	2	1	1
7	Identifying the authors' intention	3	4	4	3	3	-	2	4	3	3
8	Evaluating the text	4	4	4	4	4	3	-	2	3	3
9	Following the organization of the text	4	3	3	5	3	3	1	2	2	3

TABLE II: Group Value

	Group A				
	V.Poor	Poor	Average	Good	Exc.
	1	2	3	4	5
Question	Response				
Recognizing definitions and examples	0	1	1	3	0
Recognizing enumerations	0	0	1	2	2
Identifying headings and subheads	0	0	0	0	5
Identifying signal words	0	0	3	2	0
Identifying contextual clues for vocabulary	0	1	2	1	0
Identifying the main idea	0	0	0	5	0
Identifying the authors' intention	0	0	3	2	0
Evaluating the text	0	0	0	5	0
Following the organization of the text	0	0	3	1	1



Group B					
	V.Poor	Poor	Average.	Good	Exc.
	1	2	3	4	5
Question	Response				
Recognizing definitions and examples	1	2	2	0	0
Recognizing enumerations	0	1	4	0	0
Identifying headings and subheads	0	1	3	1	0
Identifying signal words	1	2	1	0	0
Identifying contextual clues for vocabulary	1	4	0	0	0
Identifying the main idea	2	2	1	0	0
Identifying the authors' intention	0	1	2	1	0
Evaluating the text	0	1	3	0	0
Following the organization of the text	1	2	2	0	0

The data above clearly explains the position of the participants' evaluation of their text for analysis. This study ranking from 1 to 5 was very poor, poor, average, good and excellent. Table I shows the responses from individual members of the group based on specific psychometric opinion. Table II is a more specific value codes for each of the Likert items 1 to 9 for each group.

From the data recorded, we observed that the experimental group perceived a better approach to reading the comprehension text than those in the control group. The opinion of group A about their appraisal of the discourse text based on the responses retrieved describes their attraction to the pattern of text-content- presentation.

On Q.1, group A had three participants who perceived that their level of cognition of definitions and examples in the text was good (above average) and only one on the average while group B had a maximum response of two on an average and poor level of cognition ability respectively. Comparatively too, the level of performance for Q.3 on identification of subheads is totally excellent for group A but ranges from poor, average to good ability for group B.

One major objective in reading comprehension is the identification of the main idea as stated in Q.6. The experimental group recorded a good competence level while even the average response on this question for the control group is only one. That means it is more tasking for the control group to pick out the main idea unlike their counterpart who necessarily do not need the codes but work with imageries (multimodal) created in the discourse.

After reading a comprehension, there is a need for passage evaluation and if the content was properly comprehended, the need for the text during evaluation would be insignificant. In the study, the control group expressed their inability to recall details of the text when retrieved hence we recorded, one poor and three average responses on evaluation. The experimental group on the other hand demonstrated competence recording five responses for a good level competence in text evaluation.

The present research affirms studies in other climes on the effectiveness of multimodal in teaching reading. Bao (2017) studied how multimodality can be applied and from his research reported that the use of multimodal will attract learners and activate their desire to read even after classes and within the classroom creates a conducive atmosphere.

This also aligns with the observed challenge of the control group in this study. Both groups had same conditions before administration of test but the process of mental readjustment after a stretch of academic activities posed a challenge to the group's reading competence whereas the experimental group had an advantage of easily understanding the text as a function of the multimodal nature of their text. Hence, the ability of group A is seen as simply a function of the multimodal text.

More so, a general presentation on all items on the scale buttresses the effectiveness of multimodality as an academic stress spiral reduction strategy. This is measurable with groups performance. Group A was presented with a cognitive task that was completed with ease but was difficult for group B. For group A, there was no heightened neuro-sensitivity because of the multimodal. The respondents rather than develop an adaptive strategy to stress and to allow for another series of a cognitive assignment, produced a neurological stem that is productive for cognitive reception as the brain stems remained unthreatened.

CONCLUSION

Educators must learn to identify that not every poor reader (learner) is inefficient as a result of poor literacy skills. There is need to painstakingly design reading materials in multimodal forms for effective reading. It is no doubt with the high level of educational competition, schools will get more concerned about being in line with what is obtainable and thereby increasing the academic demand and triggering stress. However, it is possible to align this reality with practical teaching methods.

Text and all reading materials should be redesigned to fit in the use of multimodality. Teachers should deploy strategies



of using multimodal tools in teaching to create fun and ease tension in the academic environment.

If a learner is motivated rather than compelled to study, the result will be efficient. Therefore, learning and reading in particular should be demystified. If language teachers and language content developers as well as other subject curriculum developers adopt multimodality in texting, academic stress can be reduced and spirals removed. McEwan (2007) wrote that readers are inventive, thinkers and scholars. This emphasizes the fact that ineffective reading is a challenge to academic development.

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