Transfer

The effects of performance on one task as a result of practice or experience on a different task.
Transfer from What to What?

Initial work in the field was directed at the notion of ‘the all-round athlete.’ It was at a time when IQ was thought to be the underlying basis for doing well, and there was an equivalent in motor learning, motor educability.
This notion then lead to the idea that there must be an underlying set of abilities which are the basis for all skills, and if you have these to a high degree you will be or can be, good at lots of sports. Also, to a large extent these were / are inherited -
gen
And there is some partial truth to this, but
Transfer from What to What?

The debate today is a combine of this notion of abilities being transferred to the performance in a sport activity.

Today, our focus is can we identify the underlying abilities such as aerobic capacity, strength, power, agility, balance, etc., of a sport and work on those in isolation in training?

Problem still seems to be the same, yes but only to a degree.
Example

100 meters sprint
We would think that since strength is a key factor, the strongest person would be the fastest. But again yes, but only up to a point. Eastern block 50 & 60s introduced sport science - studied abilities.
So while Profiling has gone on for a long time. Performance in a sport performance is clearly multi-faceted, with genetics playing a big but not decisive role.
Transfer

At this time, in the area of transfer from practice to game, the focus of the thinking specificity.
Transfer

In general, as far as the field of motor learning has been, it is about positive transfer of learning when one skill influences the learning of another skill. Or Learning the same skill in a new context.

There is more support for the latter and less for the former these days.

BTW – these are applied to many other areas of life. Eg LEADERSHIP.
Transfer

Concepts associated topic

- Intra vs inter-task transfer
- Levels / effects of transfer
- Proactive / Retroactive transfer
- Principles of transfer
- Strategies to maximize transfer
Transfer

Intra-task – changes or variations within the **same** task, movement or activity. Should be positive but **demands** may alter task and thereby affect performance. **Principles** may still be the same.

Inter-task – changes or variations caused on a different tasks, movement or activity
Transfer

- Levels / types (influence)
  - Positive – enhances or helps assist
  - Zero – has no influence
  - Negative – has or causes detrimental effect.
Measuring Transfer

- **Proactive** – effects on novel or as yet, unlearned skill

- **Retroactive** – effects on an already acquired skill
Proactive transfer

Experimental group
- Learn task A
- Learn task B

Control group
- Rest
- Learn task B

Question is - Which group learns task B better
Retroactive transfer

Experimental Group
- Learn task B
- Learn task A
- Test task B

Control Group
- Learn task B
- Rest
- Test task B

Question is - Which group performs task B better
Principles of Transfer

1. Amount of transfer between motor skills is typically small.

2. Amount that will occur is based on the *similarity* between tasks.

3. Sometimes similarity of the *cognitive processing elements* behind the performance elements...
Theories

- Identical Elements theory
- Transfer-Appropriate Processing theory
Maximizing Transfer

- **Bilateral transfer** — practice & learning on one side, does help performance on the other side. This is not as important for sport as it is for rehabilitation.

- **Part-whole transfer** — helpful for teaching complex / long duration/ serial skills is part - whole
Information Processing

- Deciphering information (input)
- Decision about information (decision making)
- Execution – what, when, and how.