# Scope Database Link: https://sdbindex.com/documents/00000006/00001-71044 Article Link: https://iaeme.com/MasterAdmin/Journal\_uploads/IJARET/VOLUME\_11\_ISSUE\_4/IJARET\_11\_04\_058.pdf

Manuscript ID: 00001-71044

International Journal of Advanced Research in Engineering and Technology

Volume 11, Issue 4, April 2020, Pages 603-614, Page Count - 12



Source ID: 00000006

### ERROR ANALYSIS IN MATHEMATICS: A SYSTEMATIC META SYNTHESIS STUDY OF 1963-2018

R.D. Padmavathy (1)

(1) Assistant Professor in Mathematics Education, Department of Education, Tezpur University, Assam, India.

### **Abstract**

This study was conducted with the objective to collect the classifications of mathematics error analysis models given by Donald's, Radatz, Hadar et al., Linchevski and Herscovics, Hirst, Robert, Hardt, Davis, Nolting, Makonye and different approaches in error analysis assessment. In addition to that study, a great deal of effort has been invested by the researcher to collect the error analysis models in mathematics as well as the collection of previous research conducted in the mathematical error analysis were reviewed and errors were synthesized. For this researcher adopted a qualitative approach. To map the pattern of research conducted in error analysis in mathematics systematic Meta synthesis method was adapted to document researches carried out to identify different types of errors in the period of 1963-2018.

### **Author Keywords**

Error Analysis, Mathematics, Meta-synthetic study, Classification

ISSN Print: 0976-6480 Source Type: Journals

Publication Language: English
Abbreviated Journal Title: IJARET
Publisher Name: IAEME Publication

Major Subject: Social Sciences and Humanities

Subject area: Education

**ISSN Online:** 0976-6499

**Document Type:** Journal Article

DOI: https://doi.org/10.17605/OSF.IO/TMCS4

Access Type: Open Access Resource Licence: CC BY-NC

Subject Area classification: Social Sciences

**Source:** SCOPEDATABASE

### References (24)

1. Anita Campbell

Remediation of first-year mathematics students' algebra difficulties

(2009) University of Kwazulu-Natal, Article Link: https://researchspace.ukzn.ac.za/handle/10413/761

2. Biggs, J.B. & Collis, K.F

Evaluating The Quality of Learning: The Solo Taxonomy

(1982)

3. Buch, M.B

Sixth Survey of Research in Education

(2006)

### 4. Clement, J

Algebra Word Problem Solutions: Thought Processes Underlying a Common Misconception

(1982) Journal for Research in Mathematics Education, Volume 13, Issue 1, Page No 16-30, DOI: https://doi.org/10.2307/748434

Article Link: https://www.jstor.org/stable/748434

#### 5. Donaldson, M

A study of children's thinking in early year's classroom through doing philosophy

(1963) Irish Educational Studies, Volume 20, Page No 278-295,

# 6. Engel Hardt, J.M

### ANALYSIS OF CHILDREN'S COMPUTATIONAL ERRORS: A QUALITATIVE APPROACH

(1977) British Journal of Educational Psychology, Volume 47, Issue 2, Page No 149-154, DOI: https://doi.org/10.1111/j.2044-8279.1977.tb02340.x
Article Link: https://bpspsychub.onlinelibrary.wiley.com/doi/abs/10.1111/j.2044-8279.1977.tb02340.x

#### 7. Fischbein, E. & Barash, A

Algorithmic Models and Their Misuse in Solving Algebraic Problems

(1993) Proceedings of PME-17, Page No 162-172,

### 8. Hart.K

Ratio: Children Understands of Mathematics

(1984)

# 9. Hirst, K

Classifying Students' Mistakes in Calculus

(2003) Proceedings of the 2 nd International Conference on the Teaching of Mathematics,

### 10. Ho-Kheong Fong

Schematic model for Categorizing Children's Errors in Mathematics

(1993) The proceedings of the third international seminar on misconceptions and educational strategies in Science and Mathematics,

# 11. Lim, KokSeng

An Error Analysis of form 2 grade 7 students in Simplifying Algebraic Expressions: A Descriptive Study

(2010) Electronic Journal of Research in Educational Psychology, Volume 8, Issue 1, Page No 139-162,

# 12. Mercer, C.D., & Mercer, A.R

Teaching Students with Learning Problems

(2005)

# 13. Movshovitz-Hadar, N, Zaslavsky, O.,&Inbar, S

An Empirical Classification Model for Errors in High School Mathematics

(1987) Journal for Research in Mathematics Education, Volume 18, Issue 1, Page No 3-14, DOI: https://doi.org/10.2307/749532

Article Link: https://www.jstor.org/stable/749532?origin=crossref

# 14. Naraini, N.L.S., Cholifah, P.S.& Laksono, W.C

# Scope Database Link: https://sdbindex.com/documents/00000006/00001-71044

Article Link: https://iaeme.com/MasterAdmin/Journal\_uploads/JJARET/VOLUME\_11\_ISSUE\_4/IJARET\_11\_04\_058.pdf

Mathematics Errors in Elementary School: A Meta-Synthesis Study, Advances in Social Science, Education and Humanities Research (ASSEHR)

(2018) 1st International Conference on Early Childhood and Primary Education, Volume 244, Page No 148-151,

DOI: https://dx.doi.org/10.2991/ecpe-18.2018.32

Article Link: https://www.atlantis-press.com/proceedings/ecpe-18/25903219

#### 15. Newman, M

An analysis of sixth-grade pupils' errors on written mathematical tasks

(1977) Research in Mathematics Education in Australia, Volume 1, Page No 239-258,

### 16. Nolting, P.D

Winning at Math

(1997)

#### 17. Norman & Pritchard

Learner Mathematical Errors in Introductory Differential Calculus Tasks: a Study of Misconceptions in the Senior School Certificate Examinations

(1994) University of Johannesburg, South Africa,

### 18. Padmavathy, R.D

Analysis of students' errors in mathematics at high school level in relation to selected demographic and cognitive factors

(2016) Pondicherry University,

# 19. Radaz, H

Error Analysis in Mathematics Education

(1979) Journal for Research in Mathematics Education, Volume 10, Issue 3, Page No 163-172,

DOI: https://doi.org/10.2307/748804

Article Link: https://www.jstor.org/stable/748804

### 20. Rees, R and Barr, G

Diagnosis and prescription in the classroom : some common maths problems

(1984)

# 21. Roberts, C.H

The failure strategies of third grade arithmetic pupils

(1968) The Arithmetic Teacher, Volume 15, Issue 5, Page No 442-446, Article Link: https://www.jstor.org/stable/41185806

### 22. Sarwadi, H.R. & Shahrill, M

Understanding Students' Mathematical Errors and Misconceptions: The Case of Year 11 Repeating Students

(2014) Mathematics Education trends and research, Page No 1-10,

# 23. Xiaobaoli

COGNITIVE ANALYSIS OF STUDENTS` ERRORS AND MISCONCEPTIONS IN VARIABLES, EQUATIONS, AND FUNCTIONS

(2006) Graduate Studies of Texas A&M University,

# 24. Yorulmaz, A.and Onal, H

Examination of the Views of Class Teachers Regarding the Errors Primary School Students Make in Four Operations

(2017) Universal Journal of Educational Research, Volume 5, Issue 11, Page No 1885-1895, DOI: http://dx.doi.org/10.13189/ujer.2017.051105 Article Link: https://files.eric.ed.gov/fulltext/EJ1159735.pdf

# **About Scope Database**

What is Scope Database
Content Coverage Guide
Scope Database Blog
Content Coverage API
Scope Database App
© Copyright 2022 Scope Database, All rights reserved.

# **Customer Service**

Scope Database Key Persons Contact us

Scope Database www.sdbindex.com Email:info@sdbindex.com