

## Differential Training in Soccer

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Traditional teaching and training of soccer techniques is mainly dominated by program oriented series of exercises with analytical synthetic construction principles. Most recent investigations question the necessity of program oriented forms of training fundamentally with a high number of repetition of the same exercise (cf. Schöllhorn 1999). The aim of the presented investigation is the comparison of a traditional training with a differential training in a goal kicking movement on effectivity.

Twentyfour skilled soccer players (22.6 +- 3.8 years) were confronted with a six weeks training (12 training sessions) of a goal-kick movement within a pre/posttest design. In the pre- and posttest a soccer goal with FIFA-measures was divided into different target zones with scores from 1 to 6. The subjects performed 35 goal-kicks from seven different positions along the 16m-line. In the training phase the traditional group trained according to conventional methodical principles like the learning of the chip push (Peters, 2001) or the interior chip push (Meyer, 2001). The second group trained on the basis of the differential learning approach, which mainly is characterized by never repeating an exercise twice in order to scan a possible space of solutions most completely. The groups' differences between pre- and posttest were controlled by the Mann-Whitney-U-test.

With regard to the hitting accuracy in the pretest no significant differences between both groups were found (463 to 474pts;  $p=0,853$ ,  $U=47,50$ ). In the posttest the difference between the traditional and the differential training group was 130 points. The traditional group improved their performance of the pretest by 24 points (487 points). The differential group achieved in the posttest 143 points more (617 points) than in the pretest. The statistical examination yielded a significant difference between both groups ( $p=0,053$ ,  $U=22$ ).

As in both groups the intervention by a new additional trainer was installed it can be concluded that the significant differences in the posttest may be traced back to the different training approaches. The time outlasting stability of the nexly acquired movement patterns has to be determined by following investigations.

### References

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