Chapter XVI

THE TRAINING SESSION

by Charles H. Cardinal

The training session is the best way to develop or maintain the training factors that affect performance.

The coach should be knowledgeable in conducting efficient training sessions.

Upon completion of this unit, the coach will have a better understanding of the following:

- Factors influencing the contents and form of the session.
- Coaching tasks and general principles involved.
- Means of outlining the objectives and tasks of the session.
- Structure of a training session.

Factors Influencing the Content and Form of a Training Session

The content and form of a training session and the training load imposed on an athlete are influenced by the following parameters:

1. The development profile of participants involved in the activity.

As a coach do you train beginners, youth, advanced or high performance athletes? Do you coach growing young people or adults?

2. Experience of an athlete.

How much training have the athletes undertaken to date? What is the quality and quantity of competitions they have been exposed to? Are they substitutes or regular players?
3. Actual state of athletes' training.

A coach aims to develop or maintain training factors that affect performance, that is, physical qualities necessary for performance, skill efficiency, tactical capacities and aptitudes, ethical and personal qualities, tactical intelligence, and above all, to coordinate all these to obtain the highest level of performance. Where are your athletes on this continuum?

4. The present period, stage, macrocycle, and microcycle.

What month/week are you in regards to your annual training and competition plan? What is the length of your competition period, frequency and type of competitions? Have you a peak to be reached in the year, or do the competitions spread out over several months and contribute to the final standing?

5. Immediate objectives sought.

Is the training objective learning, development, maintenance, or control? Have you several different training tasks within a session?

Coaching Tasks (Fig. 16-1)

It is advantageous at this stage to be aware of coaching tasks during training, to discover the extent of knowledge, skills and attitudes required to be efficient in coaching.

- Inform athletes about the objectives and tasks of the training session.
- Explain and demonstrate the exercises (drills).
- Teach or consolidate skills and tactics.
- Ensure exercises are done properly in the main part of the lesson.
- Observe and detect physical, technical and tactical problems in athletes.
- Communication skills: correct athlete's actions, give and receive feedback, use positive and negative re-enforcement.
- Handle the ball in various situations.
- Control warm-up, training effect sought, and cool-down.
A quick look at these tasks shows the need for a coach to acquire:

- Knowledge on volleyball.
- Knowledge about training.
- Communication and teaching skills.
- Knowledge in related fields: physiology, psychology, etc.

General Principles

Let’s spend a few minutes going over some general principles which can guide a coach in his job.

Each training session is linked to a training microcycle which has its own logic, objectives, and major emphasis.

The training load (volume and intensity) will vary with every training session.

In a training session, the choice of exercises and the training load depends on the task to be fulfilled.

A coach must plan and orient the training session toward the objective of the microcycle and/or session. General rule: a coach aims to increase an athlete’s state of training or to stabilize his adaptations or maintain what has been developed.

A coach must ensure that the activities carried out by an athlete during a session meet or surpass the requirements of a regulation match. This repertoire includes the sequence and frequency with which skills and tactical movements are done, as well as attention to physical effort and nervous stimulation. It is necessary that an athlete be able to alternate, without negative consequences, a relative rest period with an effort of optimal intensity and vice-versa several times during a match (Popescu, 1980).

While conducting a training session, as far as procedures are concerned, a coach can strive for the following progression:

- Explanation, demonstration of what to do and how.
- Implementation using a choice of appropriate exercises (drills).
- Feedback to the athlete re. success in the training task.

A coach tries to use the alternating principle:

- work rest
- simple - complex
- easy - difficult
- heavy load - light load
- stimulation and concentration - relaxation
- muscle groups
From the psychological point of view, a coach must ensure the athlete is given a variety of stimuli, while always guaranteeing a high success rate (70% and higher), so that the learning process takes place (Brunelle, 1980).

If the task is one of acquisition, a coach must ensure that the athlete is actively involved in teamwork from a motor and cognitive point of view (Brunelle, 1980). Furthermore, an increased volume of repetitions with an adequate recovery period is required.

Regarding progression, a coach must restrain or slow down an athlete who wants to go too fast. The principle is to gradually and progressively increase the difficulty and complexity of the task.

**Objectives, Tasks and Methods**

Each training session is like a small puzzle. A piece is interwoven with another preparing for the next to form a cohesive total picture, i.e. a microcycle. A training session could also be described as a scene in a play, unique and exclusive by itself, but closely and intimately related to the play of which it is a part. (Fig. 16-2)
The development of the objective or main emphasis of a session is influenced by the factors and the general principles previously mentioned. This first stage is equivalent to the main goal a coach wants to accomplish in a session.

Examples:

Skill acquisition or, specific physical preparation and consolidation of skills or, individual tactics and integration into a system of play, etc.

The second stage is characterized by determining specific objectives, that is, the tasks to be carried out by the athlete. They are realistic and accessible tasks which can be quantified and measured. These tasks must be clearly identified. This stage will determine the specific role of the athlete, a precise activity-related task.

Examples:

Controlling the spiking action or reaction speed and jump timing for blockers. Sending seven out of ten service receptions towards the setter's zone near the net. Reducing the number of negative comments between players compared to the previous week. Increasing the number of positive reinforcements among players compared to the previous session.

Once the specific objectives or tasks are identified, a coach defines the context and conditions for realizing each task. This brings a choice of appropriate drills or exercises, characterized by the explanation of the procedure for each exercise. Following are the components of this third stage, for a volleyball exercise: number of players involved in the exercise, position and spatial orientation of players, circulation of the ball, movement of players, number of repetitions and series and exercise variations.

The fourth stage refers to the establishment of success criteria for determining if an objective was attained or the task adequately realized. These criteria can be quantitative, such as seven successful attacks out of ten. They can be qualitative, emphasizing accuracy such as attacking a specific location, a predetermined target, or emphasizing the best motor response as the choice of the attack skill (spike, tipped ball, playing off the hands of the blocker) appropriate to the situation at hand.

The following stage calls for identifying points of reference or indicators which allow a coach to observe an athlete's movements during the exercise; these are indicators of proper technique, of proper execution of movement.
The last stage consists of evaluating if a specific objective was reached. If not, a coach must find the reason. Was the objective poorly spelled out? Was the procedure inadequate? Was it because of a lack of explanations? An incomplete demonstration or one that did not conform to the mental image we wanted to create? A task that was too difficult or complex for the athlete’s level of realization? A misunderstood task? Etc. After defining the problem, a coach must find the proper corrective answer to help an athlete progress according to the object of the session.

Here is an example (Table 16-1) by Pierre Berjaud (1980) which can help clarify the process followed by a coach. The emphasis of the session is: familiarization with a skill under easy and constant conditions.

**Table 16-1: Example of an exercise (drill) (Berjaud, 1980)**

<table>
<thead>
<tr>
<th>Specific objectives or tasks</th>
<th>Context and Conditions for Realization</th>
<th>Success Criteria</th>
<th>Indicators and Points of Reference</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controlling the attack action</td>
<td>1 ball for 2 players</td>
<td>The Ball must be controlled by the partner at knee level</td>
<td>Position of ball in relation to the body center line.</td>
<td>Height of the hit</td>
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<tr>
<td></td>
<td>One hits the ball, the other catches it (knee high)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 series of 10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>VARIATIONS</td>
<td></td>
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<tr>
<td></td>
<td>The ball is thrown and hit by the same player</td>
<td></td>
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<tr>
<td></td>
<td>Hit the ball, to the floor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The ball is thrown by the other player and then hit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>a) without jumping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) while jumping</td>
<td></td>
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</tbody>
</table>
Structure of the Training Session

WELCOME AND INTRODUCTION

A coach must:

Be present when the athletes arrive. Through informal discussion, he must become aware of their attitudes and behavior.
Try to develop habits such as punctuality and discipline.

Try to show that he is well organized and knows what he is doing.

Announce objectives and tasks of the training session and focus attention on essential points.

Make sure an athlete clearly understands the objectives and major points of the training session so that he can train conscientiously, intensively and as independently as possible.

Draw the athlete's attention to the fact that the training session is part of a larger plan (microcycle).

Try to create a climate where an athlete can start training properly through good communication.
End the meeting on an enjoyable note (example: team cheer).

The Warm-up

The goal of the warm up is to prepare the athletes to solve certain training tasks through exercises (drills).

It is important to note that a warm-up is indispensable because a body, for reasons of efficiency, is regulated to normal performances and that elevated and sudden requirements can cause injuries or reduce the effectiveness of the stimuli (D.H.F.K. 1978).

Two types of warm-ups are used: the general warm-up and the specific warm-up.

The General Warm-Up (Fig. 16-3)

Goal:

To prepare all systems in the body for the effort, and to arouse interest and improve the frame of mind towards performing.
Method:

General exercises to:

- increase mobility to its best
- relax muscular contractions

Varied Exercises:

- easy running
- flexibility exercises
- stretching exercises

Specific Load:

Low intensity to start with, then progressively and gradually increased.

Principles:

A relaxed warm-up, a fun part (like games), with reduced effort.

Length:

Between 20 and 40 minutes. This depends on:

- the first main task
- the temperature of the room
- the nervous state of players
- the state of mind

A coach should know that if the first main task consists of speed exercises or a maximal strength effort, the body must be taken gradually to optimal intensity. If the first main task concerns learning technical details or improving the reaction speed, the nervous system should reach its optimal state of stimulation. Furthermore, a warm-up is less complicated when basic endurance is developed with cyclical exercises in the main part of the session (Harre, 1982).

Specific Warm-up

Goal:

To prepare the athletes for the particular requirements of an activity:

- motor skills
- reaction capacity
- concentration
Principles:

Competition movements which are as close as possible to match requirements

Method:

Working with the ball

Main Part

The main part of a training session includes tasks whereby an athlete is able to consolidate or improve his/her state of training.

The content will be determined by the objective of the session, for example:

- Develop or maintain general physical qualities.
- Develop or maintain specific physical qualities.
- Acquire, stabilize, or maintain skills.
- Acquire, stabilize, or maintain tactics (team play).
- Develop ethical and personal qualities.
- Develop tactical intelligence.

If a training session includes several of these tasks, the main part must have the following sequential order (Harre 1982, Bompa 1983):

- 1st stage: Tasks for skill acquisition.
- 2nd stage: Development of speed or skill stabilization or maintenance.
- 3rd stage: Development of strength and/or endurance.

First Stage:

**Solving Tasks for Skill Acquisition with Light to Medium Effort**

Learning new elements of skills or learning new skills requires a lot of concentration on the part of an athlete. Maintaining this kind of concentration is only possible when the nervous system is not tired. Furthermore, “the development and differentiation of newly conditioned motor reflexes work positively only when the nervous system is in a state of optimal excitation” (Cardinal, 1978). Acquisition of a skill or fault correction requires a light to medium effort, while in consolidation and stabilization, the skill should be combined with specific physical preparation or performed under conditions close to that of competition, and occurs in the second stage of the main part of the training session.
A coach should be aware of certain principles which guide a player’s learning:

- Active participation of the player in the activity.
- A large number of contacts with the ball.
- A success rate of 70 percent more (Brunelle, 1980).

Because of the levels of concentration and nervous stimulation required of a player, it is necessary that the participant be fresh and rested, to facilitate a high rate of success in the exercise. Thus, the importance of putting the acquisition of technique in the first stage of the main part of the training session.

Second Stage:

Development of Speed or Skill Stabilization or Maintenance

Reaction time and speed of movement are two important physical qualities for realizing a performance in volleyball. Acquiring a repertoire of dynamic and automatic motorskills is an important preliminary condition to the development and improvement of reaction speed. This development occurs by gradually and progressively increasing the difficulty and complexity of the task.

Examples:

- Solving certain simple, standard situations at a reduced, medium, and high speed.
- Solving conventional tasks while increasing the number of possible responses (example, two types of defense).
- Solving unexpected tasks.
- Solving situations where the degree of difficulty is above the requirements for competition (example: balls hit against an uneven wall so they will rebound in an unpredictable way).

To reach our objective, exercises emphasizing speed are effectively stimulating only if the body is not tired and is able to function optimally. Emphasizing speed at the end of a fatiguing task or session does not contribute to development of pure speed, but helps to improve the qualities of endurance - speed and willpower.

A player’s speed of execution calls for explosive strength which, in turn, rests on the maximal muscular strength of a player. Therefore, an increase in muscular strength must also be converted to increase speed of execution. A coach should create conditions which allow for particularly quick muscular contraction. When exercises are being carried out, it is necessary to increase the rhythm, while always requiring that execution be technically correct and efficient. “It is important to stress that a speed which is higher than those attained until now, depends on the level of willpower of a player” (Cardinal, 1978). So the second stage is characterized by a high to optimal intensity.
Third Stage:

Development of Strength and/or Endurance

Because of the length of competitions (marathon tournaments: 3 out of 5 over several days), the continual change in the intensity of movements and the numerous interruptions between play sequences or matches, volleyball places high demand on aerobic and anaerobic capacity. The load then becomes the interval type and endurance training must take into account these specific conditions. We must develop endurance in volleyball through specific training methods and in close relationship with resolving technical-tactical tasks. This can be done most appropriately through the interval principle. In specific endurance training for competition, it is necessary, above all, to use medium and short interval methods. The total length of the load can be a bit above the length of competition, intensity being specific to competition or a little bit higher (90-95% VO2 Max.).

Examples:

- Short interval: Length of individual load varies from 10 to 20 seconds in order to develop maximum aerobic power.

- Medium interval: Length of individual load varies from 2 to 3 minutes, to develop maximum aerobic power while also improving the anaerobic lactate system.

Cooling Down

For the cooling-down period, use the following principles:
Training must not end immediately after a heavy workout.

An increase or decrease in load must be done gradually, never abruptly.

Carefully bring the body to its normal functioning state by progressively decreasing intensity and/or by reducing the concentration required. This helps to spare the body, accelerates the recovery process, and helps an athlete move on to other tasks.

Use stretching exercises.

The session is finished with a pleasant conversation which includes a brief analysis of the session.

Never leave the training site with any aggressive feelings.

Analysis of Training

In order for a training session to fill its pedagogical purposes and to fully guarantee orientation of the training process, it is necessary to do a post-analysis even if it is short. Training loses its efficiency if we do not draw any conclusions. A coach constantly needs information on the
relationship between the work provided during training, and on the current physical and psychological condition and level of performance of the athlete. Increasing the state of training depends on a number of factors which are often only recognized during training. Analysis after a session is to verify the efficiency of training and to discover any sources of trouble. This analysis becomes indispensable to the progress and efficiency of training and is a preliminary condition for planning future training.

Summary

The training session’s load and content are influenced by factors related to the type of athletes involved and to the tasks to be accomplished.

The coach has numerous tasks in conducting a session. He will perform better if he plans the session carefully.

For each exercise, the coach should establish objectives, success criteria and points of reference for evaluation of performance.

Each session should be composed of a warm-up, main part and cool-down.

If the session includes several tasks, the main part must have the following sequential order:

- 1st Stage: Tasks for Skill Acquisition.
- 2nd Stage: Development of Speed or Skill Stabilization or Maintenance.
- 3rd Stage: Development of Strength and/or Endurance.

An analysis of the training session, however brief, will bring useful conclusions for the planning of future sessions.
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