

1.4 Adopting Sociocultural Theory as an Industry-wide Training Approach to Engage Trainees in the Civil Aviation Industry

Jason Wong

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Background of Civil Aviation Industry



Who

- Civil aviation industry governed by strict regulations under one of United Nations' specialised agencies, the **International Civil Aviation Organisation (ICAO)**

What

- Under its 'No Country Left Behind' initiative, ICAO developed the TRAINAIR Plus programme that heavily utilises **Competency Based Training (CBT)** as main training methodology

Why

- **Standardised training and achieve baseline training standards** due to differing training standards of State aviation academies

(ICAO, 2014)

The Problem

Personnel from Civil Aviation Authorities attend training in other State aviation academies for:



International relations purposes



Developing States to learn best practices of developed States and vice versa

CBT adopted to standardised and achieve baseline training standards in an industry where training standards of State aviation academies vary greatly.

The Problem

Lack of training approach that can cater to:



Varied culture of trainees



Diverse learning styles and abilities



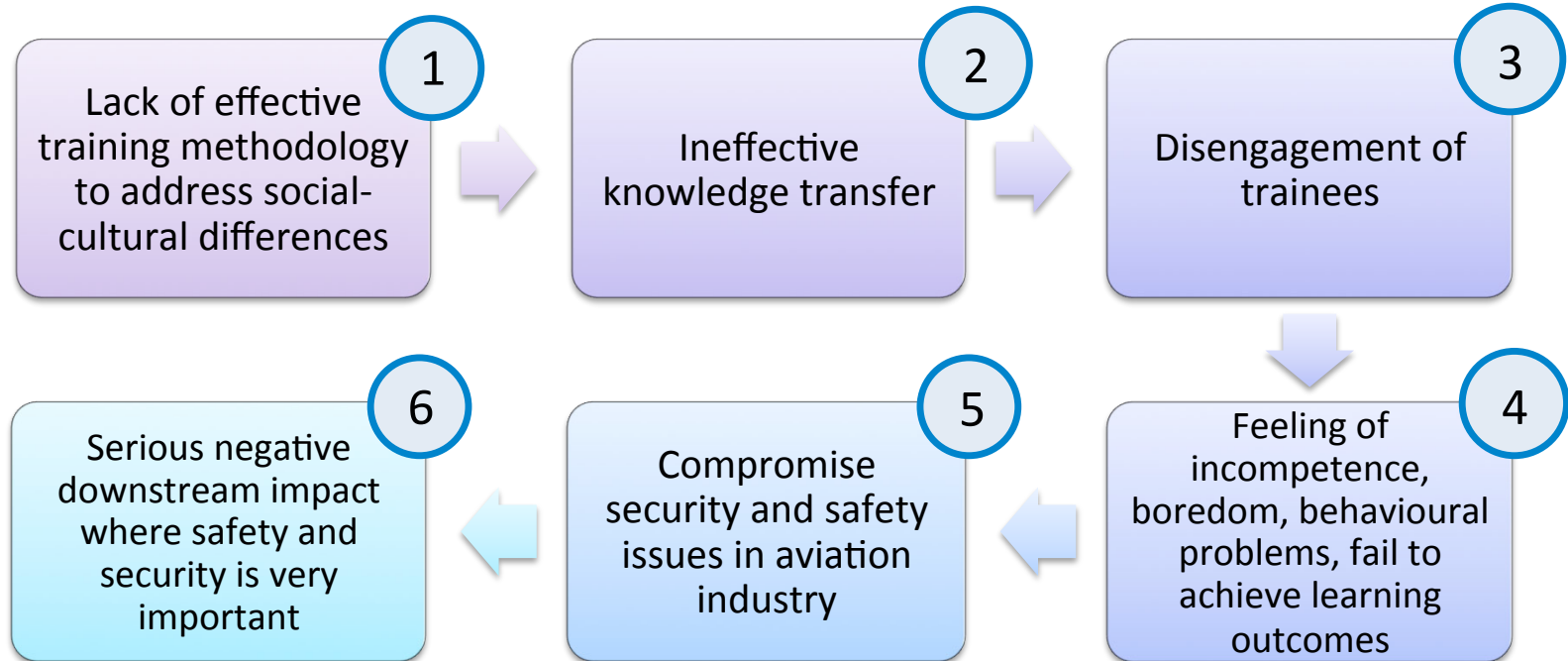
Vast social economic differences



Political strain in each others' countries

The Problem

Lack of training methodology that addresses diverse cultural backgrounds and learning needs has negative impact on civil aviation industry.



(John-Steiner & Mahn, 1996)

Purpose of Investigation

The purpose of the proposed investigation is to:

1

Appraise current provisions and identify the weaknesses of CBT

2

Propose training approaches based on sociocultural theory to meet industry needs

The outcomes aim to adopt the sociocultural theory as an industry wide training approach to engage trainees in the civil aviation industry.

Literature Review of CBT

Strengths

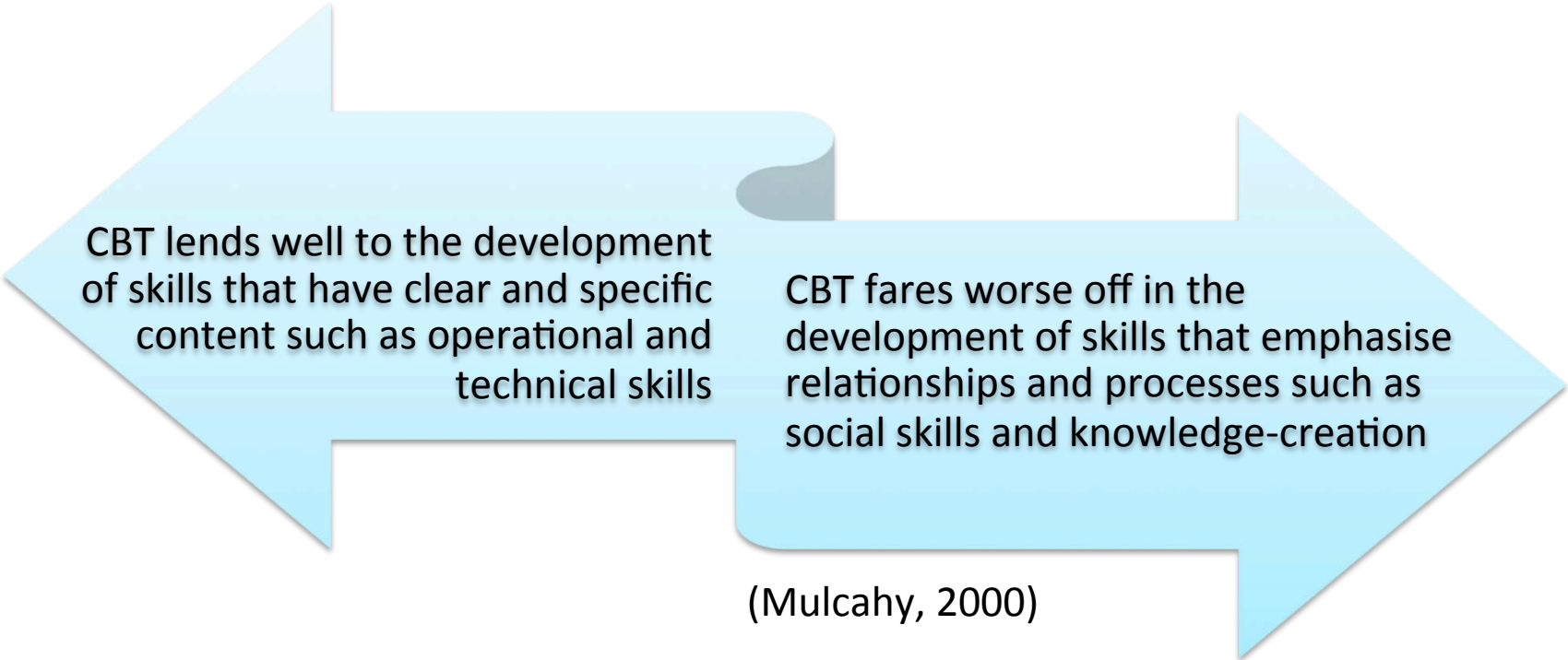
- CBT emphasises practice to promote fluency, thus decreasing the cognitive load placed on information processing (Pellegrino, 2004)

Weaknesses

- Failure to address actual situated behaviour (Norris, 1991)
- Lack of social content and context (Norris, 1991)
- Simplifying skills set (Franks, Hay & Mavin, 2014)
- Pedagogical critiques (Smith, 2010)

Critical Analysis of the Problem

Re-balancing conceptions of CBT



CBT lends well to the development of skills that have clear and specific content such as operational and technical skills

CBT fares worse off in the development of skills that emphasise relationships and processes such as social skills and knowledge-creation

(Mulcahy, 2000)

Curriculum Orientations

	Curriculum Orientation	Description
1	Technical	Curriculum based on scientific models of rational thinking about curriculum dominated by scientific and technological rationality. Behavioural and functional sociology inform this orientation.
2	Hermeneutics	Curriculum with values associated with relations between individuals and social and cultural situations. Emphasises relationships among time, culture and knowing. Negotiated approaches to learning and experimental learning are consistent with this view.
3	Critical	Curriculum where cognitive interest or values are predominant, and the focus is on the development of critical skills.

Table 1: Curriculum Orientations. Adapted from Smith & Lovat (2003).

Possible Resolution for Improvement



Incorporation of learning theory that complements objectivity of CBT. Strength of Vygotsky's sociocultural theory lies in the interdependence between individuals and socially shared activities in the joint-construction of knowledge

(John-Steiner & Mahn, 1996).

- Social sources of development
- Semiotic (signs and symbols) mediation in human development
- Internalisation
- Zone of Proximal Development (ZPD)

Justification (Strengths)

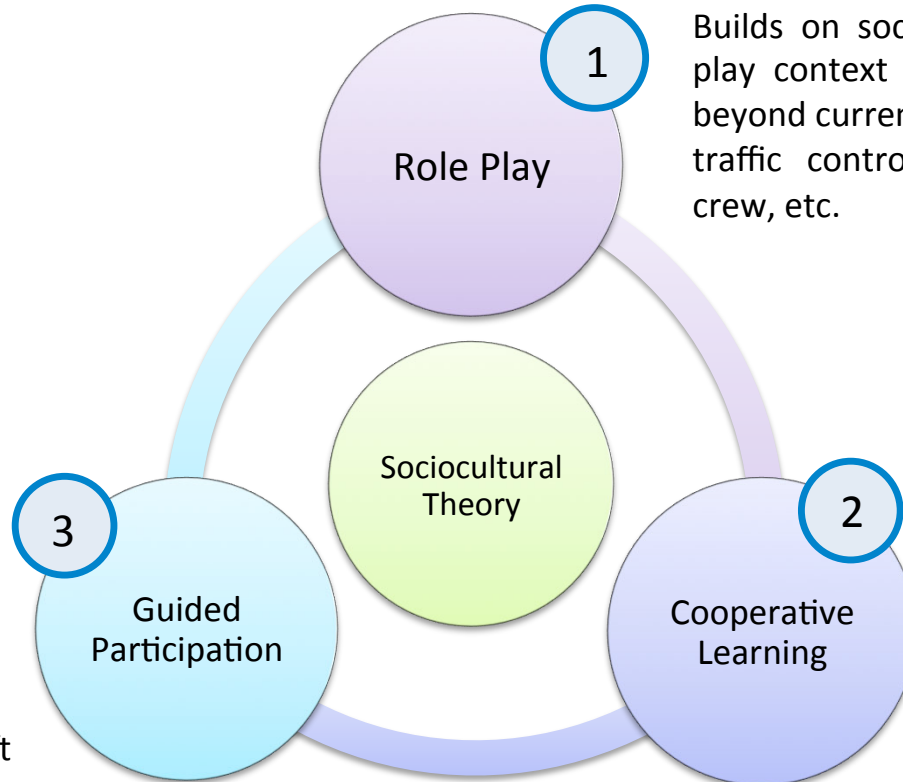
Sociocultural approaches are characterised differently from other learning theories.

(John-Steiner & Panofsky, 1992)



Applications of Sociocultural Theory

(Duchesne, McNaugh, Bochner & Krause, 2013)



Builds on social development and ZPD. The play context allows learners to act in roles beyond current abilities. Useful for areas in air traffic control, airport management, cabin crew, etc.

Builds on social development and semiotic mediation. Learners work in pairs or groups to interact, share information and solve problems cooperatively. Useful for theory-based lessons.

Builds on social development, ZPD and semiotic mediation. Tasks broken into manageable parts with repeating instructions. Useful for security inspection, aircraft maintenance, etc.

Difficulties in Implementing Recommendations



- Wide geographical spread of countries and State aviation academies
- Difficulty in spreading knowledge on sociocultural theory-based training methodologies
- Difficulty to ensure success of implementation

Current Systems and Structures



- TRAINAIR Plus programme consisting of Training Developer Course and Training Instructor Course
- Courses conducted through ICAO Regional Training Centres of Excellence and network of ICAO-accredited State aviation academies
- Annual ICAO Global Symposiums
- Quarterly ICAO Regional Symposiums
- Centralised online course evaluation system

Enhancement to TRAINAIR Plus Programme



Training Developer Course

- Analyse training needs and choose strategies
- Analyse jobs and target populations
- **Curriculum orientations**
- Determine training objectives
- Sequence objectives and group them into modules
- Design modules
- **Sociocultural theory and its applications**
- Prepare and validate tests
- Produce and validate training material

Training Instructor Course

- Prepare a training environment including facilities, equipment and instructional material
- Manage trainees by using effective training strategies
- Conduct training with a variety of instructional methods as required for the training
- **Conducting training methodologies based on sociocultural theory**
- Perform trainee assessments appropriately, objectively, and correctly
- Perform course evaluations



- ICAO
- Regional Training Centres of Excellence
- State aviation academies



TRAINAIR PLUS
REGIONAL CENTRE OF EXCELLENCE

“FLY TOGETHER,
NO COUNTRY LEFT BEHIND”



ICAO AVIATION TRAINING AND TRAINAIR PLUS GLOBAL SYMPOSIUM & 5TH CONFERENCE ON INTERNATIONAL AIR TRANSPORT COOPERATION



Questions/comments?



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