

AN INTRODUCTION TO RESEARCH WITH THE TEACHERS' CONCEPTIONS OF
ASSESSMENT INVENTORY: A WESTERN CONSTRUCT?

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Abstract:

The Teachers' Conceptions of Assessment inventory has been used in studies with primary and secondary school teachers in New Zealand and Queensland. It has been translated and used in two studies in Chinese contexts (i.e., Hong Kong and China). The Western studies consistently support the existence of four inter-correlated conceptions (i.e., assessment makes schools accountable, assessment makes students accountable, assessment improves teaching and learning, assessment is irrelevant). While similar factors have been found in the two Chinese studies, it was apparent that the factor inter-correlations were quite different. This was especially noted around the relationship of improvement and student accountability factors which were highly correlated in Chinese studies but weakly correlated in Western studies. This suggests that while the British assessment *for* learning policy is being advocated around the world, there may significant factors in how assessment is understood and used in Chinese contexts that require an alternative policy development. To that end, two studies have been conducted to extend our understanding of what assessment means to teachers in Chinese contexts.

AN INTRODUCTION TO RESEARCH WITH THE TEACHERS' CONCEPTIONS OF ASSESSMENT INVENTORY: A WESTERN CONSTRUCT?

Teachers' opinions, attitudes, and beliefs (a.k.a., conceptions-Thompson, 1992) play an important part in mediating how educational reforms are implemented in schools and classrooms (Richardson & Placier, 2001). Explicit attention to teachers' conceptions of the purposes of assessment and their practices of assessment is important since much educational policy related to assessment is implemented by and through school teachers. There is a strong tension between accountability/evaluation uses and improvement-oriented purposes specifically related to educational assessment, testing, and examination. On the one hand, assessments are used to evaluate the quality of schools and teachers, as well as certify the learning of students, and, on the other hand, assessments are used to inform teachers, administrators, governments, parents, and students as to what aspects of learning have been mastered and what aspects need to be taught and learned next. While not necessarily incompatible or mutually exclusive, whenever high-stakes socially or politically mandated consequences are attached to assessment results, it seems rational to expect the accountability purpose to dominate in the thinking of teachers.

It is expected that differences in culture or society lead not only to differing policies, but also distinctive conceptions of practices or processes. For example, Hamilton, et al. (2007) reported that teachers in California, Georgia, and Pennsylvania had very similar responses, experiences, and attitudes towards standards-based accountability assessments; they attributed this to similarities between the systems. Similarly, teachers in New Zealand and Queensland had very similar conceptions of assessment (Brown & Lake, 2006). Furthermore, Brown and Harris (2009) reported that recent, proactive school policies to use testing as part of school-wide improvement initiatives modified the beliefs teachers had as to

the purpose of assessment; the improvement-oriented purpose was replaced by a school accountability purpose as the dominant conception. Hence, it would appear that how teachers understand and value the competing purposes of assessment is sensitive to both general and specific policy priorities.

The model underlying the research into teacher conceptions of assessment (Figure 1) has twin, interacting tracks leading to student outcomes. In the words of Brown and Harris (2009, p. 70):

The conceptions of both teachers and students are influenced by various policy directions and family priorities and these beliefs, in turn, guide their separate teaching and learning practices. These two pathways are shaped by and respond to societal and cultural contexts, meaning that there will be different beliefs and practices in differing social, ethnic, and cultural groups. Note that this model does not attempt to portray the complex paths leading to teachers' and students' conceptions, which have been hinted at in Pajares (1992). ... teacher beliefs are seen as mediating between policy and outcomes, rather than as external to the implementation processes. Second, policy directions are seen as a function of priorities within society and culture, suggesting that variation in conceptions and practices within societal contexts will be less than those between contexts. Third, students themselves are thought to have a strong contributing role in shaping their outcomes.

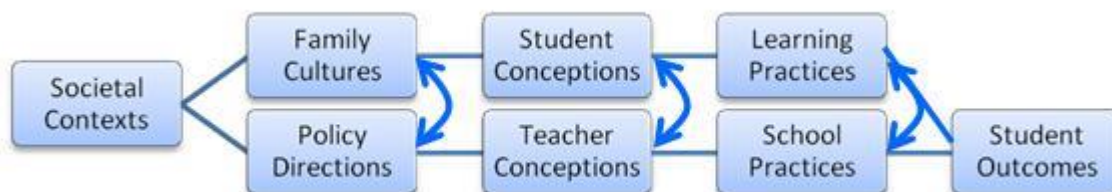


Figure 1. Conceptual framework of relations leading to outcomes (taken from Brown & Harris, 2009, p. 70)

This paper introduces a research tool (Teachers' Conceptions of Assessment inventory [TCoA]) that has been used in a number of international studies in order to set the scene for understanding the strengths and limitations of the inventory for cross-cultural comparative purposes. A brief description of the policy and cultural priorities of the contexts in which the TCoA inventory was developed and validated are given. Early cross-cultural studies with Chinese populations of teachers are described to illustrate important preliminary differences. As a consequence, this paper sets the scene for the development and analysis of a revised and extended Chinese-Teachers' Conceptions of Assessment inventory (C-TCoA) tested in mainland China (Gao, 2010) and Hong Kong (Hui, Yu, & Brown, 2010).

The Teachers' Conceptions of Assessment inventory

The TCoA inventory was developed in New Zealand (Brown, 2002) on the assumption that four major purposes were sufficient to understand teachers' conceptions of the purpose of assessment (Brown, 2008; Heaton 1975; Shohamy 2001; Torrance & Pryor 1998; Warren & Nisbet 1999; Webb, 1992). These were: (1) assessment improves teaching and learning, (2) assessment makes students accountable for learning, (3) assessment demonstrates the quality of schools and teachers, and (4) assessment should be rejected because it is invalid, irrelevant, and negative. Developmental studies with the TCoA led to the conclusion that both the improvement and irrelevance conceptions were multi-faceted containing multiple sub-factors (i.e., improvement contained assessment improves teaching, improves learning, is valid, and is descriptive; irrelevance contained assessment is ignored, is bad, and is inaccurate). Furthermore, these four main factors were inter-correlated and had

different mean levels of agreement; suggesting that teacher conceptualization of assessment is a complex state of affairs wherein changes to policy or cultural priorities may be reflected in different correlations among the factors and different mean scores for the factors.

New Zealand primary teachers were found to have high mean agreements with the improvement and student accountability conceptions and relatively negative opinions towards the remaining two conceptions (Brown, 2004). However, it was also found that the improvement conception was moderately correlated with school accountability and weakly correlated with student accountability, suggesting that, while grading students was recognised as a purpose it was more negative than positive. It has been argued that these views are consistent with the child-centred pedagogy of New Zealand primary school education (Brown, 2008). The results of this survey were cross-validated with three independent samples of teachers—primary and secondary in Queensland (Brown & Lake, 2006) and secondary New Zealand teachers (Brown, 2007). While the measurement model of the inventory fit three groups (i.e., not Queensland secondary), there were interesting differences. The secondary teachers gave much greater agreement with the conception that assessment was making students accountable and this had a moderate rather than weak correlation with improvement. In a reanalysis of the TCoA data to create a well-fitting model for Queensland teachers, it was found that secondary and primary teachers in that jurisdiction were different (Brown, Lake, & Matters, 2009) in their understanding of assessment. These two results were interpreted as being consistent with both the administration of school qualifications assessments only with secondary students and with an increasing expectation of independent accountability among adolescents. Hence, there is strong evidence that the contextual differences associated with secondary schooling impact on teacher conceptions of assessment.

Conceptions and Societal Priorities

However, it should be noted that both New Zealand and Queensland have very similar policy frameworks relative to educational assessments (Brown, 2008). Up to the government policy being introduced in 2010, there have been no compulsory national assessments or tests in the primary school sector in New Zealand. While much low-stakes system monitoring and classroom assessment takes place in the first eight years of schooling, the emphasis is on identifying student learning needs and demonstrating that progress has been made. The high-stakes assessment of students takes place only in the final three years of secondary schooling (Years 11 to 13) through a combination of internally-administered assessments and external end-of-year examinations. Thus, tests and examinations in New Zealand are evaluative for students (especially in the final years of schooling); whereas, for the first 10 years of schooling assessment is in practice intended to be improvement-oriented.

Almost all of the assessment in Queensland schools for all year levels (P-12) is school-based (i.e., teacher designed and managed). In the primary school, there is no mandatory assessment beyond the national, federally-funded, literacy and numeracy testing program-standardized tests with results reported against national benchmarks in Years 3, 5, and 7. The junior secondary system (Years 8-10) has un-moderated school-devised assessment and since 1972 there have been no external examinations in Queensland. It is only in the senior years (i.e., 11 and 12) of secondary school that there is a rigorous system of externally moderated school-based assessment (which includes the application of state-wide standards). Thus, Queensland teachers do not have to prepare students for common achievement standards or government-mandated common assessments in the primary and junior secondary years of schooling in Queensland. Hence, the results reported using the TCoA with teachers in New Zealand and Queensland may be driven by shared low-stakes, student-centred, improvement approaches to educational assessment.

The TCoA in Chinese Contexts

This means, assuming the proposition that societally-derived policy and cultural priorities shape teacher conceptions is valid, that in other societies with different frameworks, teachers' conceptions of assessment should not fit so readily the current model. Lack of fit would also suggest that the four main factors of the TCoA inventory may not be sufficient for use in other societies, even with high-quality translation/adaptation. Further, even if the same factors are apparent, it may be legitimate to expect the pattern and strength of the paths among the factors would be statistically not invariant for samples taken from quite different populations. In other words, while some factors may be stable across populations, we can legitimately expect the correlations between those factors to differ across societies.

A program of collaborative international comparative studies has begun with researchers in Spain (Remesal, 2009), Holland (Segers, Tillema, & Ploegh, 2009), Cyprus (Michaelides, 2009), Hong Kong (Brown, Kennedy, Fok, Chan, & Yu, 2009), and China (Li & Hui, 2007). These comparative studies have highlighted important differences in teacher conceptions of assessment and have suggested that there may be important aspects of teachers' conception of assessment missing in the current model and inventory. The studies carried out in Chinese contexts provide a strongly contrasting assessment environment to the New Zealand/Queensland studies.

Both Hong Kong and China have long traditions of high-stakes examinations to select students for limited spots in higher levels of education or in higher-rated educational institutions. Indeed, there is at least 1000 years of history and social support behind the use of public examinations as a selection tool in Chinese contexts (Paine, 1990). Cheung (2008) makes it clear that public examinations are necessary even in contemporary Hong Kong to prevent corruption and collusion in the selection of meritorious candidates for limited resources.

To exemplify these societally-defined practices, consider the use of examinations in Hong Kong. The Hong Kong Attainment Test run in Pre-S1 helps classify feeder primary schools to the three attainment bands of secondary schooling. High-stakes examinations in Years 11 and 13 (i.e., HKCEE and HKALE) select a diminishing number of candidates for opportunities in the next level of schooling (e.g., 60% of HKCEE graduates win places in government funded 6th Form colleges and only 18% of the cohort obtain funded places in Hong Kong universities). The reputation of schools is often largely determined by absolute student scores, despite efforts of the Education Bureau to introduce value added information systems into place as a more defensible means of evaluating school quality. The use of public examinations for selection of students, evaluation of schools and teachers is hardly less aggressive in China proper. Hence, we should expect teachers in Chinese societies to have quite different perspectives on assessment to westerners.

Preliminary Hong Kong TCoA studies.

After careful translation of the TCoA into Chinese, a survey of nearly 300 primary and secondary school teachers in Hong Kong was carried out (Brown et al., 2009). The fit of the model was marginal and improved somewhat when mapped to a newly developed Assessment Practices Inventory. The most important different feature of the TCoA results was that among Hong Kong teachers, there was a strong and positive correlation ($r=.91$) between the conception that assessment evaluates students and assessment is for improvement. In New Zealand, the same two conceptions were very weakly correlated ($r=.21$). This difference was attributed to cultural features of the Confucian system in Hong Kong which emphasizes educational testing as a force for improved learning. However, the conception of assessment is for improvement was a negative predictor of using practices related to assessment for school accountability. This was considered a parallel result to a New Zealand study with primary school teachers (Brown, 2009) which found that the conception

of assessment for school accountability predicted the use of assessments of deep learning.

Perhaps there is a shared concern among school teachers across the two societies that school accountability pressures are somehow not well connected with improved learning outcomes.

More recently, Hui (2009) summarized qualitative analyses of primary school teacher and curriculum leaders' opinions of assessment. He reported that three additional purposes of assessment which did not appear in the TCoA. Specifically, assessment changes students' learning attitudes, assessment identifies student potentials, and assessments helps prepare students for future challenges. It was argued that these three conceptions of how assessment is used arise from current policy emphases in Hong Kong on developing children for life-long learning in a knowledge-economy of the 21st century. He also suggested that these conceptions are likely to be strongly associated with an overall emphasis on assessment for improvement.

Preliminary China TCoA Study.

A small study of nearly 100 polytechnic lecturers in southern China surveyed their conceptions of assessment using the full 50 item version of the TCoA inventory (Li & Hui, 2007). The lecturers agreed most of all that assessment improves quality of teaching and that it makes schools and teachers accountable; they rejected the conception that assessment was bad or ignored. While the latter result is consistent with the New Zealand studies, the higher level of agreement for the school accountability purpose is quite different. Interestingly, the two accountability conceptions tended to correlate with the assessment is valid and descriptive factors, leaving the two improved teaching and learning factors in a separate factor. It was argued that assessment was viewed this way because of competitive pressures to demonstrate to industry that the institute was delivering high-quality students for employment in the industry. In this way it was claimed lecturers made a distinction between evaluative and educationally functional purposes of assessment.

Conclusion

These preliminary studies with the TCoA in Chinese contexts suggest very clearly that the current TCoA inventory taps into just some of the important aspects of how Chinese teachers understand the use and purpose of assessment. However, the current studies show clearly that the accountability conceptions are conceived of in quite a different manner to New Zealand and Queensland. Student accountability is seen as a form of improvement while school accountability may have some legitimacy through public access to examination results. There are some clues in both TCoA survey studies to indicate that teachers make a distinction between improved learning outcomes and school evaluation or accountability. Whether their views would become more like those of teachers in low-stakes environments after the introduction of a policy that reduces consequences to schools from public examinations would be one way to determine whether these differences are attributable to culture or government policy.

Nonetheless, as competing pressures are put on assessment policy (e.g., to increase or reject accountability-oriented assessment practices), the quality of policy innovations continues to depend, in part, on the understanding teachers have of the policy. It is apparent that teachers in Chinese contexts do not have identical beliefs about assessment to teachers in two societies with exceptionally low-stakes assessment policies and practices. The studies carried out so far suggest that while conceptions of assessment are generally universal (i.e., teachers have opinions about the nature and purpose of assessment), it is apparent that the belief systems differ systematically in response to the context in which the teacher is employed. The explanations for patterns in teacher conceptions of assessment appear to lie less in individual differences than societal and cultural processes that shape the working lives of teachers, students, parents, and government agencies. Fundamentally, the more shared the cultural practices around a phenomenon such as assessment, the more likely teacher beliefs

are to be similar and the more likely they are to be different to teachers who work in divergent contexts.

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