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Mathematical modeling and optimization of memorization process to enhance learning using differential equations approach

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Mathematical modeling and optimization aspects of memorization process have been demonstrated here, by differential equations' approach, for enhancing individuals' learning, particularly, of mathematical stuffs. Memorization process plays a vital role in human life. Rigorous study of relevant literature reveals that several noteworthy researchers confined their attention in connection to enhance the memorization process in view of its complexity and being an integral component of learning; however, mathematical approach used by previous research workers for the memorization process has still been found very less. This motivates us to explore some significant results in this direction. In the present paper, firstly a mathematical model has been presented by using differential equation approach for the memorization process and then solution of the mathematical model has been obtained under its boundary conditions. More precisely, we examine the rate at which memorization of mathematical stuff that required for memorization of axioms and proofs of theorems and to calculate the various amount learnt in particular periods. In addition, a successful attempt has been made to optimize the memorization process to enhance learning trend of individuals and mathematical stuffs. Apart from this, significant outcomes of our present study are supported by tables and graphs based on primary statistical data in order to draw conclusions. Particularly, from practical point of view the present contribution is quite useful in emerging areas of medical science and life science instead of mathematical sciences and it has very wider scope for all professionals at all levels in teaching and research in the concerned field. Moreover, our present study contributes to the literature that memorization of large number of mathematical stuffs could be carried out even beyond perceived imaginations.

Biography

Vishwa Nath Maurya; is presently working at Department of Mathematics, School of Science & Technology, University of Fiji, Saweni/Suva. Before joining the University of Fiji, he has served as founder Director of Vision Institute of Technology, Aligarh (G.B. Technical University, Lucknow (India) and as Principal/Director at Shekhawati Engineering College (Rajasthan Technical University, Kota) after having vast experience in various Indian Technical and Management Institutions and Universities in the cadre of Professor & Head/Dean Academics such as at Institute of Engineering & Technology, Sitapur, UP, India; Haryana College of Technology & Management, Kaithal (Kuruchhetra University, Kuruchhetra); United College of Engineering & Research, Allahabad and Singhania University, Rajasthan (India). Moreover, he has been associated with leading Indian Universities-G.B. Technical University, Lucknow during 2005-2006 and Chhatrapati Shahu Ji Maharaj University, Kanpur for three terms during 2000-2004 for significant contribution of his supervision as Head Examiner of Central Evaluation for Theory Examinations of UG (B.Tech./B.Pharm.) and PG (MA/M. Sc.) programs. Instead of teaching and academic administration, Prof. Maurya has worldwide recognition in research and innovations. He has been an active member of organizing committee of several International Conferences held in USA, Austria, UAE and other countries, and has been the Field Chief Editor, Advisory Editor & Reviewer of Editorial Boards of over 55 Indian and Foreign International peer-reviewed journals including of USA, Austria, Algeria, Nigeria, Hong Kong and many more of other European and African countries.

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