

what tennis research tells us about ... visualisation and imagery

By Karl Cooke and Miguel Crespo (ITF)

Video Modelling

Three groups of tennis players aged nine to twelve years old performed three different training routines for the serve over a period of 24 weeks. The first group performed physical practice of the serve, the second group performed physical practice and watched video modelling of the serve, and the third and final group performed physical practice, video modelling and mental imagery practice. The results of tennis performance showed that following the 24 weeks of training the physical practice only group did not improve and in contrast the physical practice and video modelling group and physical practice, video modelling and mental visualisation training did improve significantly. The latter two training methods did not differ significantly from each other in tennis performance. The improvement in the performance of the serve produced by the combination of physical training and video modelling is a good means by which to improve the performance

of the serve.

Atienza FL, Balaguer I, Garcia-Merita ML. (1998) Video modelling and imaging training on performance tennis service of 9- to 12-year old children. Percept Mot Skills Oct: 87(2): 519-29.

Visuo-motor behaviour rehearsal

Fourteen male tennis players were used to determine if a visuo-motor behaviour rehearsal practice would improve their tennis service performance. The post training results showed that those players who completed the training and were categorised as high ability players improved their first serve percentage during tournament competition. In contrast the lower ability players who completed the training showed a decrement in first serve performance. Overall tennis performance as measured by the ratio of winners to errors during a match showed the same pattern with the higher ability players benefiting from the visuo-motor behaviour training. The authors suggest that the

mental rehearsals used were not suitable for lower ability players.

Noel R (1980). The effects of visuo-motor behaviour rehearsal on tennis performance. Journal of Sport Psychology: 2: 221-26.

Video recall analysis of performance

Seven female players on a Division I college team volunteered to use a video recall analysis of performance. The procedure requires the player to review and analyse the videos of their performance. They stopped the video tape with the remote control when they felt something significant in their performance (skill execution, thoughts or feelings) occurred within the match and record it speaking to an audio tape recorder. Transcripts of the audio-tapes were then analysed for underlying themes. The two most frequently noted being concentration and communication with the coach. The players also identified effective coping techniques associated with successful and unsuccessful points

as well as factors that enhanced and detracted from performance. All of the players felt that the process helped to improve their understanding of what they had done and would try to do in subsequent matches.

Rhea D, Mathes SA, & Hardin K (1997). Video recall for analysis of performance by collegiate female tennis players. Perceptual and Motor Skills: Vol. 85: (3:2) 1354.

Audio, visual, and audio-visual instruction

Six groups of players performed six different training routines to improve the forehand tennis drive. Of the first three groups, one heard, one viewed, and one both heard and view a sound filmstrip that described the tennis forehand drive. The other three groups did likewise but in conjunction with 10min mental practice sessions following the presentations. All six groups met three times a week for a period of eight weeks. The results showed that the three groups that performed the mental practice sessions improved significantly. In comparison to the pre-training performances the most effective training routine was the combination of audio instruction and

mental practice.

Surburg PR (1968). Audio, visual, and audio-visual instruction with mental practice in developing the forehand tennis drive. Research Quarterly for Exercise and Sport, 39: 728-34.

Visual analysis

The use of a visual discrimination training programme in the form of a video tape was shown to improve the performance of the tennis serve following the training programme. The visual discrimination training programme was designed to train participants to visually discriminate between correctly performed over arm throwing performances and incorrectly performed over arm throwing performances. No attempt was made to teach the participants how to analyse the serve. The study also showed that there was no transfer of this knowledge or understanding to an unrelated skill (the standing long jump) which highlights the importance of using movement pattern specific intervention techniques.

Wilkinson, S. (1996). Visual Analysis of the over arm throw and related sport skills: training and transfer effects. Journal of Teaching in

Physical Education: 16: 66-78.

Video feedback training

Three groups of twenty-two tennis players performed video feedback training, traditional training or no training (control) twice a week for five consecutive weeks. Each training session lasted forty minutes of which thirty minutes was spent on actual practice of the serve. The remaining ten minutes was spent on watching analysing and discussing video recordings of either their own service performed during the training session (video feedback training) or ground strokes and volleys of top level players (traditional training). Both groups improved significantly in both test performance and technique ratings. However the video feedback training did not appear to induce any further improvement in either technique or test performance.

Van Wieringen H, Emmen R, Bootsma R, Hoogesteger M, & Whiting H (1989). The effect of video feedback on the learning of the tennis service by intermediate players. Journal of Sport Science: 7: 153-162.