



The Excavated Inculcation of Mathematics Edification Standing as a Role Protagonist in the Progression of Society

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Abstract:

Mathematics is an expanse of acquaintances that embrace the multi diverse nectars of wisdom analysed by dint of extreme excavation of concept inculcation by researchers, resilient educators, analysers, with the help of investigations made on the number systems, correlated formulae, consequent emergence of relevant algebraic, trigonometric, transcendental structures wherever suitably applicable, concerned shapes and the universal spaces in which these numbers, their structures, identities, physical significances exist are encompassed and quantitated and operated to get the desired changes analytically to mathematically fit them according to some structurally designed mathematical models. These varied arena of analytically vivid topics are embodied in recent Mathematics with the major emerged impetuous sub-branches viz., number theory, Modern Algebra, Algebraic Structures, Game Theory, Graph Theory and Data Structures, Differential Geometry, the most promising branch Calculus giving rise to two different sub-branches viz., Differential Calculus and Integral Calculus, Tensor Calculus, Differential Equations which again further sub-branched into Ordinary and Partial Differential Equations, Three Dimensional Solid Geometry, Real and Complex Analysis, Fluid Dynamics, Magneto Hydro Dynamics, Fractals, Topology, Functional Analysis, Calculus of Variations, Dynamics, Statics, Vectors and Vector Calculus etc. A rational numeral of mathematical comprehension excavation procedures endeavour the exploration of possessions of intellectual substances and the practice of unblemished persistence to demonstrate them. The very thought-provoking and information building subject Mathematics is indispensable in the field of Natural Sciences viz., Engineering, Medicine, Computer Science, Accountancy, Finance and in the pitches of Social Sciences. Granting to the fact that although the branch Mathematics has its expansive utilizations in the formulation of Mathematical Modelling, the underlying beneath vital truths of Mathematics are self-governing from any methodical investigations. An ample number of expanses of Mathematics like Statistics, Game Theory which is a repercussion of the sub-branch named Number Theory have been technologically advanced in handy association with their functioning and most often these vivid fields are congregated beneath the field of Applied Mathematics. The subordinate areas are established self-sufficiently from any implementor grounds emanating as Pure Mathematics which has its plinths in the operation of number systems whereas most frequently practical

implementor generated application oriented scenarios transpire which are diagnosed appropriately by the mathematicians of relevant periods and these fields of analytical education also reached its sky-height to touch the expected applied exploratory platform.

Keywords: Mathematics, Education, Science, Society, Analysis.

1. Introduction:

Mathematics, the most powerful and promising tool to excavate the hidden treasure in nature by inculcating intellectuality among the universal population by dint of its analytical and exploratory characteristics. Mathematics education which is a growing impetuous branch in the education arena stretched by world's resilient educators.

Going through a deep analysis of the consequence that evidences that nature correspondingly expresses the incredible emotional bondage of affectionate hugs by extending its multifaceted hands towards the in hidden logic and scientific concepts of Mathematics absolutely. The learning and gaining knowledge of critically and analytically thinking through the embedded potential of Mathematics education by means of which we, the societal fellow personals are progressively becoming proficient in visualizing extreme symmetry everywhere, in every entity surrounding our existence, possessing a deep sense of awareness and appreciation of geometric designs or structural patterns. We detect any geographical thingamajig by searching equilibrium or stability in its existence. Shifting from day to night which is a physical phenomenon, rotation of the seasons accordingly like summer and winter. An instance can be illustrated in this context in the flora i.e., plant kingdom, where there is an abundance of immeasurable specimens of practically checked symmetry, visualized shapes, physical patterns available for research etc. The very established universal truth is that the sun rises in the East and it gets set in the West direction, abiding by a handful of approximately pre-quantified premeditated scale of time. The celestial stars appear in the space at some fixed time scale which follows some universal laws. Mathematics runs in the veins of natural sciences like Physics and Astronomy. Mathematics education is utmost imperative for intellectual development of each individual of the society. Although every subject has its supreme monarchy in its arena, however primordial research establishes the statement to be self-explanatory with the branch Mathematics that it is quite hard to find a contemporary subject of Mathematics which can stand erect amidst all calamities which can produce brain storms in the direction of appropriate and positive thinking among an accumulation of individuals.

Intellectual exercise is an utmost important aesthetic tool in resolving mathematical problematic situations which needs proper reasoning and amalgamation of accurate strategical development of algorithms which increases the creative and constructive thinking of the fellow personals of the surviving society to cope up with the digitalized world. In such a mean, entirely-rational aptitudes of the promising youngsters are technologically advanced through Mathematical logical thinking. It matures a sturdy motivational supremacy, persistence in attitudes and self-assurance in conversations, thinking and behavioural changes. It correspondingly progresses the aptitude of discovery and invention in the minds of the resilient upcoming youngsters who are the expectant responsible citizen of the nation.

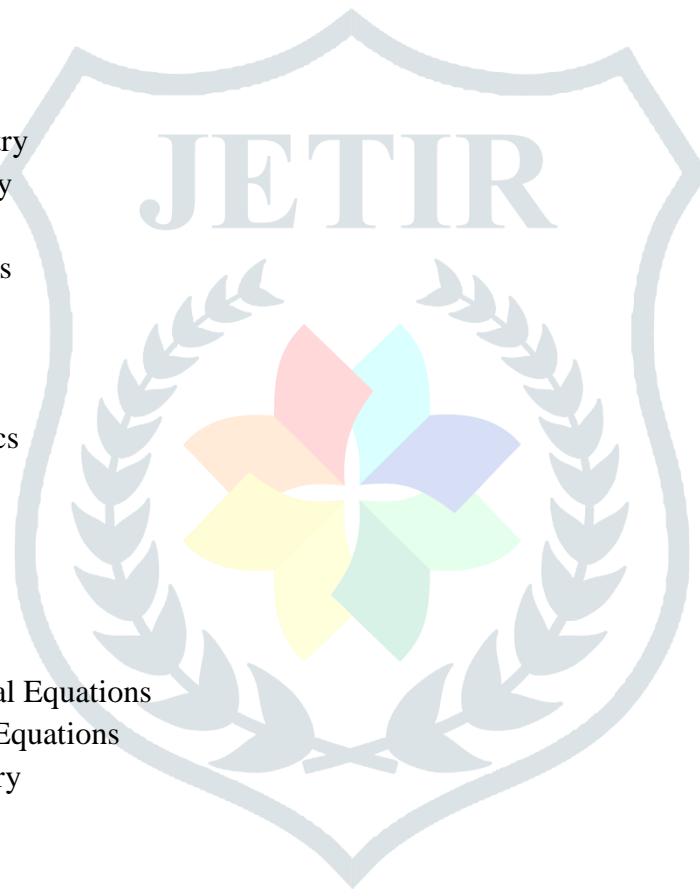
2. Review of Related Literature:

Euclid's great creations on Geometry in Greek civilization can be historically distinguished as a key-note pronouncer in the establishment of some strategically fortified logical stepladders of Euclid's creations entitled as proofs in substantiating a good number of mathematically proclaimed theories and authenticating scientific philosophies. With the emergence of the application grounded subject Mathematics, the subject has confronted two essential categorization into Geometry and Arithmetic that leads to the operation on natural numbers with the utilization of the four basic mathematical operators and the concept of different types of

fractions, up until the 16th and 17th centuries, when Algebra and Infinitesimal Calculus were familiarized as newfangled expanses. At the culmination of the 19th century, the introductory catastrophe of Mathematics education directed to the codification of the axiomatic techniques which foreshadowed a melodramatic upsurge in the quantity of mathematical zones and their pitches of implementation. The contemporaneous stratification of the emerging and most promising subject Mathematics tilts additional 60 supplementary analytical sub-arenas of Mathematics. We can utter the perfect instance of integer factorization in this scenario where the fundamental innovatory credit should go to the great Greek mathematician by nature and father of modern Geometry, Euclid in 300 BC, did not confront any utilization in practical fields until its super essential utility in RSA Cryptosystem which has been deploying its extensive use in the security of computer networks, these days.

2.1 A Handful of Propounding Showgrounds of Mathematics:

- Number theory
- Game Theory
- Differential Geometry
- Analytical Geometry
- Algebra
- Differential Calculus
- Integral Calculus
- Real Analysis
- Complex Analysis
- Discrete mathematics
- Data Structure
- Algebraic Structure
- Fuzzy Logic
- Bullian Algebra
- Theory of Modules
- Ordinary Differential Equations
- Partial Differential Equations
- Logic and Set Theory
- Metric Space
- Topological Space
- Functional Analysis
- Operator Theory
- Fluid Dynamics
- Computational Fluid Dynamics
- Magneto Hydro dynamics
- Statics
- Dynamics
- Hydrostatics
- Hydrodynamics
- Fractals
- Probability
- Statistics and Decision Sciences
- Generation of Several Computer Languages
- Cosmology



- Astrophysics and Space Science
- Artificial Intelligence where Configuration of Mathematical Logic is the ancestor of this predominant arena and so on.

3. The Strategic Implication of Mathematics Education in Society Upliftment:

As depicted in the definition of Sociology, one of the conventional theoretical and analytical division of Social Science which establishes that smallest unit of a society as the family which consists of its fellow members who are succeeding some identical ethics, thinking mentality, cultivating personality, food behaviour, amusement portfolios, recreational goals, bearing great respect, responsibility for each member and inculcating identical aesthetics to their societal existences. With the progress of edification in the society and a growing urge for female education as a reflection of women empowerment hurricane, the degree of intellectuality development has elevated to a mountain peak height. With this progress, the concerning mental health of the family members have eventually grown up, getting freed from all evil thoughts, culminating the developed stages of superstitions in day-to-day life skills which give rise to a potentially strong, mentally stable, decision-making group of personnels. As a repercussion, from every family there is a significant elevation in producing the abundance of medical practitioners in the families, uplifting the improvements in physical health of their concerned family members in the society for which they have to choose the science stream with the study of Mathematics, getting rid of health complications as adequate awareness is created regarding physical and mental health among the scientifically educated society members and generate the requisite mental food by inculcating the science of yoga to rejuvenate with the divine virtues of mankind such as perseverance, forgiveness, humbleness, loyalty, love, respect, helpfulness, gratitude, empathy, sympathy, appreciation towards others. A mathematically knowledgeable educated cluster of people obviously bear the leadership qualities, commanding virtues to lead a society in questionable scenarios by taking appropriate decisions to lead to a correct platform and assured victory against all odds. With the influence of Mathematics edification, the general persons become effective in proper monitoring of their blood sugar levels with the help of glucometer while sitting in their homes which enables to give the diabetic patients by adding longevity to their life spans, continuous checking-up of blood pressure for the patients with highly elevated blood pressure levels with efficacy to attain a peaceful, joyous life. As we all put stress on the very well-known verdict that happiness lies in a sound body and a sound mind resides in a sound body. So, the maintenance of sound health is very much signficatory for keeping oneself joyous, peaceful and self-sufficient for keeping proper pace with the changing challenges encountered by our today's advanced society.

4. The influence of Mathematics Education in Cultivating Intellectuality Among Citizens:

Mathematics education employs a pivotal protagonist character in enhancing the intellectuality improvement of human actualities which is the utmost significant weapon for the victory of mankind against all arousing odds such as illiteracy, weak in numeracy skills, superstitious in attitudes, delayed behaviour in taking decisions, preservation of selfish mentality, incapability of executing result-oriented enactments in implementing challenging tasks etc. Projection of scientific power and wisdom to know about the interstellar figures of the universe, proper attainment of judgemental attributes to magistrate the right and wrong selections to choose from a set of available resources in life winning scenarios, to walk with the government, requirement of proper political practical atmospheric information, knowledge of gym, yoga and regular exercises, taking aesthetic knowledge for peaceful stress free livelihood can be blowed to the lives of the fellow persons through the hurricane of Mathematics edification since with its aids, the societal personnels become aware of the pros and cons of the subject matters needed to bridge a

powerful strategic bondage between the advancement of society and psychological inner upliftment of individual society members by inculcating the life values with the intellectuality development.

5. Influence Embossed by Mathematics Learning in the Territory of Vocational Development:

The acquisition of life-valued knowledge through strategical curriculum based education is the central motive of education system which forms the building-block of creating awareness in the little minds of today's youngsters to visualize the art of becoming self-reliant and sufficient to survive with the surrounding scenarios and become a responsible future citizen who can arrange their livelihood by becoming sufficiently competent for today's changing world by defeating all malevolent challenges occurring in the walks of the lives of fellow persons. To achieve this objective Mathematics education is the most imperative subject than any other practical aids available in the society. It assistances to fabricate the early uprising learners to strengthen the today's youngsters with technical teachings and a respectable number of supplementary propensities in which Mathematics education is primarily applied in nature. We can utter the instances of the practically technology developed platforms viz., Engineering, Applied Science subjects such as Physics, Chemistry, Astrophysics and Space Science, Publications of the Language and Literature works word-wide in appropriately indexed databases for wide-reaching recognition, Architecture, Interior Designing, Rational Infrastructure Development, Accountancy, Banking Sectors, Business, Finance, Agriculture, Tailoring, Carpentry, Mining which is a branch of applied Mathematics and the execution and completion of office works for which knowledge of Mathematics as well as computer literacy is required which necessitate the comprehension of Mathematics.

6. Mathematics as an Inculcator of Ethical Development:

Ethical upliftment is a challenging episode of life which is bestowed upon some physical factors such as place, time, proper person, supportive environment, ethics, personality enhancement, intellectuality development which is co-ordinated with algorithmic logic building brushness accomplished through Mathematics education and subsequent knowledge generation. As a repercussion of mathematically developed thinking strategy, Mathematics knowledge usually can complement to early life learners' ethical development since mathematical wisdom is accommodating in nature for moral teachings and personality development. A person of strong character bear necessary scientific wisdom which certainly characterize the ethical principles of well-being to the greatest. Young generations eventually inculcate potentials of hygiene, life expectancy, security, safekeeping and authenticity.

7. Title role Deployed by Mathematics Education for Spiritual Growth:

Mathematics education potentially rise the impression of developing the skills of procurement of reproduction and possible expectations for fulfilment of life, can teach the societal fellow persons the lesson of escaping from the cycle of rebirths by proper meticulous mathematical reasoning against the spiritual misconceptions prevailing in our society from time immemorial. Spiritual beliefs are strongly dominated by mathematicians since their passage of exploratory analysis is reluctant upon mathematical reasoning rather than by some preoccupied irrelevant folk theories which can lead every youngster in the direction of mentally depressed state which is quite life-shaking. Mathematics knowledge promotes perseverance, self-efficacy, reluctance, strong defensive attitude against the unambiguous rumours reigned in the society by proper implementation of systematic mathematical reasoning and strong mental power deliverance in their speech, thinking, attitudes, performing life-skills.

8. Characteristics Revealed by Mathematics Education in the Advancement of Cultural Strata:

The knowledge of Mathematics education supports the cultural researchers to recognize the involvement of Mathematics in the progress of civilization and culture. It enables the learners to recognize the central character offered by Mathematics education advancement and propagation of fine arts and in consecrating humanoid with the help of tactful reasoning, visualize the amusement perspective and detection of creative skills for personality empowerment, appliances of cognitive skills for cultural proficiency attainment in music, dance, playing on instruments like table, guitar, violin, mandolin, harmonium, for classical music: tanpura, sitar etc where in each of these fields, proficiency can be attained by proper utilizing proper mathematically assisted timings in playing these musical instruments, projection of knowledge of tal, sur, laya (Indian words) in performing these divine arts for mental as well as physical uprise.

9. Part Played by Mathematics Education in the Enlightenment of Education System:

In educational scenario of World Education platform and Mathematics education is inseparably correlated to each other in a sense that moulding and production of bright, reliable future citizens is immensely contributory. Professionals like Bus Conductor, Shop Keepers, Drivers, Aeroplane and Helicopter Pilots, Musicians, Supreme Magicians, efficient Cashiers, Bank Officials, Managers of reputed multi-star Hotels completing their hotel management studies, apply the relevant field-oriented mathematical concepts that they studied in their school, under graduate, post graduate, technical education curriculum, Applied Science disciplines, while choosing Mathematics as a subject of study under the pedagogical developed Curriculum. Moreover, the vocational training zones which includes Carpeting, Driving, pilot, Cooking, Beauticians, Tailoring, Sportsperson, Cultivation etc, to-the point acquisition of mathematical acquaintances is acknowledged. In the generation of curriculum, pedagogical aspects are thrown light and strategically developed, because the upliftment of resilient learners to become educationally strong, emotionally stable and powerful in knowledge are the prominent qualities of life which can be archived with the inculcation of proper knowledge that is attained through completing education and successfully qualifying in examinations, getting desired services after qualifying personal interviews and becoming aware of their needs, social responsibilities, emotionally and ethically powerful citizens of our society.

10. Starring role Arrayed by Mathematics Education in the Advancement of Economics Arena:

Mathematics reimbursements rudimentary capitalization to up-to-date society. It delivers the energetic sustenance in heartening the acquaintance of economy. Mathematics education is mandatorily essential in Physics, Chemical Sciences, Technology enriched educations, Business Administration courses and practical innovations ICT tools for imparting education in a teaching-learning scenario. It is also of heartthrob of Statistics, Zoology, Botany, Medical Sciences and several sub-branches of Social Sciences. Mathematics constructs the plinth of an appreciable number of scientific and industrial research arenas and consequent innovations and significatory developments in relevant varied fields like AI Chatbot, ChatGPT, ChatGPT Plus etc. Progressively, numerous complex systems and assemblies in contemporary world can individually be comprehended by means of the knowledge of Mathematics and significantly most of the strategy and regulator of modern digitalized sophisticated technology ornamented systems hinge on mathematical inputs and outputs data to comply with the universal awareness.

11. The Plausible Functioning of Mathematics Education in the Direction of Women Empowerment:

From the primitive period, women have been regarded as the weakest and most vulnerable entity. This conception has been prevailing in our patriarchal society where women has been exploited and neglected in daily attributes. This scenery has blown away from the hearts and psychologies of the societal fellow persons with the advancement of scientific studies and mathematical concept generations which can be attained to the fullest only through Mathematics education across the teaching span of a student who are the future eminent educated citizens of the society. Women become capable of deliberately showing their caliber in service life, research arenas, social aspects as they are allowed to come out from their conventional kitchen arenas and performing house-hold activities. This great transformation gradually crept into the minds of the male dominated set with the progress of education scenario and proper utilization of mathematical concepts to escape from odd ailing superstitions and predicaments rigidly intoxicated by the illiterate, wrong concept developers, insufficiently knowledgeable societal fellow personnels, giving the wings to female gender to fly high and endorse their prestigious positions in the society.

12. Inculcation of Mathematics Education in the Progress of Medical Sciences and Agricultural Arena:

Mathematics is intensively functional in the fields of Agriculture, Cultivation, Ecology, Cardiac complexities demonstration, DNA synthesizing and Genetic Engineering. Mathematical knowledge is properly castoff to produce medical instruments, medical strategies in the implementation of diagnostics of intricate health issues and swift development of sensor technologies. Mathematics, by virtue of its elementary in nature, emerges as a universal abstract language and from the Science scenarios, Technology and Engineering, Mathematics has a convincing status which is sufficient to prove its incomparable characteristics in supremacy from other existing Technology enriched portfolios.

13. Analytical Ascending Procurement of Mathematics Education in Resolving Predicaments Arising in Society:

The study and analysis of Mathematics education emphasizes a very critical and cognitive power development for growing needs of inculcating divine virtues of mankind like empathy, sympathy, very calculative in nature, time bound, extremely promising in attitude, leadership and straight-forward exhibition of characteristics, perfection seeker in characters and formulative attributes for becoming life-long well-organized surmount of victory. The societal personals are the one who develop and govern the society which is a subset of the nation, which again in terms of an authorized subset of the world's inhabitants. The role of Mathematics edification in the progress of a discrete societal fellow person as well as the advancement of the civilization. Mathematics education assistances mankind to electrify meticulous clarification to their philosophies and suppositions. The very mathematical and scheming fragment of societal fellow's life span is an outcome of the various knowledges gained due to the culture of stratified knowledge fields, one such knowledge attaining field is obviously Mathematics imparting accuracy seeking attitude in every period's lives of the fellow personals. The Mathematics education acting as a prevalent protagonist in our normal lives, thereby befitting a obligatory feature for the improvement of our contemporary domain. Thus, the connotation of Mathematics education in the advancement of society is quite signficatory.

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