

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* [Conner, M.L.]
 - *analyzing* the problem
 - *finding* / "producing" solutions
 - *defining themes/goals* -> motivation/engagement [Bottrup,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

[Sparkes, J.J.]

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 [Kock,N.]
 - ***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

[Whittaker,S.]

Social effect:

- the presence of others, actual/ imagined/ implied

[Blascovich,J.,et.al.]

Real Object Education

Education through Real objects:

- Knowledge begins with experience.
 - < sensations/ perceptions/ observation
- ***Experiential, Hands-on, Object education/ teaching***

[Calkins,N.A.]

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

[Lave & Wenger]

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:**

(Kawakita, J.)

- **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

(Ed. Council Rep.2007)(Ed.ImprovementNationalCouncilRep.2000)(Ed. Council Rep.2002)

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

- Globalism/Spirit of symbiosis
- ***Productive cooperation***
- ***Responsibility***

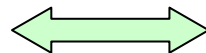
- ***Creativity***
- Frontier spirit

- ***Leadership***

- ***Passion***

- ***Ability / Potential***

“Cultivating”
“Fostering”



“Encourage”
“Chance”

(from university's mission statements)

Collaboration Effects

Lack of faculty strength > covered by other institutions

- **Undersubscribed courses** > held as joint courses [Gatliff, B.]

Different perspectives/ ideas/ knowledge/ experiences

- **Reflection** on their own understandings/ practice [Bottrup, P.]

Creativity

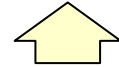
- **Collaborative** activities (brainstorming sessions/ team design meetings) -> higher **productivity, creativity** [EC]

Social skills

- react, respect, create conflict, compete, argue, compromise, withdraw/ give feedback [Hobaugh, C.F.]

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 | Assignment, interruption |
| • Discussion | Two-way interaction/
multiple participants |
| • Material Use | 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**

Space Lecture by ISS-SCS Linking

4200 people were **excited** by the Space Lecture **linking 114 SCS sites.**

1996-2009

150 Stations

- 10,000 sessions
- 160,000 site-hours

