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# Estimating frequencies of misclassified students: A comparison between a distribution-based approach and discriminant function analysis.

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**Abstract.** In several European countries students are allocated to different tracks of secondary school, depending on their achievements in primary school. However, the assignment of students lacks precision since often high achievers are allocated to lower tracks and vice versa. To estimate the frequency of misclassified students, Klapproth et al. (in press) suggested a measure which draws upon the distribution of scores of standardized achievement tests. In case of two distributions with equal variances, each representing achievements of students from either a lower or a higher track, the number of misclassified students has been shown as being equal to half the overlap of both distributions. However, the same estimate will be yielded when using discriminant function analysis. In simulation studies, we varied the variances of the distributions. It turned out that estimates of both approaches differed substantially if the variances of the distributions were not equal. The results are discussed with respect to the characteristics of discriminant function analysis.

## References

KLAPPROTH, F., HÖRSTERMANN, T., KROLAK-SCHWERDT, S., and MARTIN, R. (in press): Predictive validity of tracking decisions: The development of a new validation criterion. In H.-H. Bock et al. (Eds.), *Studies in classification, data analysis, and knowledge organization*. Berlin: Springer.

## Keywords

TRACKING DECISIONS, MISCLASSIFICATIONS, DISCRIMINANT FUNCTION ANALYSIS