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United Nations
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Literature Review
The Culture of Testing:
Socio-cultural drivers and the effects on youth in the Asia-Pacific region

Introduction

In the Asia-Pacific region, a growing "culture of testing" has seen many countries striving to increase levels of student learning achievement as a core focus of their education policies and as a perceived measure of their education system's performance. What is this culture of testing? In many countries students face increasing pressures to perform and succeed at school, mainly in order to pass examinations (like university entrance exams). High-stakes exams place great consequences on learners: transition, graduation, entrance to higher education, entrance to better schools, and entrance to better jobs. These exams not only offer high-stakes to students, but can extend to teachers, schools, and families, as the test results can impact funding and recognition. While the existence of these exams may be rationalized as efforts to enhance educational quality, this focus purely on "high scores" may also undermine other fundamental aspects of learning that are often not captured in tests and examinations, at least in the way that they are traditionally conceived. As a result, many teachers and educators continue to focus on the more "academic" domains of learning that are far more likely to be tested as part of public examinations and national assessments and that are easier to quantify as a "test score". In some cases, the stakes are so high for individuals that examinations can dominate thinking about the purpose and nature of secondary schooling. Students are continuously preparing for examinations; students and parents are continually anxious about academic success; and the pressure on students to do well can lead to tragic consequences in extreme cases. There is also a tendency for schools and teachers to focus on the examination and to ignore aspects of the curriculum that are not tested directly and that do not contribute to better examination results. So what drives some societies to place such emphasis on these examinations, and how does this pressure affect the youth and learners of those societies?

Rationale for high-stakes testing

UNESCO (2013a) identifies three main purposes of most examinations as falling under the following categories:

- **Selection-** Controlling access to different levels (generally secondary) of schooling and tertiary institutions.
- **Certifying-** Obtaining further knowledge and reporting on what a student has achieved.
- **Accountability -** Evaluating the effectiveness of instruction and/or schools.

With economies aiming to become globally competitive by becoming a more knowledge-based society, education appears to be at the forefront of achieving economic success (Moses & Nanna, 2007, Lange & Topel, 2006, Kennedy, 2016.). The link between developing knowledge based societies and access to tertiary education, sees examinations as an important means of selecting and regulating access to secondary and tertiary institutions.

Emphasis on the use of examinations as a means of selecting.

Throughout the Asia-Pacific region, examinations are the chief means for controlling access and transition to secondary schools and higher education, not to mention the most prestigious schools and to greater life opportunities. In other words, because they have enormous consequences for students and their families, getting good results is of paramount importance.

Many examinations are specifically designed for the purposes of certifying or selecting students, usually covering the main subject areas in the school curriculum. These include University entrance exams or High school entrance exams. Historically, the most common arrangement has involved three examinations, as shown here:

Entry to secondary → End of lower secondary → End of upper secondary
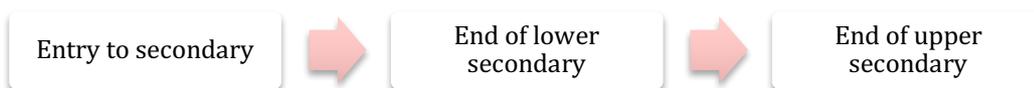
While not exactly alike, these three examinations all have the purpose of controlling access to the next level of education. And the latter two can also be used as recruitment into the workplace. The exams range from general curriculum knowledge (1st one) to more specific subject related matter on the latter two.

While many countries in Asia-Pacific have moved away from traditional high-stakes testing as a basis for selection (particularly in primary school), there is still a requirement by most countries to use high-stakes testing as part of progression into upper secondary school and tertiary education (Biggs, 1996; UNESCO 2013a). Countries that primarily orient their examinations towards such a purpose appear to align themselves towards a culture of high-stakes testing (UNESCO, 2013a).

Using high-stakes assessment to support policy

George Madaus and Michael Russell's study (2010) indicates that whilst testing policies may have originally begun as a way of identifying problems within an education system, policy makers started to realize that testing policies could in fact work as a solution to problems within an education system. Madaus and Russell (2010) and Greaney and Kellaghan (1995) both suggest that attaching a high stake to an examination forces teachers and schools to adjust their teaching to ensure optimal results in the content that is being examined. Testing in some sense can be seen as a "vehicle of change, driving what is taught and how it is taught, what is being learnt and how" (Madaus and Russell, 2010, p. 21).

In other societies in the region, this emphasis on testing may be fuelled by countries' efforts to reform their education systems to reach so-called "international standards", and thereby increase their performance in international league tables, or by perceptions of high performance in such assessments as a proxy for competitiveness in the global economy. In some sub-regions such as Central Asia for instance, this has been considered the case as education systems transitioned to align themselves with a globalized market economy in the late 1990s (World Bank, 2000), resulting in relatively young "global" education systems.

Reliability and efficiency of external assessments

External high-stakes examinations are often seen as an objective and equitable mechanism for assessing learning (Kennedy, 2016; Vaardingerbroek & Taylor, 2009 and Tikoduadua, 2014). Particularly when high-stakes examinations are used for selection purposes, the importance of the objective nature of an external examination is seen as crucial, as it allows for students irrespective of social and economic standing to obtain entry into the best schools or institutions in an equitable manner. With such high-stakes attached to such

assessments, suggestions have been made by a number of studies (Chang, 2004; Hau, 2004 cited in UNESCO, 2013b; Madaus and Russell, 2010; IBM, 2003,) that argue that this is done due to the public mistrust placed on the reliability of teachers' judgment to assess student's ability accurately. There is, however, a number of countries like Australia, Hong Kong (China), New Zealand and the Republic of Korea outlined in the UNESCO (2013a) study, that use solely school-based assessments or in conjunction with weighted examinations as a tertiary entrance mark, rather than just an external examination. This suggests that there are some countries/jurisdictions that are able to distribute the pressure of tertiary entrance across a range of assessment types.

Simplifies the notion of learning

With a high level of household expenditure and parental involvement within student education in the Asia Pacific (Bray, 2007), there is an expectation for understanding student achievement and drawing comparison by parents and the community. Moses & Nanna (2007) argues that examination marks aim to simplify the very nature of complex acts such as teaching, learning and even intelligence. Testing makes it easier to put a value on success, and the easier it is to interpret by parents and others the more society is habitually inclined to accept the test mark as a reasonable analysis. Moses and Nanna's article (2007) suggests simplifying learning into a score has become the accepted, normative practice, thereby also contributing to a culture of testing.

Social and Cultural factors

Cultural heritage within Asia-Pacific

With the Asia-Pacific region as one of the most culturally diverse regions in the world, a range of cultural heritage factors may contribute to the culture of testing. A variety of studies identified the link between cultural values and the values of the education system (Wursten & Jacobs, 2013). Perhaps the most prominent within the Asia-Pacific is that of the Confucian heritage cultures (CHCs). CHC contexts include China, Korea, Japan, Taiwan, Viet Nam and Singapore. There is a wide body of literature linking the prominence of testing and CHCs.

The premise of using examinations for the purpose of selection first began as a part of the Imperial Chinese tradition of 'Keju' (Kennedy, 2016), which focused on assessing potential government officials. This idea of examination as a means of selection, as mentioned previously is no longer limited to CHCs but has spread to most countries around the world.

Among numerous Confucian values such as cultivation of the self, a strong work ethic, and a high regard for education as a promise for upward social mobility, Mason (2014) argues that Confucian Heritage Cultures tend to hold "…*a belief, generally more widespread than might be the case in other societies, that success depends more on effort than on innate capacity, and hence that everyone can succeed, provided that he or she works hard enough; a commitment to repetitive drilling and to apparently rote learning in an acceptance of the effort needed to succeed…" (p.*2).

Geerte Hofstede's study (1980) outlines the major factors that determine and define a culture. He defines it as "the collective programming of the mind that distinguishes the members of one group or category of people from others." Perhaps the most distinguishable Confucian trait that aligns with Hofstede's (1980) cultural determining factors is that of a 'collectivist' approach combined with filial piety. Both these factors underlie a common notion within CHCs that individual achievement is considered a family achievement. Examination results can either bring great shame or pride to the family name (Huang & Gover,2012; Starr, 2012 & Kennedy, 2016).

Although CHCs may have somewhat of an impact on the culture of testing within Asia, the Pacific also shares similar ideologies to that of CHCs. Pacific nations like Fiji, Tonga, Papua New Guinea and the Solomon Islands share similar traits in culture in regards to collectivism. Education is very much seen as a community owned responsibility (Tikoduadua, 2014). There is limited research as to whether the collectivism and filial piety has any impact on the culture of testing within the Pacific. There is however literature to indicate that countries such as Fiji have a long standing tradition of an 'examination culture' (Tikoduadua, 2014) but whether this is connected to Fijian cultural ideologies is not indicated.

Whilst it may be easy to draw comparisons in the prominence of a culture of testing and CHCs, a few studies (Kennedy, 2016 and UNESCO, 2013b) have been weary of making such claims, rather suggesting to avoid making the mistake that Confucian values are monolithic or deterministic. Huang and Gove (2012) refute such assertions by implying that whilst there is variation within the Confucian based cultures, they do "share a relatively homogenous cultural heritage well" (p.1).

The impact of cultural heritage on testing is not limited to Confucian heritage in East Asia nor the examples from the Pacific Islands. Although not elaborated on in this review, South Asia, Central Asia and Southeast Asia have strong histories of examination systems and rigourous selections influenced from historical and ancient times as well as more recently through importing foreign (e.g., British, American, or Russian) examination systems (UNESCO, 2013a).

Family Structure

Parental expectations play a tremendous role in increasing pressure on students to perform academically, and should not be underestimated in terms of how these may be fuelling such a "culture of testing" through the rapid expansion of shadow education, with providers of private tuition across the region preparing students in the lead up to university-entrance and other exams, as well as generally serving to supplement formal schooling. Some argue that one of the major drivers behind this pressure, in addition to other traditional values, is the chance of social mobility, where parents wish for their children to have a future beyond "the factory or the farm"(Larmer, 2014). In addition, "tiger parenting" has also formed an important part of the debate in the region with regard to parental pressures on their children's academic achievement, with some arguing that closely supervising their children's homework, reducing extracurricular and other social activities, and using punishment and shaming as negative motivation are key to ensuring that they excel academically (Chua, 2011). With parents and the family often considered as more influential on students' choices and perspectives than teachers, their role within the context of the "culture of testing" deserves further exploration.

The effects of a culture of testing on various stakeholders

With the predominance of these exams and a "culture of testing", there is a large body of knowledge on the effects these have on various stakeholders and the education system as a whole.

Students' attitudes

The focus on academic achievement (particularly in subjects such as reading and mathematics) and results of student examinations have been seen as undermining student happiness and well-being in the Asia-Pacific region. According to UNESCO Bangkok's (2016) report on *Happy Schools*, respondents to a regional survey ranked "high student workload and stress driven by exams and grades" as the second most important factor resulting in "unhappy schools". The report also indicates that this pressure on students to perform in tests and

exams may also be related to disengagement from education, increased stress among students, growing cases of bullying and school violence, and in the worst cases, higher suicide rates among youth in some countries.

Wang & Brown's (2014) study indicates that students in Hong Kong (China) viewed assessment with high-stakes consequences, particularly focusing on the idea that high achievement was considered an obligation to respect and build the family reputation.

Students within Wang & Brown's study (2014) also identified that achievement was determinant of their personal worth and value. Likewise, Alam, Lodhi & Aziz (2011) study on the effects of the examination system in Pakistan, indicate students' fixation on perfection and the pressure of one particular examination can lead to negative and harmful self-beliefs and in some extreme cases, suicide. Alam et al. (2014) gives the example that students that have in fact performed quite well in the examination are not satisfied with their results, which also alludes to the Confucian ideology of perfection and the constant act of self-improvement mentioned in a number of studies (Kennedy, 2016; Li, 2005).

Choi (1999) uses the example of students often stopping their teachers from teaching topics that are not closely related to examination content (p.412), demonstrating the notion that students' understanding of education is as the facilitator for excelling in examinations, rather than vice versa.

Teacher pedagogy

As a key stakeholder of the examination process, a teacher's role and view of testing often determines the ways in which they teach. Many argue that the high-stakes nature of assessments will often lead to teachers to teach to the test and a return to teacher-centered instruction (Barret, 2009; Polesel, Dulfer, & Turnbull, 2012), thereby affecting their pedagogy and often undermining the purposes of testing (Polesel, Dulfer, & Turnbull, 2012; Au, 2008).

In addition to teaching to the test, the publication of school rankings based on exams or assessments creates a high-stakes situation for not only the students but the teachers as well. For example, the NAPLAN assessment used in Australia with grades 3, 5, 7, and 9 is considered to be a low-stakes test as it is utilised for 'certifying'[1] measures. However, some would argue that due to the publication of results in a league table format through the ACARA *My school* website, the assessment exhibits a high-stakes nature, whereby the publishing of results and public scrutiny places pressure on students and teachers to perform to the test. Thompson & Harbaugh (2012) claim that a majority of teachers within their study regard NAPLAN are either choosing or being instructed to teach to the test.

Kennedy's (2016) study on teacher's conceptions of assessment in CHCs notes that teachers did not respond positively to the use of school-based assessment and using their own judgments to assess student's capabilities. Perhaps this highlights the need for further understanding in teacher efficacy in conducting assessments and the link to an over reliance on standardized and external assessments.

Narrowing of Curriculum

With the prevalence of countries entering into international assessments such as PISA, TIMSS and PIRLS as a way of determining international league tables, there is much literature that suggests that there is a narrowing of the curriculum to ensure success in areas of curriculum that are tested in such assessments. According to

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[1] As defined in UNESCO's report on Examination Systems (UNESCO, 2013a), certifying is a means of reporting on student achievement, not for selection purposes.

Robinson and Aronica (2015), while international league tables may not themselves be the problem, they do influence policymakers, driving them to place excessive emphasis on the results of such assessments and to impose standards on school systems in order to compare and benchmark their performance with their counterparts in other countries. This has led to growing debate in international discourse as to what exactly is being measured as part of assessment efforts, and whether assessment programmes are focusing on those skills and competencies that will enable learners to contribute to more peaceful and happier societies. As argued by Layard and Hagell (2015), "if you treasure it, measure it. If schools do not measure the well-being of their children but do measure their intellectual development, the latter will always take precedence" (p.118). Unfortunately, in the Asia-Pacific region as well as other parts of the world, this measurement tends to focus on the cognitive areas at the expense of other aspects of learner development.

Education equality- prevalence of shadow education

The dominance of a culture of testing has also created a secondary education system built around providing assistance to learners outside the traditional classroom. Private tutoring and private after-school classes are found all across the Asia-Pacific region, and have come to be known as 'shadow education'. Shadow education is defined as supplementary education or tutoring that is provided outside the parameters of school as a business enterprise (Bray and Lykins, 2012). Kwok (2004) suggests that the industry began to flourish when an awareness of examination pressures was recognized. Pallegedara (2011)'s empirical study indicates that in 1995/96 private tutoring was seen as a luxury but by 2006/07 it was generally viewed as a necessity (p.26).

The UNESCO report (Bray and Kwo, 2014) into Shadow Education identified countries like India, where, 73 per cent of students, in parts of the country were receiving some form of tutoring in 2012, or in the Republic of Korea, where 86 per cent of elementary students were estimated to be receiving tutoring in 2010. The UNESCO report (Bray, 2007) and Lee's (2006) study of South Korean examination culture outlines the problem with such high levels of shadow education being utilized as illustrating the unfair advantage students have in progressing and accessing education if their families are in a financial position to afford it. In essence it demonstrates the very paradox of examinations, once used as an objective tool to promote social equality in Imperial China, now being utilized as endorsement for an industry that enables social inequality.

Most alarmingly, Shadow Education without regulation can often be seen to undermine the validity and confidence within mainstream schooling to provide an adequate education. Bray (2009) uses the case of Sri Lanka, where students at the end of senior secondary education often do not attend school in order to attend tutoring centres or 'cramming schools' in preparation for end of year examinations.

Bray (2009) and UNESCO (Bray, 2007) however do indicate that there are potential benefits in having a shadow education industry as it does provide assistance to slow learners.

Rise of testing misconduct

With the pressure of high-stakes testing and the consequences associated with the high achievement, this has led to the propensity of anti-education practices such as cheating and the corruption of assessment delivery (Vaardingerbroek & Taylor, 2009, UNESCO, 2013b). Bray and Lykins (2012) outline a range of misconduct ranging from cheating, to leaking questions before examinations and external assistance to students. The manipulation of results by putting pressure on weak students to leave school before reaching the public examination stage or to repeat a grade rather than take the examination is another example of misconduct. The integrity and purpose of an examination can often be called into question when the stakes are high enough that students, teachers or examination officials are resorting to the kinds of actions that are outlined above.

Examination systems are under great pressure to ensure integrity of processes and accuracy of results. These are matters that are closely scrutinized by the public, the media and government watchdog agencies (UNESCO, 2013a).

Practices that aim to reduce the impact of high-stakes testing

Whilst the dominant method of tackling issues surrounding the impact of high-stakes testing focuses on balancing the assessment framework to reflect low and high-stakes testing, there are a number of studies that reflect on such an approach and possible alternatives.

Kennedy (2016) suggests that when attempting to reform assessment policy, the consideration of teacher's perception of assessment is crucial in the success of any reform. Kennedy argues that it is perhaps better to make a slow progression in policy reform by using summative assessment for formative purposes so that it does not force teachers to completely realign their assumptions of assessment purposes in predominantly summative assessment contexts.

The UNESCO (2013a) report on examination practices within Asia Pacific outline a range of initiatives that countries are undertaking to remove high-stakes assessment which limit access to the progression of schooling. With the exception of Queensland, Australia, most countries still have a tertiary entrance examination, and studies like the UNESCO Shadow Education report (Bray, 2007), indicate that there is still a 'backwash' or bottleneck effect on the pressure of the rest of schooling, even if a large number of high-stakes tests have been removed. There are indications that some countries like Japan are investigating options to move towards a university admission system that evaluates the applicants more broadly by considering more subjective attributes that are not captured on these tests (New York Times Editorial Board, 2013).

Another area of practice that is aiming to reduce the impact of high-stakes testing is the aim to realign the purpose of testing in a more formative sense. In 2004, the Technology and Assessment Study Collaborative released a diagnostic assessment system that is designed to understand why a student makes a particular selection, what their misconceptions are behind their assessments and how teachers can remedy these misconceptions (O'Dwyer & Miranda, 2009 cited in Madaus & Russell, 2010). Another tool that will be trialed in 2017 is the online version of Australia's NAPLAN examination, which will vary question difficulty progressively as according to students' responses and a more timely release of results to benefit of teacher instruction (ACARA, 2016).

Conclusion/ Way forward

While these new trends to move away from high-stakes exams and introduce more comprehensive school-based assessments, holistic student-centred learning, among other initiatives are notable, there remains a strong cultural and social desire and demand for high-stakes tests in the Asia-Pacific region. The pressure to enter into the best schools and secure the best possible opportunities have a lasting impact well beyond the school years. But what exactly are these long-lasting effects? Much has already been discussed on the current state of these exams, but are there common traits among different cultures and societies when it comes to the pressures of these exams. How do young learners cope with these pressures? What efforts are being made to address this increasing pressure? These questions will provide a basis for how UNESCO's culture of testing study may fill the gaps, and understand better what effects this high pressure education culture has on young learners. It will seek to better understand the perspectives of parents with regard to their children's grades and scores, as well as exploring the effects of testing on teaching and learning from the perspective of

students, teachers and providers of private tuition. Overall, the study will examine the different aspects and perceptions that shape education policies and systems as a result of the culture of testing, examining implications for policy making as well as reforming or equipping education systems to provide a comprehensive and holistic education to youth in spite of (or in light of) the "culture of testing".

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