

**EFFECTS OF TECHNOLOGY-ASSISTED INSTRUCTION ON SENIOR SECONDARY
STUDENTS' ACHIEVEMENT IN ORAL ENGLISH IN WUKARI LOCAL
GOVERNMENT AREA OF TARABA STATE, NIGERI**

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Abstract

The Effective Teaching And Learning Of English Has Gone Beyond The Mere Chalk And Talk Traditional Classroom Teaching Because Of The Emergence Of Various Gadgets In Information And Communication Technology. This Study Investigated The Effects Of Technology-assisted Instruction (tai) On Senior Secondary Students' Achievement In Oral English In Wukari Local Government Area Of Taraba State, Nigeria. Two Research Questions Were Raised To Guide The Study And Two Corresponding Null Hypotheses Were Formulated. Quasi-experimental, Pre-test, Post-test Research Design Of Non-equivalent Groups Was Adopted For The Study. Using Purposive Sampling Technique, A Sample Of 79 Students Was Used And Assigned To Experimental (tai) And Control (conventional) Groups In Two Intact Classes. Data Were Collected Using A Researcher-made Technology-assisted Oral English Achievement Test (taoeat). Lesson Plans For Pronunciation And Identification Instruction Based On Short And Long Vowels Aided The Treatment. Data Collected Were Analysed Using Mean And Standard Deviation To Answer The Research Questions And T-test To Test The Null Hypotheses At 0.05 Level Of Significance. Findings Revealed That Students Exposed To Short Vowel Sounds Via Tai Achieved Higher Mean Scores Than Their Counterparts Who Were Not. It Was Also Found That Students Exposed To Long Vowel Sounds Using The Tai Treatment Outperformed Those Who Were Not. The Study, Therefore, Recommended Among Other Things That Curriculum Planners And Designers Should Work In Collaboration With Secondary School English Textbooks Designers And Writers To Incorporate Tai Learning Activities Into Students' Oral English Programmes.

Keywords: Technology-assisted Instruction, Oral English, Long Vowels, Short Vowels

Introduction

Oral English Is An Important Aspect Of English Language Which Pays Significant Attention To An In-depth Study Of The Production Of Sounds, Words And Speech Patterns. It Employs The Use Of The Speech Organs To Produce Sounds Intelligibly, Fluently And Optimally, That Can Be Identified Using The Phonetic Symbols. It Is A Unique Aspect Of English Language That Ensures Proper Articulation Of Sounds Which Consist Segmental And Supra-segmental Features. It Is Subdivided Into Vowel And Consonant Sounds, And These Include The Pure Vowels, Diphthongs And Trip Thongs.

Oral English Is The Method Through Which Learners Use Spoken Words To Express Knowledge, Ideas, And Feelings. Therefore, To Develop Oral English Means To Develop The Skills And Knowledge That Go Into Listening And Speaking, All Of Which Have A Strong Relationship To Reading Comprehension And Composition Writing (harris, Duke & lesaux, 2022). Freeman (2020) States That Oral English Is Not Only Beneficial To Students As All Individuals In Different Spheres Of Endeavour Require The Skill To Communicate Effectively And Efficiently, Either In Expression Of Thought, Ideas, And Transactional Basis Among Others.

The Major Function Of Language Is Communication. And Like The Written Communication, The Oral Form Of Expression Is Necessary In Any Given Language Of The World. In Fact, Globally, The Productive Skills Of Language Are Given Significance And Spoken Communication Precedes The Written Form. This Implies That Effective Pronunciation Is Premium. Besides, Speech Is Used To Measure Success And Failure Not Only In The Field Of Academics But Also In Response In An Interview, Carrying Out Assigned Tasks In The Work Place, Making Intelligent Contributions In A Discourse And Addressing A Group Of People (baldwin, 2017).

As A Result Of The Great Importance Of The Spoken Form Of English, Students Are Expected To Have Mastery Of Oral English For Sound Articulation. Regrettably, However, It Has Become Evident From Research Findings, Researchers Experience And Public Outcry That Many Secondary School Students Do Not Pass Oral English. Many Of These Secondary School Students Cannot Articulate The Long And Short Vowel Sounds Accurately To Bring Out The Differences, And This Comes To Play In Their Spoken And Written English Where A Student May Write 'live' For 'leave' And Vice Versa, For Example. This Is Despite That Oral English Is One Of The Major Aspects Of English Language That They Are Expected To Achieve High Score In Order To Earn Good Grades In Their Internal And External Examinations Including Wasse, Neco And Nabteb. For Example, The Waec Chief Examiner's Reports From 2020 To 2023 Revealed A Decline In Candidates' Performance In English Language Especially In The Area Of Oral English.

Observing That The Teaching Of Oral English Is Bedevilled By Various Factors Which Have Contributed To Ineffectiveness In Teaching This Aspect Of The Language, Ikwuka And Adigwe (2017) Identify Poor Instructional Methodology Among Others. As A Result Of Inadequate Teaching Methods, Oral English Has Become Such A Lingering Challenge For The Learners That A Number Of Students Fear To Attend Oral English Classes, As They Prefer Other Areas Like Reading And Writing.

The Foregoing Holds True For Wukari, Whereit Has Been Observed That Students' Performance In Oral English Is Not Up To The Expected Percentage Of 50%. This Was As 1,426 (35.65%) Out Of 4000 Students Who Were Assessed In A Morphophonemic Alternated Front Vowels And Consonant Sound In Some Selected Senior Secondary Schools In The Area Did Not Meet Up With Optimal Performance After Being Subjected To Listening With The Aid Of An Audio Cassette. In A Study Conducted By Ogunrinde, Ogunrinde And Aboki (2018), This Is Due To The Traditional Teacher-centered Instructional Mode Which Is Prevalent In The Teaching Of English Language, And Poor Knowledge Of Technology As An Optional Learning Method Resulting In The Lack Of

Motivation To Learn Pronunciation. Consequently, The Students Hardly Pass English At Credit Level, And This Prevents Them From Securing Admissions Into Higher Institutions Where At Least A Credit 6 Is A Requirement. It Was In A Bid To Solve This Problem That These Researchers Investigated the Effects Of Technology-assisted Instruction On Senior Secondary Students' Achievement In Oral English In Wukari Local Government Area Of Taraba State, Nigeria.

Technology-assisted Instruction (tai) Is An Intervention That Involves Using Any Electronic Device, Equipment, Applications, Or Networks To Improve Or Maintain Specific Skills. Over The Last Few Years, This Group Of Interventions Has Advanced In Terms Of Scientific Basis From The Emerging Level Of Evidence To Evidence-based Practices. Tai Have Many Advantages Such As Motivation Of People With Autism, Availability And Adaptability Of Technologies And Interventions, Efficiency In Terms Of Time And Staff, Easy Combination With Other Science-based Approaches. Although, Tai Have Most Frequently Been Applied In The Social-communication Sphere, Differences In The Treated Areas At Different Ages Are Evident (glumbic, Dordevic & brojcin, 2022).

The Integration Of Technology Into The Teaching And Learning Of The English Language Is A Global Trend Currently Breaking New Frontiers In Knowledge Dissemination, To Support Existing Pedagogical Practices, Improve Learners' Participation To Meet New Demands, Transform Curriculum And Encourage Teachers' Utilization At All Levels Of Education. Technology Is Being Applied To The Four Paramount Language Set Skills Of Listening, Speaking, Reading And Writing To Meet Up With The Dynamics Of The 21st Century Learning. Hence, Bhadorfar And Omidvar (2014) State That Technological Assisted Instructional Tools Like The Internet, Podcasts, Video Conferencing, Videos And Speech Recognition Software Are Considered The Best For Teaching Speaking Skills And Using Such Tools Have Motivated And Improved Students' Achievement In Language Learning.

English Language Is Constantly Evolving And So Are The Technologies Used In Its Teaching. The Provision Of Effective Instruction In Oral English Is Particularly Important. Teaching Methods In Language Have Undergone A Myriad Of Changes And Each One Has Been Geared Toward Facilitating Student Learning. The Conventional Teaching Methods Have Been Complemented By Mediums Such As Radio, Television, And Eventually Information Technology. The Role Of Technology Has Been Recognized As Vital In The Education Of The English Language, And Many Areas Of The World Have Noted The Importance Of Information Technology Within The Context Of English Education, Which Has Facilitated And Augmented English Learning To A Great Extent.

Of Crucial Relevance To This Study Is A Research Bykabiru And Buns (2021), Who Examined The Effect Of Computer Aided Instruction (cai) On Students' Academic Performance In English Language In Junior Secondary Schools In Adamawa State, Nigeria, In Which Students Taught With Cai Performed Significantly Better Than Their Counterparts Taught With Chalk And Board. Equally Relevant To The Study Israhnavard And Heidar (2017), whose investigation Of The Effect Of Computer-aided Language Learning (call) Instruction On Improving Efl Learners' Pronunciation Ability found the call Technology To Be Effective In Enhancing Learners' Pronunciation.

Research Questions

The Following Research Questions Were Raised To Guide The Study:

1. What Is The Difference Between The Short Vowels Pronunciation And Identification Ability Of Students Taught Oral English Using Tai And Those Who Are Not?
2. What Is The Difference Between The Long Vowels Pronunciation And Identification Ability Of Students Taught Oral English Using Tai And Those Who Are Not?

Hypotheses

The Following Null Hypotheses Were Postulated And Were Tested At 0.05 Level Of Significance:

1. There Is No Significant Difference Between The Short Vowels Pronunciation And Identification Ability Of Students Taught Oral English Using Tai And Those Who Are Not.
2. There Is No Significant Difference Between The Long Vowels Pronunciation Ability Of Students Taught Oral English Using Tai And Those Who Are Not.

Methodology

This Study Was Carried Out In Wukari Local Government Area Of Taraba State, Nigeria. The Sample For The Study Consisted 79senior Secondary Students In Two Selected Public Secondary Schools. The Sample Was Derived From A Population Of 1,200 Ss1 Students Of Public Senior Secondary School In Wukari Local Government Area Of Taraba State.

The Study Adopted the Pre-test And Post-test Quasi-experimental Research Design Of Non-equivalent Groups To Ascertain The Effects Of Technology-assisted Instruction On Senior Secondary School Students' Achievement In Oral English In Wukari Local Government Area Of Taraba State. This Design Was Deployed Because The Researchers Used Intact Groups As The School Authority Did Not Permit Them To Randomize. The Design Compared Two Groups (experimental And Control) To Ascertain The Effects Of The Treatment. The Two Groups Were Pre-tested, Then The Experimental Group Was Exposed To The Treatment Package (technology-assisted Instruction), While the Control Group Was Not Exposed To Oral English Using The Conventional Method. a Post-test Was Administered To Both Groups And Was Used To Compare And Ascertain The Effects Of The Treatment.

Using Simple Random Sampling Technique, The Researchers Selected Two Schools For The Study, While Purposive Sampling Was Used To Select 79 Participants:38 For The Experimental group And 41 For The Control Group.

The Instrument For Data Collection Wastechology-assistedoral English Achievement Test (taoeat) Developed By The Researchers To Test Students' Achievement In Oral English. It Was Used As Pre-test And Post-test And Was Made Up Of Four Sections (a, B And C). Section A Consisted Two Items On *Bio-data Of The Respondent*, Section B Consisted A 10-item Multiple Choice Objectives On Pronunciation Of Long Vowels, Section C Consisted A 10-itemmultiple Choice Objectives On *Production Oflong Vowel Sounds*.the Students Were Required To Choose The Word That Contains The Sound Represented By The Phonetic Symbol From The Options Lettered A To D. the Technology-assistedoral English Achievement Test Was Based On Ss1 Students' Curriculum On The Aspect Of Oral English In What Pupils Have Been Taught During The Treatment. The Instrument Consisted 20 Questions which Had Equal Marks. 5 Marks Were Allocated To Each Question Answered Correctly, Making The Total Of 100 Marks.

Students In The Control And Experimental Groups Were Given A Pre-test To Assess Their Knowledge In Oral English so As To Ascertain Their Entry Behaviour. The Researchers Administered The Treatment Package To The Experimental Group While The Control Group Was Taught With The Conventional Method. The Research Assistants Assisted In Distributing Treatment Materials And Collecting Assignments Given As Well As Administering The Tests To The Participants. The Control Group Did Activities In Oral English On Vowel Sounds And How To Answer Questions. The Research Assistants Were Given Guidelines On How To Engage The Students Or Participants In The Control Group. The Class Took 45 Minutes A Week For Seven Days And The Groups Were Provided A Total Of 14 Sessions Each.

The Treatment On The Experimental Group Was Achieved Through A Period Of 8 Weeks. A Detailed Lesson Plan Guided The Conduct Of The Intervention. The Lesson Plan Covered The Objectives Of Each Lesson And The Duration, Incorporating The Students And Teachers' Activities In The Course Of The Learning Process. The Lesson Plans Also Served As An Instructional Module In The Classroom. The Process Was Interactive And Participatory.

In Order To Achieve Content Validity, The Selection And Assessment Of Contents Of The Adapted Instrument Was Subjected To The Scrutiny Of Professionals In The English Language Education And Research, Measurement And Evaluation Units Of The University Of Jos, Who Determined The Adequacy And Appropriateness Of The Introductory Statement, Confidentiality And Comprehensiveness Of The Items, and To Ascertain The Reliability Of The Instrument, A Pilot Study Was Conducted Using 20 Ss1 Students Of Senior Secondary School In Bauchi State, Who Were Not Part Of The Target Population But Had Similar Characteristics. The Split-half Reliability Method Was Used To Determine The Reliability Of The Instrument. The Data Collected Was Subjected To A Statistical Test Using Spearman Brown's Prophecy Formula. mean And Standard Deviation Were Used To Answer The Research Questions Raised, While T-test Was Used To Test The Null Hypotheses At 0.05 Level Of Significance.

Results

The Data Collected Were Analysed And Interpreted Based On The Research Questions And Null Hypotheses. Mean And Standard Deviation Were Used To Answer The Research Questions While T-test Was Used To Test The Null Hypotheses At 0.05 Level Of Significance. The Decision Rule Was That The Null Hypotheses Were Rejected If The P Value Was Less Than 0.05. However, The Null Hypotheses Were Not Rejected If The P Value Was Greater Than 0.05.

Research Question 1: what Is The Difference Between The Short Vowels Pronunciation And Identification Ability Of Students Taught Oral English Using Tai And Those Who Are Not?

Table 1: T-test Comparing Post-test Scores Of Experimental And Control Groups In Short Vowels

Variables	N	Mean	SD	DF	t-cal	P-value	Decision
Experimental	38	46.59	15.36	126	7.79	0.00	Ho:Reject
Control Group	41	29.51	9.05				

Table 1 Shows That The Students In The Experimental Exposed To Short Vowel Sounds Using Tai Scored A Mean Score Of 46.59 In Their Performance In Short Vowels With A Standard Deviation Of 15.36. The Students In The Control Group Who Were Not on The Other Hand, Recorded Only A Mean Score Of 29.51 And A Standard Deviation Of 9.05. The Difference In The Mean Scores Between The Two Groups Was 17.08 In Favour Of The Students In The Experimental Group. This Difference Is Subjected To Further Analysis In Hypothesis 1.

Hypothesis 1: There Is No Significant Difference Between The Short Vowels Pronunciation And Identification Ability Of Students Taught Oral English Using Tai And Those Who Are Not.

Table 1 Showed That There Was A Difference Between The Post-test Mean Scores Of Experimental And Control Groups In Short Vowel Sounds. The Value Of T-calculated Was 7.79, The Degree Of Freedom Was 126 While The P-value Was 0.00. The Decision, Therefore, Is That Hypothesis 1 Which Assumes That There Is No Significant Difference Between The Short Vowels Pronunciation Ability Of Students Taught Oral English Using Tai And Those Who Are Not Is Rejected. This Is Because The Alpha Value Of 0.05 Was Greater The P-value Of 0.00. This Means That The Students In Experimental Group Performed Much Better Than Those In Control Group. Thus, Tai Proved To Be Effective In Improving The Short Vowels Pronunciation Ability Of Senior Secondary Students In Taraba State.

Research Question 2: What Is The Difference Between The Long Vowels Pronunciation And Identification Ability Of Students Taught Oral English Using Tai And Those Who Are Not?

Table 2: T-test Comparing Post-test Scores Of Experimental And Control Groups In Long Vowels

Variables	N	Mean	SD	DF	t-cal	P-value	Decision
Experimental	38	17.02	3.36	126	9.11	0.00	Ho:Reject
Control Group	41	11.38	3.60				

Table 2 Shows That The Mean Score Of Students In The Experimental Group Exposed To Long Vowel Sounds Using The Tai Treatment Was 17.02. The Standard Deviation Recorded By The Same Group Was 3.36. The Students In Control Group On The Other Hand Had A Mean Score Of 11.38 With A Standard Deviation Of 3.60. The Difference In The Two Means Is 5.64. This Difference Is Subjected To T-test In Hypothesis 2 Below.

Hypothesis 2: There Is No Significant Difference Between The Long Vowels Pronunciation An Did Entification Ability Of Students Taught Oral English Using Tai And Those Who Are Not

Table 2 Showed That There Was A Difference Between The Post-test Mean Scores Of Experimental And Control Groups In Short Vowel Sounds. It Indicated That The Calculated T-value Was 9.11 While The P-value Was 0.00. Since The P-value Is Less Than The Alpha Value, The Null Hypothesis Is Rejected. This Means That Tai Has Proved To Be Effective In Enhancing The Learning Of Long Vowels Among The Senior Secondary Students Of Taraba State.

Discussion

Findings Revealed That Students Exposed To Short Vowel Sounds Via Tai Achieved Higher Mean Scores Than Their Counterparts Who Were Not. This Is Because Tai Involves Students Actively In The Learning Process Using Computer Activities That Excite Them And Arouse Their Interest. This Implies That Tai Is An Effective Strategy That Boosts Students' Achievement In Oral English. This Finding Is In Consonance With Rahnavard And Heidar (2017)who Found The Computer-aided Language Learning Technology To Be Effective In Enhancing Students' Pronunciation.

Similarly, In Agreement With Kabiru And Buns (2021) Who Found Computer-aided Instruction To Be Effective In Improving Students' Academic Performance In English, The Result Further Revealed That The Students Exposed To Long Vowel Sounds Using The Tai Treatment Outperformed Those Who Were Not. This Is Because Tai Employs Activities That Are Learners-based And Develop The Practice Of Self-learning. The Results Of This Study Imply That Tai Is An Effective Strategy In Enhancing Students' Achievement In Oral English.

Conclusion

Based On The Findings Of This Study, It Can Be Concluded That A Computer-based Strategy Like Tai Is Effective For Improving Students' Achievement In The Learning Of Short Vowel Sounds. It Can Also Be Concluded That Tai Is An Effective Language Teaching And Learning Instruction For Enhancing Students' Ability To Pronounce Long Vowel Sounds. In A Nutshell, It Is Effective For The Teaching Of Oral English.

Recommendations

Based On The Findings Of This Study, It Is Recommended That:

1. English Language Teachers Should Adopt Computer And Learner-based Instructional Strategies Like Tai In The Teaching Of Oral English To Students.
2. Teacher Education Programmes Should Be Redesigned To Incorporate Research-proven Best Practices Like Tai Computer-based Strategy That Encourage Self-learning To

- Improve Students' Oral English Achievement Across Short And Long Vowels.
3. Curriculum Planners And Designers Should Work In Collaboration With Secondary School English Textbooks Designers And Writers To Incorporate Tai Learning Activities Into Students' Oral English Programmes.
4. Workshops And Seminars Should Be Organized By Relevant Educational Agencies Like Ministry Of Education Across Federal And State Levels On The Effectiveness And Use Of Tai In Enhancing Students' Achievement In Oral English.

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