

BIOMECHANICS AND MOVEMENT ANALYSIS

YEAR THREE

12 March 1993

EVALUATION

Five students present at the session. I discussed themes and tried to link with their work. Main focus of session for me the concept of communication.

As usual, I talked too much but encouraged students to reflect on their practice.

BIOMECHANICS AND MOVEMENT ANALYSIS

YEAR THREE

12 March 1993

INTRODUCTION

How good to be back with you again! I am sorry that this term has been an exemplar of what might be termed the osmosis transmission of knowledge.

Today, I wanted to discuss with you a number of theoretical and practical issues linked to:

1. Peter Treadwell's (1992) paper on the scientific/theoretical basis of notational analysis
2. The Match Analysis: State of the Art review (1990)

I also think that your work with the A level students and some of my experiences in the last two weeks might form a useful empirical context for our discussions.

Remarkably, we are near the end of our formal time together and I would like to encourage you to critically reflect on:

Epistemological and ontological underpinning of notational analysis

References:

- | | | |
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| SportTech | (1990) | <u>Match Analysis in Sport: A State of the Art Review</u> , Sheffield, SportTech Recreation Consultancy |
| Treadwell, P | (1992) | 'The Scientific/Theoretical Basis of Notational Analysis', paper presented at BASS, September |

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BIOMECHANICS AND MOVEMENT ANALYSIS

YEAR THREE

19 March 1993

EVALUATION

All students present. Discussed themes for revision and study group.

Pleasant atmosphere.

For next week students will develop theme of systematic observation.

BIOMECHANICS AND MOVEMENT ANALYSIS

YEAR 3

LEVEL 3

REVISION SEMINARS

MOVEMENT ANALYSIS

Theme One:

Educational technology, coaching effectiveness and movement analysis.

Theme Two:

Systematic observation protocols: the analysis of performance in invasive games.

Theme Three:

Inter-disciplinary possibilities in movement analysis?

Theme Four:

Ian Franks' work in notational analysis.

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YEAR 3

LEVEL 3

REVISION SEMINARS

MOVEMENT ANALYSIS

Theme One:

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Theme Three:

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Theme Four:

Ian Franks' work in notational analysis.

The work of Ian Franks
University of British Columbia, Vancouver, Canada

Introduction

Dr Ian Franks has been a key figure in the development of notational analysis. His work has built upon his interest in psychology and soccer to a point now where he has established an international reputation.

The Sport Discus lists 55 references to his work since 1975. Many of these are either psychology or soccer specific. However the following articles do give an idea of his range of work:

Computer-Aided Systematic Observation

- | | | |
|--|--------|---|
| Johnson, R B
& Franks, I M | (1991) | 'Measuring the reliability of a computer-aided systematic observation instrument', <u>Canadian Journal of Sport Sciences</u> , 16(1), 45-57 |
| Franks, I M
Johnson, R B
& Sinclair, G D | (1988) | 'The development of a computerized coaching analysis for recording behaviour in sporting environments', <u>Journal of Teaching in Physical Education</u> , 8((1), 23-32 |
| Franks, I M
Wilson, G E
& Goodman, D | (1987) | 'Analyzing a team sport with the aid of computers', <u>Canadian Journal of Sport Sciences</u> , 12(2), 120-125 |
| Franks, I M
Paterson, G
& Goodman, D | (1986) | 'The real time analysis of sport: an overview', <u>Canadian Journal of Applied Sport Sciences</u> , 11(1), 55-57 |

Methodology

- | | | |
|-----------------------------|--------|--|
| Franks, I M
& Goodman, D | (1986) | 'A systematic approach to analyzing sports performance', <u>Journal of Sports Sciences</u> , 4(1), 49-59 |
|-----------------------------|--------|--|

Eyewitness Testimony

- | | | |
|----------------------------|---------|--|
| Franks, I M
& Miller, G | ((1986) | 'Eyewitness testimony in sport', <u>Journal of Sport Behaviour</u> , 9(1), 38-45 |
|----------------------------|---------|--|

Revision Theme Two:

Theme: Systematic observation protocols: the analysis
 of performance in invasive games.

BIOMECHANICS AND MOVEMENT ANALYSIS
YEAR TWO

Wednesday, 17 March 1993

Some Philosophical Reflections about Movement Analysis:
Analysing Visual Data

Introduction

Good morning! For the last two terms we have been developing strategies with which to analyse performance. We have been principally concerned with match analysis as a form of notational analysis.

Much of our time together has been based upon verbal interaction but I hope we have also used visual data to inform our discussions.

Whilst reflecting on the two terms, it occurs to me that we ought to pose some philosophical, or second-order questions about analysis. Given that you are engage in two pieces of work that involve visual or experiential data I hope our discussions will focus your activity for this course and for the practical core.

My thoughts have turned to matters philosophical for at least two reasons. Firstly, we are coming to the end of the course and I feel you know me well enough now to talk about such things! Secondly, I came across a very interesting research textbook last week that enable me to focus my thoughts about the way I use visual evidence (particularly in the wake of the Welsh rugby defeat against Ireland).

Analysing Visual Data

The research book I encountered was **Michael Ball & Gregory Smith's (1992), Analyzing Visual Data** (London, Sage Publications).

In it they suggest that all observation and investigation, lay and analytic, is theory-laden. In their terms, there are no theory-free views of the world. The capacity of an investigative approach to impose a set of theoretical relevancies and establish the frame for analysis is something must be constantly borne in mind.

Each theoretical framework suggests an investigative stance that is locatable within an academic context. What is particularly interesting for me is that although vision is one of our primary senses we write reports. As Ball & Smith point out, experience is transformed into written accounts. This is convention but there is a "consequent neglect of visual modes of representation that accompanies it"(1992:6).

It might be claimed that "objectivity" is the major criterion of the adequacy of positivistic researches. In contrast "realism" - a commitment to "tell it like it is" to record the reality of what has taken place - is the major criterion of the adequacy of ethnographic investigations (1992:16).

Visual data requires interpretive work. The viewer needs to be aware of:

the content

its referent (whatever the photograph is of)

the context within which it is presented

Ball and Smith (1992:20) point out that content analysis is the major systematic and empirical method that has been developed for analysing documentary evidence. Key sources for content analysis methodology are:

Berelson (1952) Content Analysis in Communication Research

Holsti (1969) Content analysis for the social sciences and humanities

Berelson (1952) viewed content analysis as a research technique for the objective, systematic and quantitative description of the manifest content of communication. The method claims to offer an 'objective', 'systematic' and 'quantitative' analysis of documentary content. It depends upon precise and clear definitions of categories and thus reliable.

Content analysis is primarily a quantitative technique that notes the frequency of categories or themes. There are six basic steps:

1. select a topic and determine a research problem
2. select documentary source
3. devise a set of analytic categories
4. formulate explicit set of instructions for using categories
5. establish principled basis for sampling the documents
6. count the frequency of a given category/theme.

According to Ball & Smith (1992:25) the virtues of content analysis are:

- * A standardised technique that permits processing of large amounts of data
- * An unobtrusive research method

Its limitations (1992:26):

- * Manifest and latent content
- * Data fragmentation
- * Quantification

With regard to data, content analysis is thus a research technique that in serving the theoretical purposes of the analyst isolates and atomizes its data, fragmenting the content of communication and effectively decontextualizing the message (1992:27). Critics of content analysis point out that repetition becomes the mark of significance (1992:28).

Implications for our work?

We have discussed the relationship of quantitative and qualitative data during the year. I think the benefits of Ball & Smith's (1992) work include: a heightened awareness of the analysis of visual data; and the challenge to develop qualitative understanding from quantitative data. This is a fundamental issue for us as movement analysts.

End Note

Sport Discus, the Library's data base, has 215 references to content analysis since 1972. There are 30 listed since 1990. None of these links content analysis to the analysis of video material. As we become reflexive sports scientists we ought to consider the form and the content of our academic activity. Actively considering how we use video will be an important step in our development.