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ANALYSIS ON SINGIFICANT IMPACT OF PSYCHOLOGICAL EDUCATION AND TEACHING MODE

Dr.Priti Srivastava[1] , Shraddha Dwivedi[2]
[1]Department of Philosophy, VBS University, Jaunpur
[2]Phd Scholar, DDU University, Gorakpur

ABSTRACT
The mode of psychological education and teaching has a considerable impact on the ultimate effect of education and teaching, therefore actively supporting the reform of education and teaching has a conspicuous practical value in the teaching environment and teaching objectives. With the widespread use of computer technology in education and the popularisation of network applications, the methods and modes of education and teaching are beginning to grow in a diverse fashion, according to the analysis of educational and teaching practise at this stage. For the sixth semester, the Cumulative Grade Point Average (CGPA) was predicted using data from the matriculate and preuniversity examinations, as well as grades from the previous four semesters and other learning and study skills. Both Neural Network and Decision Tree were employed to investigate the impact of students' psychology on prediction, with the latter being used to classify failures in the sixth semester. Coefficients of correlation R and Mean Squared Error were used to gauge the models' overall performance. The accuracy of the forecast improves by 4 to 6 percentage points. According to the findings, a student's motivation level, perception of knowledge, and usage of available study tools all factor towards how well they will perform on the exam.

1. INTRODUCTION

1.1 Understanding Educational Psychology

The educational system of today is extremely intricate. There is no one-size-fits-all strategy to learning. Because of this, educational psychologists are attempting to identify and analyse learning methods to better understand how people acquire and retain new information.

Human development theories are used by educational psychologists in the classroom to better understand student learning and inform the teaching process. There are other aspects of their jobs as well, such as working with instructors and children in educational settings. A student's pursuit of knowledge is one that lasts a lifetime. People learn not only at school but also at work, in social settings, and even when performing routine duties like housework or errands. In order to find techniques and strategies to improve learning, psychologists in this area look at how people learn in various circumstances.

1.2 Educational Psychology Applied

Emotional and cognitive processes involved in learning are studied by educational psychologists who use their findings to help students learn better. Adults, adolescents, and children are some of the special populations served by educational consultants. Others work with students who are dealing with attention deficit hyperactivity disorder (ADHD) or dyslexia.

These experts are interested in teaching methods, instructional processes, and various learning outcomes regardless of the demographic they are studying.

Do people's recollection rates differ depending on what time of day new information is presented? What role does culture have in the way our brains handle new information? How does our ability to learn new skills, such as language, change as we get older? What are the differences between face-to-face learning and learning remotely using technology? What impact does the platform you use for learning have?

All of these concerns are being asked and answered by educational psychologists in a wide range of settings, including government research facilities, schools, community organisations, and learning centres.

2. LITERATURE REVIEW

Using the first and third semester grades from Matriculate and Diploma students, the study [1] demonstrated the use of Artificial Neural Networks for predicting final-year results. In addition, Neural Network and Linear Regression were used to examine the association between the fundamental topics and final-year results.

Linear Regression was proven to be more accurate than Neural Networks [2].

The experiment used Naive Bayes and Support Vector Machine (SVM) algorithms to show that demographic factors are essential in predicting a student's academic achievement.

Placement Prediction System was used to forecast placements in addition to academic performance.

The Logistic Regression has had enough of all semester grades and demographic data in order to determine the likelihood of a student being placed [4].

A study published in [5] looked at the relationship between mental health and academic achievement and included 200 students. The relationship between mental health and academic achievement was investigated with the use of the Pearson correlation coefficient [5].

On the data gathered by 120 students in Taiwan, the Support Vector Regression was used to show that student performance and personality characteristics are closely linked [6].

There are studies showing that physical therapy is beneficial in the treatment of neurodegenerative diseases, so efforts have been made to design monitoring systems that assist with home-based exercise and rehab. Human mobility is tracked by these systems, which perform analysis and give users feedback. It was determined that they may be used for physical therapy in both therapeutic and non-therapeutic contexts [6]. Home-based physical therapy has a number of drawbacks, two of which include poor adherence to proper exercise technique and a lack of motivation to exercise at home.

3. ANALYSIS OF THE CURRENT SITUATION OF PSYCHOLOGICAL EDUCATION AND TEACHING MODE UNDER THE CONDITION OF INFORMATIZATION

The specific problems that exist in the teaching mode can provide references and advice for the reform of teaching mode by examining the current state of psychology teaching mode under the condition of informatization. As a result of this research, the following issues have been discovered in relation to psychology education teaching methods.

In the first place, it's unitary. Despite the widespread use of information technology in present educational practise, the condition of single teacher teaching mode has not been effectively transformed, according to the summary of teaching practise. The following are the primary features it offers: To put it another way, when it comes to education, the teacher has a very strong hold over classroom dynamics. This means that pupils have a limited amount of thinking space and interactions between teachers and students are difficult to discern. Passive suspension of classes is practised by students [2]. Instructors' teaching and students' learning go hand in hand in educational practise, and the goal of teachers' teaching is to improve the efficiency of pupils. As a result, based on the overall assessment, the learning effect for pupils is more crucial. The single teaching mode, on the other hand, places a greater emphasis on the teaching methods of the teachers, resulting in pupils who learn passively.

Second, teachers and students are at odds with one another in the existing teaching paradigm. In the end, the efficiency of education and teaching is heavily influenced by the interaction between the professors and the pupils. Teacher-student relationships must be harmonious if teaching is to be effective. Without this harmony, teachers will have no drive to teach and students will have no want to learn. From a practical standpoint, teachers and students' relationships must be maintained by open and frequent contact. However, contact between professors and students is extremely limited under the existing educational model. There is only limited communication between teachers and some students. In order to improve the ultimate educational and teaching effect, we must address this issue immediately in the classroom. A new teaching method must be developed, emphasising the equality of teachers and students in the classroom, as well as laying a solid communication foundation between the two parties. Digitalization, networking, intellectualization, and multimedia are some of the most notable elements of educational informatization's unique implementation. Many of the modern technologies used in educational informatization are digital and networking-based [4]. Because educational informatization is characterised by openness, sharing, interaction, and cooperation, it is usual for schools to work together as part of the process.

Following are the top technologies for educational informatization according to statistics on technology use: l) The use of computer networks. It is common to use the network in information education to combine online and off-line learning, creating a more conducive learning environment for students. 2) Digital and computerised technology [6]. As a result of computer technology, a network database and teaching platform have been built, and the digital transformation of teaching resources has been completed. Because of digital conversion, resource transfer and application have seen a significant increase in their practical efficiency. Multimedia technology is a key component of this strategy. Due to the employment of multimedia technology in the classroom, the learning environment has become more three-dimensional, which has a good impact on the current teaching practise by altering the learning environment and increasing student attentiveness. As can be seen in the graph below, education users and global Internet users are also on the rise.

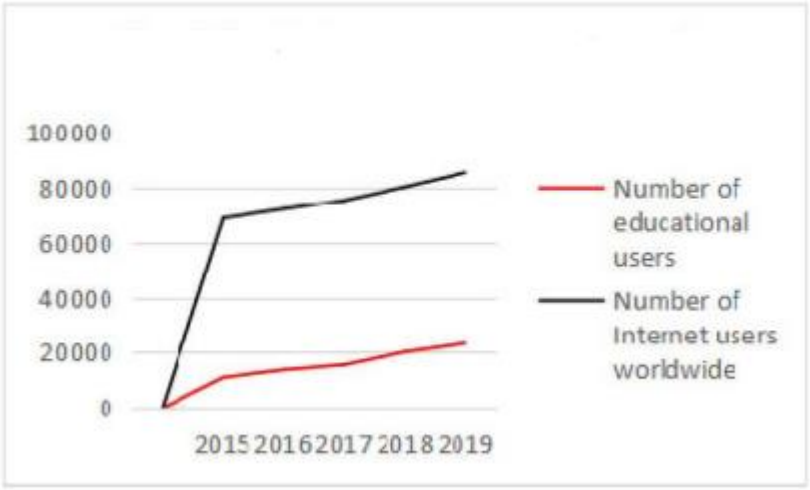

Fig 1: development trend of education users and global Internet users.

4. PROPOSED MODELING APPROACH

The accuracy of Neural Networks in collecting nonlinear data trends and making numerical predictions is higher [2]. It was put to use in the current experiment to determine the sixth-semester CGPA of each student. The Decision Tree algorithm[3] is being used to sort students into Pass or Fail groups. The experiment's major goal is to show how psychological factors play an important role in predicting pre-final year scores for students.

A. Regression using Neural Network

To approximate functional relationships between dependent and independent factors using a neural network in regression analysis is an excellent use of neural networks. Given an input x and current weights, the neural network generates an output o(x). It does the computation for the function.

$$o(\mathbf{x}) = f\left(w_0 + \sum_{i=1}^{n} w_i x_i\right) = f\left(w_0 + \mathbf{w}^T \mathbf{x}\right)$$

B. Classifiction using Decision tree

To categorise something, use a Decision Tree algorithm. This classification algorithm decides if a certain value is acceptable or not, and it gives a set of conditions under which the current state can be transformed into a desired future state. In a decision tree, the branches connect different types of nodes, with the topmost node being referred to as the root node and the leaves being referred to as decision nodes[7][8][9].

C. Learning and Study Skills Inventory(LASSI)

Students' mental processes and behaviours that influence learning are studied using the LASSI [10]. The primary focus is on changing the subconscious and conscious thoughts that are necessary for success in the learning process. It features 10 scales for capturing the cognitive process, including Attitude, Motivation, Time Management, Anxiety, Concentration, Information Processing, Selecting Main Ideas, Study Aids, Self-Testing, and Test Strategies.

CONCLUSION

So to sum it up, the current state of information technology makes it easier to reform and promote psychology education and the teaching method itself. Consequently, it is very practical in practise on the basis of reform needs to actively evaluate the reform method of psychological education and teaching. Aiming to provide comprehensive guidance and reference for current education reform, this paper summarises and analyses educational informatization as well as information teclmology, as well as the specific psychological education teaching reform strategies and methods according to reform and development practise, which can help promulgate current education reform.

REFERENCES

[1] Pauziah Mohd , Norlida Buniyamin, Jamalul-lail Ab Manan, "A Neural Network Students' Performance Prediction Model (NNSPPM)", IEEE International Conference on Smart Instrumentation, Measurement and Applications,pp.1-5,November 2013

[2] Pauziah Mohd , Norlida Buniyamin, Jamalul-lail Ab Manan, "Neural Network and Linear Regression Methods for Prediction of Students' Academic Achievement",IEEE Global Engineering Education Conference (EDUCON),pp. 916-921, 3-5 April 2014

[3] Bruno Trstenjak, Dženana ,"Determining the impact of demographic features in predicting student success in Croatia" , MIPRO 2014,pp.1223-1227, 26-30 May 2014

[4] Ajay Shiv Sharma , Swaraj Prince , Shubham Kapoor , Keshav Kumar "PPS — Placement prediction system using logistic regression",MOOC, IEEE International Conference on Innovation and Technology in Education (MITE),pp. 337-341, 19-20 Dec. 2014

[5] Mehdi Bostani, Amir Nadri , Azami Rezaee Nasab,"A Study of the Relation between Mental health and Academic Performance of Students of the Islamic Azad University Ahvaz Branch" presented in 5th World Conference Educational Sciences -WCES 2013, Procedia - Social and Behavioral Sciences 116 (2014) ,pp. 163 – 165,2013

[6] Jui-Hsi Fu, Jui-Hung Chang, Yueh-Min Huang , Han-Chieh Chao, "A Support Vector Regression-Based Prediction of Students' School Performance", presented in International Symposium on Computer, Consumer and Control 2012,pp.84 – 87, 4-6 June 2012

[7] I. Nincevic, M. Cukusic, Z Garaca. "Mining Demographic Data With Decision tree," MIPRO, May, 2010.

[8] P.M Arsad, N. Buniyamin, J. A. Manan, N. Hamzah. "Proposed Academic Students' Performance Prediction Model: A Malaysian Case Study," 3rd International Congress on Engineering Education (ICEED), December, 2011.

[9] R. Chuchra. "Use Data Mining Tecknique for The Evaluation of Student Performance: A Case Study," International Journal of Computer Science and Management Researchs, Vol 1,October, 2012.

[10] Claire E. Weinstein, Ph.D ,David R. Palmer, "LASSI-HS USER'S MANUAL",1990