

G. Kostopoulos, I.E. Livieris, S. Kotsiantis and V. Tampakas. [Enhancing high school students' performance based on semi-supervised methods](#)

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Abstract - High school educators evaluate students' performance on a daily basis using several assessment methods. Identifying weak and low performance students as soon as possible during the academic year is of utmost importance for teachers and educational institutions. Well planned assignments and activities, additional learning material and supplementary lessons may motivate students and enhance their performance. Over recent years, educational data mining has led to the development of several efficient methods for the prediction of students' performance. Semi-supervised learning constitutes the appropriate tool to exploit data originated from educational institutions, since there is often a lack of labeled data, while unlabeled data is vast. In our study, several well-known semi-supervised techniques are used for the prognosis of high school students' performance in the final examinations of the "Mathematics" module. The experiments results demonstrate the efficiency of semi-supervised learning methods, and especially Self-training, Co-training and Tri-training algorithms, compared to familiar supervised methods.