COGNITION, CULTURE AND EFFECTIVE E-PRAXIS GUIDING PRINCIPLES

Theoretical Roots for e-culture

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Abstract: Cultural approaches to technology enablement must include type of content and type of medium with type of culture. Refining beyond shared interpretations of content by culture we need to examine cognitive mechanisms that may underpin the cultural modes of assimilation of e-learning and enlivening knowledge management. The paper compares western and Asian (Malaysian) contexts for learning. Design implications are alluded to.

Keywords: Power distance, high-context, low-context, cognitive, schema, collectivism.

1. POWER DISTANCE AND HIERARCHY

In his *protean* exposition of 'power distance', Hofstede (1980) explains that 'low power' cultures such as the United States, Canada, the United Kingdom, Australia and Israel are depicted as 'looking for equality'—there is a markedly pragmatic approach to status where organizational hierarchy is relatively unimportant. These broadly western nations may be characterized as having 'low power distance', albeit in varying degrees.

East-Asian nations, in contrast, have higher power distance (Hofstede, 1991a, 1991b). High power distance is the 'cultural programming' that drives thinking and behaviour. In such societies there is a respect for hierarchy that is manifest in attending to, and in addressing, titles and salutations, and in deferring judgements to (and not openly contradicting) superiors. Deference to authority and acquiescence are prevalent in high power distance cultures.

2. CONTEXT AND RELATIONSHIPS

Communication as a *milieu* in Japan, China and in Mediterranean cultures invokes the seminal work of Edward Hall (1976), who coined the concept of high context (HC) cultures versus low context (LC) cultures. In hard empirical terms, less is known about Malaysia and South East Asia in Hall's continuum. In HC cultures, communication processes are non-verbal, non-linear and *'analogue'*. Analogue representations are patterned, relational information that involve a compromise between the abstract and the concrete codes involved in mental processing. They invoke psychological sets. Further, analogue processing is quick. Relationships in HC cultures are also 'warm' (Berry et. al, 1992, p.42) and in the field of business, relationships are understood to be important. Time spent on relationship building may be prioritised over tasks, and it is common for punctuality to be traded off towards relationship building.

However, there are differences amongst Asian cultures with some being perceived as 'warmer' than others. From descriptions, and through long exposure to Asian cultures, experience suggests that East Asian and Indian cultures are high context. As such, HC appears to be an artefact of pre-industrial societies. These societies have extended families and they emphasize relationships wherein time is taken to build and nurture relationships. What is 'said' in high context cultures, involves not just speech or writing, but also the nuances of feeling, spatial information and relationships.

High context cultures are also said to be *polychronic*. The defining feature is accepting a simultaneity of events without closure. Time here is viewed flexibly; enactments may be a heuristic completion of communication and tasks are considered more important than rigidly following a schedule. Polychronic time is said to be cyclical and multi-track, and it is perfectly acceptable in high context cultures to carry on multiple tasks and to engage in more than one conversation simultaneously. Strangely, people appear less hurried and seem to have less stress in HC cultures. There is a higher propensity to appear accommodating, and information flows through fluid links in a broad network of interpersonal contacts. Not reporting sensitive and potentially offensive information in the mass media is considered good manners in the social context of nation building. Mass media are integrated into the wider social context and government agenda, which in this case desires to maintain public morale. What is not said is as communicative as what is said, if not more subtle and powerful. Similarly, mediated learning captures this same ethos even if in areas as functional as in e-learning or knowledge management in organizations.

On the other hand, LC cultures carry a trait dubbed *monochronicity* i.e., time is perceived as compartmentalized rigidly so as to encapsulate schedules. There is a sequential unfolding of task and communications which are dealt with in a linear mode. Customers are accordingly served one at a time, one after the other. Schedules and timetables are tenaciously adhered to so that deadlines are met; planning favours algorithms. LC cultures emphasize tasks and they compartmentalize relationships which mandate a tight agenda in the acquisition and use of information from various sources. Relationships are organized around tasks.

3. COGNITIVE BASES OF CONTEXT

Analogue representations appear to be more rapidly processed through analogue codes and are schema-driven, that is, they involve top-down processing of well-learned mental templates. This may be understood when we quickly glance at an analogue watch to see the time—obtaining this merely from the shapes of the hands and their spatial relationship to the rest of the watch face. In high context cultures, a less direct communication of process or task management through non-verbal communication is common and becomes automated over time as unconscious competencies that appear informal and heuristic. Largely, they are not resonant in working memory (short term memory). On the face of it much of this is passed off as 'intuitive' processing, but they belie a repertoire of intricate and systematic skills drawn from a rich database of procedural (concrete scripts) and declarative (abstract) or factual information in long term cultural memory.

Cultural memory systems include the organization of prior knowledge into categories. These categories are largely natural (Wittgenstein, 1953; Rosch, 1975) and may be the result of a process that is *'wired in'* to abstract *prototypes* from an ever-changing universe of stimuli and data. Analogue representations are prototypes; prototypes are schemas that evolve through learning by abstracting *'unification'* rules for organizing structural sets from the world of diversity i.e., changing environmental stimuli. The prototype abstraction process is innate, not the representations, so that greater economies in neurological storage capacity are afforded. The course of socialization in the culture then adds data to embellish these schemas.

Schemas are structural prototypes that provide rudimentary templates that skew the perceptions of incoming stimuli during encoding; they store the data accordingly within scaffolds and they drive a response bias. Therefore both the inherent structural form of the schema and the learned data reside in long-term memory. Long-term memory involves parallel processing and random access and is largely unconscious. In the evolution of

cultural expertise, skills are learned through distributed practice (paced with intervals) over time, with enough mass practice (rehearsal) within each interval to enter long term memory as automated bundles.

In the real 'messy' World, the retrieval and application of these skills would appear to be spontaneous. Retrieval cues exist in both digital and analogue formats. Digital codes require more conscious attention such as when we read digital watches, tenaciously follow the syntax and decoding of the words in legal contracts, or examine the specifications of business contracts. Conscious attention is the 'transparency' that working memory provides but it affords a severely limited serial processing capacity; it slows us down. Analogue cues map more directly into analogue representations in long term memory and involve a less conscious cognitive effort.

However, in one interesting study in cognitive psychology, it was found that even with meaningful one-word semantic cues (nouns as verbal stimuli), matching information was retrieved faster from long term memory (Freedman & Loftus, 1971) than with cues with little meaning. Thus while not actually analogue in representation, these verbal analogues afford practically speaking, economical processes. As one-word cues are meaning-rich signals they activate 'bundles' of matching information in long term memory. The process occurs as analogue codes where category size did not matter. In other words parallel processing is implicated whether categories in long term memory were large or small in terms of the number of component elements.

The relatively longer history of Asian civilizations directly raises the probability of larger 'bundles' of social schema being formed and being 'tripped' through parallel processing. Several thousands of years of structured civilization with little need to challenge the natural order of things allows for massive 'bundling'. Stereotyping behaviours are examples of social schemas that break down when the analogue parallel processing of matching is pushed to the limits. There is a need to *unbundle* when critical environmental features do not match prior knowledge in long-term cultural memory. You can unbundle easily in working memory but not when invoking parallel processing from long term memory. Transparency is simply not inherent in parallel processing, yet perception here is quick (Gick & Holyoak, 1987; Larkin et. al., 1988).

Unbundling automatic routines is difficult. Similarly much of relationship-building—the informal supervision in process checks that are often heuristic—may be seen as the result of this automatization of cultural scripts in the course of cultural evolution. Asian culture and history is ancient and it characteristically integrates self with society, the environment and the natural order of the cosmos. Just as in the performance of expert car driving where an operator appears to navigate through an environment

automatically, automatic inter-personal analogue processes dominate high context interactions somewhat naturally given their longer history of navigating through relationships with the cosmos. Cultural values drive levels of pertinence to assign environmental features their due attention. If perceived as not critical, they will be attended to by the process of assimilation. This is relatively easy with no need to uncouple from automaticity. Working memory entertains the differences in the task or relationship environment. If perceived as highly critical, then there is a need to unbundle or accommodate. This is of course stressful, and this is where intercultural dissonance arises.

4. TRANSPARENCY AND LOW CONTEXT

In LC cultures, communication involves digital or propositional codes (verbalizations). The emphasis here is on the precision required, which demands constant attention to details. LC societies are an artefact of the industrial revolution where rural to urban drifts of large populations had spawned discrete and smaller family units such as nucleated families.

In LC cultures there is less formal emphasis in LC societies on building relationships; transparency is cognitive, and is part and parcel of a consciously managed process. Every layer of the process, including procedures, must be structured into steps which are clearly distinct, albeit linked. From a systems viewpoint, this provides control with feedback and adaptation. And for some—the LC adherents—it offers a conscious formal approach to management in a chaotic world, which is how they perceive the HC world with its attendant lack of transparency.

Documentation and standards are overtly and explicitly communicated in the LC world. Much of this orientation is manifested in quality management systems, performance appraisals, and competencies that break up overall expertise into a hierarchy of documented components. Appointments that specify times to the minute are expected be honoured, and punctuality is a major factor in the evaluation of some one who is late or tardy.

Similarly, because of the relatively strong emphases on verbal communication, in the LC world contracts are written and are specific. They delineate the specifications of deliverables, products, roles and time frames. Market leads have to be formally assessed with the appropriate documentation to prevent wastage of time or other resources in promotional efforts. Even contingencies are covered by legal clauses. There is a relentless thrust towards transparency, and a managed task orientation.

5. COLLECTIVISM

Hofstede (1980) established 'collectivism' as a descriptor of cultures that are either individualistic or collectivist. Malaysia, like other east Asian nations, has a low individualism score. It is more collectivist in comparison to western industrialized nations which are largely individualist. Collectivist cultures place society over self, where group thinking dominates. Face-saving is also prevalent when confrontation and contradiction are to be avoided. Taken together in HC interactions, high collectivist and high power distance cultures celebrate ritual and respect seniority. They also adhere to the use of titles and salutations, emphasize relationships, and express loyalty. There is a popular consensus that high context cultures also integrate work, spiritual, and personal spheres of their lives.

However there is a need to be guarded in defining the features of this interaction, as the exact sociometric relationship of both Hall's dimension of context and Hofstede's dimension of collectivism remain untested and unresearched.

6. THE GLOBALISATION OF LEARNING: IMPLICATIONS

High context, high power distance and collectivist cultures, while paternalistic, are perceived by some as benign dictatorships. Sometimes exceptions to the stipulated trait of formality in power distance occur. This relative informality appears to be more prevalent in Asian countries of rapid economic development and have more to do with high context and its characteristic of warmth and natural social coherence. To be sure, these models, whether Hofstede's or Hall's, maintain variations of culture as slowly changing antecedents.

But culture's consequences are also evolving. Imagine that what you are witnessing in Malaysia is a time compression of all of the 300 years of the industrial revolution into the 30 years of recent development. Then add to this the demands of the knowledge worker era in the last 3 years and the competitive drivers of the globalisation of best practices, and the collapsing of the traditional structures' styles of governance enabled by the free flow of information.

These arguably represent a lot of shocks to the system. Within this demand for rapid adaptation the easiest aspect to change in power distance terms would be the formality of protocol, the most difficult to relinquish would be control. (Gurubatham, 2001)

7. E-LEARNING IMPLICATIONS FOR ASIAN CULTURES

The following are implications for implementing e-learning solutions in Asian cultures that arise from the discussions in this paper.

1. Power distance shapes access to information structures such that higher power distance will naturally prefer a relatively higher degree of structure than lower power distance. Control and access issues may not be discounted.
2. Mental models or schema may favour hierarchical relations.
3. Emphasis on authority to favour official insignia, logos, and content certification. Formal status effects are active that may inhibit, for example, a professor's acceptance in a chat room.
4. In high context and collectivist e-learning, and knowledge management, courtesy, personal acknowledgment rituals and relationships should be infused into the content to counterbalance the formality of power distance.
5. It appears that some of the elements of polychronicity may be exploited and synergise over time to accommodate a higher degree of task orientation for multitasking such as in call centres, utilizing on-line performance support while attending to customers.
6. Advance organizers or concept maps are analogue cues. They can exploit visual or metaphorical (proverbs), or even culturally endeared phrases to prime high context learners with navigation aids for complex content.
7. Asian cultures tend also to be risk-averse or are high in uncertainty avoidance (Hofstede,1991). Learner control may be initially inhibited and requires active coaching in the initial stages of e-learning. This inhibition may also prevent populating databases in knowledge management. However this tendency can be actively counterbalanced by enlivening the high context of teamwork, sharing and interpreting information.

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BIOGRAPHY

Mohan Raj Gurubatham is interested in the cultural and cognitive bases of learning in advanced Asian countries, especially with pressures of globalisation in the knowledge economy. He is currently integrating the role of intangible factors in ICT within an organic 'eco-field' framework.