The Role of Naturalness in Distance Education

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Social Change and Education

Rapid social change → sense of value → self-confidence

**Equalitarianism** (Mass-education)
- No-competition → Mono-tone

**Pacifism** (Collision avoidance, No intervention)
- Preservation base → Inactive tendency, No-strategy

**Rationalism** (Efficiency rule)
- Superficiality, Near-sightedness
  - Knowledge & skills
  - Emphasis on educational technologies
  - Achievements > education

**Future of the society**
- <- Multi-perspectives
- <- Creativity, Individualities, Talented
- <- Essence, Philosophy, Leadership

Education Responsible
Distance Education

Different educational methods (DE: F-to-F teaching)

- ‘quality Education’ [Sparkes, J.J.]
- **DE is, in the final analysis, education.** [Garrison, D.R.]
  - mediated communication: **access and quality**

Learning process  \(-\) **interaction**

### Learning: internal process

- changes of **belief, attitude, skill** [Scardamalia, M. & Bereiter, C.]
- Quality education: **conceptual-change learning** (Ramsden)
- **active inquiry** <-> **passive reception** [Gronne, M.L.]
  - analyzing the problem
  - finding / “producing” solutions
  - **defining themes/goals** \(\rightarrow\) motivation/engagement [Botrup, P.]
Understanding

Knowledge <- task of memorization
Skill <- instruction / demonstration

**understanding**
- **experiences** of the relevant concepts
- **illuminate from a variety of directions** the concepts forming in students’ minds -> “real” and useful
  - defined, described, used, analyzed, discussed, applied, read about, written about, asked about, etc

Oxford
- 1H/week. **One-to-one/two tutorial**
- Preparation: reading, writing, finding solution

Cambridge
- 1H/week. **One-to-one /few session**
- Preparation: Paper list -> reading, essays, how to tackle
- **Synthesizing** > fact understanding
Natural communication

**Co-located / synchronous** communication

- evolutionary cycle: vocal, facial, body expressions
- Brain: *hardwired information processing schemas* → *effective interpretation of the message*
  - contextual cues/vocal, facial, body expressions
- *Natural communication = F2F communication*

**Media naturalness**

- **Fluency**
- *suppression of naturalness* →
  - Misinterpretations of communicative cues/
    *communication ambiguity*
- Less physiological arousal

[Kock, N.]
Visual Information in Communication

**Non-verbal information**: Visible behaviors
- gaze, gesture, facial expression, posture

**Visible information**
- *Environment, Availability* of other people,
- *Objects/events* in collaboration

**Coordination**
- turn-taking, availability, reference, feedback, cue

**Social effect**:
- the presence of others, actual/imagined/implied

[Whittaker, S.]

[Blascovich, J. et al.]
Real Object Education

**Education through Real objects:**
- Knowledge begins with experience.
  - < sensations/ perceptions/ observation
  - *Experiential, Hands-on, Object education/ teaching*

**Situated Education**
- gradual acquisition of knowledge/skills
  - novices learn from experts in the context of everyday activities (midwives, tailors, meat cutters, etc.)
  - Learning <- social interaction/collaboration

**Immersion**
- **Tactical immersion**: > eyes directly communicating with fingers
- **Strategic immersion**: < observing, calculating, deducing
- **Narrative immersion**: emotional immersion < immersed in a narrative

[Ernest,A.] [Staffan,B.,et.al]
Effects of Real Object

Field Science

- **Three types of sciences:**
  - Library (literatures -> deduction)
  - Laboratory (hypothesis / verification)
  - Field Sciences (hypothesis conception)
- **field work/synthetic, explorative** -> problems on site
  - Sociology, folklore, anthropology, topography, etc.

Real World

Young people: Less real experience/physical activities

**Nature**: grace/ grandeur/ mysteries/ rigidness -> inspiration/wonder

**Society**: professional / worker’s experiences
  - internship, social activities

(Tawakita, J.)


Tangible evidence

- **humanize the topics** <- *more real (strong impression)*
  -> challenge to think about their own beliefs

[Coughlan, S.]
Creativity and Initiative

**Flow** = Intrinsic motivation = Concentration on task

- **hands-on / self-exploration / responsibility** [Montessori, M]
- **Challenge/ Increasing interest/ task engagement** [Buck, B.]
  - challenges <-> skills [Csikszentmihalyi, M]
  - People do what they want to do.
- **Absorption + Enjoyment + motivation** [Buck, B., et al.]

**Creativity**

- Devotion over many years to an area of interest/ skill [Buck, B]

**Initiative**

- Ability to be motivated/
  to direct attention/ effort toward a challenging goal
- Efforts/ failures / reflections [Larson, R. W.]
What to Teach

- Expert knowledge • foundation • understanding
- Practical skills
- Foresight

- Respect ideas / Free expression
  - Spirit of independence

- Creativity
  - Frontier spirit

- Globalism / Spirit of symbiosis
- Productive cooperation
- Responsibility

- Leadership

- Passion

- Ability / Potential

“Cultivating”
“Fostering”

“Encourage”
“Chance”

(from university’s mission statements)
# Collaboration Effects

<table>
<thead>
<tr>
<th>Lack of faculty strength</th>
<th>covered by other institutions</th>
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<tbody>
<tr>
<td>• Undersubscribed courses</td>
<td>held as joint courses</td>
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**Different perspectives/ ideas/ knowledge/ experiences**

- **Reflection** on their own understandings/ practice

**Creativity**

- **Collaborative** activities (brainstorming sessions/ team design meetings) -> higher **productivity, creativity**

**Social skills**

- react, respect, create conflict, compete, argue, compromise, withdraw/ give feedback
Natural Collaboration Environment among Universities

Distributed Collaborative Environment

**Equal functions**
- Chairmanship
- Transmission
- No Regional gap

**Natural Interaction**
- Video
- Multi-participant
- Multi-video

**Easiness**
- Transmission
- Switching
- Multi-site
- No license

**Discussion**
- Chairmanship
- Discussion
- Material Use
  - Assignment, interruption
  - Two-way interaction/multiple participants
  - Two video

**Smoothness -> Naturalness**
Realized Natural Collaboration Environment in SCS

- **1.5Mbps video**
- **Easy multi-site operation**
- **Two channels** transmission / station
- **1/3**: without assistance
- 55%: >3 stations
- 25%: >5 stations

-47%: joint classes : 4.5 stations (Av)
-17% : Workshop : 16 stations (Av)

- **experience joint classes**
- **increase of courses**
- **motivated students**
- **reflection**
- **emotional impact**

1996-2009
150 Stations
- 10,000 sessions
- 160,000 site-hours

Space Lecture by ISS-SCS Linking
4200 people were excited by the Space Lecture linking 114 SCS sites.