A Critical Analysis of Cambodia's Policy for Integrating Information Technology in Education using Human Capital Theory and Globalization

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Abstract: The integration of information, communication, and technology (ICT) is a popular trend in contemporary educational practices, but does this approach make sense for developing countries? This paper provides an in-depth critique of the decision by the Cambodia Ministry of Education, Youth and Sports (MOEYS) to become an early adopter of ICT development in education. By employing the human capital theory (HCT) and globalization perspectives, a critical analysis of Cambodia's ICT in education policy design and approach was conducted and used to ascertain key points that national policymakers may consider as they fine-tune future policy revisions. The overall analysis advises policymakers to employ HCT modelling methods when developing educational programming so that market needs are better met. Further recommendations include leveraging globalization principles to counter the negative influences of globalization to ensure more effective ICT programming.

1 INTRODUCTION

The integration of information, communication, and technology (ICT) is a popular trend in contemporary educational practices (Tsai and Chai, 2012), but does this approach make sense for developing countries? Cambodia's Ministry of Education, Youth and Sports

(MOEYS) believes so and was an early adopter of ICT development in education. In 2005, MOEYS published a comprehensive ICT in Education policy strategy document for their national roll-out plan and stated the following vision regarding the new policy move (MOEYS, 2005: p. 4):

*   *The long-term vision of Education for All in Cambodia is to ensure equal access to quality basic education for all…and [prepare citizens] to play an active role in reconstructing the country as well as integrating Cambodia into the knowledge-based global community.*
*   *[Introduce] various initiatives to facilitate greater integration of [ICT] to improve the effectiveness of education at all levels and to produce the technologically literate, productive and critically thinking workforce for the country.*

Has this focus on ICT in education yielded strong results for Cambodia? Available country information reveals mixed messages. For a post-conflict nation, Cambodia has surprised economists with their fast recovery with average annual growth rates of ~8 percent, but educational access and quality still remain elusive (ADB, 2015; UNDP, n.d.). Although an updated version of the 2005 National ICT in Education Policy was under review in 2015, as of April 2017 no official policy revision had been uploaded to MOEYS's English site. In order to ascertain key points that national policymakers may consider as they fine-tune future policy revisions, this essay will employ the human capital theory (HCT) and globalization perspectives to present a critical analysis of Cambodia's original policy design. The structure will be as follows: (1) provide a snapshot of Cambodia's current educational landscape, (2) introduce the theoretical perspectives that will be applied, (3) critically analyse the original policy design and its impact on educational objectives, and (4) present insights for future policy revisions.

2 CAMBODIA'S CURRENT EDUCATIONAL LANDSCAPE

It is important to note that providing a current view of Cambodia's educational landscape and achievements is not a straightforward exercise. Common world statistical banks lacked consistent data over long-time periods and MOEYS does not have a system for measuring teaching and educational achievements and outcomes (UNESCO, 2011). Therefore, I collected data from various sources to help contextualize the effectiveness of Cambodia's policy in relation to stated goals:

Table 1: Policy Goals.

Policy Goals	Policy Effectiveness Gauge
Increased access to basic education	• In 2013, the total primary completion rate was 89 percent (UN Data, n.d.). • From 2010-2014, 5 percent of the primary school aged population was not enrolled in school (UNICEF, n.d.).
Improved quality of basic education	• 85 percent of teachers are seen as unqualified (Richardson, Nash, and Flora, 2014). • In 2013, the total lower-secondary enrolment rate was 60 percent and the completion rate was 53 percent (UN Data, n.d.).
Availability of workforce with the ICT skills needed for employment…to ensure that Cambodia can compete…in an increasingly interconnected world	• In 2012, 19 percent of the population was stated as living below the poverty line and it is estimated that >70 percent of the population lives on < \$3/day (ADB, 2015). • In 2013, ~60 percent of the working population was self-employed, unpaid family workers (ADB, 2015). • On average, most of Cambodia's workers are considered unskilled (UNDP, 2016).

(Policy Goals adapted from MOEYS, 2005: p. 4)

Unfortunately, Table 1 demonstrates that there are serious gaps between the outlined policy goals and educational outcomes, despite the fact that the policy was implemented more than a decade ago.

3 ENGAGING WITH HCT AND GLOBALIZATION AS THEORETICAL LENSES

HCT and globalization were chosen as theoretical lenses, as both theories can be seen as prompting the reliance and spread of technology in education. This discourse will provide a multi-faceted yet concentrated analysis of the positive and negative influences these theories have had on the effectiveness of Cambodia's national ICT educational policy. Instead of taking a direct approach by critiquing current ICT in education interventions, this analysis will indirectly analyse current educational outcomes by critically reflecting on Cambodia's first ICT in education policy. The critique will examine how the theoretical influences of HCT and globalization may have (1) impacted the design and intention behind the policy, therefore leading to certain outcomes, and (2) recognize such influences, and assist policymakers in designing future policy revisions.

3.1 Defining HCT

Academics agree that HCT can be a valuable lens for crafting educational narratives and policies (Tan, 2014). Originally, the theory stems from economic principles dating back two centuries (Mincer, 1984). In the 1950s, HCT gained wide notoriety again due to the contributions of two prominent economists, Theodore Schultz and Gary Becker (Machlup, 1982). They were recognized for reviving the theory by bringing new perspectives to the field of study. Schultz stressed linkages between education, productivity, and economic growth, while Becker focused on computing individual investment rates of return related to education through schooling, training, and skills development (Machlup, 1982). In general terms, human capital can be defined as the amassing of knowledge acquired by an individual through schooling, training, skill development, and other experiences (Machlup, 1982; Tan, 2014). Therefore, HCT sees education as an investment in oneself. Theory proponents view the acquisition of education as leading to increased productivity levels and economic returns for the individual, which in turn extends and translates into greater market productivity and economic growth for the country (Tan, 2014). Below are some attributes of human capital (HC) outlined by Schultz (1993):

- HC has both private and social benefits which lead individuals and the public sector to invest in education.
- HC in developed countries is generally the result of acquired, not genetic abilities.
- Internal effects and private individual benefits are observed through the effects of schooling, employment training and experiences, productivity related information, and income levels.
- External effects and residual benefits of having a strong HC base leads to a pool of skilled professionals who can contribute to national development.

3.2 Defining Globalization

While HCT is a theory with a deep and long history, globalization is a concept that gained its popularity in the 1990s (Maguire, 2002). There is wide debate on how to define globalization, but it generally encompasses the changes in how the world interacts and engages as a result of modernization (Boli and Lechner, 2009). One way of understanding the concept is to view it as the global phenomenon of an increasingly information-based society that is interconnected (with decreasing geographic constraints), and that has created a highly-networked system in terms of goods, information, and capital (physical and human) (Boli and Lechner, 2009). In economic terms, it has been related to capitalist and neoliberalist principles (Boli and Lechner, 2009).

I have chosen globalization as a second lens for this essay, as I see an inherent connection between HCT, ICT, and globalization. As national economies continue to expand and seek to develop further through HCT principles, technology is the conduit for bridging nations which were previously disconnected, and has created a channel through which ideas, commerce, goods, and people can easily interact despite differences in location and proximity—echoing globalization principles. Therefore, this creates a system of refraction where global markets increasingly engage and depend on local markets, and vice versa (Kellner, 2009; Maguire, 2002). In this way, globalization can be interpreted as being a natural extension of the intersection of technology and HCT.

More detailed definitions of how HCT and globalization can be applied in educational contexts will be explained in the following sections as part of the analysis and critique.

4 ANALYSIS OF CAMBODIA'S ICT EDUCATIONAL POLICY USING THEORETICAL PERSPECTIVES

4.1 Contextual Background

Academics have highlighted the importance of understanding Cambodia's turbulent and tragic history as key to understanding its modern day educational challenges and development needs (Dy and Ninomiya, 2003). Cambodia was occupied by the French for 90 years until the Sihanouk regime came into power in 1953 (Dy et al, 2003). The country underwent another period of political unrest when the Lon Nol regime took control from 1970-1975. Led by Pol Pot, the communist Khumer Rouge regime took control of the state from 1975-1979. During their reign, it is estimated that approximately 2 million Cambodians (a quarter of the population) either died from starvation or were killed during the horrific holocaust ordered by the ruling party (Tyner and Henkin, 2014). Pol Pot's disdain and fear of Westernization, and therefore education, caused a series of harrowing orders, including the elimination and destruction of books, libraries, and universities, and the mass slaughter of intellectuals, educated professionals, and society elites (Dicklitch and Malik, 2010). The Vietnam-Cambodian war was successful in removing the communist regime, but led to another period of occupation by Vietnam from 1979-1989. It was not until 1993 that the independent State of Cambodia held its first democratic election (Dy et al, 2003). After 30 some years of occupation, genocide, and war, the nation was left to virtually start over, and this included their educational system (Richardson, 2011). But the country proved to be resilient and was eager to rebuild their shattered educational system. In less than a year after the Cambodia-Vietnam war, total school enrolment reached 1 million students all the way up to tertiary levels (Richardson, 2011).

One of the major side-effects of Pol Pot's reign was the depletion of post graduates, which in turn led to a shortage of qualified educators—it was not uncommon for teachers to only hold secondary degrees and be grossly unqualified (Dicklitch and Malik, 2010; Richardson et al, 2014). This led to a nationwide educational reform movement in 2001 around '[improving the] access, quality, and efficiency of the education sector' (Hirosato and Kitamura, 2009: p. 135). Also around this timeframe, an educational movement emerged which was to focus on ICT related capacity building and

strengthening teacher quality through various teacher colleges and training programs. The trend gained more momentum after the 'Establishing the Effective Use of ICTs in Education for All' program that was promoted to give teachers the basic ICT-related skills they needed to train their students and become more effective teachers (Richardson, 2011: p. 9). The training included 96 hours of learning around basic Internet skills, hardware and software usage, and Microsoft Office training (Richardson, 2011).

The events leading up to the country's 2005 (MOEYS) policy creates a narrative that appears to be focused on addressing and fixing quality issues through ICT and teacher training. However, as this essay will suggest, the theoretical influences of HCT and globalization on policy design, coupled with an over-reliance on the assumption that ICT integration would lead to improvements in educational quality and a skilled workforce, may be contributing factors as to why Cambodia continues to struggle with both issues today.

Strong influences of HCT and globalization over the policy design can be first noticed in the policy language:

> *Educational ICT policy and strategies is a practical path we have chosen to get along well with the world trend of implementing the strategies and the national goals of education for all…to provide quality education for all, it may seem that ICT should be low on its list of priorities. On the other hand, unless action is taken soon, the country will fall further behind its neighbours and its young people will lack the skills they need for [the digital age] (MOEYS, 2005: p. 2, 6).*

The influences of both theories on policymakers is not unlikely, as some academics view globalization as intensifying the responsibility of the state to better prepare their workforce, so that they can be competitive in today's highly skilled world economy, and in line with HCT principles (Maguire, 2002).

4.2 HCT Perspectives

In the policy language used, HCT seems to be a strong motivational factor as to how and why ICT is seen as a critical component of the MOEYS's educational planning. The country's heavy focus on economic development through ICT educational policies and the emphasis placed on cultivating a skilled, tech-savvy workforce may be attributed to the nation's goal of desiring to be categorized as a lower-middle income country, which was achieved as of July 2016

(UNDP, 2016; UNDP, n.d.). This supposition may be further supported as the 2008 census revealed that Cambodia has the youngest population among Southeast Asian nations, and 33 percent of the population is between the ages of 15-30 years old making it a young labour force, with approximately 300,000 new professionals entering the workforce every year (MOEYS, 2005; OECD, 2017; UNDP, n.d.) Therefore, it is not unlikely that the government wanted to take a human capital approach to education by creating a pool of educated, skilled workers that they hoped would stimulate economic development.

In fact, the lacking skills of graduates was cited as one of the main motivations behind the government's high focus on ICT development within schools and teacher training initiatives (MOEYS, 2005). However, the effectiveness of the ICT policy in achieving this appears suspect when taking a closer look at Cambodia's higher education landscape. The UNDP in Cambodia (n.d.) findings cited that new labour force entrants are often unskilled and not prepared for job and market demands. HCT has three main suppositions: (1) education will lead to higher earning potential, (2) education will lead to market efficiency and growth because employers need skilled employees, and (3) to reap the benefits of an educated workforce, companies will invest in technology to increase earnings (Lauder, 2015). However, HCT critiques may explain why these tenets of HCT are not translating in Cambodia as expected. Lauder (2015, p. 491) attributes the 'information technology economic revolution' to the increasing popularity of using HCT principles to link education with economic development. However, there are opinions that see portions of the theory as being naively optimistic and challenge the oversimplification of correlating education to economic growth as a result of assumed increased productivity of the individual (Bae and Patterson, 2014; Lauder, 2015; Peou, 2017). Generally, the risk in the over-reliance on ICT and HCT in education is that it is hard for individuals to forecast the skills they will need when they are ready to enter the workforce (Bae and Patterson, 2014). Cultural or personal factors, flux in the workforce and opportunities, and the mismatch of skills and open jobs can all contribute to returns on educational related investments being lower than expected (Bae and Patterson, 2014). For underlying assumptions of the HCT model to work effectively, students need to anticipate the skills that are in demand by the labour market, design their educational paths accordingly, and receive a level of education that allows them to be skilled enough to meet market needs (Bae and Patterson, 2014; Lauder,

2015). However, in the case of Cambodia, these are all struggles tertiary graduates and employers are facing, which will now be highlighted through the below examples.

Example 1: Higher education (HE), whether in a developed or developing context, is seen by academics as a critical component of a country's development and economic prosperity (Barr, 2014). Cambodian families have recognized the importance of HE and are encouraging their children to pursue post-secondary education (Peou, 2017). Students themselves are also hopeful that university degrees will provide them with security and individual economic returns, which has led to an increase of 93,000 to 245,000 students entering HE from 2005-2011 (ADB, 2015). Although the intention of the policy was to build a strong pool of HE graduates to take-on high skilled jobs, companies are dubious of the quality of Cambodia's university educational system, and are choosing not to hire local graduates for skilled positions (MOEYS, 2005; Peou, 2017; Phnom Penh Post, 2011). It has been reported that nearly half of young workers lack the education to perform their jobs well (ADB, 2015; Baer, 2014). This can be in part due to the rampant corruption in the country, where it is not uncommon for students in urban areas to bribe their teachers and cheat on exams (ADB, 2015; Dicklitch and Malik, 2010).

Example 2: Issues with skills mismatch are also exacerbating labour market supply challenges. Although students are eager to capitalize upon expected returns from university degrees, the degrees they are obtaining are not in line with market needs (Peou, 2017). Peou (2017) gives context to the issue by stating that half of graduates are seeking business related majors and only 1.5 percent of students are majoring in civil engineering, and 0.1 percent in science and technology. This unbalance has caused a mismatch in skills attainment and market needs, as Cambodia is an economy that is in need of a strongly skilled science and technology-based workforce. This lack of diversification among talent has stunted economic growth potential and Cambodia's ability to move away from an agricultural based economy to an industrial one (ADB, 2015). In a national employment survey of 500 enterprises, it was reported that 73 percent of respondents had skilled positions that they could not fill, resulting in 65 percent of companies delaying business development and 43 percent missing key opportunities (ADB, 2015). Some academics attribute this issue of skills mismatch to national educational policies being

overly focused on HCT concepts (Peou, 2017). Students are blindly pursuing HE degrees that appear to yield the highest returns on investment, but are given little guidance on actual market needs, trends, and pertinent skills. Education itself does not necessarily translate into economic gains for the individual or country. As Peou (2017) draws attention to through the above two examples, educational quality and acknowledgement of market needs are needed for HCT perspectives to work successfully.

Example 3: The effectiveness of the national approach taken by MOEYS to develop a highly trained, skilled, and educated ICT workforce has also been questioned. In 2016 (UNDP), it was reported that the nation faced a 39 percent oversupply in unskilled workers and a shortage of 37 percent in semi-skilled workers. Data indicates that the economy is close to its saturation point of growth through traditional employment sectors (garment manufacturing, tourism, construction, and agriculture) and needs to better prepare its graduates for an industrialized economy (ADB, 2015; Baer, 2014). The intention of the 2005 ICT policy was most likely to address this issue; however, the government's approach to addressing skills gaps may not be enough. I would argue that the government's basic ICT training provided in schools is not a comprehensive enough strategy to yield dramatic and lasting results (Richardson, 2011). As the Asia Development Bank's study of Cambodia's educational and labour market (ADB, 2015) indicates, more technical and vocational training is needed to address pervasive workforce skill gaps. Unfortunately, today technical education is only available to a few thousand every year (UNDP, 2016). As this example illustrates, the type and quality of education is important for economic returns, not just the attainment of education.

It is hard to definitively argue if HCT perspectives have failed in Cambodia, or if contextual circumstances have interfered with the model's capacity to work efficiently—as this can be seen as a matter of individual interpretation. However, whatever one's viewpoint, the application of HCT as an analysis lens does provide valuable insights as to how linkages between higher education and the labour market need to be strengthened.

4.3 Globalization Perspectives

As mentioned previously, globalization is the concept of diminishing constraints in movement and the acceleration of transfer of capital (physical and

human), information, and goods and services between nations (Little and Green, 2009). Globalization intersects with education on many levels, including at the individual, institutional, and national level, all of which will be discussed in this essay (Jakobi and Teltemann, 2011; Little and Green, 2009).

Quality has been proven to be a rampant and systemic issue plaguing Cambodia's educational system. In the few instances where the educational system is able to produce qualified, skilled professionals who are able to fill needed job posts, those individuals often choose not to contribute to the local economy. Thus, globalization has facilitated the depletion of human capital. It has been stated that '18–22% of the student stock becomes US permanent immigrants each year' (Rosenzweig, 2007, cited in Hirosato and Kitamura, 2009: p. 104). It is also estimated that over one million citizens work abroad (ADB, 2015). Globalization has made the movement of people, or human capital, not only a possibility, but a reality. In the cases where HCT principles were set to work, unfortunately globalization has interfered by promoting brain drain.

In the policy excerpt highlighted at the beginning of the essay, there appears to be a clear focus on providing quality education as the main justification for the ICT initiative. What is interesting about globalization is that it can both be the cause of quality issues, as evidenced by brain drain, but can also be leveraged to improve quality by providing tools for policymakers to formulate better policies. Globalization has prompted the advent of the 'global knowledge society' which has instigated the common practice of countries sharing polices and best practices through educational policy borrowing and/or lending (Jakobi and Teltemann, 2011). The pervasiveness of policy sharing can lead to what is known as convergence, which describes the act of policies, and in turn educational systems, of differing countries becoming more similar in nature (Steiner-Khamsi, 2004; Roudometof, 2014). Globalization theorists have seen how the 'global policy field' has spurred a trend away from how national policies were traditionally developed, to one where global standards, practices, and policies are increasingly leveraged (Jakobi and Teltemann, 2011: p. 580).

In the opening of the policy document, the Senior Minister of MOEYS (2005) recognizes the involvement of the United Nations Educational, Scientific and Cultural Organization (UNESCO) in formulating the policy and in supplying the technical and financial resources needed. UNESCO in Cambodia has been credited with 'building human resources for the ministry of education and providing

a new conceptual framework for educational development. It trained 1,200 administrative education officials in educational planning and management' (Dy et al, 2003: p. 10). Organizations like UNESCO and non-governmental organizations (NGOs) tend to engage in policy borrowing as it provides a rationale for implementing best practices and educational models from one country to another (Gobbo, 2008). Despite the advantages for developing countries, the danger and critique of policy borrowing is that historical, political, economic, and cultural contexts are either not factored into policy design, or not to the extent that they should be (Steiner-Khamsi, 2004). Furthermore, there is a tendency for policies to be based on US theories and for universal educational beliefs to override national values and models (Gobbo, 2008; Jakobi and Teltemann, 2011; Steiner-Khamsi, 2004). MOEYS has been seen as succumbing to such tendencies and is accused of 'systematically [formulating] education policies and goals…to satisfy the [international community and donors]' (Dy et al, 2003: p. 10, 11).

In Bennett's (1991) outlook on policy convergence, one country is not meant to emulate another, but instead facilitate a country's divergence from an unfavourable point/level/set of circumstances. But this approach is often under-utilized. Instead of designing policies to move from a less desirable state to a more favourable one by targeting the individual educational issues of a country, more traditional globalization forces tend to dominate. In other words, global educational initiatives are pushed onto countries who are pressured to adopt them at local levels (Jakobi and Teltemann, 2011). This may explain Cambodia's spotlight on ICT literacy and training and its movement away from initiatives that were previously focused on pedagogy (Richardson, 2011). Given that Cambodia had just come out of more than 30 years of conflict and was experiencing prevalent issues with unqualified teachers, it is easy to question if the focus on ICT was prudent and appropriate given the country's context at that time, especially given that even today, secondary teachers only have an equivalent of a twelfth-grade education or less (Richardson, 2011). Globalization is driven by technology (Henry and Springborg, 2010) and whether it was a conscious decision or not, influences of globalization may have caused international partners who were assisting with policy design to persuade local policy decision makers to prioritize ICT educational initiatives before the country was prepared to do so. This fear of losing international

support and financial assistance can be seen as another side-effect of globalization. Historical data for 2005 was not available, but even 2015 figures for Cambodia's Network Readiness Index was not favourable and ranked the country 110 out of 143 countries (Dutta, Geiger, and Lanvin, 2015).

The policy went on to further support its focus on ICT by stating that it would help the country achieve their goal of education for all (EFA) by 2015, which ironically was another UNESCO initiative (UNESCO, 2000). However, the policy never clearly described how EFA would be accomplished through ICT initiatives (MOEYS, 2005). In 2006, it was reported that 110,687 children of primary school age were out of school, and that figure actually jumped to 213,482 in 2015 (UNESCO Institute for Statistics, 2015). This calls into question if the MOEYS was more concerned with increasing the overall quality of basic education as stated in policy goals, or if they felt the pressure of globalization and were more focused on leveraging the concept of ICT to build human capital and to please donors? In research conducted by the UNDP (2016), it suggests the latter, as the report encouraged Cambodia to coordinate educational and industry policies in pursuit of developing human capital and industry to reap the benefits of and facilitate rapid economic growth. The findings also support further influences of policy borrowing as East Asian countries like Korea, Malaysia, and Thailand were cited as successful benchmarks, support, and models for promoting such policy directives (UNDP, 2016). This recommendation does hold more weight in this instance however, as policy borrowing works best when there are similarities between geographies, countries, contexts, and systems (Halpin and Troyna, 1995). While all of the policy intentions are positive, having one policy be the over-arching solution to address diverse educational issues and needs can lead to issues with focus and dilute outcomes (Haddad and Demsky, 1995). This issue of scope creep can be seen as a root cause of issues with Cambodia's current policy design and approach.

Even though much of the above discourse has highlighted the negative theoretical impacts on current policy, it is hard to fault policymakers for succumbing to HCT and globalization influences. Both are logical strategies given the country's need to rebuild and develop itself across all sectors (Halpin et al, 1995; Roudometof, 2005). Therefore, the question should be how can these theoretical perspectives aide in strengthening future revisions of Cambodia's ICT in education policies? The next section will attempt to provide suggestions on how globalization and HCT can be used to overcome identified policy gaps.

5 FUTURE POLICY REVISIONS

A common criticism of globalization/policy sharing has been the lack of local contextualization or the 'McDonaldization' of education where Western influences dominate local thinking (Francois, 2015). One way of countering this is through a principle called globalization, which injects cultural and local perspectives into global policies and programming (Francois, 2015; Roudometof, 2014). Globalization recognizes when global principles are counter to local needs and creates spaces of compromise. Many of the policy perspectives underscored throughout the essay demonstrate the need and importance of localizing and contextualizing policies if principles of globalization are meant to be successfully translated from international to national levels.

While Cambodia's policy laid out a much broader ICT plan spanning all levels of education (MOEYS, 2005), in actuality much of the programming has been centred around ICT training and resources for teachers (ADB, 2015; Elwood and MacLean, 2009; Richardson, 2011). Why the focus on teacher training? Globalization influences may have played a factor. The more difficult task for developing countries may not be in creating good policies, but in how to implement new-to-country, large-scale initiatives (Haddad and Demsky, 1995). When countries lack the know-how and resources to do so, this can lead to an over-reliance on international partners for assistance in execution. In a 2011 survey on the effectiveness of international aid in Cambodia, it was noted that official development assistance totalled 722 million USD, or 10 percent of the country's gross national income (OECD, 2012). This is of particular concern as MOEYS has already been prone to indiscriminately adopt directives and guidance from international partners and donors as cited earlier in the essay (Dy et al, 2003). The survey went on to attribute the following issues with project implementation since 2005 to: lack of coordination and cooperation between aid donors, overlap in mission and implementation between organizations, and overambitious global targets—all of which can be seen as the after-effects of globalization and the blind acceptance of policy sharing (OECD, 2012). In such instances, globalization can become critically important to creating successful outcomes. In fact, as part of the final recommendation of the survey results, it was proposed that co-development, greater

cooperation among all parties, and joint monitoring indicators be promoted to address the aforementioned issues.

HCT perspectives may be useful in helping Cambodia to globalize ICT policies. One of the major issues surrounding the implementation of ICT in education in Cambodia has been the lack of congruence between intended goals and the country's educational needs (Richardson, 2011). As stated earlier, MOEYS has not yet developed a system for measuring educational achievements and outcomes and should therefore consider lessons learned provided by HCT perspectives (UNESCO, 2011). Critiques of HCT have called out the shortcomings of using school attainment as a way to measure human capital, especially in global contexts (Hanushek, 2013). In the case of Cambodia, higher education attainment has not always successfully translated into human capital. If the purpose of Cambodia's ICT in education initiatives were and are to improve educational quality and stimulate economic growth, then Hanushek's (2013) alternative model for measuring human capital through skills achievement, rather than via traditional methods of school attainment, may be a more sensible approach. The measurement of HC via skills achievement over attainment places the focus on the absorption and quality of learning instead of participation and graduation. This can give governments a more accurate picture of how quality levels are impacting economic growth and provide policymakers with the data they need (by age, school level, and academic subject) to develop specific interventions. ICT related programming and implementation in education requires a large financial investment that often results in low success rates (Elwood and MacLean, 2009). This is why monitoring and evaluation of policies is of vital importance and a focus on quality over access is also key (Hanushek, 2013). Regular assessment of whether outcomes and objectives are being met can help policymakers quickly respond to deficiencies and globalize policies ad hoc, as required (Haddad and Demsky, 1995).

An example of how globalization can support HCT principles might be for Cambodia to develop interventions to reduce the importation of talent to manage and run the country's largest industry sectors (ADB, 2015). Currently the policy is focused on empowering tertiary graduates with the education and ICT skills they need to participate in the global economy (MOEYS, 2005). However, this approach does not consider and address the large amount of key middle-management jobs that are going to foreigners as a result of skill deficiencies within the local talent pool (ADB, 2015). By creating ad hoc interventions around adult education for workers in need of specialized training, HCT principles can be promoted and lead to stimulated economic growth through education.

6 CONCLUSION

There are many ways to critically reflect on the impact and success of Cambodia's integration of educational information technology. However, I chose to take a unique approach by analysing Cambodia's first ICT educational policy, rather than directly focusing on present day interventions and programming. I felt that it was important to examine the root of the ICT movement in Cambodia to provide a better understanding of the role that context and design can play in policy effectiveness.

The adage of hindsight being 20/20 is true and this essay was not intended to be overly critical of Cambodia's policy integration of information technology in education, but rather to examine the policy through the theoretical lenses of HCT and globalization, so that policymakers could be cognizant of such influences. In doing so, the hope is that policymakers can make use of those same perspectives to design better, more effective policies. In the case of HCT, policymakers are encouraged to recognize the circumstances in which HCT works, and employ HCT modelling methods that help identify quality gaps so that tailored educational programming can be delivered to meet market needs. To counter the negative influences of globalization, Cambodia should consider using another facet of the theory called globalization to ensure more effective programming design and implementation.

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