Introduction
The purpose of this paper is to understand the problem of technical analysis observation, which is well established and related with a sequence of movements; it is a very important task for all involved in teaching or coaching. Latour (1987) considers that observation depends on the knowledge of the teachers about the sport movements which help their observation of motor execution.

Several studies show that Teachers not apply most part of the time the bases of movements. They know how to teach complex movements, with several sequences but they don’t correct most part of the time, the important errors. For understand better this problem we try to understand which contribute for technical development and what kind of difficult the Teachers find when they observe those technical movements.

Teachers normally made a direct observation when they learning the sports techniques and this are a qualitative analysis of technique which is characterized by observation and subjective judgment.

The qualitative analysis requires observation and evaluation, supported on a template named of performance model which suggests that these systems may be used in practice. So, those qualitative analysis methods (technique analysis is a prerequisites to the process of performance, Hay and Reid, 1982; Bunn, 1972) have an important impact in field, and it is possible to use a deterministic model of performance (Peixoto, 1991), which can facilitated the relationships between movements and the performance factors.

Observation of sports movements as a very important value in the teachers’ training, is necessary to understand (descriptive goals) the corporal segments and principles of motion followed by an analysis changes (analytical goals) cause by individual or environment during the motor performance, if they known fundamental points, they can perceive the differences of performance. This is very important because teacher’s needs to do a diagnosis, about the scope of the movement associated with the identification of some possible errors during the performance and after that they need modified to achieve the desire technical movement.

Those definitions of the technique, (for us the more appropriated term is movement analysis) describes the relative position and orientation of body movements.
Technical Development. How coaches understanding the movements

segments as they change during the performance of a sport task, those variables (sequence of movements; kinematic and temporal characteristics) can be visually and perceived and better characterize the technique, (Bober, 1981; Peixoto, 1991; Dictionary of Sport Science, 1992; Carr, 1997).

Several authors related this organization as a Systematic model, (Adrian and Cooper, 1995; Knudson and Morrison, 1997; Peixoto, 1991) used in qualitative analyses to evaluate the important technical's characteristics (Timing; Rhythm; linear and angular displacement), these are a combination of principles based on simple mechanics relationships, multi-segment interactions and biological characteristics (Bunn, 1972). Some ones told that observational skills can use also as a systematic observation (Hall, 1991; Peixoto, 1991).

Fig nº 1 - Qualitative analysis (Peixoto, 1991)

These provide a useful starting point for establishing how technique should be characterized, Lees, 2002, and several authors described an observational model as a basis for undertaking qualitative analysis. This descriptive goal of technical analysis is achieved through the determination of the variables

This kind of observation is centered in the idea of Phases analysis or temporal analysis, is the descriptive process for spared a movement in three mainly phases. Authors as Bartlett (1999) and Peixoto (1991), identified that three phases in a skill (Preparation » segmental Placement; action » mainly action; follow-through » Finalization). The outcome of the skills normally depended of the initial conditions (take in preparation phase) or during the second phase (action phase).

A model template is a representation of the ideal form of a movement in each phase; it is used as an evaluative tool and is a logical extension of phase analysis. This intention, to use a model template, can provide information; the
model is able to identify relevant factors to performance and the diagnosis of faults can be made easily. The Model should be determined by those factors and their relationships is important.

The mainly goals for this study, is to understanding if several sport gymnastics specialists, can point the fundamental factors for performance a skill:

Firstly, we try to understanding if Teachers knows where are the similarities in three different gymnastics techniques; » We ask to three different groups of Teachers (Trampoline; Tumbling; School Teachers) to observe three similar movements, and ask them to point the differences or similarities during whole the movement:

Secondly, we want to understanding if students of sport Coaching, if they used a qualitative model of technical observation have more efficiency when they observe; » They use first an Observation Qualitative Model where all the movements are described (MII – Instrument’s Interaction Model) which hierarchy the important factors.

Material and Methods

For first question, a group of 8 coaches from trampoline observe three movements (Full; Half in Half out; Full in Full out), and they need to point the relationship between Mass center and trunk/legs. Another group of 7 coaches from Tumbling observe the same movement (Full in back out), preceded the three different movements (round off; Flick; Tempo), and they need to point the relationship between mass center and trunk/legs. And the last one, a group of 7 School Teachers observe one movement in vault (Lune Vault), and they need to point the relationship between mass center, trunk/legs-vertical position and distance from trampoline to platform vault.

As for second question, a group of 4 sports gymnastics students (3rd faculty year, sport science), analyses with the help of an Observation Model (MII) which described each movement. After that, they observe the different technical movies.

Results

For the first group, Trampoline coaches, 82% didn’t make no reference to mass center that was similar in the three movements; and 74% didn’t make any references to trunk/legs angle that were different in the three movements.

In the case of the second group, i.e. tumbling coaches, 76% didn’t make any reference to mass center that was similar in two of them (tempo; round off); and 55% didn’t make any reference to trunk/legs angle that was similar also in
Technical Development. How coaches understanding the movements

two of them (tempo; round off).

As for the third group, i.e. school teachers, 45% didn’t make any reference to mass center; 78% didn’t make any reference to trunk/legs angle with vertical position; and 76% didn’t make any reference to distance trampoline to platform vault.

As far as the second question, is concerned, the validation of the Observation Qualitative model (MII), the last group (sports students), which used a Model for understand better the movements, we utilize the following model:

We find that most part of them, could understand with easily the fundamental points for doing those movements, and related some faults with those factors for doing the performance. He found 89% of correct answered in H in H out,
Technical Development. How coaches understand the movements

and a little difference only 86% in Full in back out, we do not know why because they are similar. Perhaps the reason is there is a big velocity in the second movement. And for the last one (Lune Vault), they have a good perception of all the fundamental points, 91%, only a little difference between two observers in two points.

Fig: 8 – Relationship between Mass center; Trunk-Legs; Distance Tramp-Platform
By sports students (correct answers)

<table>
<thead>
<tr>
<th>Teaching Points</th>
<th>H in</th>
<th>H out</th>
<th>Full in</th>
<th>Back out</th>
<th>Lune Vault</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>89</td>
<td>86</td>
<td>91</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Conclusion

The observation of technical movements is a complex perceptive process, and it needs to select and analyses the information and take decisions; our coaches/teachers, needs to know for where they need to observe, how to observe and when to observe, in order to apply it in direct practice.

The difficulties of correcting and teaching movements are related to the goals of technical execution, i.e. know the technique and explain the technique; these two points are related to the competence in observation. With this work we found that school Teachers and coaches can only see what happens during the movement (mainly action), and they cannot see where the problems begin (important points to the movement – initial phase). So we need to improve learning about the important points for the movements and at the same time they need to understand the mainly goals of techniques. With this Qualitative Observation Model, we can prepare for the better understanding of teaching technical movements.

References


