

An Exhortation to Improve Student's Progression: A Framework

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Abstract:-With the development in educational system of the country the awareness among the parents and the students have increased, whether the parents are from urban or rural area. The causes of poor academic performance among the student are multifactor in nature. In this paper "An Exhortation to Improve students progression: A framework", the framework discovers the pattern to identify the real problem of failure of student to achieve academic goal. It gives the knowledge about the evaluation techniques to be applied on student's performance is discovered.

Keywords: Exhortation, Progression, Classification, Evaluation, Knowledge Discovery.

1. Introduction:

India has more than 50% of its population below the age group of 25 and more than 65% below the age group of 35[4]. More than 50% of population is currently pursuing their education from various institutions. Among those only 35% of students get success in academics. Educational achievement of student demands urgent attention to attain their goals[3]. But what we find students fail in achieving the academic performance. Data mining is a practice of examining large pre-existing database in order to generate new information. It is the process of analysing the data from different perspective and summarizing it into useful information.

2. Objective:

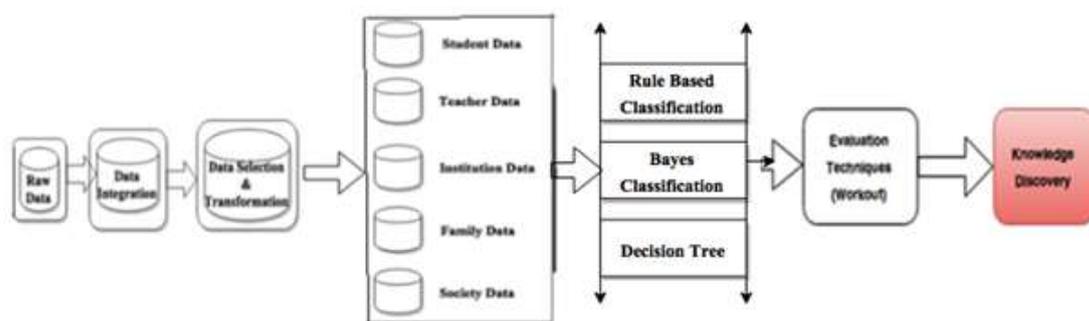
The objective of the framework is to analysis the raw data related to the personal information of students. Information regarding socio-economic condition, financial condition, family background and data about teacher and infrastructure of the institution are gathered. Data pattern from the collected data is extracted and evaluation techniques are

applied to discover knowledge, to find out the remedy for students progression.

3. Method and framework:

Educational achievement of student demand urgent attention to attain their goals [3]. A framework has been created using general steps involved in data mining process for pattern recognition and knowledge discovery to discover the real factor and find out remedy to the problem of failure of student's academic progression. Data mining provides us with the basic classification techniques that help us to classify the extracted pattern gathered from raw data. There are seven general steps involve in the framework:

1. Raw data collection.
2. Integration.
3. Selection and transformation.
4. Applying classification techniques.
5. Extracting pattern.
6. Evolution techniques
7. Knowledge discovery.



Exhortation Framework for student's Progression

Fig 3.1 Exhortation Framework

In the above fig.3.1 raw data related to institution and student is collected and integrated. Data selection and transformation is based on various factors like:

- Student
- Teacher
- Institution
- Family
- Society

Degradation in the academic progression of a student may be any of the above mentioned factors, it may be one or group of factors responsible. Classification in data mining is the best technique to classify the data into different factors. Data classification is the two-step process, consisting of a learning step(where a classification model is constructed) and a classification step(where the model is used to predict class labels for given data)[10]. Performance prediction is one of the most important applications of classification technique in datamining. Decision tree classifier, Bayesians classifier, Rule-based classifier are the basic technique for data classification.

- Decision tree is a flowchart like tree structure, where each internal node denotes a test on an attribute, each branch represents an outcome of the test, and each leaf node.
- Bayes classifier is the statistical classifier .They can predict class membership probabilities such as the probability that a given tuple belong to a particular class.
- Rule based classifier is set of IF-THEN rules for classification [10].

By applying all these classifiers we draw the evaluation techniques for evaluating the progression of students. The evaluation techniques designed are different for different factors as given in Fig.3.2 below.The table shows what individual factors should work on. Even though the evaluation techniques drawn in table look informal, but still working on these benefits will certainly bring a drastic change in the behavioural and the learning ability of the student. Not only the working on group factors will benefit but working on individual also will make a change. Evaluation techniques shows that student’s himself/herself is not only the responsible factor, but also teacher, institution, family and society are equally contributing for the overall development of student. The maximum use of these techniques may take students to success. A hand in hand behaviour of all the factors is vital for the expected positive results of student’s progression.

Evaluation Techniques(Workout)	
Factor	Benefits
Student	Improve grasping, learning disabilities, IQ, confidence ,moral values
Teacher	Hinder fruitful class discussion,

	collaborative learning, motivation, behaviour ,presentation skills, teaching methodology
Institution	Provide funding, scholarship, other facilities
Family	Encouragement, reduce intentional harm, un- abusive nature, financial status, poverty
Society	Away from overcrowded area, good friend circle, neighbours ,unity in diversity

Fig. 3.2 Evaluation Techniques Generated

Above table gives the outcome of the patterns extracted. Knowledge of techniques to be applied is discovered. If all the factors make optimum use of the above evaluation techniques, students are bound to get success by overcoming failure.

4. Related work:

Many related work have been performed for the progression of students in academics. In 2013 Lucas, B., G. Claxton and E. Spencer (2013), “Progression in Student Creativity in School: First Steps Towards New Forms of Formative Assessments”, OECD Education Working Papers, No. 86, OECD Publishing.

<http://dx.doi.org/10.1787/5k4dp59msdwk-en> [8] gives two clear benefits of assessing progress in the development of creativity are identified: teachers are able to be more precise and confident in developing young people’s creativity, and learners are better able to understand what it is to be creative[8]. In 2015 Jennifer L. Kobrin, Sarah Larson, Ashley Cromwell, Patricia Garza. “A Framework for Evaluating Learning Progressions on Features Related to Their Intended Uses”, Journal of Educational Research and Practice 2015, Volume 5, Issue 1, Pages 58–73 ©Walden University, LLC, Minneapolis, MN DOI: 10.5590/JERAP.2015.05.1.04 [9]. The research was to devise a framework to understand and evaluate key features of an LP, including its structure, content, usability, and validity evidence.

5. Conclusion:

Optimum use of the above framework may help the educational institution to find out the exact remedy for a particular student but also will help parents to find out the problem, so as to improve the academic grade point of the students.

6. Future enhancement:

The frame work can also be replicated by adding certain other factors like financial condition, psychological problems etc. More study about the evaluation techniques can be done and many other techniques like collaborative learning, mental and physical ability etc. can also be added

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