SKILL ANALYSIS - Qualitative Skill Analysis

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WHAT IS A SKILL ANALYSIS?

The descriptive breakdown of the individual movements that comprise a skill or task.
HOW DO I DO A SKILL ANALYSIS?

1. Decide on the specific task or skill

For this example we will use a simple skill... walking
2. Pinpoint a distinct beginning to the skill and a distinct end. Activities such as running, cycling or swimming are comprised of continuous repetitions of one cycle. A beginning and end point of this cycle must be established.
3. Break down the skill into "phases". Each phase should have a distinct, observable beginning and a distinct, observable end. Give these phases short descriptive names.
4. List "critical areas" where movement or action in these areas is vital to proper execution of the skill.

- right arm (shoulder/elbow)
- left arm (shoulder/elbow)
- right leg (hip/knee/ankle)
- left leg (hip/knee/ankle)
5. Create a chart to organize your observations with Phases along the top and Critical Areas along the side.

<table>
<thead>
<tr>
<th>Phases</th>
<th>Right Stride</th>
<th>Left Recovery</th>
<th>Left Stride</th>
<th>Right Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right Arm</td>
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<tr>
<td>Left Arm</td>
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<td>Right Leg</td>
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<td>Left Leg</td>
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</tbody>
</table>
6. Complete the skill analysis by filling in the chart with short accurate qualitative observations.

Quantitative observations (measurements) can be added when we learn how to use the skill analysis equipment.
What is a qualitative description?

A qualitative description paints a visual picture of the action occurring. Terms such as...

- extension / flexion
- elevation / depression
- rotation
- supination / pronation
- circumduction
- inversion / eversion
- adduction / abduction

Other basic descriptors can also aid in creating a more accurate analysis. For example, “flexion of the fingers in a grasping motion”.
What is a quantitative description?

A quantitative description includes values which will allow a more detailed analysis of the action. Areas that can be detailed quantitively are...

- **displacement** - the length and direction of the path an athlete or object travels from start to finish of a skill or portion thereof.
- **velocity** - a measure of the displacement per unit of time
- **acceleration** - the rate of change of velocity
- **force** - an energy exerted on an object
- **angle** - the range of motion within a joint
- **launch angle** - the angle at which a thown or struck object takes flight (angle measured from horizontal regardless of height).
SKILL ANALYSIS SUMMARY

1. Decide on the specific task or skill

2. Pinpoint a distinct beginning to the skill and a distinct end. Activities such as running, cycling or swimming are comprised of continuous repetitions of one cycle. A beginning and end point of this cycle must be established.

3. Break down the skill into "phases". Each phase should have a distinct observable beginning and a distinct observable end. Give these phases short descriptive names.

4. List "critical area" where movement or action in these areas is vital to proper execution of the skill.

5. Create a chart to organize your observations with Phases along the top and Critical Areas along the side

6. Complete the skill analysis by filling in the chart with short accurate qualitative observations and a minimum of three quantitative observations (measurements).