Model making as construing

CONTEXT

PERSON

MENTAL MODEL

correlation

Experiment and observation with construal and referent

correlation

CONSTRUAL   **REFERENT**

COMPUTER   DOMAIN
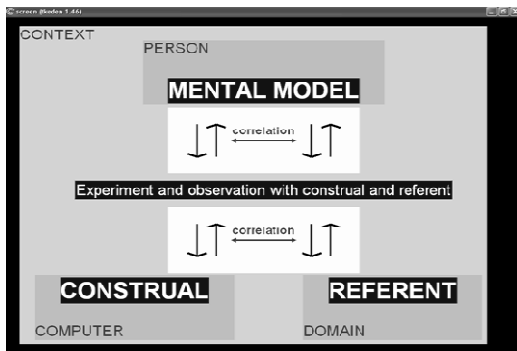

What is the nature of the personal knowledge gained through making a construal?

Knowledge of a repertoire of standard interactions and interpretations, insight into possible exploratory interactions with interpretations yet unclear

Familiarity with the ODA within the construal on the computer and the counterpart ODA in the referent

Perceptions regarding agent presence + privileges + protocols for action

Awareness of contexts within which different kinds of agency can be exercised

Intuitions about the degree of objectivity in this personal knowledge [through exercising the construal in a public forum]
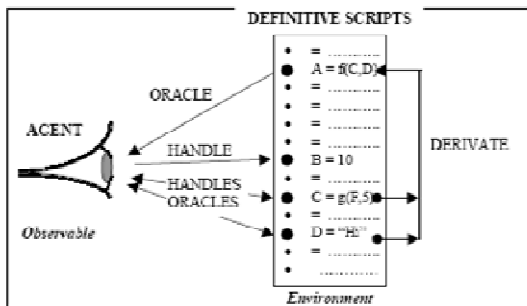

DEFINITIVE SCRIPTS

ORACLE

ACENT $A = f(C,D)$ DERIVATE

HANDLE $B = 10$

HANDLES
ORACLES $C = g(F,5)$

Observable $D = ``H"$

Environment

Figure 2-18: Definitive script as observer's model of state ('one-agent' modelling)

DEFINITIVE SCRIPTS

STATES of Agent 1   Agent 1

ORACLE$_2$ Agent 2

HANDLE$_3$ Agent 3   DERIVATE$_5$

ORACLE$_5$ Agent 4

External observer
in the role of
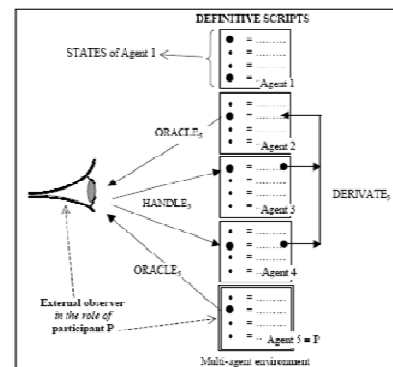participant P   Agent 5 = P

Multi-agent environment

Figure 2-19: Definitive script as observer's model of state ('multi-agent' modelling)

Constructivism and constructionism

Constructivist stance on learning – understanding is essentially linked with construction

Constructionism is concerned with how such 'construction for understanding' can be effected in a learning context

Constructivist stance on reality – the common world should be conceived as constructed through human interaction and interpretation

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Many roles for 'the common world'

- The importance of a public aspect to learning
- Software as "reality construction" (from the hermeneutic perspective)
- The essential role of the objective external observer in modelling concurrency

private experience / empirical / concrete

interaction with artefacts: identification of persistent features and contexts

practical knowledge: correlations between artefacts, acquisition of skills

identification of dependencies and postulation of independent agency

identification of generic patterns of interaction and stimulus-response mechanisms

non-verbal communication through interaction in a common environment

directly situated uses of language

identification of common experience and objective knowledge

symbolic representations and formal languages: public conventions for interpretation

public knowledge / theoretical / formal

An Experiential Framework for Learning (EFL)

TEDC 2006