IMPLICIT LEARNING:

An alternative approach to instruction

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A major conundrum faced by coaches is the most effective method of conveying information to learners. Traditionally, the use of instruction to augment demonstrations and practice opportunities has been at the forefront of most sports coaching programs. However, a growing amount of experimental evidence investigating the role of explicit and implicit learning processes suggests that the use of instructions may be unnecessary, and in some instances, leads to performance degradation rather than enhancement.

Should I say anything?

Explicit learning can be related to traditional coaching approaches where verbal instruction is used to coach a learner about how to perform a skill. This process typically results in the learner being able to verbalise how to perform the skill, although it does not guarantee the learner can physically execute the skill. In contrast, **implicit learning** methods typically contain no formal instruction about how to perform the skill yet result in a learner being able to perform the skill despite being unable to verbally describe how they do it.

A classic study on implicit learning by Masters (1992) discovered that novice golfers taught how to putt through typical golf instructional phrases only performed equal to a group required to learn without any instruction. When both groups were assessed on what they understood about golf putting, the instructed group possessed more explicit knowledge, that is, they could verbalise more tips and rules about how to putt. In contrast, it was reasoned that the uninstructed group learned implicitly, suggesting they knew what to do, but were unable to verbalise how they did it. Interestingly, this is a characteristic possessed by many elite performers.

An additional advantage found for the uninstructed (implicit learning) group was that they were less susceptible to their putting performance breaking down in stressful situations. Alternatively, the instructed group who possessed plenty of tips and rules about how to adjust their stance and align the putter head suffered considerably more when under stress. In other words, they were more susceptible to choking.

Players given instructions were found to more likely preoccupy themselves with thoughts about how they were executing the skill, which in most sports is detrimental to performance. Under pressure, the players were found trying to consciously control normally automatic, implicit or subconscious processes, commonly termed ‘paralysis by analysis’. Alternatively, players who did not have any instructions to refer to were less likely to think about how to execute the skill because they did not consciously know what they actually did. That is not to say their bodies did not know what to do, they simply left the brain out of it.

Designing implicit learning activities

While the above evidence supporting the use of an implicit learning approach is appealing, it is not easy or practical to simply remove instruction and expect learning to occur. A critical issue is the need to draw the learner’s attention away from performance of the skill at hand. This is an underlying strategy used in the following implicit learning approaches:

- Explain the skill requirements by analogy or metaphor so that the need for explicit verbal information is minimised — for example, researchers successfully used the metaphor of a triangle to explain the swing pattern of the topspin table-tennis forehand rather than specific instructions. Numerous examples of analogies or coaching cues for a variety of

sports can be found in Fronske (1997).

- Use task-related but goal-irrelevant instructions -for example, when training tennis players to anticipate the return of serve, researchers found that players told to predict the speed of a serve (implicit learning approach) improved their performance in predicting service direction, more than players given specific instructional tips to facilitate the prediction of service direction (explicit learning approach). It is reasoned that the implicit learning instructions directed the players' visual attention to the important phase of the service action but let them discover the meaning of the cue for themselves.
- Get players to perform a secondary task while performing a primary skill - for example, requiring basketball players to listen to music on a walkman, and sing aloud while shooting free throws may take the focus off technical execution and allow implicit or subconscious processes to control the skill. While the players may consider this fun, even silly, it would be necessary to emphasise the importance of maintaining a high shooting success rate.
- Design games using different scoring systems or court boundaries that require players to use particular shots or strategies to win the game (a 'game sense'-type approach). Simply tell the players the scoring system or new boundaries and then just let them play. Allow them time to determine the most appropriate strategy / response rather than explicitly telling them the specific solution at the commencement of the activity.

Conclusion

While it is acknowledged that explicit instruction is necessary on occasions, coaches should also consider methods that reduce the reliance on explicit instruction due to the negative effect it can have on learners. Remember, sometimes the best instruction a learner can receive is, 'just do it'!

References

Fronske, H 1997. *Teaching Cues for Sports Skills*, Allyn and Bacon, Boston.

Masters, RSW 1992. 'Knowledge, knerves and know-how: the role of explicit versus implicit knowledge in the breakdown of a complex motor skill under pressure,' *British Journal of Psychology*, 83:343–58.