

ANALYSIS OF CONCEPTS IN NUTRITION PERCEIVED AS DIFFICULT AMONG SENIOR SECONDARY TWO STUDENTS IN JOS NORTH LOCAL GOVERNMENT AREA, PLATEAU STATE

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Abstract

This Study Analyzes The Concepts In Nutrition Perceived As Difficult By Senior Secondary Two Students In Jos North Local Government Area, Plateau State, Nigeria. A Sample Of 100 Senior Secondary Two Students Was Involved. The Study Adopted The Survey Research Design. A 20 Item Researcher Designed Instrument Titled Difficult Concept In Nutrition Questionnaire (dcnq) Was Used. This Questionnaire Was Used To Elicit Information From The Respondents On The Difficult Concepts In Nutrition. Two Research Questions Were Answered And Two Hypotheses Were Tested At 0.05significance. At The End Of The Study, The Following Findings Were Made; The Concepts In Nutrition Perceived As Difficult Among Senior Secondary Two Students In Jos North Includes Photosynthesis, Mineral Requirement In Plant, Food Test, Digestive Enzymes And Modes Of Nutrition. There Is A Significant Difference Between The Public And The Private School. The Difference Is In Favour Of The Private School's Students. There Is No Significant Difference Between The Male And Female Students In The Perceived Difficult Concept In Nutrition. Recommendations Deriving From The Findings Are; The Plateau State Ministry Of Education Should Ensure In-service Training Of Teachers In Strategies That Can Enhance Students' Achievement In Nutrition. The Biology Teachers Should Adopt A Teaching Strategy That Will Simplify The Concepts In Nutrition.

Key Words: Analysis, Concepts, Nutrition

Introduction

One Of The Braches Of Education That Brings About Societal Development Is Science Education. He Purposes Of Science Education Is To Help The Individuals To Maximize Their Potentials For Optimal Self And National Development. Over The Years, Scientist And Science Educators Have Been Focusing Attention On How To Improve On Science Instruction In Schools By Going Beyond Old Methods Of Teaching And Learning Of Science. There Have Been Emphases On Science Teaching And Students' Participation And Active Involvement In Doing Science. One Of The Broad Aims Of Secondary Education In Nigeria Is The Raising Up Of A Generation Of People Who Can Think And Reason For Themselves In Making Inquiry And Respect The Views And Feelings Of Others. The National Policy On Education (2013) And The Biology Curriculum Sees Biology As A Practical Oriented Subject That Should Be Taught Practically With Different Teaching Strategy Involving Students' Participation.

The Desire To Improve Science Achievement Through More Effective Instructional Strategies Has Led To The Increasing Awareness In Recent Years Of The Importance Of Learners' Centeredness In Teaching. Science Educators And Researchers Have Been Worried About How Students Learn Science And Possible Ways Of Enhancing Science Achievement. These Include Method Of Teaching, Means Of Identifying And Overcoming Difficulties Encountered In Learning Science And Ways Of Providing For Individual Differences In Students. One Of The Core Science Subjects Is Biology

Biology Is A Branch Of Science Which Studies Life. Biology Is A Branch Of Science Which Studies Living Organisms And How They Interact With Each Other And Their Environment. It Examines The Structure, Function, Growth And Origin Of Living And Non-living Things. Biology Classifies And Describes Organisms, Their Functions And How Species Come Into Existence. The Role Of Biology In Human Development Cannot Be Overemphasized. The Content Of The Subject Provides An Opportunity To Present Science In Areas Of Medicine, Agriculture, Biotechnology, Genetics, Engineering, Food Production Industries And Environmental Studies. This Is In-line With The Philosophy Behind Inculcating The Students With Basic Knowledge They Require As Regards To Sciences To Live A Healthy Life In The Polity. As A Core Science, Biology Is One Of The Core Subjects At Secondary School Certificate Examination (ssce) Whose Study Is Very Relevant To Man's Successful Living. It Is A Basic Human Science That Has Always Involved The Interest Of Learners At Any Level. It Involves The Understanding, Composition, Function And Survival Of Living Things And Their Interactions In Nature. Biology Is The Science Of Life And All Its Manifestations. It Is An Area Of Science That Is Concerned With The Study Of Living Organisms, Their Forms, Structure Their Behavior, Their Functions, Their Origin, Development And Their Relationships With Their Environment. Biology Comprised Of Several Sub-topics Like Excretion, Genetics And Nutrition Which Is The Focus Of This Study. There Are Several Concepts In Nutrition. These Requires Student Centered Method Of Teaching.

Method Of Teaching Is A Determinant Factor Of Learning Experience. It Has Direct Bearing On Students' Understanding Of A Subject And Academic Achievement In Any Subject. This Call For Effective Teaching Strategy To Actualize The Goal Of Nigeria Government. From The Perspective Of Promoting Standard Based Science Education. The Teaching Strategy Employed Plays Important Role In Learning, Important Ideas And Skills If Standard Based Education Is To Become A Reality In The Nation Classroom. Teaching Strategy Are The Tools Of The Teacher For Reaching The Set Objectives. The Effective Teacher Has Multiplicity Of Strategies At His Disposal And Must Be Prepared To Select The Ones Which Will Be Most Effective For Leading The Learner To Desired Goal. All Forms Of Learning Require The Application Of Some Teaching Strategy And Techniques In The Classroom To Communicate Ideas Effectively To Students. The Primary Assignment Of A Teacher In The Teaching-learning Process Is To Expose Students To A Clearly Defined And Selected Teaching Strategy For Easy Understanding. Teaching Methodology Is A Pattern Or Plan That Can Use To Shape Curriculum Content, Design Instructional Aides And Materials And Guide Actual Classroom Teaching, (bruce And Weil 2014). These Teaching Strategy Have A Positive Effect On The Student's Level Of Academic Performance But Certain Factors Have Been Attributed To The Poor Achievement Or Performance Of Students In Biology. These Include The Level Of The Teacher's Knowledge In Biology, Inability Of The Teacher To Understand His/her Student During Teaching Process, Inadequate Infrastructure And Teaching Aids.

When The Biology Teacher Provides The Students With The Same Concepts On More Than One Occasion, It Can Show How The Quality Of The Students' Propositions Improves Over The Course Of Instruction. Accordingly, Teachers Can Quickly See Gaps In Learning And Modify Lesson Plans Based On The Information From Students. This Strategy May Be Effective In Teaching And Learning Nutrition In Senior Secondary School And Improve Achievement.

Evidence Abounds To Show That, Teaching And Learning Biology Has Been Faced With Challenges Which Prevent Many Students From Performing Well In Internal And External Examinations. Among The Challenges According To Cimer, (2016) A Vast Number Of Factors Are Responsible For The Students Poor Performance in School Such Factors Are Difficult Biological Concepts, Teaching Strategy, Level Of Organization And Abstract Level Of Concepts.

Various Concepts Abound In The Topic Nutrition. The Waec Chief Examiners' Report (2017) Indicated That Students Perceived Some Concepts In Nutrition As Difficult. These Concepts Includes Photosynthesis, Digestive Enzymes And Modes Of Nutrition. According To Adegoke (2018) Difficult Concepts And Abstractness As Reasons For Failure In Nutrition And Biology In

General. Also According To The West African Examination Council Chief Examiner's Reports (2020) There Is Poor Performance Of Students In Biology And This Is Linked To Difficult Concepts In Biology. It Is In View Of This That This Study Intends To Carry Out An Analysis Of Concepts In Nutrition Perceived As Difficult Among Senior Secondary Two Students In Jos North, Plateau State

Objectives

The Aim Of This Study Is To Carry Out An Analysis Of Concepts In Nutrition Perceived As Difficult By Senior Secondary Two Students In Jos North Local Government Area, Plateau State. Specifically, The Study Will Be Guided By The Following Objectives:

1. The Difficult Concepts In Nutrition Based On Type Of School (public And Private Schools).
- ii. The Difficult Concepts In Nutrition Based On Gender (male And Female).

Research Questions

The Following Research Questions Are Formulated To Guide The Study

- I. What Are The Difficult Concepts In Nutrition Among The Public And Private Senior Secondary Two Biology Students In Jos North Local Government Area, Plateau State?
- iii. What Are The Differences In The Difficult Concepts In Nutrition Among The Male And Female Senior Secondary Two Biology Students In Jos North Local Government Area, Plateau State?

Hypotheses

The Following Hypothesis Will Be Tested At 0.05 Level Of Significant In The Study.

- I. There Is No Significant Difference Between The Senior Secondary Two Students In Public And Private Secondary Schools In The Perceived Difficult Concepts In Nutrition In Jos North Local Government Area, Plateau State.
- ii. There Is No Significant Difference Between The Male And Female Students In The Perceived Difficult Concepts In Nutrition In Senior Secondary Two In Jos North Local Government Area, Plateau State.

Methododlogy

The Study Adopted The Descriptive Survey Research Design Using The Questionnaire Technique. Survey Design Is Procedure In Quantitative Research In Which Questionnaires Are Administered To A Group Of Respondents To Elicit Information. This Research Focused Attention On A Cross Sectional Survey Which Deals With Opinions And Perception Of The Respondents. According To Awotunde And Ugodulunwa (2014), A Cross-sectional Survey Is Used In Research When Data Are Collected At A Particular Time, From A Sample, For The Purpose Of Describing The Population Presented By The Sample At A Particular Time.

The Population Of The Study Were All The Senior Secondary Two Biology Students In Jos North Local Government Area Of Plateau State. Available Data From The Jos-north Area Inspectorate, Plateau State November, 2020 Showed That The Number Is Made Of 2283 Students (1082 Males And 1201 Females) Biology Students In All The Public And Private Senior Secondary Schools Two (s.s.2) Class In Jos-north Local Government Area (lga) Of Plateau State.

The Researcher Conveniently Select A Sample Of Respondents Available In Each Of The Sampled Schools. The Respondents Were Chosen Across Each Of The Five Schools Non-proportionally. 20 Students Shall Be Chosen From Each Of The Schools. This Means That One Hundred (100) Respondents Were Conveniently Chosen. The Respondents Were Drawn Non-proportionally From The Five Schools.

A Proportionate Stratified Sampling Technique Was Employed To Select The Students. The Procedure Adopted In Proportionate Stratified Random Sampling Is By Dividing The Population By Stratum. This Implies That The Population Will Be Divided Based On Some Specific Characteristics Mainly The Variables In The Study. In This Study, This Will Include Type Of School (public And Private) And Students' Gender (male And Female. This Is Then Followed By Using Simple Random Sampling To Draw A Sample From The Sub Units Called Stratum Of The Population. This Is In Line With Creswell, (2012) Who Stated That Stratification Is Used When A Simple Random Sampling Produced Will Yield Fewer Participants In A Specific Category Than Needed For The Vigorous Statistical Analysis. In This Study, This Is Done So That The Individual Selected Are Proportional To Their Representation In The Total Population.

The Research Instruments That Was Used For This Study Is The Researcher Designed Questionnaire Titled Difficult Concept In Nutrition Questionnaire (dcnq). This Questionnaire Was Used To Elicit Information From The Respondents On The Difficult Concepts In Nutrition. Sibanda, Mapenduka And Furusa, (2016) Defined Questionnaire As A Research Instrument Which Consists Of A Sequence Of Questions For The Purpose Of Collecting Information From A Selected Sample Of Respondents.

Results

Two Research Questions Were Formulated And Answered During The Study. They Are As Follows
:

Research Question One

What Are The Difficult Concepts In Nutrition Among The Public And Private Senior Secondary Two Biology Students In Jos North Local Government Area, Plateau State?

Table 1: The Mean And Standard Deviation Scores Of The Public And Private Schools In The Perceived Difficult Concepts In Nutrition.

Group	N	Mean(x)	SD
Public schools	50	87.36	9.412
Private schools	50	34.30	2.220

Table 1 Shows That The Students In Public Schools Has Mean Scores Of 87.36 In The Perceived Difficult Concept In Nutrition Than The Private Schools Which Had A Mean Score Of 34.30

Research Question Two

What Are The Difficult Concepts In Nutrition Among The Male And Female Senior Secondary Two Biology Students In Jos North Local Government Area, Plateau State?

Table 2: Mean And Standard Deviation Scores Of The Male And Female In The Perceived Difficult Concept In Nutrition.

Gender	N	Mean (x)	SD
Male	58	81.57	8.701
Female	42	81.53	8.009

Table 2 Revealed That The Male Students Had A Higher But Not Significant Mean Score Of 81.57 Than The Female Students With A Mean Score Of 81.53 In The Perceived Difficult Concepts In Nutrition. This Implies That There Is No Significant Difference.

Hypotheses

Two Hypotheses Were Formulated And Tested In The Course Of The Research. These Were Tested At 0.05 Probability Level.

Hypothesis One (ho1)

There Is No Significant Difference Between The Senior Secondary Two Students In Public And Private Secondary Schools In The Perceived Difficult Concepts In Nutrition In Jos North Local Government Area, Plateau State.

Table 3: T-test Results Of Sample Analysis For The Perceived Difficult Concepts In Nutrition Among Public And Private Schools In Jos North.

Group	N	Mean(x)	SD	t-caldf	P-value	Decision
Public Schools	50	87.36	9.412	-11.711	118	0.002
Private schools	50	34.30	2.220			Reject H01

P<0.05

The Analysis On Table 3 Shows The T-test Analysis Of The Mean Scores Of The Public And Private Schools. The Students In The Public Schools Had A Mean Score Of 87.36 With Standard Deviation Scores Of 9.412 Those In The Private Schools On The Other Hand Had A Mean Score Of 34.30 With A Standard Deviation Of 2.220. The Degree Of Freedom For Both Is 118 And The Calculated T-value Obtained Is -11.711 With A P-value Of 0.002. Since The P-value Is Less Than 0.05, It Shows That There Is Significance. The Hypothesis One Which Says That There Is No Significant Difference Between The Senior Secondary Two Students In Public And Private Secondary Schools In The Perceived Difficult Concepts In Nutrition In Jos North Local Government Area, Plateau State Is Therefore Rejected.

Hypothesis Two (h02)

There Is No Significant Difference Between The Male And Female Students In The Perceived Difficult Concepts In Nutrition In Senior Secondary Two In Jos North Local Government Area, Plateau State.

Table 4: T-test Results Of Sample Analysis For The Perceived Difficult Concepts In Nutrition Among Male And Female Students In Jos North.

Gender	N	Mean(x)	SD	t-caldf	P-value	Decision
Male	58	81.57	8.701	-0.481	58	0.06
Female	42	81.53	8.009			Accept H03

P< 0.05

The Analysis On Table 4 Shows The T-test Analysis Of The Scores Of The Male And Female Students In The Perceived Difficult Concepts In Nutrition. The Male Students Had A Mean Score Of 81.57 With A Standard Deviation Of 8.701 While The Female Had A Mean Score Of 81.53 With A Standard Deviation Of 8.009. The Degree Of Freedom For Both Genders Is 58 And The Calculated T-value Obtained Is -0.481 With A P-value Of 0.06. Since The P-value Is Greater Than 0.05, It Shows That There Is No Significance. The Hypothesis Three Which Says Thatthere Is No Significant

Difference Between The Male And Female Students In The Perceived Difficult Concepts In Nutrition In Senior Secondary Two In Jos North Local Government Area, Plateau State Is Therefore Accepted.

Discussion

The Aim Of This Study Is To Carry Out An Analysis Of Concepts In Nutrition Perceived As Difficult By Senior Secondary Two Students In Jos North Local Government Area, Plateau State. This Was Done Using The Researcher Designed Instrument Titled Difficult Concept In Nutrition Questionnaire (dcnq). This Questionnaire Was Used To Elicit Information From The Respondents On The Difficult Concepts In Nutrition.

Hypothesis One (h01)

From The Analysis And The Result Of Testing This Hypothesis, It Revealed That There Is A Significant Difference Between The Public And The Private School In The Perceived Difficult Concepts In Nutrition. A P-value Of 0.002 Was Obtained And This Was Less Than The 0.05 Probability Level. This Finding Conforms To That Of Rosas And Kane (2016) Who Investigated A Pooled Analysis Of 69 Difficult Concepts In Biology. This Include Topics In Nutrition And Others. The Finding Reveal That There Is A Significant Difference In Perceived Difficult Concepts In Biology Among The Public And Private Schools. This Report However Disagree With That Of Onwumere (2015) Who Conducted A Research Aimed To Investigate The Difficult Concepts In Reproduction And Discovered That There Is No Significant Difference In Difficult Concepts Among The Public And Private Schools. Hypothesis

Hypothesis Two (ho2)

The Analysis And Results Of Testing This Hypothesis Shows That There Is No Significant Difference Between The Male And Female Students In The Perceived Difficult Concept In Nutrition. This Finding Disagree With That Of Etobro (2019) Examined The Effect Of Scaffolding And Cooperative Instructional Strategies On Difficult Concepts In Genetics among Secondary School Students In Ojo Local Government Area Of Lagos State, Nigeria. The Researcher Adopted A Pre-test Post Test, Quasi Experimental, Non-equivalent Control Group Design. A Sample Of Two Hundred And Forty (240) Senior Secondary Two (ssii) Students Was Drawn From Two Co-educational Secondary Schools In Ojo Local Government Area Of Lagos State, Nigeria. The Findings Reveals That There Was A Significant Difference Between The Male And The Female Students In The Perceived Difficult Concepts In Genetic.

Conclusion

The Concepts In Nutrition Perceived As Difficult Among Senior Secondary Two Students In Jos North Includes photosynthesis, Mineral Requirement In Plant, Food Test, Digestive Enzymes And Modes Of Nutrition. there Is A Significant Difference Between The Public And The Private School, And A Significant Difference Between The Science And Arts Students In The Perceived Difficult Concepts In Nutrition. However, There Is No Significant Difference Between The Male And Female Students In The Perceived Difficult Concept In Nutrition.

Recommendation

From The Findings Of This Study, The Following Recommendations Are Made;

1. The Plateau State Ministry Of Education Should Ensure In-service Training Of Teachers In Strategies That Can Enhance Students' Achievement In Nutrition.
2. The Biology Teachers Should Adopt A Teaching Strategy That Will Simplify The Concepts In Nutrition.

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