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Cultural ecology and isomorphism applied to educational planning in China's Inner Mongolia: A new rubric

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# Cultural ecology and isomorphism applied to educational planning in China's Inner Mongolia

## A new rubric

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### Abstract

**Purpose** – Worldwide, dichotomies exist within macro- and micro-educational planning of systems of education. Inner Mongolia represents an interesting case in the sense that its educational system has been influenced by its historical and passive reliance on China's political reforms and ongoing identity issues. The purpose of this paper is to discuss how cultural ecology and isomorphism can be compared and managed in the form of a dualism, involving complex organisational structures, operational procedures, and learning outcomes. These may be macro in focus but may also promote the development of social and cultural identity at micro levels. Emphasis is placed upon examining cultural ecology, a concept advocated by the cultural anthropologist, Roy Rappaport, but with concern for embracing indigenous knowledge as a complement to traditional educational attainment.

**Design/methodology/approach** – This discussion further considers the feasibility and implementation of a rubric (the Denman-James Rubric (DJR) that is a custom-tailored pilot project designed to visually demonstrate one's mastery of creativity and communication, reflective thinking, and analytical and problem solving skills. A demonstration of the DJR is presented to highlight the progress made in its usage and utility in Inner Mongolia and elsewhere.

**Findings** – A primary research goal is to investigate whether differing teaching and learning approaches and the use of alternative assessments over a period of time can promote, encourage, and empower students into taking greater ownership of their learning.

**Originality/value** – This narrative is an original look at Inner Mongolia's educational system and how it has been influenced by its historical and passive reliance on China's political reforms and ongoing identity issues.

**Keywords** Isomorphism, Cultural ecology, Educational planning, Inner Mongolia, Rubric

**Paper type** Research paper

### Real world applicability: two concepts

#### *Concept 1: cultural ecology*

Cultural ecology is a logical outgrowth of certain developments in anthropology (Netting, 1977, p. 4) that no longer relate to just the physical environment or ecosystem. It views human behaviour as a distinctive response to specific contexts within an ecosystem. Since Steward's (1955) initial use of the term in his book, *Theory of Culture Change*, anthropologists have expanded the definition to include more abstract social concepts such as political and social economy and applied it to studying the concepts and applications of power and resources (divergence). This modification in definition came in response to an undervaluation of inclusivity and dissatisfaction with formulations of cultural values and types, which prompted anthropologists to evidence base their research on wider-ranging and systematic ecological relationships (Netting, 1977, p. 6).



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An example of this expansion in definition may be found in Rappaport's (1967) book, *Pigs for the Ancestors*, in which he applied an evidence based, mathematical formula for calculating caloric intakes for the carrying capacity of the Tsembaga, a tribe and region of the Maring population in New Guinea. By assessing the total caloric requirements of males and females at differing age groups in this region, Rappaport was able to not only determine what was considered sustainable – cultural – practices by the villagers, but how important certain rituals – for example, pig hunting – were considered imperatives for maintaining and preserving the natural ecosystem. This innovative approach to anthropological research assisted in confirming the importance of localised cultural practices and their alignment with as a contributing part of the ecosystem. As Rappaport points out:

Culture has been regarded here not as itself a whole, but as a part of the distinctive means by which a local population maintains itself in an ecosystem and by which a regional population maintains and coordinates its groups and distributes them over the available land (Rappaport, 1967, p. 233).

### *Concept 2: isomorphism*

Like cultural ecology, the term isomorphism has developed breadth in its meaning. Initially defined as a corporate and categoric network of interrelations and an enmeshed system, it has evolved to include “[...] the emergence and structuration of an organizational field [...] and the homogenization of these organizations” (DiMaggio and Powell, 1983, p. 148). Instead of placing greater attention on sustainability practices or preservation of a culture or way of life, emphasis is placed on the convergence and of perpetual practices – bureaucratic and rationalistic in origin and of like-mindedness in structure, culture, and outputs. DiMaggio and Powell identified three types of institutional isomorphic change: coercive, mimetic, and normative, all of which are derived from different conditions and lead to patterns of different outcomes:

Coercive isomorphism results from the pressures applied by other organisations (in the environment) on which the organisation is dependent (e.g. governmental policies and laws). Mimetic isomorphism stems from uncertainty caused by poorly understood technologies, ambiguous goals and the symbolic environment, which induces organisations to imitate the behaviour of perceived successful organisations. Normative isomorphism stems from professionalization. Professionalisation leads to homogeneity both because formal professional training produces a certain similarity in professional background and because membership of professional networks further encourages such a similarity (Van Vugt, 2009, p. 10).

The common thread that binds each involves homogenisation, which often contributes to a lack of innovation and insight. Robinson (online) concurs with this notion in his TED talk about how schools kill creativity and how higher education, while an economic engine, has internal and external forces that continue to constrain innovation (Strange, 2013, p. 120). While globalisation forces may be helping to prepare a “mobile global worker/citizen”, the call for improvement of twenty-first century skills brings to play attributes such as innovation, creativity, and communication. These sometimes have demonstrably different definitions and/or applications in different cultures. For instance, the Corporate Recruiters Survey Report (Graduate Management Admission Council, 2014, p. 19) ranked attributes such as integrity, drive, innovation and creativity, ability to inspire others, and strategic vision as the skills needed for leadership positions worldwide. At the same time, “effective communication” was identified as sought by US

employers in the recruitment phase (Kaplan, online), and graduate recruiters in Europe highlighted the importance of teamwork as “the most important skill” (Flash Eurobarometer, 2010, p. 5). Regardless of attribute, it is believed that all attributes intersect one another, but at specific periods of time. Temporal/spatial dimensions do exist in terms of both the importance and currency of each, but the overriding characteristics shared by all refer back to employability, versatility, and adaptability.

### Implications for education

These findings seem to suggest that aligning education with employment requires further investigation. In recent years, the OECD’s Assessment of Higher Education Learning Outcomes has attempted to rank universities based on how successful their graduates are employed within their respective disciplines; however, the comparison of institutions and disciplines has proven difficult. Developing core competencies and specific learning outcomes for specific skill development in a given discipline could be considered isomorphic oriented, in that accreditation, alignment with regional and/or national priorities, and professional affiliation influence what an institution can or cannot do. Instead of measuring academic success as it relates to institutions, a strategy which supports neo-institutional theoretical approaches (see Wiseman *et al.*, 2014; and the counterargument posed by Steiner-Khamisi), measuring one’s capability and potential appears to serve the dual purpose of aligning both individual skill strengths with employment prospects. While the approach of measuring individuals may not necessarily assist the nation-state with the measuring of human capital, it would offer greater scope for understanding productivity outputs locally and create a greater “fit for purpose” between education and employment. It is believed that diversity – rather than convergence – of thought would then be seen as an imperative for fostering innovation and creativity, particularly in curricular reform. But what if the focus were on developing and assessing creativity and innovation for the student? Emphasis in scaffolding such attributes would then be placed on the quality of a student’s work rather than the measurement or ranking of a particular group, institution, or community. Through longitudinal studies using multivariate analysis, such evidence, despite it being subjective-in-nature, would provide us with a cultural-lens on how we approach and respond to these terms (attributes), how attributes can be better aligned with core competencies within disciplines, and how patterns can emerge to demonstrate cultural – and possibly national – composites of educational strengths/weaknesses.

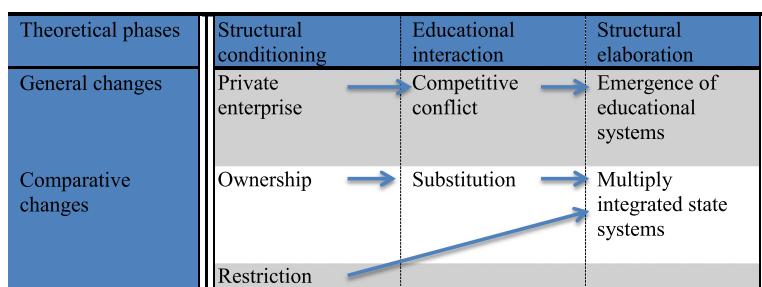
#### *Educational planning*

The relationship between education and the nation-state necessarily involves educational planning – increasingly so. Macro-educational planning tends to concentrate on groups of institutions rather than individual actors and contextual situations, which is emphasised more by a micro-educational planning approach (Archer, 1979, p. 25). Macro-educational planning is intentionally broad and descriptive, bridging theory with practice. Educational planning specialists experienced their zenith in the early 1960s when education was seen as the vehicle for economic prosperity and nation-states began to compete against one another for educational advancements (e.g. Sputnik, 1957). Over time, they fell out of favour due to an over-reliance on theory, an inadequate knowledge of actual conditions abroad, insufficient experimentation before the launch of projects, and a lack of involvement in the implementation of their plans (Bray and Varghese, 2011, p. 41).

Globalisation has since replaced what is now understood as human capital theory and is increasingly viewed as a sphere of influence that impacts education on a worldwide scale. New theories such as world-systems theory (Wallerstein, 1974), world-culture theory (Robertson, 1992; and others), and southern theory (Connell, 2007), are considered forms of macrosociology (Archer, 1979), which use international standards, supra-national pursuits, and meta-data to draw from international comparisons to inform policy and supposedly improve "standards". However, gaps in knowledge have become increasingly apparent particularly when addressing the ambiguity of cultural bias, complexity in global/local intersections, and general applicability. For example, cultural bias may involve one's worldview in terms of approaching educational research as either participant or observer. Global/local intersections may be viewed as gaps between ministries of education and educational institutions, suggesting that communication between the nation-state and educational institutions (universities and schools) may require improved links through intermediary actors (International Institute for Educational Planning, online). "Applicability" refers to the notion of educational borrowing in one part of the world and applied to another (Steiner-Khamisi, 2004), whereby local and cultural contexts are not fully explored, dependency ignored and/or propagated (McLean, 1983), and generally not fit for purpose.

Reviewing educational attainment over the period since the 1960s, evidence seems to suggest that the world is increasingly investing in knowledge-based economies. There is increasing demand for higher level skills in the workplace (World Bank, 2002, p. 26). The challenge in focusing more on higher level skills, which are particularly relevant to a specific degree or credential, is that micro-educational planning becomes critical. Emphasis is no longer on the whole but on its parts, particularly when aligning education with employment. Micro-educational planning therefore emphasises the preliminary examination of actors – individual students and educators rather than schools and education systems – and the subsequent study of social organisation concerning these individuals (Archer, 1979, p. 25) (Tables I and II).

Archer's cycles help illustrate how complex educational planning becomes when agency moves from comparative to competitive changes. Under centralised systems, much of the changes often are considered "stop-go". In the case of curricular reform, where educational systems can be simplified as either teacher- or student-centred, employability is becoming increasingly paramount – particularly in the Asia-Pacific – yet it is largely disregarded and dismissed in the development of academic degrees. From an educator's perspective, employability relies on the professional standards in the discipline or field of study and its currency. From a student perspective,



Source: Modified from Archer (2013, p. 10)

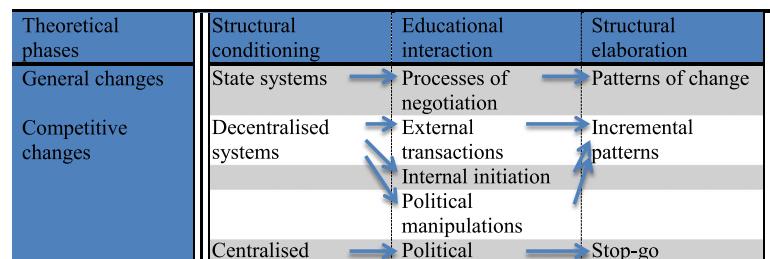
**Table I.**  
Archer's diagram of Cycle 1, social origins of educational systems

employability is understood as gainful employment in one's chosen field of study that offers some sense of satisfaction, job stability, and interest. From a curricular standpoint, employability refers to generic or soft skills, which may not show direct relevance to specific higher skill development, particularly for professional credentials. Many generalist degrees such as the Master's in Business Administration have suffered enrolment setbacks around the world, particularly in student-centred systems, because of the perception that they lack relevance, importance, and currency in relationship to the current job markets. Relevance to the future profession is therefore important to consider, particularly in terms of instructional content and assessment. In a recent OECD survey of over 10,657 students, education majors viewed generic skills as more relevant to the future profession than to the degree itself (OECD, 2013, p. 181). This suggests that students perceive generic skills as more connected to a student's education, welfare, and future rather than the credential.

### *Higher education*

The landscape for higher education is changing so rapidly that existing structures (physical and virtual) are being questioned and often dismantled and replaced with those that are more versatile and robust. Massive open online courses have caused pause and panic as they affect how higher education knowledge is disseminated and advanced within the nation-state and beyond. Given the substantial costs associated with academic staff salaries, many institutions offering postgraduate studies are mobilising their advanced degree students to provide administrative and academic support. Tenure track is increasingly considered a privilege of the past for all types of universities, and in recent years, academic areas emphasising undergraduate education are placing greater attention upon instructional design as opposed to basic research. As a result, differentiation is becoming pervasive across and within institutions, resulting in a great variety of experiences and expectations both internally and externally. For academic staff, it seems as if loyalty to one's discipline vs one's employer remains a constant issue, suggesting that organisational change, while inevitable, is still difficult to implement. Academic departments find that pressure is exerted upon them increasingly by the wider university community, their discipline, funding, and the job market.

In the 1970s, when the economics of education was seen as a new branch of the field, human capital was used as an explanatory variable among others to explain outcomes. However, the lack of conceptual consistency was compensated for by the growing reliance upon statistical methods in order to demonstrate the salience of the variables concerned (Fine, 1999, p. 414). In the case of the social sciences, often referred to as the new humanities, social relevance of the degree and its research has taken precedence in



**Table II.**  
Archer's diagram  
of Cycle 2, social  
origins of  
educational systems

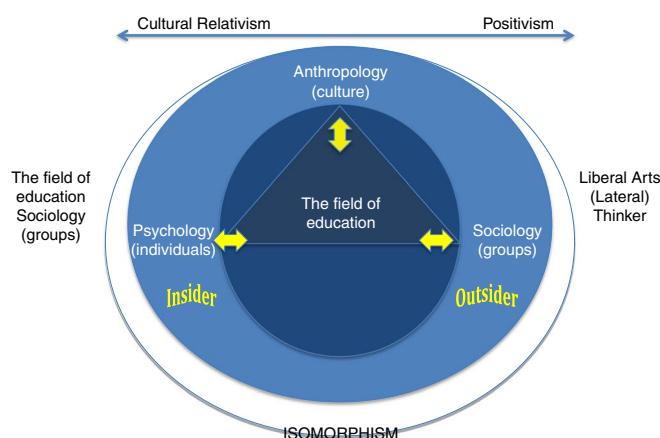
Source: Modified from Archer (2013, p. xiv)

present-day terms. de Zepetnek (2007, p. 49) argues that the theoretical and institutional contexts of the humanities and the social sciences have been replaced or taken as alternative designations of comparative literature, suggesting a need for rejuvenation. While some scholars contend that there must be incremental ways to integrate the innovative with the traditional when reforming curricula, an isomorphism exists between knowledge fields and knowledge communities that transcend cultural and national boundaries.

Sets of general philosophical assumptions and research methodologies in the social sciences (anthropology, sociology, and psychology) are disciplinary-focused in approach to maintain and/or legitimise their respective knowledge community to which they ascribe. In other words, they are distinct academic disciplines whereas education is a field of study. When addressing the issue of how education contrasts with the social sciences, Becher puts forward three arguments: first, education lacks academic culture or a characteristic way of life; second, research vigour implicit in disciplinary study; and third, rationale for making orderly what looks like messy phenomena (Becher, 1994, p. 160). Regardless of how one perceives education as a field of study, the absence of an isomorphism in any one knowledge-based community fosters not only freedom of expression but fosters better cross-disciplinary fertilisation. Figure 1 reflects how the social sciences can be used in the field of education – present a caveat – given the existing tension between positivism and cultural relativism.

The question is how do we know something is “right?” If it is explored, would it be best served from an outsider’s or insider’s perspective? This is where a better sense of unity in the disciplines can be taken into account (Becher, 1994, p. 160), as disciplinary research ensures that research protocols are followed for validation and confirmation. In education, the dilemma of conducting research as an outsider through objective observation is “distancing” while, as an insider, research may be perceived to be as if one were in a vacuum. This lack of coherence presents a further dilemma concerning worldview. When addressing educational phenomena, who is to say that an outsider’s worldview is more valid than an insider? As Connell states:

The development of social science involves an educational process, which we now need to think about on a world scale. The unification of social science is not a process of propagating the metropole’s truth, because the metropole too must learn – at least as actively as the periphery (Connell, 2007, p. 224).



**Figure 1.**  
Relationship between the field of education and the social sciences

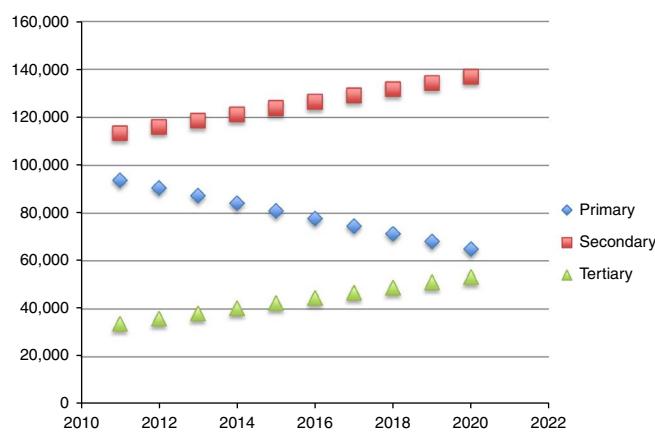
## Application of the discussion to the Chinese context

Assimilation of ethnic minorities into the majority Han Chinese population is an aspect of the larger issue of assimilation of indigenous populations into colonising cultures. While China has initially adopted an isomorphic approach in its attempt to create a unified citizenry with a singular national identity and language, this has proved both challenging and limiting in recent years. Notwithstanding a two-tiered system in assessing aptitudes and core competencies, the nation has been forced to reconsider its options, including the encouragement of cultural – but not political – pluralism.

A major issue in this discussion is whether it is possible to link cultural ecology with isomorphism in China. Do the opportunity to learn (OLT) and educational assessments adequately record levels of achievement or level of engagement/OLT? In other words, is poor performance simply an indication that ethnic minority students are being asked to depart from conduct (or expression) that conforms naturally to their traditional culture? Can the connection between OLT and educational achievement be seen as a basis for a national reconsideration of curricular coverage (e.g. more inclusive, relevant curriculum)?

According to the report, Australia in the Asian Century (2012), China has been able to exploit its favourable demographic situation by boosting productivity through the advancement of its infrastructure. In a prior study (Denman and Dunstan, 2013), analysis of projected participatory rates of Chinese students studying at primary, secondary, and tertiary levels reflect interesting trends that suggest that this may change in the foreseeable future (Figure 2).

Secondary data were collected from the UNESCO Global Monitoring Reports using a linear regression model to estimate enrolment projections over a 20-year period (1998–2020). Primary school data clearly indicate that while the one child policy worked in terms of intakes from 2010 to 2020, secondary and tertiary enrolments are clearly reflecting increases over the same period. This seems to suggest that a significant proportion of students will not only be going through the system, but they will be looking for work upon graduation. Supply of educational institutions in regional and rural areas of China is also questioned, as the Chinese Government decided to close schools in areas where quality and access to resources were considered inadequate (Xing, 2014). As the government is attempting to re-establish these schools – and in



**Figure 2.**  
Enrolment  
projections (1,000s)  
at the primary,  
secondary, and  
tertiary level in  
China PRC

Source: Denman and Dunstan (2013)

particular, ethnic minority and mixed schools – the focus has shifted to quality education and instruction.

China has also been able to double the income per person within the last decade, but an estimated 20 million migrants have had to return to rural areas due to rising unemployment (Mitchell, 2009). For ethnic minorities, finding jobs has been challenging at best. It is believed that improving educational attainments of ethnic minorities would serve as an equaliser, but discrimination and preference for the Han majority continues to hamper progress.

China has long accepted that the best type of education is one which is examination oriented. Historically, the content of examinations included the Confucian classics, history, literature, essay writing, poetry, and calligraphy (Dello-Iacovo, 2009, p. 241).

### *Inner Mongolia*

According to China's Tabulation on Nationalities of 2,000 Population Census of China, Monguls represent 17.1 per cent of the population in Inner Mongolia.

If employability refers not only on how student graduates prepare for and are able to contribute to the economy and society (Higher Education Academy, online), then interventions in curricula should reflect how Inner Mongolian students use their acquired knowledge to meet the ever-changing dimensions of the workplace and community in which they live (Table III).

Given English scores after 2012, greater weighting has been placed on English language as a subject. Considering that many Mongolian teachers still have to translate their classes from Mongolian to Chinese and then to English, they continue to be at a great disadvantage when compared to the Han majority (Figures 3 and 4).

Eleven principles of research partnership are as follows:

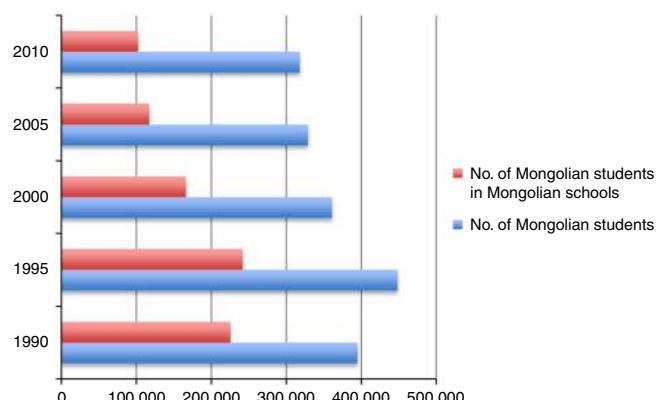
- (1) decide on the objectives together;
- (2) build up mutual trust;
- (3) share information; develop networks;
- (4) share responsibility;
- (5) create transparency;
- (6) monitor and evaluate the collaboration;

Subject/year	Before 2001					After 2012
		2001	2004	2006	2008	
Math	150	150	150	150	150	150
Mongolian	150	150	150	150	150	150/75
Chinese	150	150	120	105	75	75
English			30	45	75	75/150
Liberal arts comprehensive or science comprehensive		300	300	300	300	300
Politics for liberal arts or chemistry for science	150					
Total	750	750	750	750	750	750

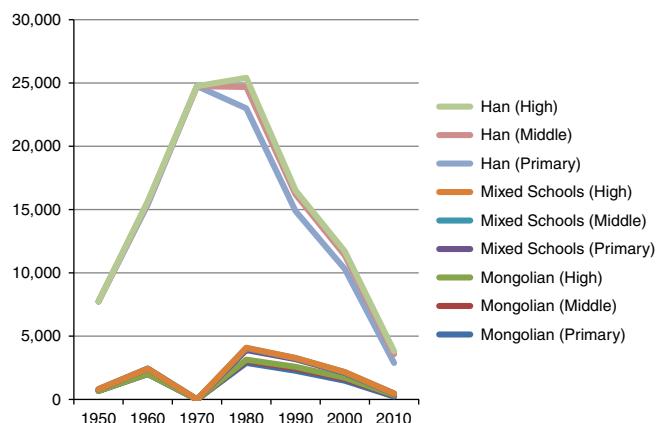
**Notes:** Liberal arts comprehensive includes geography, politics, history, or science comprehensive (biology, physics, chemistry). Politics for liberal arts and chemistry for science

**Table III.**  
University entrance  
exam subjects and  
scores (Mongolian  
students)

**Figure 3.**  
Distribution of  
Mongolian students  
and schools  
(1990-2010)



**Figure 4.**  
Distribution of types  
of schools in inner  
Mongolia (1950-2010)



- (7) disseminate the results;
- (8) apply the results;
- (9) share profits equitably;
- (10) increase research capacity; and
- (11) build on the achievements.

Source: KFPE (1998, p. 8) in Crossley and Holmes (2001, p. 402).

### A new rubric

Adopting a cultural ecology perspective, our research seeks to examine how the influences of the ecosystem in which a school or individual nests impacts on achievement in learning.

We have designed an alternative, formative assessment model, the Denman-James Rubric (DJR), as an online visual assessment tool that tracks a student's progressive achievement in any course, subject or skill and provides an evidence base for measuring and scaffolding knowledge acquisition. We have been collaborating with

Minzu University of China, and Inner Mongolia Normal University to trial this non-isomorphic, more culturally sensitive approach by applying it to improving educational attainments for ethnic minority students.

Our overarching question is this: can educational achievement in ethnic minority groups be improved and ethnic knowledge more valued if education is more engaging and relevant, taking into account the cultural context of learning and application of knowledge?

A prototype of the DJR tool has been developed and the current version provides basic functionality for investigating and promoting learning with regard to five attributes: creativity, problem solving, deep or reflective thinking, critical thinking, and communication. These attributes were chosen because they are all skills required for successful innovation. Furthermore, of the twenty-first century skills, these are perhaps the five most challenging to understand, learn, teach or assess, especially cross-culturally, and yet they are possibly the most important in terms of the future survival of humankind and the solution of problems we face. Reviewing the research literature and reports from employers of graduates, these skills are often perceived as inadequate and have so far proven to be difficult to improve. Very few educational interventions have demonstrated much impact. There still remains the unresolved issue regarding whether these types of skills are best attained through explicit instruction or embedded acquisition. There are studies of at least some of these attributes that suggest cultural variation is a factor.

Given their value-laden nature, each attribute may be interpreted differently by various cultures, experience, and discipline. This has been taken into account, which allows us to investigate how such attributes are subjectively defined, assessed, and valued over time.

The first stage of our collaborative research project is a “proof of concept phase” for the DJR prototype. It allows us to acquire a more intimate understanding of the nature of the problem being addressed. Beyond assessment of the usability of the software, this phase of our investigations includes survey of key stakeholders – teachers, students, parents, local community, and employers – concerning their definition, understanding and assessment of “attainment” in these five attributes. After use of the DJR to assess and mentor students, both teachers and students will be surveyed again. The data will be analysed to identify similarities and differences in definition of these attributes and how they are currently being assessed, examine how this aligns with local, national, and international expectations, and evaluate the impact of the DJR upon perceptions and practice.

Addressing the subject of reliability and validity of self-assessment, self-reported teacher logs or interviews are considered questionable, so textural and tonal analyses of responses to open questions will allow comparison of the texturally/tonally implied and the explicit results. As a way to control for differences in background factors such as system policies, classroom organisation, teacher knowledge, and home environment that can influence OLT and the quality of instruction students receive, individual gain scores or progressive achievement are utilised rather than just examining attained achievement. This practice should more closely link improvements to changes in curriculum or instructional approach.

Originally designed as a software tool to aid collection and analysis of comparative research data, it is now obvious that the DJR is a multi-functional tool that is able to serve other purposes. It can be used by a teacher to mentor students, by students to monitor and take ownership of their own learning, coupled with an e-portfolio to provide evidence to employers, be accompanied by online independent learning resources, or utilised in workshops to assist with attribute assessment in professional development for academics and leaders/managers in organisations. How the DJR will finally evolve is unresolved at the moment and will be guided by the outcomes of our research.

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### About the authors

Dr Brian D. Denman currently serves as the Secretary-General of the World Council of Comparative Education Societies (WCCES), an international organisation consisting of over 45 comparative and international education societies worldwide. His particular areas of expertise include the study of educational systems, educational planning and policy studies, international higher education policy, and comparative education research. At the UNE's School of Education, Dr Denman serves as a Course Coordinator for Training and Development and teaches within the Contextual Studies in Education group. Since joining UNE in 2003, he has served as a Visiting Professor at the Minzu University of China (2012; 2014), Hiroshima University (2011), IIEP UNESCO Fellow (2008), an Executive Council Member of the World Council on Comparative Education Societies (2004-2011), an Editor-in-Chief of *The International Education Journal: Comparative Perspectives* (2007-2011), and the President of the Australian and New Zealand Comparative and International Education Society (2006-2009). Brian has previously worked for a US university in an overseas branch campus based in China as a Faculty Director, served as a Director of International Development, and worked in various positions in study abroad. Dr Denman has a PhD in Social and Policy Studies in Education from the University of Sydney, a MA in Educational Foundations, Policy, and Administration from the University of Michigan, Ann Arbor, a BA in Psychology from the University of Colorado, Boulder, and a BA in German Language and Literature from the same institution. Dr Brian D. Denman is the corresponding author and can be contacted at: bdenman@une.edu.au

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