

3D Metric approach to study the factors affecting student's psychology on Education

Kumudavalli M V^{1*}, AnaghaShailesh Kulkarni², G. Ambrish³

^{1,2}Department of Computer Applications, Dayananda Sagar College of Arts, Science & Commerce

³Department of Computer Science & Applications, Bangalore University

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Abstract - Student psychology in general terms is the study of development of child in terms of his/her abilities. Seeking the evidence on the problems of relative effects i.e., personal and environmental, upon the child's ability and consideration of adjustment of the child to the circumstances. Every child is special in his/her own way. The mind-set of the child depends and grows upon the instances which the child undergoes i.e. either by personal problem or say environmental effect. Both the internal, as well as external factor plays a major role in building up the personality and attitude of the child. Student's attitude may differ due to the circumstance they undergo on daily basis. This paper deals with a 3D metric (Internal factor, External factor, Self interest) which plays a key role in analyzing the psychology of the student pertaining to education. The analysis is done through questionnaire consisting of factors affecting the study and a parametric way of scoring is done to the answers which help the student in finding the optimum way out to address the factors affecting them.

Keywords - Psychology, factors, Internal, External, Environmental, Metric.

I. INTRODUCTION

Education plays a vital role in every growing child's life. The study system nowadays depends on various factors like socio-Economic conditions, environment, linguistic problems, peer pressure etc., the mind-set of every individual depends and grows upon the instances which they undergoes i.e. either by personal problem or say environmental effect [1]. Every student is different in his/her own way. The psychological analysis varies from one child to another child throwing a lot of challenges and factors on which there is a need for intensive study. This paper proposes a 3D Metric analysis which helps the student to know about the group they belong to and they even can improve on the lacking factors. Internal, External and self interest are the three factors that are considered to perform the psychological study, which further is a decision factor to improve individuals personality specially in terms of education. The 3D-factor study is proposed to know the nature of student based on the parameter of cognitive, social and moral development. Educational Psychology emphasizes on pertinent research and focuses on what works and how a reflective teacher can apply it in the classroom. Reflective questions, vignettes, and self-checks challenge students to think about and make decisions that drive successful instruction.

A. Student Psychology

Psychological study in general is the development/use of methods for collecting, understanding, analyzing the

psychological data. On the other hand student psychology is the study of development of child, in terms of his abilities, seeking the evidence on the problem of relative effects of personal and environment upon the child's ability and consideration of adjustment of the child to the circumstances. Every child is special in own way. There is no hard and fast rule that only personal problem and environmental effect can make the child differ from others, but sometimes, it may be the child's interest that can make him/her different from others. Both the internal, as well as external factors play a major role in building up the personality and attitude of the child. This research article is organized as follows: Section II gives a brief about related works pertaining to this field. Section III defines the 3D metric in depth. Section IV gives the steps followed in the study. The outcomes of the study is briefed in section V. over all conclusion of the study is described in section VI.

II. RELATED WORK

Nicole Sparapania et.al have discussed about the effects of reading vocabulary its impact on social skills etc., for a particular age group students. Whereas the cognitive abilities of children and the skills of mapping adult models of speech is clearly explained. Since not much work has been done on the factors affecting the educational psychology, the current work has been carried out.

III. 3D METRIC

Education psychology of a student can be analyzed in a three dimensional way viz. Internal, External and Self interest [2]. This can further aid the student to improve on the lacking factors. The 3D factors are:

A. Internal factors

These are the factor which cannot be expressed, it's abstract. Every human being have their own way to approach and accept the things in life [3]. Some can handle and tackle the things much easier way, some take time and most of them never overcome the problems in their life. Depending upon the way child accepts the things, the personality is formed in such way. The major factor which affects the child is:

- **Physically challenged**

This is one of the major factor, if the child is physically challenged, he/she is considered as disabled which may lead to several challenges, as it is likely less easier for them to compete with normal children in order to prove them.

- **Atmosphere**

Depending upon the atmosphere of the school or home, the child develops his/her perception of accepting the things and reacting to it. For instance if there is adverse atmosphere at home, the child is unable to pay attention in the school resulting in distraction from studies and this results in the less knowledge/intelligence accumulation.

- **Behavior**

If the child is confident, then there are many ways out for him/her to achieve the goals. If the child is not confident, it would take too much of effort for the child to take a lead in life. Behavior of the child matters as it is a major molding factor of the personality, basically how well they react to the situation and the way they handle it.

- **Distraction**

Due to hormonal changes, age attraction, self interest or the above factors the child may differ in his/her nature and act accordingly.

- **Friends circle**

Being human beings we tend to the same thing as others do, as it is easy to follow others. Our personalities partially depend on our friends.

B. External factors

Due to the changes happening internally, the behavior of the child also tends to change accordingly [4]. If the child is not much affected by internal factor in terms of his/her academics, we can analyze the external factors (changes causing due to other criteria's like: concept, teaching style, teacher etc.).

- **Syllabus**

Some students are unable to cope up with the syllabus either due to their IQ or capacity of understanding the concept or

lack of practice [5]. Depending on these, the performance of the child is affected.

- **Capacity of understanding the concept**

Not every student can understand the concept once it is thought. Some need to practice once or twice and some need to study on daily bases [6]. The capacity of understanding may differ due to internal or external factors or personal choice of interest.

- **Concentration**

Due to some of the internal/external and environmental factors the child may get diverted leading to lack of concentration, this further affects the academic performance of the student.

C. Self interest

It's a behavior which is combination of internal and external factor. In addition it may also depend on the socio-economic conditions.

IV. METHODOLOGY

Student's attitude may differ due to the circumstance they undergo on daily bases. The proposed 3D metric advances the study and analysis of the student psychology pertaining to Education.

Step 1: The questionnaire related to the factors is prepared.

Step 2: Data collection with respect to the questionnaire from students of certain age group, with different background in terms of social and economical conditions.

Step 3: The parameters (Yes/No/Maybe) are defined for scaling based on which the numerical value is assigned.

Table 1. Score criteria

Factors	Score	Observation
Internal Factors	Score -> 30-40	Highly affected by internal Changes
	Score -> 15-30	Moderately suffering and the solution can be opted easily.
	Score -> 0-15	Normal changes.
	Score -> 25-35	Very much affected by the external atmosphere, changes to be made or accepted by the child.

External Factors	Score -> 15-25	A little change in solution can be useful to get optimum result.
	Score -> 0-15	Nothing unusual.
Self-Interests	Score -> 50-70	Highly affected by External and Internal Factors
	Score -> 30-49	Changes made day by day can make factors affect the student much easier.
	Score -> 0-29	Normal factors come into picture.

V. OUTCOME OF THE STUDY

In the study the experiment group will be provided with the questionnaire which consists of Yes/No/Maybe parameters. The 3D factors are represented as an equilateral triangle as in figure1, which stress on the concept of equality in factors.

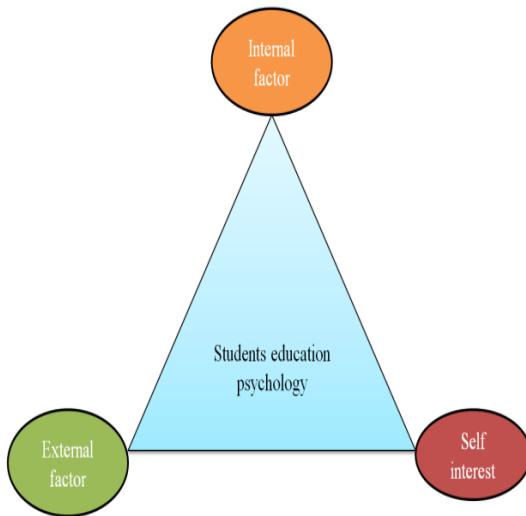


Figure1. 3D Metric triangle.

The metric analysis consists of pre-defined scoring for every answer and standard values are set for analyzing the factors on the basis of parameter of cognitive, social and moral development [7]. The score further helps in analyzing the student psychology towards education.

VI. CONCLUSION

Each child is special in terms of understanding capabilities. Some may be clever enough to understand what is being thought at once, some may take time and some may even

end-up not understanding anything [8]. The above study is effective and is more concerned with the factors affecting the students in all ways. If the problems faced by the students are addressed properly we can help him/her to overcome the situation and can have optimum results. On an average scale every student has one or the other problem which has been knowingly or unknowingly ignored. This study would give a new way and new ray of hope for the better understanding of the problem and making students a better person for today and tomorrow.

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Authors Profile

Dr. Kumudavalli M.V. is working as an Associate Professor at Dayananda Sagar College of Arts, Science and Commerce, Bangalore, India. Her research interests are Bioinformatics, Data Science, Operations Research, Networks etc. She has 14 years of academic experience. She has many research papers and certifications to her credits.



Anagha Shailesh Kulkarni is currently Pursing her degree. She is interested in psychology and NLP (Neuro Linguistic Programme). She developed her interest in human psychology and power of subconscious mind in early stage of her education. Initially she started conducting seminars and



counseling to students from 8th to 10th grade. She is continuing her increase of knowledge base, interest and enhancing skills on regular bases.

Mr. G. Ambrish Obtained B.E. from Dr. TTIT in 2011 and M. Tech from RVCE 2013. Cleared State Level Eligibility Test for Lectureship (KSET) and National Eligibility Test for Lectureship (NET) in Computer Science and Applications in DEC 2013 and 2016 respectively. Since 2014, he is working as a faculty in Computer Science & Applications in Bangalore University, Karnataka, India. His areas of interest include Internet of Things, Machine Learning, Natural Language Processing, Data Science, and Real Time Predictive Analytics.

