Leapfrogging Knowledge Economy Competencies: The Utility of Spiritually-oriented Cultural Capital.

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ABSTRACT
Addressing the under-representation of a soft-skill component to the notion of developmental leapfrogging in education, this paper questions whether potential means lie in a productive link between cognitive capacities fostered through spiritually-oriented cultural capital and the competencies prescribed for Knowledge and Creative Economies. Through an appraisal of the overlap between studies of forward-looking educational theory, creativity and spiritual capital, findings suggest that engaging acculturated capacities in the preparation of the required skills has pedagogical merit. By a method of deductive argument, and illustration by way of analyses of classroom interventions, it concludes that there is a feasible basis for exploration and measurement, and proposes a means for this through a discussion of impacting variables and their relevance to the development of teaching strategies and measurement tools.

บทคัดย่อ
บทความวิจัยนี้มีวัตถุประสงค์และวิธีการในการพิสูจน์การศึกษาตามแนวคิดทฤษฎีการพัฒนาการศึกษา (Leapfrog Theory) ที่เคยอธิบายไว้ว่าควมสามารถทางศิลปะญิปุญนา นั้นที่ค้นพบทางจิตวิญญาณและรู้จักธรรมชาติความซื่อสัตย์เกินกว่าความรู้และศรัทธาสร้างสรรค์หรือไม่ยังไม่อาจทำ ในการศึกษาปัจจุบันที่ยังไม่สามารถพัฒนาขึ้นอย่างเท่าทันกับการศึกษาทฤษฎีแบบก้าวหน้า (Forward-looking Theory) และความคิดสร้างสรรค์และพัฒนาการจิตวิญญาณ พบว่ามีความเสถียรภาพพัฒนาขึ้นอย่างเท่าทันกับการศึกษาทฤษฎีแบบก้าวหน้า ที่มีโอกาสในการแสดงความคิดเห็นและลงตัวอย่างง่ายง่ายให้ประชาชน นับว่าเป็นวิธีการพัฒนาฐานะสำคัญควบคู่ การขับเคลื่อนสิ่งแวดล้อมและร่างกาย ควรจัดหาธุรกิจนั้นเสนอวิธีการตั้งเป้าหมายให้กับการพัฒนาการวิจัยการขับเคลื่อนและการวิวัฒนาการ

Introduction
Education for Knowledge Economies described as the assemblage of Advanced Human Capital accounts for more than a cynical purposing of humanity to economic interests. Rather it can be read as extending its traditional role of facilitating preparedness, only now for participation in a radically transforming technological environment which has a developmental horizon described as “an infinity of human agency.” (Bauman, 2000) The prospect that some communities may possess capital that is less constrained by the negative effects of the development of older economies has suggested the idea of leapfrogging, where stages of development can be skipped, and developing economies arrive at an equal state of readiness for an unfolding, globalized knowledge economy. The immediate validity of this belief rests in the vast opportunity afforded by digital communication technologies, and their potential in educational settings to counteract the lack of other resources (Bloom, 2004). This belief, however, hasn’t adequately taken into account its application to the purposing of innate and acculturated capacities to the provision of “soft skills”, without which technological updating can only have a limited functionality. Taking advantage of this resource however requires that education concerns itself with a process of transference before it can be of utility. This paper puts forward the proposition that a means to achieving such a transference of acculturated value capacities to the purposes of building cognitive capabilities exists in spiritually-oriented cultural capital, which by its nature is suited to the classroom contextualization of a ‘platform of malleability’ from where to facilitate qualities of mind that educational theorists foresee. It appraises the overlap between the competencies expected for Knowledge and Creative economies, studies of creativity, and the resources available in spiritually-oriented cultural capital, and deduces that the proposition is pedagogically viable. With reference to the study of Cognitive “styles”, the latter part of the paper discusses potential educational application through analysis of the results of exploratory, pre
-experimental classroom interventions in Thailand. These aim to progressively narrow tools, and interact with impacting variables, towards the development of future measurement tools and teaching strategies.

**Leapfrogging in the context of Knowledge Economy Competencies**

The World Bank in presenting competencies valued by Knowledge Economy employers, among communicative and problem-solving skills, puts a premium on capacities for adaptive behavior (2002), in view of the inevitable need to interact in multi-cultural settings and to manage tasks and transactions that take place in an atmosphere of increasing flux. The mid-dying effects of the over-abundance of information have attracted similar prescriptions across domains, but seem to have been most concise in Howard Gardner’s phrase: “psychic ambidexterity” (2004, 255).

In arriving at this preparedness, leapfrogging can be effected through an injection of updated technologies or quality educational practice. The term, however, also implies a ‘trick’ or unexpected resource by which to catch up with or overtake competitors. Leapfrogging stages in the assemblage of ‘capability’ in this sense can be effected by maximizing the benefit of acculturated values which mitigate impediments, or by-pass behaviours which are injurious, or redundant to optimal performance in the near-future environment. Leapfrogging equally suggests navigating new market-places of human interchange with fresh adaptive skill and matching capabilities to the opportunities for newly opened avenues of entrepreneurial exploration as technologies improve. A quality pedagogy which hopes to prepare young people also grapples with the threat of homogeneity of thought, predation by corporate interests, and the greater opportunities for falsehoods and artificialities accommodated by improving technologies, and thereby implies a recourse to evasion, a quick-wittedness which includes the ability to “critically appraise simulacra from a variety of different perspectives.” (Turkle, 2004)

In a globalizing context there are clearly cultural value implications to these prescriptions, but they also suggest a level of innate or latent capacities, which, in their embrace of a hybridizing aesthetic, reward humane behaviours in an environment of increasing artificiality (Battro, 2004). Consequently, a “soft skill” capacity for empathy, for example, can be understood as a strategic resource, which by its nature likely transcends cultural difference, but might also privilege societies, for whom that empathy is better codified within the value system as a whole.

Geographical differences indicate differences in thinking. That East Asians are more likely to think within the context of a group, and Americans from their own point of view is widely accepted. Yet it is also proven that Asian-Americans are able to choose which type of thinking to apply to the task at hand (Nisbett, 2003); and in an economy where the propensity for generating new ideas through a hybridizing thought, mixing and maximizing traits of more than one ‘tradition’ has clear adaptive value. This hybridizing advantage has strategic implications in that traits and behaviours that have less adaptive or hybridizing potential may well be unrewarded in the unfolding economy and overlooked or undervalued traits may be reinvigorated to leapfrog to newly valued competencies.

**How Creativity intersects with Knowledge Economy Competencies and Spiritual Capital**

In adjusting educational provisions to suit unfolding knowledge economies, there has been an upsurge of interest in the importance of creativity and creative thinking, with some governments pushing for a greater effort to foster creativity through curricula. This acknowledges a perceived lack of creative behaviors in general, and that the fostering of these in educational settings is expected to be widely beneficial to the economy.

Knowledge Economy expectations and creativity connect in creative behaviours being in essence adaptive. Echoing the Darwinian overtones of the World Bank’s prescriptions, a biological basis for creativity renders adaptations as getting “their start as fortuitous [unintended] effects that get opportunistically picked up by selective forces in the environment” (Dennett, 1995 quoted in Albert & Runco, 1999, 24) while to create “consists of making new combinations of associative elements which are useful” (Poincare 1913, quoted in Martindale, 1999, 137). Theorists describe creativity mostly in terms of a necessary combination of resources, “intellectual abilities, knowledge, styles of thinking, personality, motivation and environment” (Sternberg & Lubart, 1991, 11) yet it is the ability to recognize the opportunity for usefulness (Runco & Sakamoto, 1999), where the most creativity-generating ingredients are processed and where both primitive and classical cultures made associations with the magical and spiritual. Such ‘superstition’ is frowned upon in scientific contexts: “the origins of study in the tradition of mysticism and spirituality are indifferent or counter to the scientific spirit” (Sternberg & Lubart, 1991, 4). The literature, however, most popularly in Csikszentmihalyi’s Theory of Flow also includes a recognition of that mystified property whereby the creator acts as a conduit through which creative ideas form, in neurological terms, having entered a state of ‘primary’ functions (Martindale, 1999) in which they are alert to opportunities for synthesis and adaptation, and the ingredients of their preparation interact automatically. This state, often described as “childlike”, is where the barriers to free-associations are withdrawn, and the creative imagination is allowed free-play.

While this ‘inspirational’ resource is varying undermined by societal constraints or taken advantage of in a consumerist economy, it is exercised to individual benefit in spiritual or religious behaviors, where the same non-reductionist cognitive processes are uppermost (Newberg K & Newberg S, 2005).
"Mindfulness," in so much as it can both be "open" and "alert," is a root for both creative and spiritual inspiration, and the keys to triggering such skill are ready-made in spiritual and religious materials, because they are purpose-built for 'suspension' from physical and mental limitations.

The Scope and utility of Spiritually oriented cultural capital

The term Spiritual Capital, derived as a side-shoot to Bourdieu's Theory of Cultural Capital (1973), relates spiritual or religious values and behaviors to economic performance. It enjoys increasing traction in a globalized marketplace as various interests realize the importance of understanding the interplay of religious and spiritual affiliations and values. The cultural resources through which spiritual ideas impact beyond the confines of religion are broad, but the literature as yet is overrepresented at that end of its scope. At the other end of the spectrum it is difficult to draw a line between it and the imaginative resources, belief constructs, and values which it has informed or infused over time, but are no longer necessarily tied to religious conviction (Komin, 1991). It is this 'spiritually-oriented,' end of the spectrum, where it is less about economics and more about resources for "well-being," and where it shares attributes, interacts with and stimulates creative imagination, with which this paper is concerned.

The manipulation of spiritual emotion and sentimentality is nothing new, and questions of utility rightly attract political argument (e.g. Keller & Helfenbein, 2008). Bourdieu's assertion (1971) that schools act like churches, and are thereby complicit in the reproduction of power, has never-the-less a more positive similarity in that they can promote co-ownership of meaning-making that is strengthened in value and form by participatory emotion. The suspension of individual internal constraints in this setting, allows for a plasticity of credulity, and for either programmed or inspired thought. Thinking which operates in this environment, facilitating inspiration rather than programming, is permitted deviations from the strictures of thinking that are reinforced by the mechanizing forces outside. As an arena of 'possibilities,' classroom ecologies utilizing spiritually-oriented materials can challenge entrenched thinking, since many 'lessons' woven into such materials already activate cognitive dissonance, and scaffold the means by which transference can be facilitated in thought. In reaction to the negative, programming potential in Bourdieu's comparison, a spiritual capital decoupled from motives of control is less encumbered with constraints, less rewarding of dependent, passive learning behaviors, and more transferrable and adaptive in a globalized setting.

If creative thinking is a premium value, and spiritual thinking is a key to opening latent capacities for inspiration, then it is the attributes, styles and habits by which such inspired, value-attached thinking is attained, that should be scrutinized in order to find how it can be challenged and resourced in educational settings.

Malleability and Transferability: a search for utility

In the Thai context with which the following review is concerned, this exploration follows the predictive validity already attained by research in the circling domains of Educational and Social Psychology, in order to test the validity of the proposition that spiritually-oriented cultural materials engage certain thinking capacities, and, acculturated beyond the remit of religiosity, are suited to a transpurposing towards cultivating the capabilities or competencies required. The methods described below take their cue from studies and integrative models which show personality types and cognitive and learning styles to be both value differentiated and malleable (Zhang & Sternberg, 2006).

Research Background and Methods

Building on findings in research into fostering Higher Order Thinking Skills through interpretation of imagery (Hong Kong, 2006), the author has undertaken observational research in language classes in the UK (2008), Turkey (2009) and, below, Thailand, into the relationships between personality and cognitive style measures on one hand, and students’ responses to interpretative tasks modified or interceded with spiritual-religious, or other 'metaphysical' themes on the other. A predictive utility has arisen in that the degree to which subjects lean between personality measure dimensions relates to responsiveness to such materials, the plasticity of their beliefs and their openness to approaching ideas in newer ways. The productive element consists of writing tasks which highlight cognitive complexity as measured by deductive and interpretative skills, but also includes a value measurement implicit in motivation that especially non-native language learners betray value-attachment in the exactitude and effort applied to their analyses and descriptions. The aim of these approaches is to appraise and refine tools for purposing spiritually-oriented material as a means to challenge the habituated thinking behaviors that appear to impede cognitive 'ambidexterity'.

Discussion of findings as applied to Thai 'Analytical Reading' students using Buddhist imagery (N=135)

Can Empathy or Compassion as a demonstrated Thai cultural value (Komin,1990) in so much as it relates to "Mindfulness," be engaged to foster Multi-
perspective appraisal and related critical thinking skills?

In an initial intervention, student responses to the image of the “emaciated” Buddha and the question “what meaning does it have for you?” resulted in a surprising number of students, who applied little or no effort of thought or description to other emotive imagery, drawing very particular messages and supplying generous explanations of the ‘teachings’ to be derived from the image. A subsequent image, chosen to illicit empathy, as well as set the task of finding a ‘political implication’ to do with materialism, was, results suggested, better comprehended, and handled with more sensitivity than had the ‘spiritually-minded’ digression not taken place.

Any attempt to prove such a perception and to demonstrate its utility in teaching practice would require extensive trials of intervention tools and scaffolding strategies, and take into account obvious variables. Insights into the path such a process can take, however, can be found in analysis of the impact of personality measures on expressions of multiperspective thinking, and further, of the broader Societal Value acculturations as measured in Cultural Value Dimensions (Schwartz, 2004; Rokeach, 1973). The nominal example addressed here is the Hierarchical value dimension commonly ascribed to Thailand (Schwartz, 2004; Komin, 1990) wherein sympathies are expected to be modified by the influence of norm-loving and passive thin-king and learning behaviors, congruent with Sensing-Judging preferences on the Myers-Briggs Type Inventory (Zhang & Sternberg, 2006) A follow up intervention, including a control group and a group separated on the basis of higher academic performance, sought to question the strength of these influences, including a choice between 3 episodes in the life of the Buddha, with ‘messages’ of varying complexity, as well as an instruction to list “5 virtues or teachings.” An ‘empathy’ task related to a crime: the murder of a small child by two 10-year-old children, constituted the ‘transference’ tool. Students were further exposed to the possibility that the perpetrators were inspired in their crime by over-exposure to a violent horror film series (Child’s Play 1-3). All participants completed a Likert-scale Myers-Briggs Type Indicator test adjusted to high-light Sensing-Intuiting and Judging-Perceiving dimensions.

Analysis of results between the standard achieving groups showed that the unexposed group had a greater number of unsympathetic or unemotional responses (42% to 27%), and expressions of empathy were more weighted towards the perpetrators on the basis of the direct influence of the horror film (50% to 28%). The group exposed to the ‘spiritually-minded’ digression had a slightly higher number of highly empathetic responses (13% to 8%), but were more likely to have discussed the crime with expressions of empathy for most of of all the affected parties (23% to 11%) or to make mention of the impact on society at large (25% to 8%). Greater pragmatism was also discerned in ascribing the causes to the social environment or socio-economic conditions (13% to 8%). More in the experiment group answered solely on the question of the various impacted parties’ “feelings” (12% to 3%), while many in the control group focused solely on the causes (44% to 13%).

This result would appear to strengthen the hypothesis that the exposure, while marginally affecting the manner in which empathy or compassion was expressed, to a more pronounced extent, affected the degree to which empathy was extended to more than one or several parties, a marker of multi-perspective thinking.

**Personality Type and Thinking Behavior**

The interplay of personality type dimensions on these results, in themselves offer clues as to how transference and utility can be affected. Myers-Briggs tests revealed a very high preference for Sensing behaviors on the Sensing-Intuiting dimension (S=97; iN= 28), which correlates reliably with the Hierarchical value dimension (Schwartz, 2004; Komin, 1990), thus suggesting their acculturation, and thus malleability (Zhang & Sternberg, 2006). As stated above, Sensing-Judging behaviors are seen to be negative in relation to adaptive behaviors and creativity, and are associated with learner passivity, field dependence and dogmatism among other measures (Zhang & Sternberg, 2006). Indeed the Judging dimension was a consistent factor to account for a lack of expressions of empathy, irrespective of the intervention, and to bring the Thin-king/Feeling dimension into play. Unsurprisingly Judging type students were keen to apportion blame and to be preoccupied with punishment. A significant majority of students within the standard achieving student groups, however, fell within the Sensing-Perceiving combination (57%), with Sensing behaviors accounting for the likelihood of ‘lessons’ and ‘virtues’ being expressed as negative imperatives, matching expectations for hierarchical acculturation.

dimension, and TF to produce the most ambivalence among subjects.

1) E.g. “Don’t kill animals 2) don’t to commit larceny 3) don’t have carnal desire 4) don’t tell a lie 5) don’t drink some alcoholic beverage"
The attraction to Perceptive descriptors, however, may create a dynamic allowing “reflective” and “holistic” cognitive behaviors to mitigate some of the negative associations of Sensing behavior, and can account for less passive, dependent, or dogmatic responses. Additionally, the prevalence of desirable problem-seeking/problem-solving behaviors can be ascribed to the Perceiving dimension, in that students with this result were keen to put forward solutions.

**Intuitive Thinking Behavior, Creativity and Academic Performance**

A significant number of ‘Sensing’ MBTI scores also displayed seemingly conflicting attraction to Intuitive descriptors related to flexibility, and an ability to work in an unscheduled way, indicating that Sensing preferences are open to challenge and change. In the standard academic achievement groups, the rarity of Intuiting students on the Sensing-Intuiting dimension was pronounced (24%). Intuitive however accounted for more alternative or imaginative responses, with the intervention having had less significant effect on the control group 'Intuitive' than it did on those in the exposed group. This supports research findings (Sternberg, 1999) that Intuitive students, usually unrewarded in more common structured learning tasks, are likely to be attracted by tasks engaging their preferred thinking style and to benefit from this opportunity. As can be expected, students with better academic performance handled the tasks with greater communicative skill; greater propensity for multi-perspective appraisal and sharper reasoning, but significantly the proportion of students having Intuitive styles were far better represented (53%). It follows from this that Sensing behaviors are associated with passive and less effective learning, and, while socially rewarded, are not academically more useful or valued.

**Conclusions**

It can be established that the empathy/mindfulness quotient is likely high and entrenched in Thai society, and it can be more quickly elicited and engaged as a means to creative exploration as well as the fostering of multi-perspective critical appraisal, than among students of many other nationalities, and consequently to have leapfrogging potential. While the effects of the intercession of Buddhist narratives, which had a large part in the acculturation of these capacities and their high place in the cultural value system as a whole, require extensive testing to move beyond advocacy, the results of this mode of research demonstrate a valid basis for pursuing these, as well as other transfers between acculturated values and spiritual religious materials, in further experiment. Taking advantage of this acculturated capacity is also shown to be dependent upon internal impediments associated with cognitive behaviors that are both underpinned by personality type, and heavily informed by broader cultural value dimensions. There is a reasonable basis, however, from which to predict that the ‘cognitive dissonance’ produced at the interface of spiritual and ‘civic’ thinking is the place to look for a platform from which to effect pragmatic temperance of styles. While it is as yet unlikely to be within educators’ powers to simulate creative personalities, it is within the remit of education to confront impediments to adaptive behaviors that are less exercised due to preferences which have habituated students to less dexterous thinking behaviors. By adopting a sensitivity to personality type preferences and the cognitive styles they underpin, teachers can mitigate the trend of their receding within the learning process to a mere facilitating role, and instead prepare to take part in an educational future which is likely to have a more therapeutic role, in bringing into play the mixture of styles, and promoting a highly adaptive flexing and temperance of styles that can equip students with the “psychic ambidexterity” so advantageous and sought after in the globalizing marketplace.

**References**


Robert Verburg received a Master of Education from the University of Hong Kong and had a Fine Art and English Literature double-major Bachelor of Arts from the University of Cape Town. He has taught English language classes at language schools and tertiary education institutions in the UK, Colombia, Hong Kong and Turkey, and currently teaches Writing and Textual Analysis courses for Bangkok University’s Department of Humanities.