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# Learning Strategies Adopted During the Normal Study Time and National Examinations' Preparation Period: A Case of Rwandan Secondary Schools

Wenceslas Nzabalirwa<sup>1</sup>, Claudien Ntahomvukiye<sup>2</sup>, Irénée Ndayambaje<sup>3</sup>, Perpetue Bimenyimana<sup>4</sup>& John Aluko Orodho<sup>5</sup>

<sup>6</sup>Prof. Wenceslas Nzabalirwa (PhD), and <sup>7</sup>Prof John Aluko **ORODHO**,

Associate Professor, Kenyatta University, Kenya University Of Rwanda-College Of Education, Rwanda <sup>1, 2, 3</sup>, INES-Ruhengeri, Rwanda <sup>4</sup>&Kenyatta University, Kenya<sup>5</sup>

Abstract: The Thrust Of This Study Was To Investigate Learning Strategies Adopted During The Normal Study Time And The National Examinations Preparation Period Among Secondary School Students In Rwanda. This Study Was Premised On The Social Cognitive Theory Propounded By Albert Bandura Which Emphasizes The Developmental Changes That People Undergo As A Result Of Environmental Influences, Interaction And Action. The Embedded Version Of Concurrent Mixed Methods Research Design That Focusedon The Variables Of Help Seeking, Elaboration, Organizational, Self -Regulation, Motivational, Concentration And Rehearsal Learning Strategies Was Adopted For The Study. Simple Random, Criterion Based And Purposive Sampling Procedures Were Used To Reach The Sample Size Of 1060 Comprising Of 1042 Students And 18 Headteachers In 18 Schools Countrywide. Data Were Collected Throughobservations, Semi-Structured Interviews And Questionnaires. The Major Findings Informed On One Hand That Concentration Strategies Are The Most Used Strategies Bysecondary School Students Especially As They Prepare For National Examinations. On The Other Hand, Elaborative Strategies Were The Most Predominant In Normal Study Time. A T-Test Revealed Thatthere Was Nostatistically Significant Mean Difference Between Students Who Use Learning Strategies During Normal Study Time And National Examinations' Preparation Period.It Was Concluded That The Major Challenges Foreffective Use Of Learning Strategies Were: Timidity Of Students To Ask Questions During Live Classes, Insufficiency Of Teaching-Learning Resources, Inadequate School Facilities And Infrastructures. The Study Therefore Informs Headteachers, Teachers, Students And Educational Stakeholders On How They Could Enhance The Teaching-Learning Processes And Educational Outcomes. [246

**Keywords:** Learning Strategies, Normal Study Time, National Examinations' Preparation Period, Secondary Schools, Rwanda

# I. Introduction

#### **Background of the Study**

This Study Was Conceived Against The Backdrop That While There Is Considerable Premium Attached To Formal Education That Is Perceived To Be A Critical Ingredient Necessary To Build A Solid Groundwork For Lifelong Learning Opportunities For Learners And The Impetus For Knowledge Development Required To Meet The Imperatives Of The 21<sup>st</sup> Century, There Is An Emerging Concern By The Education Stakeholders To Focus More On Student's Learning Outcomes In Terms Of Their Overall Grade Scores Rather That The Process Of Interaction Between Learners And Teachers That Leads To These Desired Outcomes (Ampofo & Orodho, 2015; Bradshaw &Goldbart, 2013; Ndayambaje & Orodho, 2015; Ojimba, 2013; Orodho, 2014). Nowadays, Education Has Gained Much Consideration As A Form Of Investment (Ndayambaje, Et Al. 2015). This Is Quite Shown In The International Movement For Massive Access To Free Basic Education (Orodho, 2014) And Tireless Efforts To Conquer Education For All Pledgesand Commitments (Orodho, 2013). In Fact, This Inclination Was Derived From The Fact That Education Bears Returns And Externalities That Constitute A Baseline For The Required Social-Economical Advancements Of Individual, Communities And The Society At Large (Ampofo, Et Al. 2015).

Truthfully, The Emphasis On Formal Learning Opportunities Than Ever Before Is Also Connected To Two More Facts. The First Is To The Necessity To Build Solid Groundwork For Lifelong Learning (LLL)

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Opportunities (Petnuchova, 2012) Which Are Required To Meet The Imperatives Of The 21st Century. The Second Is The Impetus For The Knowledge Development (Bradshaw &Goldbart, 2013) And Skills Acquisition(Ojimba, 2013).So, It Is In This Respect That Educationists As Well As Educational Stakeholders Are Very Much Wholehearted About Students' Learning And Learning Outcomes.

According To Christodoulou (2014), Knowledge Is Central To Cognition. Thus, Students' Failure To Learners Is A Serious Concern. That Is The Reason Why, As An Experienced Teacher In United Kingdom, Christodoulou (2014) Recommends That The Current Educational Systems Need To Rethink About Teaching Methods And By Extension The Learning Strategies. In Essence, Learning Strategies Refer To The Activities By Which Learning Is Achieved. For Example, Reading Aloud, Copying Notes, Consulting Peers, Asking The Instructor For Clarification Are All Learning Strategies.

The Use Of Learning Strategies Allows Students To Actively Process Information, Thereby Influencing Their Mastery Of Material And Subsequent Academic Achievement (Pintrich, Smith, Garcia & Mckeachie, 1993). Factually, A Great Number Of Scholars In The Field Related To Learning Strategies Reveal That The Use Of Learning Strategies Can Improve Student Performance In Inclusive Settings Or On Grade Appropriate Tasks (Palincsar & Brown, 1986; Scruggs & Mastropieri, 1992; Miller & Mercer, 1993). It Is In The Same Vein That The Investigation On Learning Strategies By Meyer, Armson, Losco, Losco And Walker (2015) Has Concluded That The Use Of Mnemonics And The Clinical Application Techniques Had Significantly Influenced Learners Knowledge Retention.Moreover, Little And Kobayashi (2015)'S Study On Concluded That Vocabulary Learning Strategy (VLS) Are Influential To Language Proficiency.

Felder (1997) States That Students Learn In Many Ways: By Seeing And Hearing, Reflecting And Acting, Reasoning Logically And Intuitively, Memorizing And Visualizing And All These Ways In Which An Individual Characteristically Acquires, Retains And Retrieves Information Are Related To His/Her Learning Strategies. That Is Why The Goal Of Education Is Better Conceived As Helping Students Develop The Intellectual Tools And Learning Strategies Needed To Acquire The Knowledge Necessary To Think Productively.

In An Attempt To Discover Students' Approaches To Learning And Their Effect Of Curricula, Delva Et Al. (2000), Newble And Hejka (1991) And Newble And Clarke (1986) Studies Came Up With A Wide Range Of Learning Strategies. Nevertheless, Thesesources Did Not Articulate How These Strategies Vary With Learning Contexts (Woodhouse,Et Al., 1997). It Is Against This Background That This Study On Learning Strategies Adopted During The Normal Study Time And National Examinations' Preparation Period In Rwandan Secondary Schools Was Premised.

## **State of the Art Review**

According To Falardeau And Loranger (1993), There Are Four Major Contexts That Cause Change In The Adopted Learning Strategies. These Are Namely: (1) In The Classroom, (2) Self-Guided Study At Home, (3) Preparation Of The Exam, And (4) Repaired Success Or Failure. However, This Study Did Not Consider The Second Context Because Reaching The Milieu Of Each Student Would Have Made The Research More Complicated. It Instead Focused On The First And Third Contexts By Investigating Learning Strategies Used By Students During Normal Study Time And National Examinations' Preparation Period. Therefore, The Reviewed Literature Will Focus On Help Seeking, Elaboration, Organizational, Self -Regulation, Motivational, Concentration And Rehearsal Learning Strategies.

# **Help Seeking Strategies**

Newman (2002) Highlighted That Help-Seeking Includes Learning In Groups Or Involves Consulting Others - The Teacher, Peers, A Family Member, More Experienced People, And So On. Lonka & Lindblom (1996) Maintain That A Student Can Also Seek Help From Written Materials And Thus Help Seeking Can Be Considered As A Set Of Procedures To Obtain Information From Written Documents, Manuals, Computer Programs/ Internet And Other Sources. This Involves Self-Generated Efforts Rather Than Routine Learning Activities.

However, Literature On Help Seeking Strategies Revealed That Students Will Not Always Ask For Help, Even When They Are Aware That Help Is Needed (Nelson-Le Gall & Jones, 1991; Mok, Et Al., 2008; Salili, 2001). This Is Supported By Mok, Et Al. (2008) Who Argue That Help-Seeking Behaviours Embedded In Cultural Contexts And Cultural Issues May Inhibit Or Support Students' Use Of Help-Seeking Behaviours. This Is Linked With The Fact That In USA, Early Researchers View Help Seeking As Dependant Behaviour Because The Western World Is More Individualistic Favouring Independence. In Their Study, Mok Et Al. (2008) Revealed That Chinese Secondary School Students Refrained From Seeking Help Because They Were Afraid To Disturb Others In The Act Of Help-Seeking. On The Other Hand, Shi (2006) 'S Shanghai Study Showed

That Secondary School Students Would Rather Ask Their Teachers Questions In Private After Class Rather Than In Public During Class.

#### **Elaboration Strategies**

Weinstein (1988) Asserts That An Elaboration Strategy Reflects The Student's Effort To Use Elements Of What Is To Be Learned And Expands Them. Warr And Jonathon (2000) See Elaboration Strategies As Procedures To Examine Implications And To Make Mental Connections Between Material To Be Learned And Existing Knowledge. This Does Further Than Fitting Different Aspects Together (Organization), To Seek To Increase Understanding By Changing The Way Material Is Viewed In The Context Of Other Information. Elaboration Strategies, Such As Interpreting, Summarising, Making Analogies And Effective Note Taking Help Students Store New Knowledge In Their Long Term Memory By Making Internal Links Between Information To Be Learned And Information That Students Already Know. Through Elaboration, Learners Can Connect New Information To Existing Knowledge By Means Of Clarifying, Adding Details, Explaining Relationships Between Concepts, Using An Analogy, Making Inferences Or Visualizing A Related Image (King, 1992). At The Same Time, These Strategies Help Students Integrate New Learning With Existing Knowledge (Conford, 2002).

Numerous Studies Have Shown Elaboration Strategy To Be An Important Prerequisite For Meaningful Learning. Cermak And Craik (1979), Rigney (1978) And Weinstein (1988) Specified That Elaboration Involves Adding Some Sort Of Symbolic Construction To What One Is Trying To Learn As A Way To Make It More Meaningful. In The Other Words, Activities In This Category Include Creating Analogies, Paraphrasing And Using Prior Knowledge, Experiences, Attitudes And Beliefs To Help Make The New Information More Meaningful.

According To Lonka And Lindblom (1996), Elaborative Strategies Are Used When Knowledge Is Attached To Some Meaningful Context Or Some Sort Of Symbolic Construction Is Developed, For Example, By Creating Analogies, Summarizing, Or Using Prior Knowledge. Elaboration Strategies Effectively Meet The Diverse Learning Needs Of Students Because Elaboration Strategies Create Connections Or Bridges To Information To Be Learned And Then, They Can Be Powerful Instructional Tools For A Classroom. The Confidence That Students Have In Already Knowing The Connected Information Can Support Their Learning Of New Information.

Elaborative Learning Strategies Which Were Considered In This Study Include: Finding Concrete Examples For Better Understanding, Knowing Rules, Summarizing, Asking Questions And Answering Them, Transfer Of Learning, Knowing Formulas And Their Applications, And Thinking Of Analogies For Facts That Have To Be Learned.

## **Organizational Strategies**

Organizational Learning Strategies Are Crucial In The Sense That Learners Can Employ Them To Organize Information Into A Form That Makes It Easier To Understand. The Strategies Which Were Examined In This Category Include Among Others, Writing Down The Main Ideas, Organizing Material For Private Reading, And Paying More Attention To Examinable Subjects.In Fact, Organisation Strategies Involve The Transformation Of Knowledge Into Different Form, As Well As The Development Of Certain Schematic Systems That Make Connections Between Fragments Or Elements Of Knowledge. The Links Formed When Analysing Similarities And Differences May Not Only Be Important To The Formation Of Opinions, But Also To How Knowledge Is Retained In The Long Term Memory.

Some Authors Make A Link Between Elaboration Strategies And Organizational Strategies. Lonka & Lindblom (1996) Contend That Organizational Strategies Are Used To Translate Information Into Another Form That Will Make It Easier To Understand, For Example, By Outlining, Grouping, Creating A Conceptual Diagram Or By Creating A Hierarchy. Those Who Link Elaboration Strategies With Organizational Strategies Go On To Say That Organizational Strategies Focus On Methods Used To Translate Information Into Another Form That Will Make It Easier To Understand. Hence, Organizational Strategies, Like Elaboration Strategies, Require A More Active Role On The Part Of The Learner Than Simple Rote Or Rehearsal Strategies. That Is Even Why Both Elaboration And Organisation Learning Strategies Are Used To Construct And Reconstruct Knowledge And Consequently Constitute The Most Cluster Of Strategies That Students Use Most While Studying, Summarising, Taking Note, Asking Questions And Working In Groups.

## **Self -Regulation Strategies**

Chen (2002) Associates Self-Regulation Strategies With The Fact That In Student-Centred Educational Paradigms, It Is Essential For Learners To Control And Regulate Their Individual Learning Processes. In Addition, Zimmerman (2000) Points Out That Those Self-Regulated Learners Are Characterized By Their Ability To Be Active And Sustain Cognitions And Behaviours Which Are Oriented Toward The Attainment Of

Their Learning Goals. This Is Supported By Pintrich And Zusho (2002) Who Justified That Self-Regulated Learning Is A Process That Assists Students In Managing Their Thoughts, Behaviors And Emotions In Order To Successfully Navigate Their Learning Experiences.

Researchers Have Found That Self-Regulated Learners Are More Likely To Seek Out Advice (Clarebout, Et Al., 2010) And Information (De Bruin Et Al., 2011) And Pursue Positive Learning Climates (Labuhn Et Al., 2010) Than Their Peers Who Display Less Self-Regulation In The Classroom. In An Attempt To Understanding This Scenario Bandura (1993), Pintrich (2000a) And Zimmerman (2008) Converge On The Fact That Self-Regulated Learning Is Controlled By An Interconnected Framework Of Factors That Determine Its Development And Sustainability. That Is Why Motivation Is A Critical Factor In This Framework (Kurman, 2001; Ommundsen, Haugen & Lund, 2005; Wang & Holcombe, 2010).

In The Classroom Setting, It Was Found Out That Some Students Exhibit Adaptive Self-Regulatory Strategies And Motivational Patterns While Engaging In Academic Tasks, Such As Exerting Appropriate Effort For Success, Enjoying The Challenge Of The Activity, Using Appropriate Learning Strategies, Setting Specific Goals And Displaying A High Self-Efficacy Level (Schunk, Et Al., 2008). Pintrich (2000b) Described Self-Regulated Learning As An Active, Constructive Process Whereby Learners Set Goals For Their Learning And Then Attempt To Monitor, Regulate, And Control Their Cognition, Motivation And Behavior, Guided And Constrained By Their Goals And The Contextual Features In The Environment.

Some Of The Self-Regulation Strategies Which Were Considered In This Study Include Checking Whether The Information Read Is Understood, Adapting Learning Activity To The Requirements Of The Tasks, Fixing A Timeline For Self- Study And Being Ready For Study.

#### **Motivational Learning Strategies**

The Literature Suggests That When Students Use Motivational Beliefs And Learningstrategies For Self-Regulation; Their Successes Increase (Camahalan, 2006; Dresel, & Haugwitz, 2005; Malmivuori, 2006; Metallidou & Vlachou, 2007). Bandura (1997) And Zimmerman (2000) Add That The Most Successful Learners Maintain A High Level Of Motivation And Motivated Learners Are Efficient In Time Management And Are Responsible In Control Of Their Studies And Maintain An Image Of Self-Worth And Self-Efficacy. According To E And Moore (2004), Such Learners See The Value Of The Education And Are Able To Postpone Current Enjoyments And Cope With Interruption Life Frequently Entails.

The Research Conducted By Mcdonough (2005) Showed That The More Students Were Motivated By Performance Goals, Competing To Win, The Higher Was Their Academic Achievement. As Mcdonough (2005) States Motivation May Have Positive Effects On Increase Of Self-Confidence Or Self-Esteem And Autonomy. Thus, The Enhancement Of The Motivation Element Should Lead To A Higher Level Of Engagement In The Task (Pintrich, 2003).

## **Concentration Strategies**

Thomas (2006) Asserts That Concentration Is A Form Of Thinking That Is More Focused. According To Him, Concentration Requires Students To Focus Their Attention On What They Are Doing. Concentration Occurs When Nearly All The Thinking Energy Is Devoted To A Single Subject Instead Of A Variety Of Scattered Ideas. Poor Concentration Can Result From The Factors Including Lack Of Attention, Lack Of Interest And Lack Of Motivation (Gleeson, Livett & Thomas, 2006).

Strategies That Help Promote Concentration And Reduce The Chance That Distractions Will Arise In The First Place Include Making Lists, Taking Breaks And Maintaining A Balance Between One's Skills And The Level Of The Material Being Learned. Creating Interest In Task Is Also Crucial Because It Becomes Difficult To Concentrate If Someone Is Not Interested In The Assignment. Development Of A Positive Attitude Toward The Work Being Done, The Will To Complete Assignment, Value Attachment To The Task, Finding Importance Of The Work Self- Efficacy And Self-Confidence Are Also Documented As Factors That Are Potentially Capable To Cut Down The Distraction Occurrence.Simply Put, To Ensure The Concentration, The Student, If Is Not Able To Eliminate Distractions, Must Try To Minimize Them As Best He/She Can. He / She Is Urged To Make Better Use Of Time, To Take Better Lecture Notes, To Gain Better Understanding And To Increase Self-Confidence And Higher Self-Esteem. Indicators Of Concentration Strategies That Were Considered In The Current Study Include Paying Attention To What One Is Studying Or Learning, Completing Of Given Assignments And Avoiding All Sources Of Distraction During Self-Study.

## **Rehearsal Strategies**

Warr And Jonathon (2000) Say That Rehearsal Strategies Are The Procedures To Repeat To Oneself The Material Being Learned. Rehearsal Strategies Enhance The Learner's Attention And Encoding Of Information. Examples Include Reciting Or Naming Items To Be Learned, Saying The Material Out Aloud, Copying The Material Into A Notebook, Underlining, Or Highlighting Sections To Be Learned. A Number Of

Researchers Have Provided Evidence Of The Importance Rehearsal Strategies In Facilitating Student Achievement (Eshel & Kohavi, 2003; Cho & Ahn, 2003; King, 1992). Generally, Rehearsal Activities Seem Particularly Effective When They Provide Further Opportunities For More Meaningful Processing Of The Acquisitions As They Happen Through Elaboration, Organization Or Comprehension Monitoring (Ramsden & Entwistle, 1983). Some Of The Rehearsal Strategies Which Were Considered In This Study Include Revision And Reciting Of Learnt Information, Summarizing The Main Points Of The Lesson And Memorizing By Trying To Recall The Main Points.

#### **The Statement Of The Problem**

Despite The Much Alluded To Considerable Importance Of Investment To Formal Education As A Critical Ingredient Necessary To Build A Solid Groundwork For Lifelong Learning Opportunities And The Impetus For Knowledge Development Required To Meet The Imperatives Of The 21<sup>st</sup> Century, There Is An Emerging Concern By The Education Stakeholders To Focus More On Students Learning Outcomes In Terms Of Their Overall Grade Scores Rather That The Process Of Interaction Between Learners And Teachers That Leads To These Desired Outcomes. It Is Arguable That A Great Deal Of Time And Energy Goes Into The Preparation Of Class And Class Content That Is A Perquisite To The Desired Outcomes Of Students' Performance (Ampofo & Orodho, 2015), Yet These Initial Processes Of Student-Teacher Interaction Is Not Adequately Recognized By The Education Stakeholders.

Hence, The Overall Problem Of This Study Was How These Students Strive With The Learning Content And Cope With The Required Assessment Patterns All Along Their Academic Pathways To Achieve The Desired End Results In Terms Of Grade Scores. The Implication Is That If The Means Justify The Ends, There Is Need To Check Out The Learning Strategies Used By Secondary School Students In Normal Study Time And During National Examinations' Preparation Period So That Any Possible Obstruction To Effective Learning And By Extension To Performance Is Adequately Fixed.

## The Purpose And Objectives To The Study

The Purpose Of This Study Was To Assess The Level Of Usage Of The Most Common Learning Strategies And Establish The Relationship Between Learning Strategies As Used By Rwandan Secondary School Students In Normal Study Time Against National Examinations' Preparation Period.

The Followings Were The Research Objectives To The Study:

- (1) To Determine The Learning Strategies Used By Rwandan Secondary School Students.
- (2) To Assess The Level Of Preference Of Each Of The Learning Strategies Used By Rwandan Secondary School Students.
- (3) To Establish The Relationship Between The Learning Strategies Employed By Students During Normal Study Time And National Examinations' Preparation Period.

## **Research Hypotheses**

 $H_{\rm O}$ : There Is No Statistically Significant Mean Difference Between Learning Strategies Used By Rwandan Secondary School Students During Normal Study Time And National Examination Preparation Time (A=.05).

 $H_1$ : There Is A Statistically Significant Mean Difference Between Learning Strategies Used By Rwandan Secondary School Students During Normal Study Time And National Examination Preparation Time (A=.05).

## **Theoretical Framework**

This Study Was Inspired By The Social Cognitive Theory Authored By Albert Bandura Which Emphasizes The Developmental Changes That People Undergo As A Result Of Environmental Influences, Interaction And Action (Bandura, 1989). The Choice Of This Theory To Support This Study Is Derived From The Fact This Theory Explains That Human Behavior Is A Result Of The Interplay Between Cognition, Personal And Environmental Factors (Bandura, 1988); Which Is In Line With This Study That Attempted To Know How Students Adapt Their Learning Strategies In Response To Changes In Learning Contexts.

The Preference Of This Theory Was Also Inspired By Previous Researchers Such As Wolfs (2001) Whose Study Focused On Justifying The Learning Strategies That Students From Upper Secondary And From Some Universities Claim To Use. Indeed, More Insights Into The Choice Of This Theory Were Drawn From Falardeau And Loranger (1993) Who, In Their Work Argue That Learning Strategies Change According To Individuals And Especially School Contexts In Which They Learn.

#### II. Methodology

#### **Research Design And Locale**

This Study Adopted The Embedded Design Which Is A Form Of Concurrent Mixed Method Research Design (Creswell, 2012) By Which Qualitative And Quantitative Data Approaches (Creswell & Plano Clark, 2007) Were Used In Parallel. The Embedded Design, According To Creswell And Plano (2011) Is A Mixed Method Approach Where The Researcher Combines The Collection And Analysis Of Both Quantitative And Qualitative Data Within A Traditional Quantitative Research Design Or Qualitative Research Design. The Justification Of Using This Design Was Hinged On The Fact That A Single Data Set Is Not Sufficient, And That Different Type Of Questions Requires Different Types Of Data (Orodho, 2012; Orodho, Ampofo, Bizimana& Ndayambaje, 2016). The Study Locale Was Provinces Including Northern, Western, Southern, Eastern And Kigali Provinces. The Districts Included; Gichumbi, Gakenke, Rusizi, Huye, Kamonyi, Rwamagana, Kirehe, And Gasabo.

#### **Population And Sampling**

The Study Population Was 5210 Students Across Secondary Schools In Rwanda. Stratified Random Sampling Was Used To Select Districts, Schools, Headteachers And Students Targeted For The Study. The Districts Were Randomly Sampled, Where Every District Had An Equal Opportunity To Be Included In The Sample That Is, Chance Was The Only Factor That Determined The Districts That Constituted The Sample (Malec, 1998). Apart From Kigali City Whereby Only Two Schools Were Selected From Two Different Districts, For The Rest Of The Provinces Two Schools Were Randomly Selected In Each Constituent District. To Ensure Ecological Validity, The Study Incorporated Districts From Various Provinces Across The Country; Rural And Urban/Semi Urban Also Catered For As A Selection Parameter. This Has Followed A Criterion Based Sampling Procedure Whereby Also The Researchers Took Into Account Public And Private Nature Of The Schools. Another Criterion Used When Selecting Schools Was That The Schools Had To Have Both Lower And Upper Secondary Levels. Therefore, This Criterion Sampling Procedure (Orodho, 2009) Led To A Sample Size Of 18 Schools Countrywide. For Ethical Considerations, Schools Are Labelled From S1 To S18 (Orodho, 2012). The Sampling Results Are Depicted In Table 1.

**Table 1:** Summarized Figures Of Surveyed Students And Headteachers Per Schools, Districts And Provinces Across Rwanda

Provinces	Districts	Schéols	Number Of	Number Of Classes		Total Number Of Target Population Of Students		Sampled Students	
			Year Two	Year Four	Year Two	Year Four	Year Two	Year Four	
Northern	Gicumbi	S1	1	1	56	57	11	11	
		S2	1	5	48	315	10	63	
	Gakenke	S3	2	3	99	141	20	28	
		S4	1	2	56	116	11	23	
Western	Rusizi	S5	4	3	220	112	44	22	
		S6	1	3	46	195	9	39	
	Nyabihu	S7	2	6	88	317	18	63	
		S8	2	1	82	44	16	9	
Southern	Huye	S9	2	4	96	168	19	34	
		S10	2	7	82	322	16	65	
	Kamonyi	S11	3	4	174	190	35	38	
		S12	1	3	56	143	11	29	
Eastern	Rwamagana	S13	4	4	215	190	43	38	
		S14	1	5	38	285	8	57	
	Kirehe	S15	3	4	147	142	30	28	
		S16	4	2	126	112	25	22	
	Nyarugenge	S17	2	3	120	122	24	24	
Kigali City	Gasabo	S18	2	5	96	394	19	79	
Total	10	18	34	63	1845	3365	369	673	
Grand Total	10	18	97		5210		1042		

By There, The Researchers Purposively Included 18 Headteachers Of These Schools In The Study. Indeed, The Systematic And Stratified Random Sampling Has Enabled To Attain A Sample Of 1042 Students.

The Sample Size Of Students Was Fixed At 20% Of The Second And Fourth Years' Targeted Students. In This Study, Year Two Secondary School Students Represented Students Who Use Different Categories Of Learning Strategies During Normal Study Time While Year Four Secondary School Students Represented Those Who Used Them When Preparing For National Examinations. The Details On The Sample For The Study Constituting 1042 Students And 18 Headteachers Yielded A Sample Size Of 1060 Respondents As Depicted In The Table 1.

## **Research Instruments And Data Collection Procedures**

In This Study, Data Were Collected Through Questionnaires, Semi-Structured Interviews And Observations. This Methodological Pathway Of Combining Instruments Was Used So As To Offset The Weaknesses Of One Instrument; A Procedure Known As Triangulation (Orodho, 2009) And Is Consistent With The Chosen Embedded Design (Creswell & Plano, 2011). The Questionnaires Were In Two Types. One Was Addressed To Lower Level Second Year Students And Another One To Upper Level Fourth Year Students. These Questionnaires Were Composed Of Closed And Open-Ended Items (Ron & Blair, 2005). To Ascertain Validity Of The Data Collection Instruments, These Were Perused By Three Experts Who Advised To Make Some Corrections. After Making Corrections, The Questionnaires Were Pre-Tested On 20 Participants Who Were Part Of The Target Population But Not Included In The Main Study In Order Ensure Its Reliability. The Questionnaires Were Adopted As The Computed Reliability Coefficient Through Split-Half Method Was 0.86 Which Is Greater Than The Fixed 0.75 Acceptability Level (Orodho, 2009, 2012).

The Data Collection Procedure Involved Conducting Interviewswith Headteachers From The Selected Schools; Administering Questionnaires To Students And Observation Of Learning Styles In Selected Schools. .The Interviewees Were Assured Of The Concealment Of Their Identities To Make Them Feel Free And Provide Information. All Interviews Were Tape Recorded On Obtaining Authorization And Consent From The Respective Respondents.

Apart From Interviews And Questionnaires, Observations Were Also Conducted. The Sampled Students Were Observed During Their Self-Guided Study Time And During Lessons. Also, Physical Environments Of Schools Were Observed. All The Types Of Observations Were Guided By Observation Checklists. In All The 18 Schools, Two Lessons Were Observed In Each School At Each Level (Year Two And Year Four). Observation Of Students During Self-Guided Study Time Aimed At Verifying The Extent To Which Learners Utilized Learning Strategies During Their Private Study. In Each School, One Period Of Students' Self-Study Time Was Observed At Each Level (Year Two And Year Four). Observation Of School Physical Environment Was Done Using Observation Checklists With The Aim Of Checking Whether It Was Conducive For Learning, Whether The Premises Were Adequate, Of Good Quality And In Good State.

## **Data Analytical Techniques**

The Collected Quantitative Data Were Entered In The Statistical Package For Social Sciences (SPSS) For Windows Computer Programme) To Produce Required Descriptive Statistics (Mean And Standard Deviation) And Inferential Statistics Employing A T-Test (Field, 2009; Ofori & Dampson, 2011; Orodho, Ampofo, Bizimana & Ndayambaje, 2016). The Qualitative Data Were Transcribed And Organized Under Themes Around The Research Objectives.

# **III. Findings And Discussion**

# **Learning Strategies Used During Study Time**

The First Objective Of This Study Was To Determine The Learning Strategies Used By Students During Normal Study Time. The Students Were Requested To Indicate The Learning Strategies Commonly Used During Study Time. The Learning Strategies Which Were Considered In This Study Were Categorized As: Elaborative Strategies; Organizational Strategies; Self-Regulation Strategies; Motivational Strategies; Concentration Strategies; Help Seeking Strategies And Rehearsal Strategies. The Students' Responses Indicating The Calculated Percentage And Means Of The Use Of Learning Strategies During Normal Time Are Portrayed In Table 2.

The Results Carried In Table 2 Indicate That The Highly Ranked Learning Method Was Elaborative Approaches. Follow Up Interviews And Observation Of The Learning Modes Used Revealed That The Main Elaboration Used Included Interpreting, Summarising, Making Analogies And Effective Note Taking. The Second Highly Ranked Learning Strategies Were Organization And Motivation. From The Interviews And Observations Of The Learning Environment, It Was Established That The Main Organizational Learning Strategies Were Writing Down The Main Ideas In Notes, Organizing Material For Private Reading, And Paying More Attention To Examinable Subjects. With Regards To Motivation, It Was Apparent That More Students Were Motivated By Performance Goals, Competing To Win; The Higher Was Their Academic

Achievement. The Third Highly Ranked Learning Strategies Were Concentration And Self- Regulation. Arguably, Self-Regulation Strategies Are Student-Centered Educational Paradigms, It Is Essential For Learners To Control And Regulate Their Individual Learning Processes. In Addition, Those Self-Regulated Learners Are Characterized By Their Ability To Be Active And Sustain Cognitions And Behaviours Which Are Oriented Toward The Attainment Of Their Learning Goals.

**Table 2: Strategies Used In Normal Study Time** 

Strategies	Total & %	Never=1	Rarely=2	Often=3	Always=4	Mean	Rank
Elaborative	Total	52	74	92	144	2.9	1
	%	14	20	25	39		
Organization	Total	52	77	96	129	2.8	2
8	%	14	21	26	35		
Regulation	Total	74	77	96	107	2.7	3
	%	20	21	26	29		
Motivation	Total	63	77	89	125	2.8	2
	%	17	21	24	34		
Concentration	Total	74	81	85	111	2.7	3
	%	20	22	23	30		
Help Seeking	Total	129	67	70	85	2.3	4
	%	35	18	19	23		
Rehearsal	Total	67	81	96	107	2.7	3
	%	18	22	26	29		

**Table 2** Showsthe Calculated Mean Reveals That Elaborative Strategies Were The Most Used By Learners During Their Normal Time Of Study With A Mean Score Of 2.9 While Help Seeking Strategies Were The Less Used With A Mean Score Of 2.3.

#### The Learning Strategies When Preparing For Exams.

The Second Objective Sought To Examine The Learning Strategies Employed By Secondary School Students In Rwanda During Examination Period. The Students Were Requested To Indicate The Strategies They Use More Frequently During Examination Period And Results Displayed In Table 3. The Results In Table 3 Indicate That Concentration Was The Most Highly Ranked Learning Strategy During Examination Period. Concentration Is A Form Of Thinking That Is More Focused And Requires Students To Focus Their Attention On What They Are Doing. Concentration Occurs When Nearly All The Thinking Energy Is Devoted To A Single Subject Instead Of A Variety Of Scattered Ideas. Poor Concentration Can Result From The Factors Including Lack Of Attention, Lack Of Interest And Lack Of Motivation. The Second Highly Ranked Learning Strategies During Examination Period Included Organization, Self-Regulation And Rehearsal.

The Second Highly Ranked Learning Strategies During Examination Period Included Organization, Self-Regulation And Rehearsal. Rehearsal Strategies Are The Procedures To Repeat To Oneself The Material Being Learned. Rehearsal Strategies Enhance The Learner's Attention And Encoding Of Information. Examples Include Reciting Or Naming Items To Be Learned, Saying The Material Out Aloud, Copying The Material Into A Notebook, Underlining, Or Highlighting Sections To Be Learned.

**Table 3: Strategies Used While Preparing For National Examinations** 

Strategies	Total & %	Never=1	Rarely=2	Often=3	Always=4	Mean	Rank
Elaborative	Total	128	155	168	209	2.7	3
	%	19	23	25	31		
Organization	Total	121	128	162	249	2.8	2
	%	18	19	24	37		
Concentration	Total	81	121	182	283	3.0	1
	%	12	18	27	42		
Motivation	Total	135	141	168	209	2.7	3
	%	20	21	25	31		
Regulation	Total	121	141	168	223	2.8	2
-	%	18	21	25	33		
Help Seeking	Total	182	162	162	155	2.4	4
	%	27	24	24	23		
Rehearsal	Total	114	135	175	229	2.8	2
	%	17	20	26	34		

Data Contained In Table 3 Also Indicates That The Least Used Learning Strategy Was Help-Seeking From Teachers. The Findings From The Observations Carried Out In Different Classes During Various Lessons Have Shown That Factually Many Students Were Shy To Ask Questions To Their Teachers. This Leads To Understand Why In Both Cases -Exposed In Table 2 And 3 - Help Seeking Learning Strategies Gained The Least Mean Score. Nevertheless, The Data From Observations Carried Out During The Self-Study Period

Rather Shown That Students Were Likely To Use Help-Seeking Learning Strategies More Than During National Preparation Time.

# **Relationship Between Learning Strategies**

The Third Objective Sought To Determine The Relationship Between Learning Strategies Employed By Students During Normal Study Time And National Examinations' Preparation Period. In Order To Attain The Third Research Objection Closely Linked To The Formulated Research Hypotheses, The Researcher Used The T -Test (Christensen & Stoup, 1991) To Resolve Into The Non-Existence Or The Existence Of A Statistically Significant Relationship (Gay & Airasian, 2003; Orodho, Ampofo, Bizimana & Ndayambaje, 2016) Between Learning Strategies Employed By Students During Normal Study Time And National Examinations' Preparation Period.

The Research Hypotheses Posited That:

Null Hypothesis:  $\mu_1 = \mu_2$ 

Alternative Hypothesis:  $\mu_1 \neq \mu_2$ 

Hence, At 0.05 Confidence Level For Atwo Tailed Distribution:

- If P Value  $\geq 0.05$ , Alternative Hypothesis Is Rejected.
- If P Value < 0.05, Alternative Hypothesis Is Retained.

Table 4 Below Summarizes The Arithmetic Mean And Standard Deviation Scores Related To The Learning Strategies Of Both Groups Of Students.

Table 4: Paired Samples Statistics On The Use Of Learning Strategies By Secondary Students

Paired Strategies	Mean	N	Standard Deviation	Std. Error Mean
The Use Of Strategies By Secondary Students During Normal Time	281.29	7	28.727	10.858
The Use Of Strategies By Secondary Students While Preparing National Examinations	291.86	7	17.780	6.720

Asobserved In Table 4, The Mean Of Students Applying Strategies During Normal Time Is 281.29 Strategies While The Mean For Learning Strategies Applied By Students While Preparing For National Examinations Is 291.86.

The Table 5 Below Examines The Statistical Significant Mean Difference Between Learning Strategies Of Two Groups Of Students.

**Table 5: Paired Samples Test Between Learning Strategies** 

Pair Of Two Strategies	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval Of The Difference		T	Df	Sig. (2- Tailed)
				Lower	Upper			
The Use Of Strategies By Secondary Students While Preparing Exam &  The Use Of Strategies By Secondary Students During Normal Time	10.571	23.366	8.831	-11.038	32.181	1.197	6	.276

According To The Results In The Table 5, The Obtained P Value Is 0.276. Hence As 0.276 Is Greater Than The Fixed 0.05 Confidence Level (0.276>0.05), Hence The Null Hypothesis(H<sub>0</sub>) Is Retained. This Implies That There Is No Statistically Significant Mean Difference Between Students' Learning Strategies Used During Normal Time And When Preparing For National Examinations.HT, 3,5,7,9, Interviews With Headteachers Regarding The Predominant Use Of Some Learning Strategies That Do Not Involve Active Teacher-Learner Interaction Revealed That:Teaching-Learning Resources, Facilities, Equipment And Infrastructure Were Either Insufficient Or/And Inadequate. This May Constitute Also A Handicap For The Use And The Development Of Certain Learning Strategies As Most Of Them Require An Enabling Environment To Be Effectively Practiced By Students (Headteachers, .5, 12 &19).In The Foregoing Is A Plausible Explanation Of Disuse And/Or Infrequent Use Of Certain Learning Strategies, The Interviewees Communicated That This Can Be Lead To The Justification Of The Reasons Why Some Students Perform Poorly In Either Internal Or National Examinations.The Interviews With Headteachers Revealed That: In Fact, The Insight Into The Use Of The Various Learning Strategies Is Expected From Teachers. Hence, Teachers Need To Employ Teaching

Approaches Leading To Acquisition Ofeffective Learning Skills By Learners. Empowering Students With Comprehension Of Learning Strategies Enables Them To Think Deeply About The Concepts Inherent To A Particular subject. It Shifts Them From Surface To Deeperlearning As They Are Provided Opportunities To Comprehend (HT 7 14, 17). The Foregoing Citation Is A Plausible Explanation And Suggestion Of How Teaching Strategies Such As Think, Pair And Share, Discussion, Group Work And Brainstorming Can Be Utilized At Strategic Times During Class Time To Ensure That Students Not Only Know And Understand The Concepts Presented, But Also Can Apply And Evaluate Information; Thus Resulting In Deeper Learning. The Overall Implication Is That Such Strategies Are Prerequisites To Students' Enhanced Performance In National Examinations. To Achieve That In The Observed School Contexts Of Limited Resources, This Requires Of The Teachers' Ability To Create Appropriate Teaching-Learning Aids, Often From Low-Cost, Locally Available Materials To Bolster Students' Success. Indeed, This Invites Teachers To Involve Students As Producing Learning Materials Themselves Also Instigate A Sense Of Pride And Deepen Their Learning. The Findings Of This Study Find Support From A Number Of Researcherswho Have Provided Evidence Of The Importance Using Diverse Learning Strategies During Normal Study Time And Also During Examination Period In Facilitating Student Achievement (Eshel & Kohavi, 2003; Cho & Ahn, 2003; King, 1992). Concentration, Organization And Rehearsal Activities Seem Particularly Effective When They Provide Further Opportunities For More Meaningful Processing Of The Acquisitions As They Happen Through Elaboration, Organization Or Comprehension Monitoring (Ramsden & Entwistle, 1983). Researchers Have Found That Self-Regulated Learners Are More Likely To Seek Out Advice (Clarebout, Et Al., 2010) And Information (De Bruin Et Al., 2011) And Pursue Positive Learning Climates (Labuhn Et Al., 2010) Than Their Peers Who Display Less Self-Regulation In The Classroom. In An Attempt To Understanding This Scenario Bandura (1993), Pintrich (2000a) And Zimmerman (2008) Converge On The Fact That Self-Regulated Learning Is Controlled By An Interconnected Framework Of Factors That Determine Its Development And Sustainability. That Is Why Motivation Is A Critical Factor In This Framework (Kurman, 2001; Ommundsen, Haugen & Lund, 2005; Wang & Holcombe, 2010). In The Classroom Setting, It Was Found Out That Some Students Exhibit Adaptive Self-Regulatory Strategies And Motivational Patterns While Engaging In Academic Tasks, Such As Exerting Appropriate Effort For Success, Enjoying The Challenge Of The Activity, Using Appropriate Learning Strategies, Setting Specific Goals And Displaying A High Self-Efficacy Level (Schunk, Et Al., 2008). Pintrich (2000b) Described Self-Regulated Learning As An Active, Constructive Process Whereby Learners Set Goals For Their Learning And Then Attempt To Monitor, Regulate, And Control Their Cognition, Motivation And Behavior, Guided And Constrained By Their Goals And The Contextual Features In The Environment.

Arguably, These Strategies Assisted Students To Effectively Store New Knowledge In Their Long Term Memory By Making Internal Links Between Information To Be Learned And Information That Students Already Know. Through Elaboration, Learners Can Connect New Information To Existing Knowledge By Means Of Clarifying, Adding Details, Explaining Relationships Between Concepts, Using An Analogy, Making Inferences Or Visualizing A Related Image (King, 1992). At The Same Time, These Strategies Help Students Integrate New Learning With Existing Knowledge (Conford, 2002).

## **IV. Conclusion And Recommendations**

The Thrust Of This Study Was To Examine The Main Learning Strategies Employed By Secondary School Students In Rwanda With The Ultimate Aim Of Establishing The Relationship Between The Strategies Employed During Normal Study Time And National Examinations' Preparation Period. The Findings Have Established That, There Is No Statistically Significant Mean Difference Between Students' Learning Strategies Used During Normal Time And When Preparing For National Examinations. The Strategies That Were Commonly Used Were Concentration, Organization And Elaboration. In Fact, The Use Of Concentration Was The Most Preferred During National Examinations. However, During Normal Study Time And National Examinassionspréparation Period, Elaborative Learning Stratégies Were Used Most Compared To Concentration, Rehearsal, Help Seeking, Self-Regulation, Organisation And Motivation Ones. Indeed, In Both Instances, The Help Seeking Learning Strategies Were The Least Used. This Was Quite Related To The Fact That Secondary School Students Were Found To Be Relatively Timid As Observed During Live Classes Although There Was A Slight Improvement In The Use Of This Learning Strategy During Self-Study Period. Furthermore, The Findings Informed That For Most Of The Surveyed Schools, The Teaching-Learning Materials, Facilities And Equipment Were Not Enough. Poor Infrastructure Was Also A Major Constraint. Hence, These Constraints Militate Against The Effective Use Of Learning Strategies. In Fact, The Lack Of Basic Teaching Aids And Learning Materials Hinder The Teaching And Learning Process In The Sense That Teachers Are Hard-Pressed To Transform Their Classrooms Into Stimulating Environments Or To Maximize Their Students' Participation And Collaboration In The Learning Process. In Effect, The Lack Of Required Teaching-Learning Resources May Infer That The Quality Of Education Is Hampered In These Schools; Although Educational Quality Is Not Solely Dependent On Resources.

Based On A T-Test Computation, It Is Concluded That That There Is No Statistically Significant Mean Difference Between Students' Learning Strategies Used During Normal Time And When Preparing For National Examinations. In Other Words, The Students Do Apply Help Seeking, Elaboration, Organizational, Self-Regulation, Motivational, Concentration And Rehearsal Learning Strategies At Relatively Same Levels In Normal Study Time As They Do When Preparing For National Examination.

Interviews By Secondary School Headteachers And Observation Sessions Also Established That Secondary School Headteachers Were Not Making Effort To To Improve The School Facilities And Learning Resources. The Headteachers Were Not Adequately Involving Stakeholders In Various School Activities In Terms Of Teacher Training, Development And Innovative Projects That Could Facilitate The Use Of Diversified Teaching And Learning Strategies That Improve Teaching-Learning And By Extension The Students' Outputs And Learning Outcomes. Finally, It Was Concluded That Currently, The Involvement, Cooperation And Participation Of Students, Teachers, School Heads And Parents Was Rather Too Low In Most Schools Visited. The Implication Is That This Lack Of Concerted Efforts Amongst Key Education Stakeholders Was Not Yielding The Much Desired Effective School Reform Process And Higher Achievement Of The Set Educational Goals.

In View Of The Findings Of This Study, Researchers Recommend That:

Secondary School Teachers Should Work Jointly With Students To Create A Scholarly And Fear-Free Learning Environment.

- 1. Secondary School Teachers Should Understand That Their Prime Role Is To Mentor And Facilitate The Learning Process; Hence, Embrace More Activity-Based Learning Approach That Enable Students To Exploit A Wide Range Of Learning Strategies.
- 2. Secondaryschools'administration Should Do Their Level Best To Improve The School Facilities And Learning Resources.
- 3. Secondary Schools' Administration Should Play The Pioneer Role To Embrace Changes That Improve Teaching-Learning And By Extension The Students' Outputs And Learning Outcomes.
- 4. Educational Stakeholders Should Support Schools' Efforts In Terms Of Teacher Training, Development And Innovative Projects.
- 5. The Involvement, Cooperation And Participation Of Students, Teachers, School Heads And Parents Should Be At Its Highest For Effective School Reform Process And Higher Achievement Of The Set Educational Goals.

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