Providing Feedback During Skill Learning: The Ten Commandments

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Providing the learner with feedback is crucial to skill acquisition.

Feedback is the single most important variable in the acquisition of gymnastics skills apart from physical practice. This article considers the role of the coach in providing prescriptive feedback during skill learning Ten key points regarding the effective use of feedback are presented.

1. **Provide feedback**

Feedback can motivate the learner, may be used to reinforce key technical points, and can provide information crucial to the learning process. Gymnasts who receive constructive feedback become more interested in the task, put more effort into practice, and persist longer after feedback is removed. Constructive feedback increases the probability of the same response occurring again thereby reinforcing good practice, whilst critical feedback can have the reverse effect. Finally, although learning can occur in the absence of feedback from a coach or significant others, providing the learner with feedback leads to more efficient learning, ensures correct development of motor skill, and leads to better eventual performance.

2. **Develop a mode against which feedback is provided**

A requirement for the coach is to develop a technical model of performance against which the learner’s performance can be compared. The accuracy of this model depends on the coach’s technical knowledge developed through performing, watching and coaching gymnasts at different skill levels. Feedback is only part of a complex process in which the coach compares the gymnast’s skill with an ideal model, evaluates feedback and then guides the learner through corrective practice. Effective coaching requires competency in each of these areas.

3. **Provide feedback based on the learner’s skill level**

Early in learning, prescriptive feedback is essential to guide error detection and correction. Beginners rely heavily on visual and verbal sources of information and consequently, verbal instructions and video feedback may be particularly effective. Following practice, as learners progress from the cognitive into the associative and then autonomous stages of learning, they develop the ability to detect and correct their own errors. Typically, skilled gymnasts have a good indication of where they are going wrong and how they can attempt to rectify the problem on future attempts. Coaches should therefore not be overly prescriptive. They should
provide learners with the opportunity to process their own feedback and learn from their mistakes. This process can be facilitated by asking learners to think about their own performance and to develop sensitivity to the 'feel' of movement. A question and answer approach should be encouraged. Coaches could ask gymnasts why they think the error occurred and how they might improve performance in subsequent practice. With skilled gymnasts, the role of the coach is less prescriptive and more focused on manipulating the practice environment to ensure effective discovery learning.

4. **Frequency of feedback should depend on skill level and task difficulty**

Providing feedback frequently may be a good strategy in the short term (i.e. performance) but research suggests that it may be detrimental in the long term (i.e. learning). Providing feedback on every practice attempt can lead to information 'overload', result in over dependence on augmented feedback, and prevent the learner from undertaking some degree of trial-and-error problem solving. The optimal frequency of feedback is dependant on the player's stage of learning as well as the complexity or difficulty of the task. When practising difficult skills, gymnasts are likely to require more prescriptive feedback to improve performance. Coaches can reduce the frequency of feedback whilst still providing the learner with prescriptive comments for error detection and correction by using "summary 1 or "bandwidth" techniques, The former technique involves giving the learner a summary of performance after a certain number of practice attempts, whereas the latter involves establishing a performance-based bandwidth that provides a criterion for when feedback will or will not be given.

5. **Don't provide too much information.**

Too much information can be confusing. By nature, coaches tend to provide the learner with too much information. An optimal level of feedback exists beyond which performance decrements accrue. Providing the beginner with too much feedback actually hinders learning. Coaches should not attempt to rectify every error. They should select one or two prescriptive statements and then present these in a simple and concise manner. Look first for the most critical error. Correcting this error may have a knock-on effect in solving a number of other related problems.

6. **Don't provide feedback that's too precise**

The precision of feedback depends on the technical nature of the skill to be learnt as well as the learner's skill level and intellectual capacity. The novice or young child should be provided with simple, easily digested advice perhaps supported by video observation. The skilled performer can be provided with more technical and detailed feedback. Coaches should verify whether the feedback has been understood by questioning the learner and observing subsequent practice attempts.
7. Provide feedback at the right time

Feedback should be provided fairly soon after performance so that learners have the opportunity to relate feedback to the 'feel' of the movement. However, feedback need not be provided immediately since it may be useful for the learner to reflect on performance while the coach considers the best way to present the feedback. Coaches could ask the learner to reflect on how the movement felt and looked prior to the provision of prescriptive feedback.

8. Provide learners with the opportunity to practice the skill

After feedback is provided to the learner, subsequent practice must not be delayed or else the learner will forget what changes have been proposed. Learners should be allowed sufficient time to process the feedback and to plan how to alter the movement on the next attempt. Don't forget that physical practice of the skill is a prerequisite to skill learning and that feedback on its own does not develop technically gifted gymnasts.

9. Try and provide positive rather than negative feedback.

Coaches typically focus on detecting and correcting errors. Although this is an important part of the skill learning process, it can become a very negative experience for the learner. Research indicates that positive feedback where the coach indicates what to do instead of what not to do has a much more beneficial effect on learning. Coaches should ensure that they provide plenty of encouragement and that they try and sandwich criticisms between more positive, prescriptive comments. Coaches should ensure that they:

a) praise effort and correct performance,
b) provide simple prescriptive feedback so the learner knows how to modify the skill on the next attempt,
c) ensure that the corrective feedback is understood, and
d) encourage and motivate the player to use the corrective feedback

10. Provide some variety in the delivery of feedback

Typically, coaches provide feedback in the form of verbal statements. However, alternative modes of recording and presenting information include video film and photographs as well as other more advanced measurement technologies (e.g. computer based analysis).