NGS INTERNATIONAL

Collected Speeches, Articles, and Presentations from:

International Conference on Autonomous Schools as a Key to Education Reform

Planning for a New Generation of Schools for Southeast Asia & Beyond

Phnom Penh
28-29 September 2023

Waiver

The views expressed in this document are those of the authors and do not necessarily reflect the endorsement of the Ministry of Education, Youth, & Sport (MoEYS), the New Generation Pedagogical Research Center, or Kampuchea Action to Promote Education (KAPE).

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Autonomous Schools should not be seen as the enemy of public education but rather as the means to rescue it.

-Kampuchean Action to Promote Education

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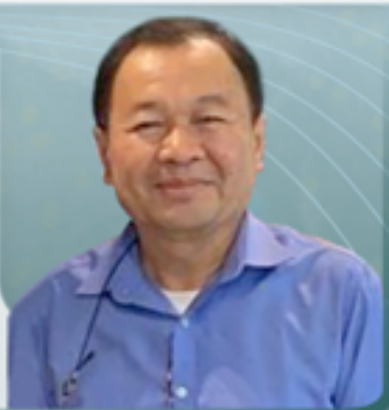

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DR. SUN SOMARA, TRAINING COORDINATOR, NGPRC/ NATIONAL INSTITUTE OF EDUCATION (CAMBODIA)

Dr. Somara is a Cambodian educator who currently works as one of the managers at the New Generation Pedagogical Research Center at Cambodia's National Institute of Education. He joined the Center after working as both a Lecturer and a School Manager in several private institutions. Most recently, Dr. Somara worked as the Principal of Sovannaphum School in Phnom Penh and brings a rich experience from his management of a large and well-regarded private school.

DR. NHEM DAVUT, ROYAL UNIVERSITY OF PHNOM PENH (RESEARCHER) (CAMBODIA)

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DR. BO CHANKOULIKA, DIRECTOR, MOEYS POLICY DEPARTMENT (CAMBODIA)

Dr. Bo is currently the Director of the Policy Department of the Ministry of Education, Youth, and Sport (Cambodia). She holds her PhD in Education Policy Analysis from Flinders University in Adelaide, South Australia. In her current role in the Policy Department, she leads the process of policy research, development, and coordination within the Cambodian education system. Dr. Bo has been a strong supporter of MoEYS' New Generation School Initiative and sits on the NGS National Oversight Board that provides both monitoring and technical support to schools in the NGS System. Dr. Bo has special expertise in a wide number of technical areas such as International Educational Development, Administrative Law, Educational Leadership, Qualitative Research, and Policy Analysis.

MR. PHANN BUNNATH, ACCREDITATION COORDINATOR, NEW GENERATION SCHOOLS, KAPE (CAMBODIA)

Mr. Phann was the first Operations Manager of the New Generation School Initiative in Cambodia when it began in 2015 and has now transitioned to the post of Accreditation Coordinator of the entire NGS System. Mr. Phann is the recipient of several awards including the Hubert H. Humphrey Fellowship Award where he did a one-year internship at the Tennessee State Department of Education and Vanderbilt University. While in the United States, Mr. Phann focused on understanding the workings of the charter school system in the United States. As such, he is one of the foremost authorities in Cambodia on Charter Schools. He was also recognized by the US State Department as a member in good standing of the Young Southeast Asia Leader Initiative (YSEALI) that was established by President Barack Obama and did a practicum at the Mansfield Center at the University of Montana.

Conference Goals and Overview

Learn about the latest developments in Autonomous Schools Policy & Practice.

Space is limited so register NOW . . .

28-29 September 2023

Sokha Phnom Penh Hotel, Street Keo Chanda, Phnom Penh 12110

NGS INTERNATIONAL

International Conference on Autonomous Schools as a Key to Education Reform:

Planning for a New Generation of Schools for Southeast Asia & Beyond

Sponsored by:

- **Ministry of Education, Youth, & Sport (Cambodia)**
- **Kampuchea Action to Promote Education**
- **Child Fund Cambodia**
- **New Generation Pedagogical Research Ctr.**
- **Prek Leap New Generation School**
- **Hun Sen Kampong Cham New Generation School**
- **Prek Anchanh New Generation School**
- **Preah Sisovath New Generation School**
- **Peam Chikong New Generation School**

Conference Goals

1. Create a better-informed and networked international constituency that can effectively advocate for educational reforms involving Autonomous Schools.
2. Document innovative thinking on a variety of topics that relate to Autonomous Schools through an annual publication linked to the New Generation Pedagogical Research Center.
3. Create a permanent Autonomous Schools Secretariat based in Cambodia that will advocate for autonomous school reforms

Conference Overview:

This international conference seeks to bring attention to global efforts to establish autonomous public schools as a key strategy through which to promote educational reforms focused on improved educational quality in the Southeast Asia Region and beyond. The conference will in particular focus on specific exemplars of autonomous schools such as *New Generation Schools,* which are now being expanded in two countries in the region (Cambodia, where it began, and Lao PDR). Similar exemplars of autonomous schools will also be showcased such as *World Class Schools* in Thailand, Charter Schools in the United States, Academies in the UK, etc.

Conference Registration & Participation:

- **Online Participation is free.**
- **On-site Participation is $30/person and includes lunch and refreshments.**
- **Link for Registration:** https://forms.gle/RCHWf8JLpGLTn67V9 or scan QR Code
- **For Conference Information, contact:**

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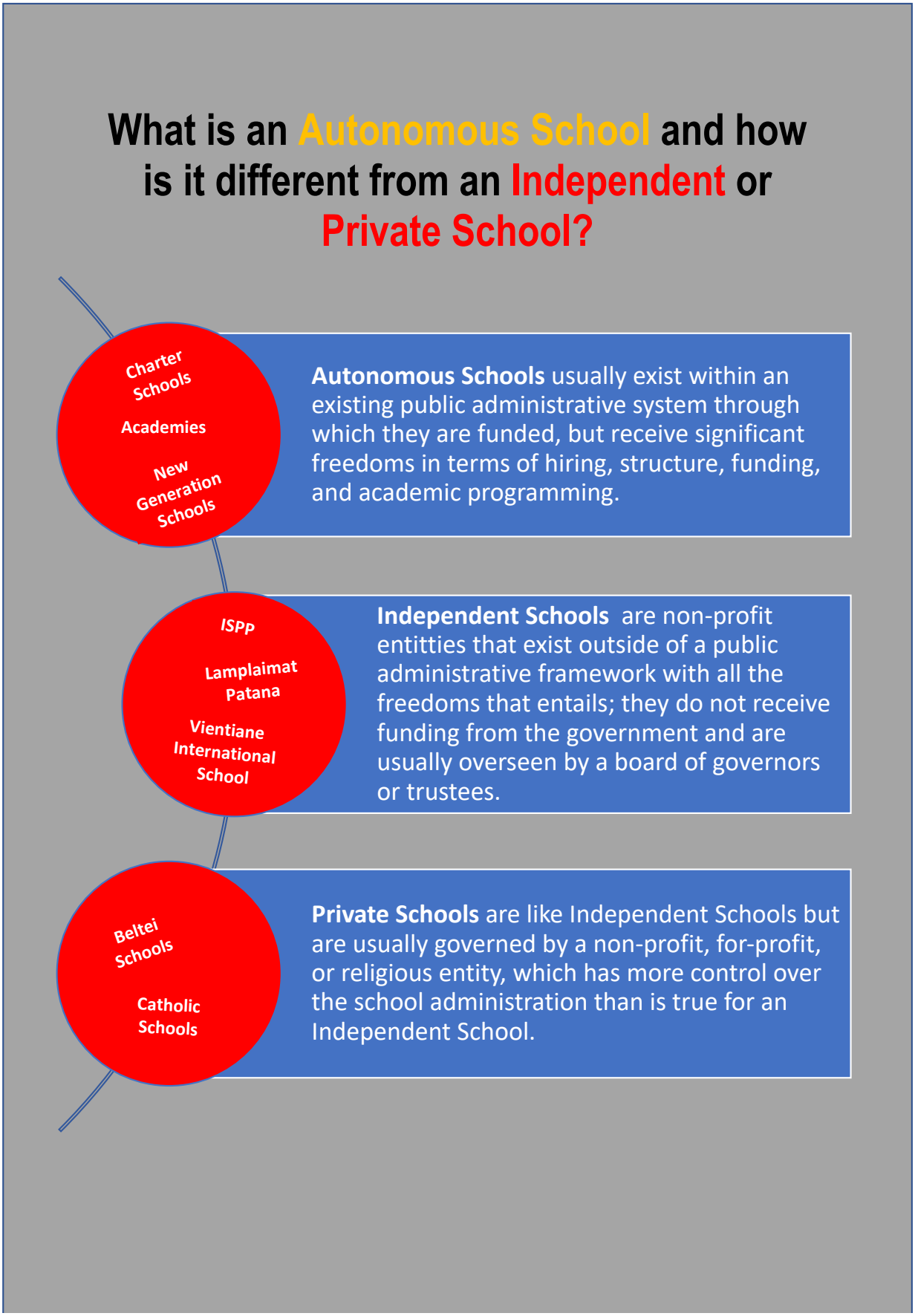
Dr. Sun Somara (NGPRC) (somara@kapekh.org)

Some Key Definitions to Help Understand the Conference



Preface

The *International Conference on Autonomous Schools as a Key to Education Reform* is a milestone event that demonstrates the growing prominence of policies that foster the creation of independent schools, both in the public and private sector. We also see echoes of this reform movement in the most recent research literature such as the growing interest in School-based Management. While Cambodia has moved far in this direction over the last ten years through its New Generation Schools Initiative, other countries in the Southeast Asia Region have also been moving in a similar direction though in a way that accords with the unique character of their national contexts. Examples of similar reforms in this regard refer to Singapore's well-regarded network of independent schools, World Class Schools in Thailand, and the possible extension of New Generation Schools into Lao PDR. Even Bangladesh has shown interest in such reforms and is sending two educators to Cambodia for two years to study New Generation School reforms for possible replication there. To be sure, the work to promote school autonomy in different countries has largely been occurring in isolation with little systematic, inter-country networking about challenges and best practices. The present conference has sought to bring together educators who have been pursuing policies that promote school autonomy in their respective countries. The conference has tried to promote opportunities for networking, cross-country learning, documentation of innovative practices, and concrete steps towards the creation of a permanent Secretariat that can help to keep educators working in this area in touch with one another. The purpose of the present document is to create a permanent record of the achievements and outcomes of this conference, which will be used as the foundation for more sharing at additional conferences organized by the Permanent Secretariat in the future.

Mr. Sao Vanna
Executive Director, KAPE

Phnom Penh
September 2023

Speeches, Articles, and Presentations

NGS INTERNATIONAL

Chapter 1

KEY NOTE ADDRESS

International Conference on Autonomous Schools as a Key to Education Reform

Delivered by:
H.E. Dr. Hang Chuon Naron, Deputy Prime Minister
Minister of Education, Youth, and Sport
Royal Government of Cambodia

Greetings and Welcome:

On behalf of the Royal Cambodian Government, I would like to extend a warm welcome to our honored guests from throughout the Southeast Asia Region who have travelled a long way to be here to discuss educational reforms relating to autonomous schools. I would also like to welcome all my colleagues and guests from Cambodia who have joined today's conference to improve their knowledge and understanding of educational reforms that rely upon the establishment of autonomous schools.

The Current Situation and Looking Forward to the Future

The Royal Cambodian Government is greatly honoured to host the present conference on autonomous public schools and share its experience on the roll-out of the New Generation School Initiative, something that everyone in Cambodia now refers to simply as 'NGS.' This initiative is now in its eighth year and has recently achieved elevated status as part of the Strategic 5-Year Development Plan of the Royal Cambodian Government, also known as the 'Pentagonal Strategy.' This means that NGS is no longer just a policy of the Ministry of Education, Youth, and Sport, but also a key part of the educational investment strategy of the national government. The degree to which the Cambodian government has fully embraced New Generation School reforms is largely based on the accelerated rates of change in teaching practice, improved governance, and improvements in terminal learning outcomes that we have observed over the last eight years.

I should also like to point out that New Generation Schools are NOT part of a project. 'Projects' are usually externally-funded affairs that have relatively short time frames and impermanent management structures. For the Cambodian government, New Generation Schools are an educational 'reform' based on the policy of the Ministry of Education, Youth, and Sport that is open-ended in terms of its time frame. Creating a solid human resource base in Cambodia is not something that can be achieved through a five-year project. Rather the time frames involving New Generation Schools will likely be measured in 'decades.'

Although the number of schools directly supported in the NGS System is still relatively small, these reforms are now on the brink of a major expansion. As some other speakers have already noted, the New Generation School Initiative is a unique reform because it has mainly

been driven without major input from mainstream donors. It is a 'Made in Cambodia' movement that is mostly funded by the Cambodian government and national partners and more recently by the parents themselves. Of course, I must mark some notable exceptions in this regard because the Ministry has also had close collaboration with some international private foundations such as the Franks Family Foundation and Child Fund Cambodia who have made some highly strategic contributions to these reforms and given them a high profile beyond Cambodia's borders. This is currently the way that things have been for the last eight years.

But the MoEYS has recently seen a major breakthrough in the funding situation of New Generation Schools with the decision of the Asian Development Bank to provide significant resources to help take New Generation School Reforms to the next level. This means doubling the number of autonomus schools in Cambodia or possibly even tripling that number by the end of the decade. Thus, we may be seeing some major changes in the operational status and scope of Cambodia's autonomous schools in the very near future.

Inter-Country Experiences

One of the things that most interests me about the present conference is how closely what we are doing in Cambodia aligns with educational reform movements in other countries that also promote the establishment of autonomous schools. For example, at about the same time that Cambodia was establishing its New Generation School Initiative, Thailand was doing something similar with its *World Class School* Program and the *Chulaphorn Science High School Network.* And independent public schools in Singapore had already been in existence for a long time. Similarly, the use of autonomous schools in Western countries as a lever for educational reform, such as Charter Schools and Academies, has also been going on for at least 25 years or more. But at the time, it seemed doubtful that such educational reforms could be replicated in countries like Cambodia. The doubters have clearly been proven wrong and I can say that everyone has been totally surprised at how successful many New Generation Schools have become once they were given the freedom to innovate.

We also have to recognize, however, that there are some critical differences between the autonomous schools in Singapore, Thailand, Cambodia, and other countries demonstrating that each country must find its own way to develop an autonomous school system that is appropriate to its own unique situational context. For example, my colleagues from Laos should not adopt the Cambodian New Generation School model lock, stock, and barrel, but should rather decide what things from Cambodia might work and which elements might not be appropriate. In the same way, Cambodia learned a great deal from Thailand and Singapore about autonomous schools there, but came up with a new system that was best suited to the Cambodian context. This seems to be an important lesson learned judging from the presentations that will be delivered here over the next two days.

Costs and Benefits

Although there continue to be criticisms of New Generation Schools on the grounds that they only benefit a relatively small number of students (about 9,000 students at the present time) or that they entail a degree of unfairness because not everyone in the country can access them, I think we have to look at the 'greater good' that these reforms have afforded Cambodia's educational system. The New Generation School system is creating a long-elusive critical mass of human resources that will provide the foundation on which the Ministry can really build a much improved school system. One of the greatest challenges for Cambodia's

education system is not so much the 'lack' of resources but rather the 'management' of those resources. Of course, Cambodia still requires educational resources but our focus for development is now shifting towards 'governance' as a much greater priority. And as you all know, the core principle that makes New Generation Schools work so well is the strong governance and leadership that provides the enabling environment for teachers and students to work and learn more effectively.

In order to reach the point where we can have improved governance and teacher performance, we first need to have in place the high quality human resources, which New Generation Schools are actually providing. And we now see a lot of our NGS graduates entering Teacher Training Institutes to be come teachers themselves. This is exactly what the Ministry was hoping to see. By producing high quality secondary school graduates, New Generation Schools are breaking the vicious circle where a previous minimum standard approach to educational development continually produced students of only mediocre quality. It is, therefore, the Ministry's belief that achieving a critical mass of high quality human resources, as I have described above, is well worth the moderate investments that the Royal Cambodian Government is making in New Generation School reforms.

Conclusions

Overall, I would say the reforms promoting autonomous schools in Cambodia have been a game changer in the education sector. These reforms are 'punching far above their weight.' That is, they are having far greater impacts than one would expect from the modest amounts of investment that have been allocated for their establishment. Indeed, the investment needed by New Generation Schools from the government is actually declining as parents jump in to subsidize recurrent costs. At the last count, parents had provided over $1.6 million in voluntary donations across the NGS System in 2023 alone, a staggering amount.

New Generation Schools not only provide high quality services to students but also produce the experience, documentation, and understanding that facilitates reform in other areas and subsectors. For example, NGS has resulted in improvements in the operation of practice schools and provided new training manuals for in-service. They also provide a fertile platform where new ideas such as 'blended learning' and 'flipped classroom' can be successfully piloted and contextualized, setting the stage for further replication. But as I noted above, our main interest in the use of autonomous schools is that they are helping Cambodia to reach a critical mass of human resource development where we will be less dependent on external technical assistance, which will in turn bring about a situation of sustained educational development. Thus, we expect to see reforms such as New Generation Schools playing a role in educational development far into the future.

Thank you.

Chapter 2

NGS INTERNATIONAL

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Annual Conference

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How Autonomous School Reforms Are Playing Out in Cambodia

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Abstract

The present article provides an overview of some of the key characteristics of autonomous school reforms in Cambodia, which are known as New Generation Schools. These reforms started in 2016 and have achieved a high degree of recognition for their subsequent impact on educational quality and innovation. New Generation Schools provide a unique application of the autonomous school strategy that has been contextualized to Cambodia; nevertheless, these reforms do have corresponding antecedents in other countries such as Charter Schools in the USA and Academies in the UK. The article makes a distinction between the systemic nature of autonomous school reforms as opposed to project structures, which tend to be donor-driven, timebound affairs with impermanent management structures that usually disappear when the project is over. The systemic focus of autonomous school reforms has led to the establishment of a more efficient administrative apparatus that runs parallel to the official educational bureaucracy. Therefore, unlike a project, the implementation of New Generation Schools is likely to be measured in decades rather than years. Some of the key themes in the roll-out of autonomous school reforms involve good school governance as a key organizing principle, process-based accreditation to maintain high levels of quality, and the use of parental funding to achieve sustained operation. The article ends with a discussion of the challenges facing autonomous school reforms in Cambodia given that the 'freedom in structure' mantra of the initiative argues against the use of standardized formula for replication. This suggests a paradox in bureaucratic efforts to standardize reforms that are essentially predicated on unstandardized school-based decision-making and local freedoms.

Keywords

Education reform, Cambodia Education, New Generation Schools, School governance, School accreditation, Oversight Boards

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1. WHAT IS SPECIAL ABOUT AUTONOMOUS SCHOOLS IN CAMBODIA?

Between 2016 and 2021, the Royal Cambodian Government and development partners such as Child Fund and the Franks Family Foundation invested about $10 million to promote educational reform by creating autonomous public schools known as New Generation Schools (NGS). These are autonomous public schools with new freedoms that seek to promote innovation and high-quality learning that is aligned with the needs of a 21st Century economy. Importantly, participation in the NGS system is conditional on the ability of member schools to meet new governance standards that are strictly enforced by Oversight Boards at both national and provincial level. These standards take the form of a formalized accreditation process that occurs every year to make sure that schools are compliant with strict conditions of governance. The accreditation process focuses not on terminal performance outcomes (such as test scores) but rather on criteria that define the operational conditions needed for successful innovation that in turn promotes educational quality. These conditions include the abolition of shadow teaching practices so that teachers put the highest priority on their public-school classes; increased hours of study; unimpeded lab availability, etc. Unlike in many projects, investment is 'conditional' on meeting these requirements. As noted above, an independent accreditation process validates that schools meet operational standards.

Although the creation of New Generation Schools is a uniquely Cambodian application, it does have similarities with antecedents in other countries. Perhaps the closest examples in other countries of similar reforms refer to 'charter schools' in the United States and 'academies' in the United Kingdom. As is the case with charter schools and academies, New Generation Schools are funded by the public purse but operate as independent institutions with accountability to special oversight boards created for the purpose. An important difference between New Generation Schools and their Western counterparts, however, is that the former depends on a Ministry policy framework for their existence while charter schools and academies are legal entities created by local legislative bodies.

The organizational set-up described above highlights the governance-focused philosophy of New Generation School reforms. The essence of this philosophy is that high levels of good governance coupled with dedicated school leadership and independently recruited teachers with high professional standards will lead to improved levels of educational quality. Such reforms assume that each school has its own personality and vision, which means that there is likely to be significant variation in the innovations that occur in each school. Whatever form these innovations take, it is the belief of NGS programmers that they are likely to be successful if supported by the good governance conditions that a New Generation School embodies.

Because the principle of autonomy requires that every school will be different in the way that it approaches educational innovation, the NGS policy framework has sought to distance operational standards implied by the accreditation process from terminal performance standards such as test scores. Too often, linking investment too closely with such terminal outcomes stifles educational innovation and leads to 'teachers teaching to the test,' rather than experimenting on new teaching methodologies, facilitating student projects, or organizing other creative activities that often have little to do with test-taking. This approach to promoting educational innovation very much sets New Generation Schools apart from other programs that are often very test-driven.

To be sure, the Cambodian general public does hold schools in the New Generation School System accountable for their performance on tests (particularly the Bac II Examination, which is Cambodia's most important school leaving examination at Grade 12); but in terms of the government assessment of NGS investments, the focus remains steadfastly on the conditions of governance, rather than test scores. The test-driven nature of Cambodia's education system is one of the root causes for low quality learning. The overriding importance of tests drives shadow teaching,[1] unimaginative teaching

[1] 'Shadow teaching' usually refers to private teaching that is supposed to supplement the regular teaching that goes on in the classroom. In this sense, it is neither negative nor positive. In the Cambodian context, however, shadow teaching has

methods, lack of interest in portfolios and project work, the underutilization of science labs and ICT, and a host of other problems. Indeed, much of what New Generation Schools teach (e.g., coding, robotics, lab work, etc.) is not even on the national examinations. Nevertheless, NGS students generally do well on the national examinations even though they play less of a central role in the overall educational programming of a New Generation School.

A final note on what makes New Generation School Reforms a rather special program in Cambodia's education system relates to the boldness of its vision and roll-out, particularly the use of Public Private Partnership (PPP) mechanisms for implementation.[2] The creation of the New Generation School System had strong political support from the highest levels of the Ministry of Education, Youth, and Sport even though this initiative challenged many vested interests who have traditionally stymied earlier efforts to reform education. These vested interests refer primarily to the education bureaucracy and the many teachers who engage in lucrative shadow teaching. In this respect, many bureaucrats and teachers prefer to maintain the status quo in the education system in order maintain both their power and lucrative money-making activities. Thus, New Generation School reforms are not popular in all corners of Cambodian society. Nevertheless, the political leadership in MoEYS placed a higher priority on achieving meaningful reform rather than appeasing powerful political interests who undermine proposed changes.

2. THE LONG-TERM VIEW OF NEW GENERATION SCHOOL REFORMS

It is commonly thought that New Generation Schools are a timebound project. This could not be further from the truth. New Generation Schools refer to a systemic reform in the education system that has created a parallel system of autonomous schools within the public system that is largely exempt from many of the stifling regulations that often hold back educational innovators. In this respect, New Generation Schools can recruit their own staff, change the curriculum, solicit funds from parents, create and fund new positions in their schools (e.g., school nurse, career counselor, etc.), and many other new freedoms that normal schools do not possess. These freedoms are documented in approved policy guidelines that give the whole New Generation School structure considerable staying power that goes far beyond what a timebound project could ever achieve (MoEYS, 2016).

It should also be noted that New Generation Schools are not governed by impermanent project configurations like a Project Implementation Unit, but rather have their own administrative structures (see Figure 1) that are intended to be more or less permanent entities unless they are purposely disbanded. The NGS System comprises an implementation arm (Central Office), an oversight arm (Oversight Board), a quality assurance arm (Accreditation Office), and a capacity-building arm (New Generation Pedagogical Research Center). A degree of independence between units within the NGS structure prevents conflicts of interest and promotes good governance. As the diagram presented below suggests, the administration of New Generation Schools requires a long-term view and this management structure is intended to provide on-going reforms with the staying power that they need to accomplish their ultimate goal, which is the creation high quality human resources.

deeply negative connotations because of its pernicious impact on poor children who cannot afford to pay teachers, especially when they ration the curriculum based on students' ability to pay.

[2] The decision of MoEYS to outsource the implementation of New Generation School development to a civil society organization was a radical departure from how development usually occurs in Cambodia that surprised many observers. Nevertheless, the decision of the government to fund civil society to implement this reform has had many benefits such as bypassing inefficient state and donor bureaucracies, lowering costs by eliminating the practice of 'commissions,' increasing access to innovative practice, and expediting implementation.

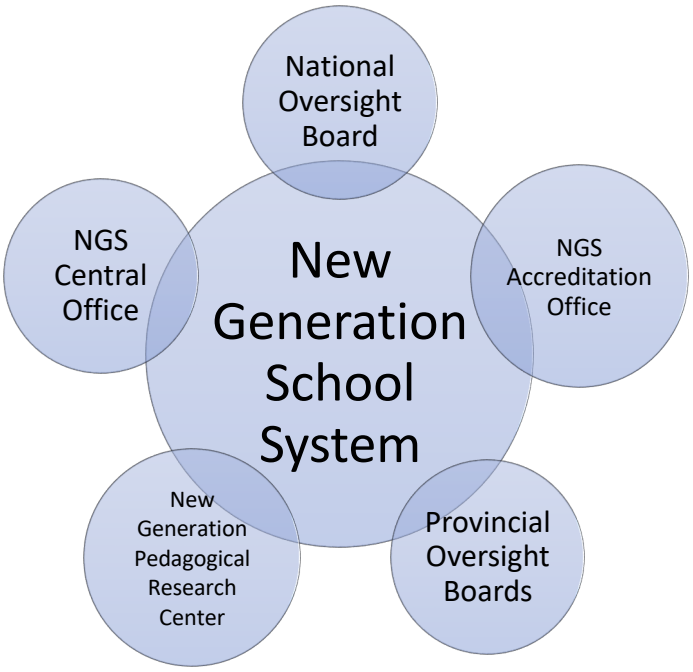

Figure 1: Specific Bodies and Offices Responsible for Administering the New Generation School System. *Some of these offices are under direct government control while others have been outsourced to Non-state Actors to expedite implementation.*

The long-term view of New Generation Schools Reforms is to create a high-quality human resource base in Cambodia by using a high investment development track in selective locations. This view contradicted the misguided mantra often heard in development circles that if something could not be replicated everywhere, then it should not be implemented anywhere. From the very beginning, MoEYS has been clear that New Generation Schools are not intended to be implemented everywhere, but rather to demonstrate that high-quality public schools are possible in Cambodia's education system, if certain conditions can be achieved (e.g., the elimination of private classes). Even if Cambodia had the financial resources to set up many more NGS sites, it simply does not have the human resources needed to effectively staff such schools everywhere in the country. This leads to a vicious circle: Cambodia cannot create high quality schools because it lacks human resources and because it has no human resources, it lacks high quality schools. By taking a long-term view of 10 to 20 years, New Generation Schools seek to break this vicious circle by gradually (but steadily) increasing the availability of high-quality human resources to staff high investment schools. At first, this will take the form of a trickle but as more and more New Generation Schools build on the resources that came before them, this trickle will become a stream and eventually a mighty river. This evolution in human resource availability, however, cannot happen in the context of short-term projects with three or four-year time frames, which donors are so fond of; as a result, policy makers have taken a longer-term view of decades to achieve this goal by using implementation mechanisms that move beyond conventional project structures.

3. SUSTAINING EDUCATIONAL QUALITY

Concerns for sustainability were built into the New Generation School design from the very onset. Strategies for sustainable programming build on such things as accountable performance linked to accreditation, a 3-year investment cycle to achieve accreditation, and a policy framework, which gives the autonomy to schools to negotiate parental financial support in exchange for sustained (and accredited) standards (see Box 1). The linkages between these elements of the NGS system are depicted in Figure 2 below. As this diagram demonstrates, once a school is accredited, it can solicit siginficant amounts of voluntary parental support to keep operations running even when payments from government might be delayed. Although some degree of government support will always be needed to subsidize the needs of poorer students who can not pay voluntary tuition fees, it is expected that most New Generation Schools will be able to cover between 50% to 70% or more of running costs

from local sources. So far, the pilot stage of NGS emplacement has been able to make good on these arrangements with all or nearly all of supported schools achieving fund raising goals in their local communities. Indeed, eight accredited schools reported raising almost $1 million USD in 2022 (MoEYS, 2022).

Box 1: Summary of Sustainability Elements in NGS Programming

1. Three-year investment cycle to convince parents of high standards
2. Validating standards for parents through Annual Accreditation.
3. Incentivizing schools to strive for Accreditation because it is linked to their right to negotiate parental support
4. Policy guidelines empower schools to negotiate Parental Financial support once they have demonstrated accreditation. This provides the legal framework for sustained local support.
5. Training School-based Mentors through a Master's Degree Program that has been established at the National Institute of Education. Such mentors will eliminate the need for reliance on KAPE technical personnel.

Internal discussions within the NGS System and with schools have led to broad agreement that schools should try to aim to be 70% self-sufficient financially (or more) by the time that they start to de-link from MoEYS-mediated support at the end of a three-investment cycle (pending their accreditation). Allthough it is recognized that not all schools (and particularly rural schools) may be able to achieve this degree of self-sufficiency, this should be the ideal aim. While schools in rural areas may not be able to achieve 70% self-sufficiency, they should certainly be able to achieve 50% of running costs. The support that cannot be covered by local resources can then be provided by MoEYS, as per the approved policy framework, linked to a Social Equity Fund. Although it sometimes takes many months for the Cambodian Government to process funding requests, it is believed that if schools can self-fund for the first six months of the school year (i.e., mid-July), the remaining funds can arrive in time to get schools to the end of the fiscal year.

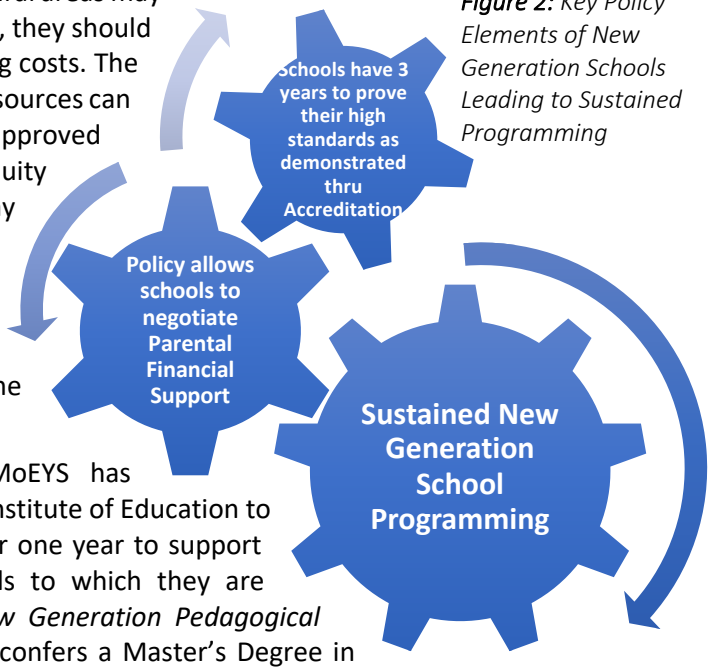

Figure 2: Key Policy Elements of New Generation Schools Leading to Sustained Programming

In terms of technical sustainability, MoEYS has established a new center at the National Institute of Education to train school-based mentors intensively for one year to support teachers in the New Generation Schools to which they are assigned. This center, known as the *New Generation Pedagogical Research Center* (NGPRC) (see Figure 1), confers a Master's Degree in Mentoring upon its graduates who are then assigned to New Generation Schools where they work as school-based mentors. Basing mentors in schools is a new and innovative strategy introduced under NGS Reforms to strengthen the professionalism of teachers. This strategy seeks to shift the allocation of resources for teacher development away from formalized workshops, the frontline strategy of most donors, towards mentoring and coaching. MoEYS believes that its efforts to use the *New Generation Pedagogical Research Center* as a source of high-quality human capital to support teacher development will help to shift the need for external technical support to school-based Mentors, thereby reducing the reliance on the NGS Central Office for technical personnel. As of 2021, about 54 mentors had been posted for this purpose. Additional intakes of prospective Mentors should ensure that each New Generation School has between three and four school-based mentors who are all certified with a Master's Degree in Mentoring. The establishment of the NGPRC is, therefore, another key piece of MoEYS' planning to ensure sustained technical programming after a three-year investment cycle.

4. REPLICATING NEW GENERATION SCHOOLS AND AN IMPLICIT PARADOX

By the end of 2022, MoEYS expects that all ten New Generation Schools supported during the pilot phase of implementation will be both accredited and sustained by local funding, thereby setting the stage for replication in more locations. Ultimately, MoEYS would like to see at least one or two New Generation Schools in each province and municipality of the Kingdom. At the time of the writing of this publication, MoEYS is planning to establish another 23 New Generation Schools throughout the Kingdom over the next five to six years. This planned replication has required a re-examination of NGS implementation procedures and an attempt to standardize its replication. Herein lies a peculiar paradox of replicating NGS reforms, since the whole concept is based on principles of decentralized decision-making, freedom to innovate, and independence from the general education system. While the NGS System has created a policy framework through which to organize support to autonomous schools including a rigorous accreditation process, it has been careful to leave what goes on at school level to local level stakeholders, mainly school managers, teachers, students, and community members. The philosophy adopted by the NGS System in this respect can best be described as 'freedom in structure.' That is, while New Generation Schools do work within a policy structure that has been carefully crafted to provide general guidelines for operation, it has been careful not to rigidly prescribe the content of activities at school level (MoEYS, 2016). Thus, schools determine their own priorities for the resources at their disposal. This means that there is not really a standardized implementation formula for NGS replication.

As the Cambodian Government prepares to involve larger donors and in particular the international development banks in the proposed expansion of NGS Reforms, there is a relentless push to standardize and centralize implementation procedures, as large bureaucracies are frequently prone to do. The efforts of large donor bureaucracies to centralize the implementation of what are essentially decentralized educational reforms present a curious paradox for NGS practitioners. While there are some standard practices that can be observed to guide NGS replication such as careful school selection, certain ratios for the emplacement of labs per classes,[3] guidelines for lab, library, and classroom configurations, and staffing arrangements, much of what goes on during the process of NGS emplacement is largely an organic process that follows the dynamic decision-making of local stakeholders. Such organic processes do not lend themselves well to replication by giant donor bureaucracies with rigid systems of procurement and technical support. Thus, the paradox of 'centralized decentralization' is likely to be one of the largest challenges facing the Cambodian Government to replicate NGS reforms. This suggests the need to consider the continued use of current arrangements for implementation that outsource resources to smaller organizational entities that can create the conditions for organic development.

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[3] For example, NGS planners have determined that there needs to be one science lab for every 4 classes and one ICT lab for every 9 classes.

Chapter 3

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Perceptions of Educational Elitism and How This Impacts Autonomous Schools

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Abstract

The present article explores the definition of elitism as it is applied to educational institutions and how this leads to common critiques of autonomous schools. The article helps to explain why 'elitism' has negative connotations especially in development circles and more generally in societies that claim to be committed to social justice and principles of egalitarianism. The author identifies from the research literature the most common criticisms of autonomous schools based on the claim that their operational practices are 'elitist' and damaging to the public school system. These arguments cover a wide number of reasons that have moral, social, political, and economic dimensions. This includes observations that autonomous schools drain public funds away from normal public schools, are not inclusive, and distract from helping all students achieve minimum standards in literacy and numeracy. The article examines the merits of these arguments from the perspective of autonomous school practitioners who claim that such schools actually aid the public sector to retain the best students and prevent the public schools from becoming the exclusive preserve of the poorer classes. This need is particularly urgent in the face of an explosion in the number of private schools that has broken the monopoly of the state school system on the provision of educational services. Thus, the author argues that autonomous schools can provide high quality educational services to all members of society regardless of their social class or ethnicity in a way that is actually cheaper than the private school sector, thereby creating a win-win situation for people of all social classes.

Keywords

Elitism, Autonomous school, Charter school, New Generation School, Public education, Social Equity

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1. INTRODUCTION

1.1 What Does It Mean to be an Elite Educational Institution?

Critiques of autonomous schools often use the argument that such institutions are 'elite' in terms of their philosophy and mode of operation. Usually, the use of the word 'elite' has very negative connotations, especially in the world of social and economic development in which there is significant investment to address poverty and social inequity. But even in the so-called developed countries, the word has negative connotations as well and there is a long history of using the elitist dog-whistle in the case of Charter schools, which are publically funded institutions (e.g., Vasile, 2022). In most cases, elitism refers to the conferral of power, honor, and privilege as symbolic forms of power to a select group or groups who are deemed in some way to be 'superior' (see Box 1). This superiority may stem from one's social standing (either earned or inherited) or possession of superior ability. The idea that there are social elites in our society often offends many who subscribe to egalitarian political philosophies, which are then projected into the education sector.

Box 1: Definitions and Usage of the Term 'Elite'

Oxford Dictionary

Elite (noun) /ɪˈliːt,eɪˈliːt/ A select group that is superior in terms of ability or qualities to the rest of a group or society.

Google Search

Elite Education: Education that caters to the needs of a small, influential portion of the population, usually involving professional training and "high culture." (Doughty, 2020)

But there is also a degree of duplicity in the way that criticisms of elitism are applied. For example, elitism in the case of private educational institutions seems to be more acceptable because this involves the use of non-public funds, and the private sector has a right to use its own money in any way that it may see fit. However, objections generally arise when certain educational institutions that have perceived 'elite' practices receive public funds, which are intended to help all social classes since governments derive these funds from all levels of society, including the middle class and working poor. Because autonomous schools are usually schools that rely on public funding, they are often strenuously criticized as 'unfair' and 'inegalitarian.' The merit of these arguments is the focus of the present discussion.

1.2 How and Why Do Detractors Apply the Elite Critique to Autonomous Schools?

Critiques of autonomous schools on grounds of elitism generally take several forms. Here is a short list of such criticiques:

Failure to be Inclusive: First, it is believed that autonomous schools are inherently unfair because they are restrictive in their admission requirements, applying quotas to maintain acceptable pupil class ratios, or insisting on certain basic academic requirements such as basic literacy or numeracy. It is believed that public institutions should be opened to all students regardless of the capacity of a school to accept or effectively train them. Failing to do so is seen as a betrayal of the social contract that public schools have with society, particularly in democratic societies that are commited to social justice and equality for all. Thus, autonomous schools offend egalitarian and democratic sensibilities (Atkinson, 2022). Even in cases where autonomous schools make an effort to be more inclusive, criticisms persist that efforts to be 'inclusive' do not often lead to social integration because the elite culture at such schools tends to exclude underprileged students who are admitted based on their perseverance and high ability, in spite of their poor social origins (e.g., Jack, 2019).

Diversion of Resources Away from Public Schools: A second common common critique of autonomous schools related to their alleged elitist status reflects the argument that such schools drain resources away from needy public schools. This is usually the primary charge levelled against Charter Schools in the United States (Uplift Education, 2023). But even in development contexts where resources for education systems are scarce and needs are great, this argument often has great resonance in donor circles where inclusive education agendas abound. It is often true that

autonomous schools do reflect high investment tracks instituted by governments to enable some public schools to achieve higher standards, requiring significant resources for equipment, high tech facilities, wired classrooms, and other materials. This means that unit costs at autonomous schools tend to be higher than for normal public schools though to be sure they are often lower than private schools because autonomous schools are at an advantage given that they can use the existing physical plant of the public system as well as state teachers who already have base salaries from the state.

Distraction from an Investment Focus on Minimum Standards: In developing contexts, many stakeholders both in government and among development partners believe that the focus of educational investment must be to address the serious underperformance of the public schools to achieve basic literacy and numeracy for all students. It is for this reason that most development partners in countries like Cambodia and Lao PDR have generally shunned investment in autonomous schools, which they believe distracts from the real priority of minimum standards and which in any case mostly benefit students that do not need any extra help (i.e., society's elite students). Thus, it is believed that the decision of some governments to shift investment away from minimum to maximal standards does a serious disservice to the large number of students, mainly in poor rural areas, who are failing to achieve basic literacy and numeracy.

Catering to Urban Populations: A final reason that autonomous schools appear elitist in the minds of detractors is that they are often located in urban areas. This is mainly a problem in developing countries where autonomous schools are used. While this is not always the case, it happens frequently enough for it to be an issue in the ability of autonomous schools to reach the poorest elements of society who often reside in rural areas. For example, in the case of Cambodia, it is true that 70% of state-supported autonomous schools, known as New Generation Schools, are located in urban or semi-urban areas such as the capital city or provincial/district capitals (MoEYS, 2022). Although autonomous schools are still in the planning stages, Lao PDR is taking a similar approach (Bredenberg, 2021). The preference to emplace autonomous schools in urban locations occurs because it is more difficult to find highly competent teachers willing to work in the countryside; in addition, internet services and in some cases even electricity is not available in many rural areas. A final reason often cited for urban preferences is it that it is difficult to find parents with the financial ability to co-fund autonomous schools (as is required in Cambodia) along with government. Thus, it makes more sense to place autononous schools in urban or semi-urban locations.

Countries like Thailand, however, have done a better job at addressing this problem by placing many autonomous schools in the countryside. Such schools address many of the constraints found in countries like Cambodia and Laos because Thailand makes huge investments in dormitory space for both students and teachers and has more highly developed infrastructure when it comes to electricity, internet, and roads. Although autonomous schools are usually 'schools of choice,' meaning that anyone can apply for entry regardless of their residence, such provisions most often favor the wealthier social classes who have the ability to support their children to live far away from home. While there may be solid reasons for placing autonomous schools in urban areas, opponents of such investments feel that the end result is to exclude poor rural populations from high quality educational services while favoring urban populations.

2. DO AUTONOMOUS SCHOOLS MEET THE DEFINITION OF ELITE INSTITUTIONS

2.1 Origins of the Elite Argument against Autonomous Public Schools during the Charter School Movement

Charter Schools started as a trailblazer movement and are often considered the quintessential embodiment of the autonomous school. Historically, such schools go as far back as the 1970s and were started by a group of New England educators led by Ray Budde. His idea was for groups of teachers to set up contracts or "charters" with their local school board to discover new approaches and ideas in the field of education. In those days, the idea of a charter school was looked upon more favorably by teachers' unions an indeed, the former head of the American Federation for Teachers,

Albert Shanker, actually helped to popularize the idea during the 1980s. Finally, the State of Minnesota actually codified the idea into law in 1992, becoming the first state to do so (Public Charter Schools Insider, 2023). From that time onwards, charter schools began to take on political overtones and as American politics became more polarized, the battle lines were drawn. Progressives and associated lobbying groups like teachers' unions with more egalitarian leanings generally became detractors of the movement while more right-leaning politicians with a focus on privatization became advocates. It was about this time that elitist arguments against charter schools began to be heard, particularly as they started to eat into public funds for education as charter schools are generally tuition-free institutions that rely on funding from school districts.

Although charter schools are nominally public schools that are mainly funded by the public purse, there are many cases where they are run by private companies that include both profits and non-profits. Such arrangements are what feed into criticisms by detractors with strong egalitarian leanings that charter schools are 'private' entities stealing funds from other public schools. The counter argument, of course, is that contracting the operation of public schools out to non-public entities brings accountability for academic performance into the public school system because while public schools are rarely closed for non-performance, charter schools and the companies that run them can (and often do) lose their charters. So, while some education partisans may feel offended by the whole principle of private entities using public buildings and funds, charter school proponents feel that the energies of these partisans might be better directed at making public schools more accountable for their performance; then there would be no need for high accountability institutions like charter schools in the first place (Atkinson, 2022).

In terms of the amount of public funding that charter schools use, the argument seems to fall flat when one considers how few charter schools there are in the Unites States. In this respect, the percentage of charter schools in the United States as a proportion of all public schools is only about 8% though this number has increased recently from 5% (National Center for Education Statistics, 2023). The number of normal public schools on the other hand has been declining (from 93,500 to 91,400; NCES, 2023) so this may explain part of the ire of charter school detractors. Though it may be true that charter schools are taking an increasingly larger share of public funds as their numbers increase, they are still relatively small relative to how much money the states and federal government spend on education overall. Similar criticisms are also heard in Cambodia, Thailand and other countries in the SE Asian region that have recently been pursuing educational reforms supporting autonomous schools (e.g., Dumrongkiat, 2018). In Cambodia, for example, there has been considerable push back against the introduction of autonomous schools on the grounds that state funds should not be used for 'public schools' that act like 'private schools'; in reality, autonomous schools in Cambodia use about 0.2% of the state education budget, which is apparently too much (MoEYS, 2022).

In general, proponents of charter schools rebut the arguments of detractors outlined above by saying that they are in denial of the sad state of affairs that characterizes the public school system. Abolishing charter schools is not going to change much even with the extra funds that such a policy change might generate. Problems in the public-school sector mainly manifest themselves in the form of low accountability and declining academic performance, which was happening long before charter schools arrived on the scene. In contrast, charter schools have been demonstrating increased performance in comparison to normal public schools (e.g., Stanford, 2023) because they are held accountable for their performance but also enjoy greater freedom and independence through which to create innovative learning programs. Charter school proponents believe that these institutions should not be seen as elitist in character because they are still public schools that largely work in disadvantaged areas; do not charge tuition fees; and in theory do not impose admission requirements on students, though lotteries are frequently used to ensure that pupil class ratios do not undermine standards. To be sure, there have been criticisms of charter schools relating to how they sometimes skirt admission requirement prohibitions (e.g., Nelson, 2014). Nevertheless, the main rebuttal to elitist claims by

charter school detractors seems to be that such claims are mainly ideological in nature and cannot easily address the academic success and inclusive placement that charter schools demonstrate.

2.2 How Does the Issue of Minimum Standards Play Out in Elitist Arguments against Autonomous Schools

In developing educational contexts, there is a very strong tension between the need to focus on achieving basic literacy and numeracy among students while also striving to provide students with higher-order thinking skills that align with the needs of a 21st Century economy. While this is less of an issue in countries like Thailand, Malaysia, and Singapore, which have already achieved very high levels of functional literacy and numeracy at the basic educaton level, it is a major issue in less developed countries such as Cambodia and Lao PDR. For example, recent assessments of children in Cambodia have found that 58% of Grade 1 children cannot read a single word even after one year of study despite millions of dollars of investment in new curricula and teacher training (KAPE-UNESCO, 2023). In comparison, Thailand reported a rate of 12% illiteracy among second graders, hardly good but far from the crisis proportions of early grade illiteracy in Cambodia (Aberin & Saenwan, 2013). For many donors, autonomous school programs seem to be a distraction from the march to minimum standards, which they feel should be a much higher priority for governments so that all students can achieve basic literacy and numeracy skills.

The choice between minimum standards applied in normal schools and maximal standards applied in autonomous schools should not be a case of either this or that. In the case of Cambodia, the New Generation School Policy states that the government should commit to a two-track investment strategy that accommodates a focus both on basic literacy and numeracy as well as investment in those schools that are able and ready to achieve 'maximal' learning (MoEYS, 2016). That is, the government urges educators to do both because if the country does not prepare at some level to create a critical mass of human resource talent (and not just those with minimum skills), it will never be able to compete in a 21st Century economy. Indeed, if Cambodia had had a two-track education investment strategy 20 years ago, things might be very different today. Unfortunately, most donors have not bought into this strategy and generally focus on an endless stream of projects focused on minimum standards.

The mantra for minimum standards is commonly heard in development circles all over the world and even in many developed countries. It seems like a reasonable strategy to guide investment planning for education systems everywhere. However, minimum standards can be a trap that leads to a 'race to the bottom.' Much like the RMS Titanic was built to a minimum standard designed to ensure the complete safety of its passengers, building an entire education system to a minimum standard can lead to disaster. Especially in very centralized education systems where many administrators tend to be risk-averse, minimum standards have the effect of incentivizing educational planning that focuses on the lowest common denominator and avoidance of any actions that go above and beyond doing the 'minimum.' It may be the case that many underperforming schools perhaps need minimum standards, but when such standards are applied to an entire education system, far from helping, they may disincentivize promoting the very skills that national planners say that they want.

2.3 Arguments against Autonomous Schools in Cambodia on the Grounds That They Are Elitist

Many of the same arguments that one hears about charter schools are also common in Cambodia, which has been a hotbed for autonomous school reforms in recent years. Although autonomous schools in Cambodia (also known as New Generation Schools) bear many similarities to charter schools, they differ in significant ways that makes them more vulnerable to accusations of being elitist. For example, although the government does not allow tuition fees for the first three years of investment in such schools, they are allowed to introduce voluntary tuition fees in the fourth year of operation, if they are accredited. This policy is a way for government to conserve precious public funds

that can be used for expansion to additional schools. This is quite different from charter schools in the United States where tuition fees are forbidden. To be sure, scholarships for Cambodian households that are unable to pay tuition (based on a means tests) are available to safeguard social equity and diversity as well as deflect criticisms of elitism. However, proponents of New Generation Schools would argue that these tuition measures merely do transparently and rationally what most public schools do opaquely and illegally and that is to extort irregular fees from students by rationing the curriculum and organizing shadow teaching for paying students. Thus, critics who maintain that public schools in Cambodia are 'free' while New Generation Schools charge tuition fees suggests a 'fools' paradise' defense of normal public schools. In addition, the tuition fees collected by New Generation Schools are managed transparently and are used to cover the real costs of providing higher quality education whereas the irregular fees[4] collected directly by teachers in normal public schools disappear into individual pockets and have little impact on the quality of educational services. Indeed, proponents of New Generation Schools would argue that the rationalized administration and utilization of tuition fees with exceptions for poor households are much more egalitarian in nature than the rampant private classes that one finds in ostensibly 'free' normal schools where there are no safeguards in place to shield students from poor households from high education costs.

Another major difference between charter schools and New Generation Schools is the use of admission tests, which are also not allowed in the United States. Because New Generation Schools have limited space but face high demand, many of them, particularly those in urban areas, have introduced admissions tests (or in some cases lotteries) to ensure that strict standards for pupil class ratios are not undermined. Admission tests are often based on tests of basic literacy and numeracy, as the fairest way to ration access to the New Generation School system. The acceptance rate among New Generation Schools was reported to be 60% in 2022 (MoEYS, 2022). The argument for the introduction of admissions tests is that such measures are the fairest means through which to prevent New Generation Schools from being overrun given the high demand for admission. The choice is one of having open admissions but abandoning quality standards or the inverse. Although such practices are labelled as elitist in nature by critics, they seem necessary in the interests of preserving a greater good.

Other critiques of New Generation Schools that their unit costs are prohibitive and drain resources away from the rest of the education system do not seem well-founded. Currently, there are only ten New Generation Schools in Cambodia, which receive a total annual budget from government of about $1.8 million per year (MoEYS, 2022). Based on an annual education budget of $836 million in 2022, this represents about 0.2% of all resources provided by the government. Even if the government tripled the scope of such schools in the near future, this would still only comprise less than 1% of the annual education budget. Furthermore, unit costs for the operation of New Generation Schools are declining as operational costs are shifted to parents. For example, between 2019 and 2022, unit costs declined from $370/student to only $256/student or a decrease of 31% (MoEYS, 2019; 2022). And considering that the tuition fees charged by New Generation Schools are actually cheaper than the private class fees that parents are forced to pay in normal public schools (about $800 per year versus an average annual fee of $157 per year at a New Generation School), parents of all social classes find that attendance of a New Generataion Schools offers a win-win proposition. Thus, the argument that autonomous schools drain a significant part of government resources away from the public school sector or that tuition fees ensure that only the wealthiest households can attend do not seem accurate.

The critiques of New Generation Schools summarized above are each based on the premise that such schools undermine the system of public schooling with its promise of an egalitarian vision of education for all by replacing it with an elite system that is restricted to a select few. However, advocates of New

[4] Irregular fees for private classes are forbidden under the New Generation School policy and strictly enforced through the accreditation process.

Generation Schools would argue the opposite; that autonomous schools help the public school system to respond to dramatic changes in the operational landscape of schooling that threaten its very existence. This refers to the explosion in the number of private schools in Cambodia, which have recently broken the monopoly of the state school system on educational service provision. Parents now have a choice between sending their children to a public school or a private school leading to an exodus of middle-class students out of the public school system. Indeed, it has been reported that about 45% of the secondary schools in Phnom Penh are now private and some districts in the capital report losing more than half of their enrollment to the private school sector (Bredenberg, 2022). By providing affordable, high-quality public alternatives, New Generation Schools are actually bringing middle class students back into the public education system, thereby maintaining its diversity with regards to the social class of students. Far from being elitist, New Generation Schools have helped to strengthen the inclusiveness, credibility, and integrity of public schools.

3. DISCUSSION AND CONCLUSION

Educational reformers across the world are increasingly realizing that public school systems are so ossified and riven by the steadfast opposition of vested interests to systemic change that efforts to bring about reform face dim prospects. This situation helps to explain why reformers are increasingly turning to the creation of new, autonomous public schools outside of the mainstream public school system, where modes of operation are more flexible and most vested interests have been neutralized. Such schools are able to create an operational environment with significant freedom to innovate as long as they can demonstrate accountable performance. Unfortunately, these efforts have been criticized for undermining public school systems, weakening diversity, and diverting resources away from government and donor agendas that are committed to achieving minimum learning standards. In short, efforts to promote autonomous schools have been dismissed as elitist in their philosophy and harmful to the egalitarian vision of public schools.

In this article, we have argued that many of the criticisms of autonomous schools are not well-grounded and could even be interpreted as self-serving because they put the onus of justification on autonomous schools rather than underperforming public schools, which have been in steady decline for a long time in many countries. Indeed, one could even argue that autonomous public schools are actually helping to reinvigorate the public schools system by bringing back the middle classes into the public schools, thereby creating more diverse learning environments for all students. They achieve this by demonstrating high degrees of educational innovation at reasonable cost while at the same time abiding by rigorous standards of accountable governance. And despite the opposition of very strong vested interests, the ubiquity of autonomous schools seems to be increasing, suggesting that they are reforms that will be continuing for a long time to come.

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Chapter 4

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Lamplaimat Patana School: An Early Pioneer of School Autonomy in Thailand

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Abstract

The present article provides a case study of a government-dependent private school in Thailand that has had significant impact on education reform in the Thai public school system as this relates to 'alternate education-focused' reforms. Indeed, this influence has spread beyond the borders of Thailand and has also seeded the original idea for autonomous public schools in Cambodia, which is now a thriving policy initiative of the Cambodian government. The article explores how the policy environment in Thailand has provided the institutional space to allow the establishment of an independent private school with close links with the public education system. This policy has been highly stimulative of educational innovation and the case study school, known as Lamplaimat Patana, has been able to pioneer a unique education model that exemplifies 'alternate education.' This education model has a learning modality that is intensively cooperative in focus and avoids the use of competitive tests and hierarchical relationships between students and teachers. The school has achieved trailblazer status in Thailand and has created a network of 'node' schools in the public sector that seek to replicate alternate education reforms that align with the education reform policy of the Thai Ministry of Education. This case study, therefore, demonstrates the huge potential for educational innovation that can be achieved by providing institutional space for school independence and autonomy.

Keywords

Private school, Government-dependent private school, alternate education, independent school

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1. INTRODUCTION

1.1 A Unique Autonomous Network School with Wide-ranging Impact

In 2006, a group of Cambodian educators visited Lamplaimat Patana School in the countryside of Buriram Province, Thailand as part of an exposure visit to learn about innovative models of education. Little did anyone realize at the time that this visit would have wide-ranging impact on educational reforms pertaining to autonomous schools in Cambodia and beyond. The school is technically considered to be a private school but receives support from the Thai government both in terms of financial and human resources (e.g., many of the teachers working there are on state salaries but receive a top-up from the school). Based on standard definitions of PPP in the education sector, the school is considered to be a government-dependent private school (see Box 1). Nevertheless, the school has some characteristics of an autonomous public school because it leads a network of like-minded public schools throughout Thailand to promote alternative models of education (see below). In this sense, Lamplaimat Patana School could also be called an autonomous network school (see Chapter 7 of this publication). The school is, therefore, in a grey area – not fully private but not fully public either.

Lamplaimat Patana School's autonomous management and 'alternate education' approach have had a profound effect on Cambodian educators leading to investments that would eventually come together as the New Generation School Initiative, Cambodia's first autonomous public schools (cf. Thai PBS, 2019). Through its contacts with educators in Lao PDR, New Generation Schools may also find fertile ground for possible expansion there as well.

Box 1: Modalities of Public-Private Partnership for Educational Service Provision

Private schooling may take one of three forms, namely: government-dependent private schools, independent private schools, or homeschooling. A government-dependent private school receives 50% or more of its core funding from government agencies or its teaching personnel are paid by a government agency. An independent private school receives less than 50% of its core funding from government agencies and its teaching personnel are not paid by a government agency. The terms 'government-dependent' and 'independent' refer only to the degree of a private institution's dependence on funding from government sources, and not to the degree of government direction or regulation. Homeschooling involves the education of children at home, typically by parents or tutors, which meet compulsory school requirements.

-OECD, Better Policies for Better Lives, 2023

1.2 Educational Context in Thailand

The Thai education system allows for a diverse array of independent school types ranging from autonomous network schools (e.g., Princess Chulaphorn Science High Schools), self-financing public schools with special academic/international programs (e.g., World Class Schools), and private schools of various types. Thai law provides for state subsidies to private schools (especially those in rural areas) as long as they can comply with a requirement that they do not charge tuition fees that exceed those allowed in the public sector. Because it charges no tuition fees, private schools like Lamplaimat Patana qualify for state subsidies as noted above.

Despite the observation that Thailand allocates a considerable amount of government resources to education (3.3% of GDP and 18.1% of the national budget,[5] MoE of Thailand, 2018), the country's education system is not short on criticism, with key issues ranging from urban-rural disparities in education; teacher quality; and inadequate focus on 21st Century Skills and competence (Australian Government, 2018). Thus, there is a real need for schools like Lamplaimat Patana in Thailand. Thailand

[5] In contrast, Cambodia's % of GDP for Education is 3.1% while Lao PDR is 2.3% (2020). For comparison, the global average is 4.62%.

has made good progress towards achieving the goal of universal primary and secondary education, with 95% of children attending school. However, quality remains a major problem, particularly in rural areas, as noted above. The Thai Ministry of Education has recently introduced a new national curriculum, which is aligned with modern educational thinking. However, most schools have found it difficult to change their traditional teaching methods to meet the needs of the new curriculum.

Traditionally, Thai schools have focused on accumulation of facts through rote learning. But in today's world, the problem is not one of too little information but one of too much information. The key skills that are needed are critical thinking skills that allow finding and separating out the relatively small amount of relevant, valid, important information from the huge mass of mostly useless information with which we are continually bombarded. Beyond that, it is important to build skills for imaginative and creative thinking, together with the self-confidence to express that thinking. It is also important to develop positive attitudes and feelings towards learning: it is much more important that children acquire a habit for and love of learning than that they master any particular body of knowledge. Of course, all these higher-level skills depend on a mastery of basic foundational skills, such as reading, writing, and arithmetic.

2. EDUCATION FOR COMPLETE HUMAN DEVELOPMENT

2.1 Historical Evolution of Lamplaimat Patana School

Lamplaimat Pattana School was founded with the objective of demonstrating the possibility of providing a high-quality education to children in rural areas. It is considered to be an independent private school, but is owned by a non-profit organization, the Lamplaimat Pattana Foundation, which does not charge tuition fees; financial support comes mainly from charitable donations. The school opened in 2002 and has approximately 240 children enrolled at the kindergarten and primary levels. Lamplaimat Patana School does not select children based on ability; instead, a lottery is used when necessary. The school is located in a rural part of Buriram province in the North-East of Thailand; Buriram is one of the poorest provinces in Thailand, with educational scores in the bottom 10% of provinces.

2.2 A Philosophy for School Development and Learning

In addition to intellectual skills, Lamplaimat Patana School places great deal of emphasis on developing a range of emotional, social and spiritual qualities that help children to lead happy, fulfilling lives and contribute positively to society. It also tries to ensure that children feel connected to and are proud of their local community and its traditions, so as to encourage them to spend their adult lives in the local community, rather than to migrate to Bangkok.

Another key goal of the school is to ensure that all students, without exception, achieve their full potential. Since the school does not practice selective entry, this requires the school to deal with a broad range of physical, intellectual, and behavioural problems.

The school aims not just to provide a quality education to its students, but also to serve as an example that can help other schools improve their quality. The school, therefore, tries to avoid use of resources beyond what could be expected from a government school. We also aim to be consistent with Thailand's national curriculum.

2.3 Objectives Underlying and Guiding the Establishment of Lamplaimat Patana School

Lamplaimat School started as a private charity school serving a poor rural community in eastern Thailand and continues as such today. The school provides educational services from kindergarten to Mathayom 3 (Grade 9) with two key objectives:

Objective 1: To develop Lamplaimat Patana School into a model school that promotes educational innovation in both teaching and organizational development. The school seeks to support children's experimentation during the first four years of learning with following focus:

1) **Mental education**, which is a learning process for both teachers and students in order to develop inner growth or inner wisdom, such as being aware of one's own emotions, thoughts, and feelings (consciousness), appreciating oneself, others, and things, respecting them. In each other's differences, having discipline and being responsible for oneself and the public. Live in moderation and be easily satisfied. Always being mindful Be aware of your emotions so you know whether you need to stop or continue with what you are doing. Having right concentration to direct effort in learning or completing tasks. Have patience both physically and mentally. See the connection between yourself and things. Respect to all things that support each other. Having a big mind has enormous love and kindness. To live life with purpose and meaning and live together in brotherhood.

2) **Integrated learning units using problems as the basis for developing cognitive skills. (Problem-based Learning: PBL)** is the process of learning from problems by finding methods or innovations to solve them. which students must use knowledge You must search for a variety of knowledge (Multi Knowledge) and a variety of skills (Multi Skills), which will allow students to access the main understanding of the content and develop a variety of skills. It is the development of students into complete human beings in the 21st century, which is in line with the student goals (Learner Aspirations) according to the National Education Plan (2017 - 2036) that aims to develop every student to have characteristics and learning skills in The 21st century (3Rs 8Cs) consists of the following skills and characteristics: 3Rs includes reading, writing, and arithmetic. 8Cs includes critical thinking skills. and problem-solving skills (Critical Thinking and Problem Solving), creativity and innovation skills (Creativity and Innovation), intercultural understanding skills. Different paradigms (Cross-cultural Understanding) Cooperation skills Collaboration, Teamwork and Leadership, communication skills, information and media literacy. (Communications, Information and Media Literacy) Computer skills and Information and communication technology (Computing and ICT Literacy), career skills and learning skills (Career and Learning Skills), and kindness, discipline, morality, and ethics (Compassion).

3) Professional learning community (Professional Learning Community: PLC) is creating an organization that is a community that is conducive to learning for people in the organization, such as an environment that is safe physically, mentally and spiritually, having good organizational leadership. Creating a new culture and way of life that allows people in the organization to see the value of what they do and see the value of each other, and organizing a collaborative learning process for teachers that results from the work of each teacher until they discover practical wisdom. Then exchange knowledge with each other until shared wisdom arises. Raise teachers' knowledge and understanding of what to teach to children. Provides teachers with teaching and learning management skills Have pride and have the spirit of being a teacher. become a learning organization

The idea of using these 3 innovations is to create learning for teachers and children that will result in students becoming complete human beings. By having both inner wisdom and outer wisdom, one can live a normal, happy life.

Objective 2: To leverage the impact of the good practices developed over the years to more public schools. It is hoped that these efforts will reach more and more children so that finally a critical mass of momentum will have been achieved to accelerate reform within the Thai education system.

Despite its radical break from traditional forms of education, students enrolled at Lamplaimat Patana School still score in the top 10% of the national leaving examination, thereby validating the impact of the model on learning. From 2005 onwards, Lamplaimat Patana School began to expand its outreach to government schools through a wide number of initiatives including teacher training, development and

dissemination of educational books and documentation, leadership training, promotion of new teaching methodologies, partnership with the private sector, and participation in global initiatives designed to promote educational innovation such as Harvard's Project Zero.[6]

2.4 Creating a Network of 'Node' Schools to Extend 'Alternate Education' to the Public Education System

In collaboration with the Ministry of Education, Lamplaimat Patana School has sought to build a capacity-building network among public schools throughout Thailand. Each school joining the network must commit to the idea of school modernization and moving towards a hybrid model of what is known as 'alternate education' (see Box 2).

Box 2: What Is Alternate Education?

Alternative education encompasses many pedagogical approaches differing from mainstream pedagogy. Such alternative learning environments may be found within state, charter, and independent schools as well as home-based learning environments. Many educational alternatives emphasize small class sizes, close relationships between students and teachers and a sense of community.

The legal framework for such education varies by locality and determines any obligation to conform with mainstream standard tests and grades.

Alternative pedagogical approaches may include different structures, as in the open classrooms, different teacher-student relationships, as in the Quaker and free schools, and/or differing curricula and teaching methods, as in the Waldorf and Montessori teaching methods.

-Martin, R.A., (2000)

Lamplaimat Patana has created a practical learning environment that very much matches the description of alternate education provided in Box 2. For example, the school is set in a very natural environment with gardens, forest groves, and farmland. Children study with nature. The school has no explicit disciplinary structure because students have internalized self-control and management from a very early age. The school only admits children from age 4 or 5 (kindergarten) because they believe that by Grade 3 or 4, children have already been corrupted by the competitive ethos consisting of tests and studying for marks that they find in a normal public school. When visiting Cambodian teachers ask about what system the school uses to enforce classroom management, they are told that there is no classroom management system. When visiting teachers ask how they maintain discipline without the use of fear, they are told that fear is an impediment to learning. When they ask what kinds of tests the school uses to assess learning, they are told that there are no tests - learning is cooperative and self-directed, therefore, no tests are needed. These alternate education practices come as a shock to Cambodian teachers as it does to visiting Thai schools. While it is not expected that Cambodian schools can fully replicate what they see at Lamplaimat School, it does help to roll back the use of fear and externalized discipline in managing their schools, which in turn promotes learning.

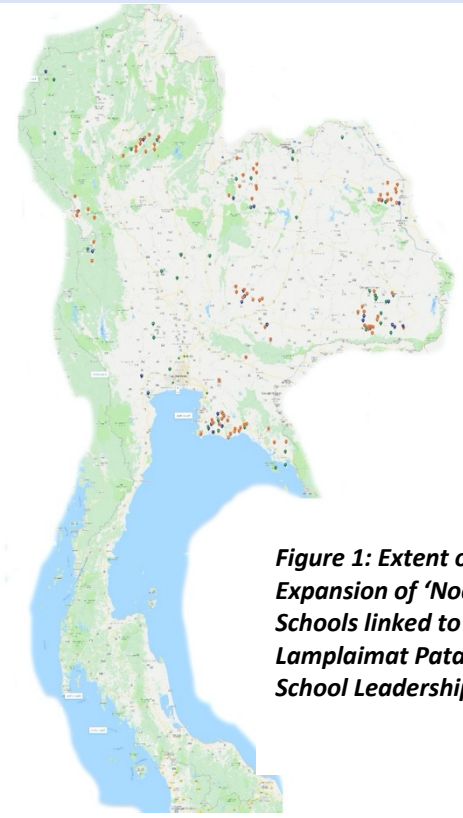


Figure 1: Extent of Expansion of 'Node' Schools linked to Lamplaimat Patana School Leadership

In terms of the cooperation with the MoE of Thailand, Lamplaimat School has converted its facilities into a school cum training center complete with dormitories, training rooms, and an on-site cafeteria. Hundreds of teachers from

[6] Project Zero is an initiative started by researchers at Harvard University with a mission is to understand and nurture human potentials –such as learning, thinking, ethics, intelligence, and creativity –in all human beings.

Thai public schools as well as from Cambodia go to study there every year, thereby establishing Lamplaimat Patana as the core school in an extensive network of alternate education schools. From the time of the expansion until now, there are more than 60 Node model schools linked with Lampaimat Patana as the lead school, as shown in Figure 1.

2.5 Elements of the New Management and Learning Model Promoted by Lamplaimat Patana School

The training program at Lamplaimat Patana School begins with a discussion of the causal origins of the various educational 'phenomena' that one might see at a school. Such phenomena might include the quality of students' learning, the quality of the teachers, and/or the overall quality of the school. Educators are encouraged to understand that educational phenomena are driven by often unseen factors behind the scenes, such as the behavioral patterns of those involved. The structure or system that results from those behavior patterns comes from stakeholders' worldviews and beliefs (i.e., Mindset), which drive all phenomena patterns that we might observe in a school setting.

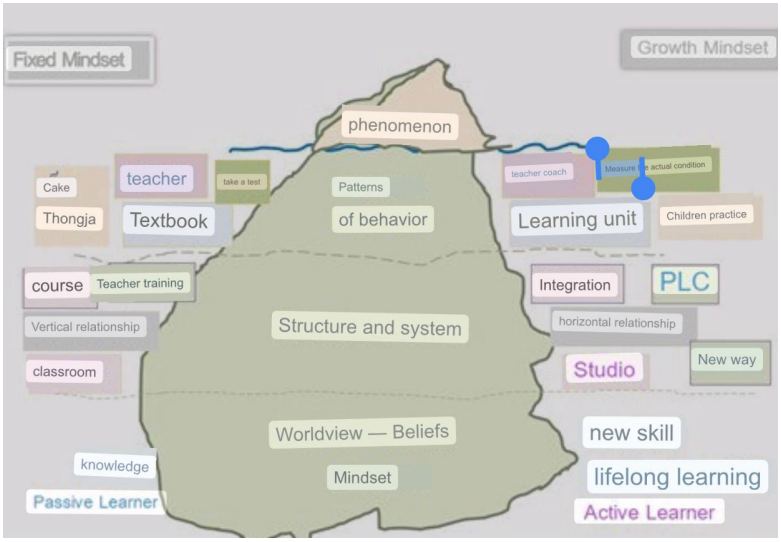


Figure 2: Underlying Causes of Education Phenomena and the Link to Fixed and Growth Mindsets (based on a workshop brainstorm exercise)

The Concept of Mindset: The concept of fixed and growth mindsets has been around for a while. Ever since the term was first coined by Carol Dweck almost 20 years ago (Dweck, 2006), it has been used in many contexts such as children's learning, general management, and teacher education among others. This concept figures prominently in the training program developed by Lamplaimath Patana School to help public schools in Thailand better understand what factors tend to be associated with fixed mindsets and which go with a growth mindset (see Figure 2 above) on their journey to an alternate education environment. Systematic school change of this nature will lead to changes in the behavior of those in the system, including students, teachers, administrators, parents, and communities, eventually leading to a changed phenomenon as shown in Figure 2.

Leverage Points Leading to Systemic Change: Important leverage points that cause educational change are linked with important structures and systems within the school, such as changing the teacher development system and creating professional learning communities (PLC). Learning management systems are also a useful tool to help students be fearless learners while active teaching methodologies like Problem-based Learning refocus learning away from the textbook and onto real issues in the local environment of the child. Changing the structure and system in schools will cause teacher behavior to change, transforming their role from an 'instructor' into a learning facilitator. As facilitators, teachers can design learning units based on students' interests and needs and evaluate their understanding through observation and dialogue in the actual conditions of learning. These new modalities of teaching and learning give teachers and students a new way of life, new habits, new skills, and common practices.

School Management Systems: Effective school management systems help to give importance to the goal of achieving improved learning. A school's working system has many subsystems. If

administrators and teachers are unable to achieve synergies between these various subsystems (e.g., PLC, school administration, parent groups, student groups, etc.), it will undermine goal achievement of the school. From Figure 3, it can be seen that a school's management system may identify multiple priorities starting from specification of key goals. Correctly identifying the main systems that affect goal achievement and identifying the necessary support systems to achieve synergies among all subsystems will increase the likelihood of goal achievement.

In the example provided in Figure 3, one can see that the school's central management system focuses on several key educational approaches such as psycho-emotional education (with a focus on 'internal intelligence), PBL integration (with a focus on 'external' intelligence), electronic learning, and several other thematic approaches.

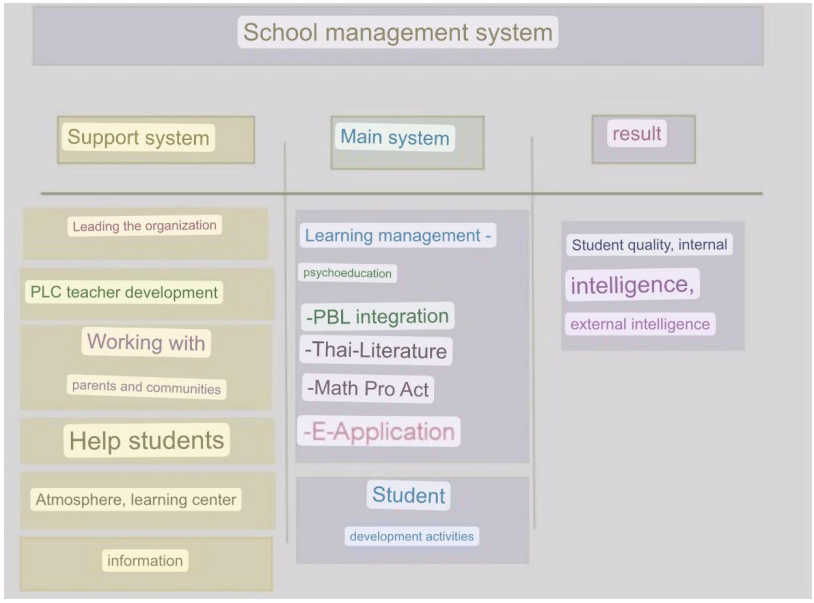
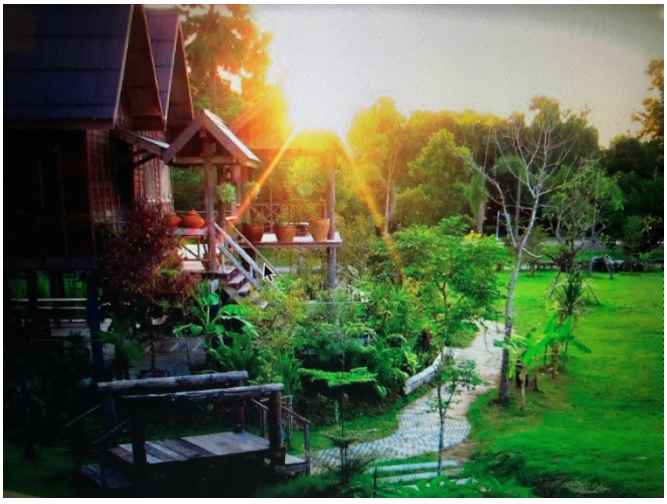


Figure 3: Workshop Participants' interpretation of an Effective School Management System

The support system to make these thematic approaches work compromise the school's leadership system, teachers' continuous professional development (e.g., PLC), parental engagement, the creation of environments conducive to learning, etc. Inter-school workshops focusing on this approach to alternate education have so far been well-received and have resulted in incremental changes that are leading to greater focus on active rather than passive learning.



An Alternate Education Learning Environment: *Lamplaimat Patana School provides a natural learning environment that is devoid of industrial style classroom blocks that are common in the public school system.*

3. DISCUSSION AND CONCLUSION

The present article demonstrates how an independent private school in Thailand, named Lamplaimat Patana School, has managed to have major impact on seeding ideas for 'alternate education' across the public school system, not only in Thailand but also in neighboring countries such as Cambodia and even Lao PDR. Although Lamplaimat Patana School is not a public school per se, the Thai education system policy environment has been flexible enough to create institutional space for what is known as government-dependent private schools (such as Lamplaimat) that can build very close and influential links with the public-school sector while maintaining their own independence to innovate. In this respect, Lamplaimat Patana was able to use its independence from the public school system to pioneer a uniquely Thai model of education that does not use tests, promotes intensive forms of cooperative study (rather than competition) to promote learning, and uses internalized discipline as a way to replace external forms of school

discipline. While Cambodian educators have not fully replicated the Lamplaimat Patana model, it planted the seeds of what is possible when a school, whether public or private, has the freedom to promote innovation. In Cambodia, this meant working with the Ministry of Education, Youth, and Sport to create a policy framework that could accommodate the need for such independence within the public-school sector. Much like the MoEYS in Cambodia has sought to turn one of its premiere autonomous schools (known as Preah Sisovath HS) into a Center of Excellence, the Thai education system has converted Lamplaimat Patana School into a major training center that helps to coordinate educational reform through a network of over 60 public schools. This case study, therefore, demonstrates the huge potential for educational innovation that can be achieved by providing institutional space for school independence and autonomy.

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Chapter 5

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Autonomous Schools in Laos: The Latest Developments in Lao PDR.

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Abstract

The present article explores the advantages and disadvantages of the situational context in Lao PDR with respect to the implementation of autonomous school reforms. Some of the factors reviewed in this regard concern the relationship between public and private schools, the capacity and attitudes of teachers towards reform, rigidities in the personnel structure of the education system, and the conditions of physical plant in the public school system. A central theme that recurs throughout this article is a comparative analysis of how similar reforms have played out in Cambodia, which is a country with similar history and close political ties. However, the authors warn of the dangers of transplanting reforms from one context to another and point out some of the major differences between the two education systems that could undermine implementation (e.g., the absence of shadow teaching in Lao PDR, prominent Party structure, etc.). The article also provides a description of the sequence of how the implementation of autonomous school reforms has unfolded in Lao PDR along with an explanation of why reforms have stalled and a delineation of possible strategic options open to the government for restarting reforms going forward.

Keywords

Lao Education, New Generation Schools/Laos, Autonomous School Reforms

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1. INTRODUCTION

1.1 Lao Educational and Development Context

The current Lao education system is classified as a unitary, centralized system, which is organized and administered by the Ministry of Education and Sport (MoES) at national level. It reaches into the countryside through a network of Provincial Education Service (PES) Offices and District Education Bureaus (DEB). Integration at the village level is the responsibility of the village heads, school management committees and school principals. It should also be noted that the MOES is the government's central management organization and has a secretariat role and function for the Party Central Committee and the government in educational matters on planning and determining policy, as well as supervising, leading, and implementing/controlling educational tasks nationwide (ADB 2003). The dual nature of the education system's management structure with important roles for both the Government and the Party is sometimes confusing to outsiders who believe that all power rests only with the MoES. For technical matters, the MoES has full sway but for matters that may affect Party interests, the latter has greater authority. This state of affairs has some significance. Should autonomous public schools be organized in a way that challenges Party interests, something that should be avoided if at all possible.

Box 1: Key Challenges Facing Basic Education in Lao PDR

With a primary net enrolment in primary education of 98.7% (2017), Lao PDR has met the Millennium Development Goals target of universal access to primary education with gender parity.

Despite this achievement, Lao PDR still has some of the poorest education indicators in Southeast Asia. Approximately 70% of 5-year-old children are not enrolled in Early Childhood Education (ECE) programs. . . Only 81.9% (2017) of enrolled children complete primary education. Students' learning outcomes are low, leaving children without essential knowledge and skills. Teachers' limited capacity, a weak pedagogical supporting system, challenges in multi-grade teaching, and the lack of teaching-learning materials are some of the key constraints.

-UNICEF, 2023

Laos' education system sees a high number of dropouts, particularly at the lower levels of education. This means that very few reach upper secondary education levels. . . only 15% [of students] pursue lower secondary education and just 3% are progressing to upper secondary education levels.

-The Borgen Project, 2023

Lao PDR is overshadowed by its neighbors in many respects such as population and national wealth. For example, the GDP for Lao PDR in 2021 was approximately $18.8 billion compared to Vietnam with $366.1 billion and Thailand with $506 billion (World Bank, 2021). The country's lack of wealth, however, does not make it any less eager to achieve high quality education for its children and youth. Although huge strides were made by Lao PDR during the education reform package of 2006 to 2015, the country's education system suffers from a wide range of problems with only 3% of students ever reaching the level of upper secondary education (see Box 1). In this sort of context, it is difficult for Lao educational leaders to focus on educational innovation and 21st Century skills when so many of the basics are not yet in place. Nevertheless, as the Deputy Minister of Education once expressed, Lao PDR should be able to organize at least one autonomous public school with high educational standards as a steppingstone to the future.[7]

1.2 The Relationship between Public and Private Schools in Lao PDR

With public schools unable to offer high-tech or high-quality education even in the capital city, most people with the means to do so have opted to send their children to Vientiane's small but growing private school sector. There is a dearth of research on the private school sector in Lao PDR. What little research that there is indicates that there are five very high-quality international schools whose

[7] Private conversation with H.E. Dr. Sisouk Vongvichit, Deputy Minister of Education and Sport.

primary market is the growing expatriate population and the Laotian elite. One of these actually offers an IB program, which is the only one available in Lao PDR. These schools tend to be prohibitively expensive and closed to most Lao people. But more recently, there has been some growth in the number of private schools catering to the growing Laotian middle class. There are currently about ten recognized private schools in Laos, mostly in Vientiane, but these tend to be small operations with very competitive enrollment and limited spaces (John Catt Educational Ltd., 2023). Anecdotal evidence suggests that the Covid19 pandemic very much set the private school sector back in Laos. The post-Covid19 economic downturn has hurt the pocketbooks of the country's middle class so that many have had to reluctantly withdraw their children from private schools and re-enroll them in the country's public schools. Private schools are, therefore, seeing a pause in the enrollment boom that was occurring before the Covid19 Pandemic while public schools are seeing an increase in re-enrolling middle-class students. While this turn of affairs is certainly not good for the private school sector in Laos, it has offered a golden opportunity to set up autonomous public schools, which are at a singular advantage with their own land, buildings, and state teachers with base salaries. This then sets the stage for the allure of setting up an autonomous public school in Lao PDR.

2. THE APPEAL AND CHALLENGES OF AUTONOMOUS SCHOOL REFORM IN LAO PDR

2.1 The First Steps Towards Setting Up an Autonomous Public School

The appeal of autonomous school reforms for many countries in SE Asia is based on the definition of school autonomy provided in Box 2. This mainly refers to the emergence of educational innovation when schools are unfettered from state regulation and work in an empowering environment. The Lao PDR first became aware of the possibility of setting up an autonomous public school through the intervention of a development partner (DP), which was also very involved in the implementation of Cambodia's New Generation School Initiative. As noted in other papers, Cambodia's efforts to set up a network of autonomous public schools, called New Generation Schools, has been largely very successful and offers one possible model for Lao PDR to consider. Given the similar histories of both countries as former members of French Indochina, the Cambodia experience could help to expedite the establishment of an autonomous school in Lao PDR, though to be sure, it is important to be careful when considering programming 'transplants.' Just as Cambodia made significant changes to autonomous school models that it observed in Thailand, the United States and elsewhere, so Lao PDR will need to be careful to adapt the implementation of autonomous schools to its own unique socio-political context. This is an important point that is further developed below.

Box 2: Defining an Autonomous Public School

An autonomous public school is a school that is free of control from government bureaucracy. Many autonomous schools in SE Asia now have the freedom to recruit their own staff, change the curriculum, revise timetables and school schedules, increase their hours of operation, and collect user fees. Governments usually extend these freedoms to an autonomous public school on the condition that they demonstrate high degrees of educational innovation and agree to strict measures for accountability for the extra resources that they receive.

Actual planning to establish an autonomous public school in Lao PDR began quite quickly. In 2018, the Ministry of Education and Sport signed an MoU with a private foundation to begin investment in an autonomous public school in the capital city that had been selected in collaboration with the government. Following exposure visits by MoES staff to Cambodia to observe the New Generation School model there, it was decided that Lao PDR would undertake similar reforms with the same moniker. Although the beginnings of these preparatory steps were auspicious with a carefully orchestrated public campaign to raise awareness of these efforts that included a visit by a member the British Royal Family, it was necessary to greatly delay implementation of programming as the Covid19 Pandemic began. This caused delays of up to two years as the operating environment became marked by school shutdowns and prohibitions on travel. Nevertheless, situational assessments that occurred during this period were very positive and indicated a high degree of receptivity from local stakeholders to participate in efforts to rapidly

upgrade the selected school even though this would require a great deal of extra work and effort on the part of stakeholders (Franks Family Foundation, 2020).

Unlike Cambodia, Lao PDR began its efforts to establish an autonomous school without the existence of a policy framework to help guide implementation. Although there was an MoU between the government and the development partner laying out specific actions that needed to occur to establish an autonomous school, this was not a public document that could provide for a transparent and common understanding of the requirements for autonomous school establishment among all stakeholders. As a result, there did not exist a clear understanding among key stakeholders, including the school/community leadership itself, about the institutional changes that needed to occur as a condition of investment. Such changes included an increase in working hours, conditions for incentive payments, investments in infrastructure and equipment, and possible changes in personnel. The failure to create this common understanding at the outset hindered implementation, as the pandemic receded, and schools began to operate normally again.

The negotiations between MoES and the development partner to establish an autonomous public school were characterized by some remarkable concessions on the part of the government that are extremely unusual for a development program in Lao PDR. Foremost among these concessions was an agreement to allow the DP to select a new school principal for the target school among candidates nominated by the government. This agreement underlines the importance of the selection of a competent and motivated school leader to manage an autonomous school. Another way of saying this is that the effectiveness of a school does not so much hinge on the number of resources that it has, but rather how those resources are managed. This feature of an autonomous school underscores the central importance of strong management and accountability in a school much more so than the planned investments in infrastructure, which are sometimes of much greater importance to local communities and government. MoES also agreed to allow 'some' nominal changes in staffing among teachers that would later bring these reforms into conflict with the Party, as most state teachers in Lao PDR are also Party members. This is an example of how and why it is so difficult to establish autonomous schools in many countries without challenging powerful vested interests whether these are teachers' unions (e.g., United States), teachers engaged in lucrative shadow teaching (e.g., Cambodia) or bureaucratic establishments of many kinds.

2.2 The Situational Context and Its Impact on the Emplacement of Autonomous Schools

In many respects, the situational context in Lao PDR is very favorable to the establishment of an autonomous public school. It has already been noted that there has been a shift in the enrollment patterns of middle-class households away from private schools and back to the public-school sector as a result of the post-Covid19 economic downturn. Such patterns are important for future sustainability of autonomous schools as governments with limited resources need to eventually shift support for recurrent costs of school operation back to parents. This has been the evolutionary trajectory of autonomous schools in Cambodia, and it is likely to be the same in Lao PDR. That is, autonomous schools require a mixed demographic of students (that includes middle class students) who can pay user fees to sustain the operation of an autonomous school after core investments for infrastructure and equipment have been completed.

A classroom in a normal secondary school targeted for conversion into an autonomous school.

It should also be noted that Lao PDR does not have an endemic culture of shadow teaching accompanied by irregular fees, as one finds in Cambodia. Indeed, government planners in Cambodia banned shadow teaching because this is such an unethical practice fraught with conflicts of interest among teachers who often give marks based on students' ability to pay. The configuration of autonomous schools in this way brought such reforms into direct conflict with many Cambodian teachers who enjoy lucrative private classes. This is perhaps the biggest challenge facing the expansion and replication of autonomous public schools in Cambodia. In contrast, Lao PDR does not have this problem, which means that autonomous school emplacement there does not threaten teachers' income. Quite the opposite, the teacher incentives built into the autonomous school model of Lao PDR actually promise to enhance teachers' income.

Preliminary assessments of teacher capacity in Vientiane also found favorable conditions for investment (Franks Family Foundation, 2020). In comparison to what autonomous school proponents found in Cambodia, Lao teachers tended to be somewhat younger (and more receptive to using technology); better educated (at least on paper) than Cambodian teachers with most demonstrating a 12+4 teacher certification; and relatively more proficient in using ICT (58%) (see Table 1). One major failing, however, was the self-reported low proficiency in English language (only 25% of respondents reported intermediate or advanced proficiency), which will be problematic because so many training materials are only available in English. This will require considerable amounts of translation and contextualization of training materials borrowed from Cambodia, and other locations.

Table 1: Background Characteristics of Secondary School Teachers in a Proposed Autonomous School

Teacher Characteristic	Data Points
1. Average Teacher Age	37.1
2. Male/Female Teachers	48%/50%
3. Teachers Holding 4-year Degrees	88%
4. Average Number of Grade Levels Taught	2.5 Grades per Teacher
5. Teachers with 7 or More Years of Teaching Experience	79%
6. Teachers Describing their Proficiency in ICT as Intermediate or Advanced	58%
7. Teachers Describing their Proficiency in English as Intermediate or Advanced	25%
8. Teachers owning a laptop	52%
9. Teachers Owning a Smart Phone	79%

Source: Franks Family Foundation, 2020

On the other hand, there are also a number of factors unique to the Lao context that have complicated implementation of the autonomous school reforms that started in 2018. For example, the Lao government has not been able to bring any of its own financial resources to the table to implement the autonomous school pilot, which creates a situation of utter dependency on the DP and its conditionalities for investment. This situation contrasts markedly to what occurred in neighboring Cambodia where 90% of the investment in autonomous school reforms derived from government tax revenues and only 10% from DP sources (MoEYS, 2022). This enabled much greater government ownership (and oversight) of these educational reforms, which is an essential ingredient for their success. In addition, Lao PDR does not possess any strong national organizations, which could assist the DP and government to implement the pilot (FFF, 2020). National civil society organizations can often bring a high degree of flexibility and dexterity in program implementation to move things along quickly. The absence of this social capital in Lao PDR has meant that programming is totally dependent on sluggish government and DP bureaucracies for all matters relating to implementation. Once again, the case of Cambodia is instructive where a strong national educational organization contracted by the national Ministry played a major role in both the design and implementation of autonomous

school reforms there. Unfortunately, international donors and NGOs have shown little interest in autonomous school reforms in both countries, which greatly limits the options available to the Lao government for implementation.

The generally poor state of public-school infrastructure and high unit costs for renovation in Lao PDR are additional factors that have also impeded autonomous school emplacement. Although it is the transformational change in institutional organization and stakeholder mindsets that are at the heart of autonomous school reforms, upgrading infrastructure is also a necessary requirement for effective school performance. Assessments of infrastructure in prospective autonomous school sites in Lao PDR found daunting challenges in terms of the age of many school buildings, their level of deterioration, and the extensive need for renovation (Sinak, 2020). These findings demonstrate the scope of the challenges for replicating the experience of Cambodian New Generation Schools in Lao PDR, since the need for new buildings and the redesign of existing buildings is so much greater.

The final and perhaps most crucial factor that has complicated the establishment of an autonomous school in Lao PDR is the rigidity of the education system's personnel structure. These rigidities make it very difficult to move teachers in or out of a school, even when they wish to move of their own volition. Moving teachers against their will is even more difficult, particularly when they are members in good standing of the Party. In this respect, efforts to remove 50% or more of teaching staff at a prospective pilot school in the capital have brought autonomous school reforms into direct conflict with the Party structure, which puts the entire reform at risk of being discontinued. Similar problems also existed in Cambodia, but reformers there were more insistent about moving new teachers of high competence into a school than with moving old teachers out and this stance helped reform advocates to avoid direct conflict with teachers and their political patrons. It is not clear whether a similar compromise can be achieved in Lao PDR.

The description of the implementation context in Lao PDR above highlights the dangers of transplanting reform ideas from one context to another. Although Lao PDR and Cambodia, for example, share many similarities in terms of the structure and history of their education systems, there are clearly too many differences to simply move lock, stock, and barrel the New Generation School reforms that worked so well in the latter to the former. Cambodian policy guidelines focused on stamping out private teaching and infrastructure investment guidelines that assume solid physical plant and low unit costs for repair simply would never work in Lao PDR because the situational context is not characterized by these structural features. Similarly, experiences relating to implementation modalities that use well-developed social capital networks are not available in Lao PDR. Such examples of situational differences highlight the need to look for home-grown solutions to nurture an autonomous school experiment in Lao PDR while looking cautiously at the experience of other countries.

3. DISCUSSION AND CONCLUSIONS

Due to many of the factors described earlier, the introduction of an autonomous public school into the educational landscape in Lao PDR has not yet come to fruition at the time of the writing of this article. In this respect, the lack of an explicit policy framework; a lack of common understandings among the government, DP, and local stakeholders as this regards needed institutional changes to realize school autonomy; the lack of social capital that could facilitate expeditious implementation through outsourcing; and a clash with Party interests due to the insistence on school-based personnel changes have in particular all served to undermine effective implementation of the proposed pilot to emplace an autonomous public school in Lao PDR.

Despite stalled implementation, there are nevertheless still some strategic implementation options open to the Lao government to rescue autonomous school reforms. The best but perhaps most difficult of these options is for the government to fund the reforms directly without the conditionalities imposed by external agents. This would enable the government to build a truly unique approach contextualized to the Lao socio-political situation, much as Cambodia did when it designed

its New Generation School initiative with national partners. Alternatively, the government can also use its own funds to ensure a more equal partnership with DPs and more control over the decision-making process, particularly as this concerns defusing conflicts with strong vested interests in Lao society. Although donor-driven development is a major issue in Lao PDR as it is in other countries, the government does nevertheless have levers it can use to pressure other donors to buy into such reforms. Cambodia achieved a major breakthrough in this regard in 2022 when it convinced a major development bank to fund autonomous school reforms there. The more donors working on a particular reform, the more leverage the government will have to influence its direction. The government can also pull back a step and develop a policy framework for implementation that would better define priorities, the sequence of investment, and operational guidelines for implementation. Such a framework would help to build a consensual understanding among all stakeholders of the reform's key concepts and goals and bring transparency to the implementation process. The authors hope that the present analysis can help the government start the process of policy analysis and put in place a better strategy for the implementation of autonomous schools than currently exists.

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Chapter 6

NGS INTERNATIONAL

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The Fifty Secrets of Singapore's Education Success

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Abstract

This article discusses the historical development of human resources in Singapore through the educational system and key initiatives that have made Singapore's students some of the highest performing in the world. It discusses the role of meritocracy and key measures to combat corruption and cronyism. It describes Singapore's well-developed educational ecology, investment in education, emphasis on teacher training and development, as well as how Singapore addresses social and economic inequalities by maximizing educational opportunities for its citizens. Singapore has focused on improving poor-performing schools and removing barriers to quality education. The educational system has a considerable focus on skills development and has emphasized developing human capital for post-industrial economic realities and a future, knowledge-driven economy while at the same time taking a "whole-person approach" to educating students to develop their individual capacities and ability to contribute to society in positive and meaningful ways.

Keywords

Singapore education, educational reform, postcolonial education, skills development, access to education, education and development

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1. INTRODUCTION

Education principally serves two primary functions; to equip a country's youth for gainful employment, and to build social cohesion. When Singapore became independent, its education system found itself struggling to address both these needs, but yet today — merely 54 years later — it is lauded as one of the best in the world. High education quality is notable at all levels of the system, from Primary 1 to technical and vocational education and training institutions and universities. Singapore's students have performed well in international tests. For instance, in the Organization for Economic Cooperation and Development's (OECD's) Programme for International Student Assessment (PISA) 2015, Singapore's 15-year-olds were top in mathematics, science and reading among students of 72 economies. Singapore, whose economy was once based primarily on entrepôt trade, has become one of the world's leading global cities and a hub for global finance today. Despite having a multi-ethnic population, it has successfully maintained racial and religious harmony. How did Singapore get there?

Today, all public schools are English-medium institutions that teach a common curriculum developed by Singapore's Ministry of Education (MOE), yet this was not the case at independence. Like Malaysia, Singapore had a segregated education system, with English, Chinese, Malay and Tamil medium schools that taught different curriculums, some even arguably chauvinist. Singapore's preoccupation with inter-ethnic integration and social cohesion led to the creation of a state managed national system of education. Common schooling experiences contributed significantly to building social cohesion.

Singapore's founding leaders' strategy was well encapsulated by the first prime minister, Lee Kuan Yew: "to develop Singapore's only available natural resource: its people". From the late 1960s to the 1990s, development in Singapore's Southeast Asian neighbors was driven primarily through the export of their abundant natural resources. Yet Singapore, with no discernible natural resource beyond a deep-water port and a small population, successfully matched, and in many instances, surpassed their growth rates. Arguably its education system, primarily its public-school system, was a key driver of this success.

2. SETTING THE RIGHT COURSE

Singapore's founding leaders were keen to repudiate the cronyism that was then commonly practiced in many other Asian countries and that entrenched existing elites. An emphasis on meritocracy was quickly enshrined as a key governing principle, and applied at all levels of society, particularly in the education system. Meritocratic principles form the basis of what Singapore's education system is (in)famous for: rigor, competitiveness and high stakes national examinations. Students typically take national exams at Primary 6, Secondary 4 and the second year of junior college and are ranked and sorted against their peers; like in a well poured cup of coffee, the cream rises to the top!

The importance Singapore placed on education was and is reflected in the caliber of leadership in education policies. Both founding PM Lee Kuan Yew and Deputy Prime Minister (and at various times Minister for Finance and Minister of Defense), Dr Goh Keng Swee, were actively involved in setting policy directions and winning acceptance of tough policy decisions, like making English the main medium of instruction. They were ably followed by such leaders as Senior Minister and Coordinating Minister for National Security Teo Chee Hean, Senior Minister and Coordinating Minister for Social Policies Tharman Shanmugaratnam and DPM and Minister for Finance Heng Swee Kiat.

The political and administrative leadership also recognized that institution building in education required a strategic and sustainable vision. Singapore's political leadership capitalized upon its small size and the dominance of the PAP to create a 'joined up government'. It recognized, for example, that policies for skills creation to meet manpower needs for industrialization needed a 'joined-up

government'. So, it is not unusual to fund various agencies, such as the MOE, MOM, and EDB, working closely together in the creation and implementation of policies. The result is a strong ecology of linked up institutions — primary and secondary schools, post-secondary institutions and universities — providing, in a coordinated manner, multiple pathways for learning and skills enhancement.

3. STAYING THE COURSE

Fidelity to policy and a commitment to effective implementation are other important factors in the success of Singapore education system. The stability of single-party governance in Singapore since its independence has meant that education policies designed for the long term are allowed the time needed to reach maturity; effective implementation strengthens confidence in the system. Ministers are not known to radically undo the policies of their predecessors for fear of destabilizing the system but are willing to tweak them with the bene t of hindsight. Singapore does not do largescale education reform; timely and incremental change is the norm.

Yet another reason for Singapore's education success is the amount of attention that Singapore pays to the selection, preparation, deployment, incentivization and retention of school leaders and teachers. Initial teacher training and professional development, career development, and performance management of teachers are considered very important in Singapore.

In governance terms, Singapore practices what might be termed 'centralized decentralization'. The zones, clusters and schools are given a degree of autonomy to tweak or to adopt policies to make them more applicable to their cohorts. But the MOE retains control over the strategic direction and quality assurance.

4. ADAPTING TO THE WINDS OF CHANGE

Three initiatives taken since the beginning of this decade illustrate well how the state addresses key emergent issues in the system. As a consequence of globalization and the government's responses of prosperous nations — rising levels of inequality. Singapore's Gini coefficient — a measure of income inequality, with one being the most unequal — before taxes and transfers in 2017 has been calculated to be 0.417 by its Ministry of Finance. Inequality is beginning to challenge meritocracy in Singapore's education system, threatening to turn it into an elitist one. Middle and upper middle-class parents are able to use their financial resources and social networks to gain advantages for their children in an increasingly competitive system. For instance, Singapore has a huge private tuition industry, with some 950 tuition/enrichment centers, and reportedly worth some 1.4 billion dollars in 2018, a huge amount considering the island's total enrolment in pre-tertiary education is slightly under one million. According to a report in *The Straits Times* dated 7 August 2019, the top 20 per cent of households spent nearly four times more on tuition than the bottom 20 per cent.

Perpetuating an elitist education system would be disastrous for Singapore. Such a system would equip only a small segment of Singapore's children with the skills needed to be economically competitive in a rapidly changing global landscape. But more worryingly, an elitist education system might fracture Singapore's multicultural and cosmopolitan social fabric. Understanding this, DPM Heng often cited this slogan when he was Minister for Education: 'Every school, a good school'. While there will be better schools that provide more challenging opportunities to high-performing students, the MOE's commitment was to ensure that entry into other schools would not disadvantage those from less-privileged backgrounds. To this end, the government has been encouraging the nurturing and recognition of talents beyond academics, which include sporting and musical prowess, and leadership abilities.

The government has also taken great pains to improve the quality of education in poorer performing schools by giving them access to innovative pedagogies and educational technology. An example would be the Applied Learning Programme (ALP). The MOE tasked its statutory board, the Science Centre Singapore, with developing the ALP as a means of providing schools with exposure to science, technology, engineering, and mathematics (STEM). The ALPs were initially offered to poorer performing schools, with the government providing the necessary hardware such as 3D printers and the Science Centre Singapore providing training for educators. Programmes such as the ALP allow poorer performing schools with unique opportunities to equip their students with 21st century core competencies. The MOE has encouraged schools to develop their own ALPs since 2013. By March 2018, all 155 secondary schools and more than 80 primary schools had ALPs; these would be extended to all primary schools by 2023.

In 2019, the government also announced initiatives to provide more equitable opportunities for quality preschool education. Today, some 50 per cent of preschools are government supported; this will rise to 80 per cent in future. The National Institute of Early Childhood Development has been established to ensure that teacher standards for early childhood education will continue to improve. Recognizing the need for workers to possess more advanced skills in a post-industrial economy, the government embarked upon a major workforce skills development and adult learning initiative — SkillsFuture — in 2014. Technical and vocational education and training institutions and universities have been given a major role.

In 2019, Minister for Education Ong Ye Kung announced new measures to make tertiary education more accessible and affordable; students from low-income homes will benefit from lower tuition fees, thus broadening their opportunities to obtain a degree and to study in expensive programmes such as medicine and dentistry. Mr. Ong said that this was being done as universities have an important role to play in social integration via enabling greater social mobility.

Singapore's founding leaders envisioned a global city that would be a world leader in the provision of high-quality professional services, led by a highly educated, disciplined and professional workforce. Today, Singapore is that global city, but its education system is still very much local. Education has played a crucial role, over the last half century, in ensuring that multi-ethnic Singapore enjoys high levels of racial harmony, that a strong sense of citizenship has emerged, and that rigorous and high-quality education has prepared Singaporeans well for a future full of opportunities and challenges!

Queensway Secondary School students testing remotely operated vehicles, which they created using materials such as PVC pipes, foam and cable ties, in the school's applied learning programme in October 2017. Picture: Singapore Press Holdings

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Chapter 7

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The Autonomous School Paradigm and 21st Century Education

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Abstract

This paper explores the concept of autonomous schools as a key to education reform in the 21st century. It argues that autonomous schools, which are schools that have a high degree of self-governance, flexibility, and innovation, can foster the development of 21st-century skills and competencies among students and teachers. The paper draws on examples of autonomous school models from different countries and regions, such as the New Generation School in Cambodia, Chulaphorn Science High Schools in Thailand, the Living School in Canada, and the Charter School in the United States. The paper proposes a typology of autonomous school categories including Charter Schools, Contract Schools, and Network Schools. The paper also discusses the challenges and opportunities for implementing autonomous schools in different contexts, especially in Southeast Asia. The paper concludes with some recommendations for policy makers, educators, and researchers who are interested in promoting the autonomous school paradigm as a way to transform education for the future.

Keywords

Autonomous Schools, 21st Century Skills, Education Paradigm, Autonomous School Typology, Charter school, Contract school, Network School

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1. INTRODUCTION

1.1 The Institutional Context That Leads to the Need for a New Educational Paradigm

Education is one of the most important factors for human development and social progress. However, the world is facing unprecedented challenges and changes in the 21st century, such as globalization, digitalization, environmental degradation, demographic shifts, and social inequalities. These challenges and changes require new skills and competencies for individuals and societies to thrive and adapt. Therefore, education systems need to transform and innovate to meet the needs and aspirations of learners and stakeholders in the 21st century. Unfortunately, most schools in the public education sector are still stuck in a 20th Century organizational paradigm that focuses on textbook and test-driven learning, fixed curricula, hierarchical forms of management, and expectations for conformity among students and staff. This paradigmatic mindset pervades the public school system and often even when teachers want to innovate, there is no enabling environment for them to do so effectively.

1.2 The Purpose and Objective of This Paper

The purpose of this paper is to explore the concept of autonomous schools as a key to education reform in the 21st century. Because educational bureaucracies tend to be so ossified and hostile to change, reform-minded educators and political leaders often turn to autonomous school strategies as a last resort to make education systems more responsive to changing social and economic needs. Such strategies offer the chance of creating flexible organizational environments that are not subject to the often-oppressive rules and regulations generally found in the mainstream education system. Thus, we can define autonomous schools as educational institutions that have a high degree of self-governance, flexibility, and innovation, which enable them to design and deliver education that is relevant, engaging, and effective for 21st-century learners and teachers.

In summary, the present paper aims to answer the following research questions:

- What are the main features and benefits of autonomous schools for 21st-century education?
- What are the most relevant types and examples of autonomous school models from different countries and regions?
- What are the main challenges and opportunities for implementing autonomous schools in different contexts, especially in Southeast Asia?

1.3 The Key Terms and Concepts Used in the Paper

Before we begin our explanation of the research questions outlined above, it is perhaps important to agree on a common understanding of certain key terms and concepts. Accordingly, the following definitions for terms and concepts are used:

- **21st-Century Education:** Education that aims to develop the knowledge, skills, attitudes, and values that are essential for individuals and societies to cope with and shape the complex and dynamic world of the 21st century.
- **21st-Century Skills:** A set of cross-curricular and transversal skills that are relevant and applicable across different domains and contexts, such as critical thinking, communication, collaboration, creativity, digital literacy, global citizenship, problem solving, and self-regulation.
- **Autonomous Schools:** Schools that have a high degree of self-governance, flexibility, and innovation in terms of their vision, mission, goals, curriculum, pedagogy, assessment, management, leadership, culture, resources, partnerships, and accountability. Usually, when we refer to Autonomous Schools, we are referring to schools in the public sector.

1.4 The Structure and Organization of the Paper

The first section of this paper reviews the existing literature on 21st-century education and skills and identifies the main themes and trends in 21st-century education as well as various skills frameworks. The second section defines the concept of autonomous schools and their characteristics and compares different types of autonomous school models from different countries and regions. The third section discusses the main challenges and opportunities for implementing autonomous schools in different contexts, especially in Southeast Asia. The fourth section provides some practical and policy recommendations for promoting autonomous schools as a key to education reform. The fifth section summarizes the main findings and arguments of the paper and suggests some directions for future research on autonomous schools and 21st-century education. The paper concludes with some implications and reflections on autonomous schools and 21st-century education.

2. LITERATURE REVIEW

2.1 A Review of the Existing Literature on 21st Century Education and Skills

21st-century education and skills have been widely discussed and debated in academic and policy literature, as well as in various reports and frameworks from international organizations, governments, and non-governmental actors. The main rationale for 21st-century education and skills is that the world is undergoing rapid and profound changes in the economic, social, environmental, and technological domains, which pose new challenges and opportunities for individuals and societies. Therefore, education systems need to transform and innovate to prepare learners for the future, by developing the knowledge, skills, attitudes, and values that are essential for coping with and shaping the complex and dynamic world of the 21st century.

However, there is no consensus on the definition, scope, and measurement of 21st-century education and skills. Different frameworks and models have been proposed to conceptualize and operationalize 21st-century education and skills, based on different perspectives, purposes, and contexts. Some of the most influential and widely used frameworks include:

- **The Partnership for 21st Century Skills (P21) framework[8],** which identifies four categories of skills: core subjects and 21st-century themes; learning and innovation skills (the four Cs: critical thinking, communication, collaboration, and creativity); information, media, and technology skills; and life and career skills.
- **The Assessment and Teaching of 21st Century Skills (ATC21S) framework[9],** which focuses on four clusters of skills: ways of thinking (creativity, critical thinking, problem solving, decision making, learning to learn); ways of working (communication, collaboration); tools for working (information literacy, ICT literacy); and living in the world (citizenship, life and career, personal and social responsibility).
- **OECD's Programme for International Student Assessment (PISA) framework[10],** which assesses students' performance in three domains: reading literacy; mathematical literacy; and scientific literacy. In addition, PISA also assesses students' cross-curricular competencies in problem solving; collaborative problem solving; financial literacy; global competence; creative thinking; learning in the digital world; environmental literacy; health literacy; social-emotional skills; cultural awareness; civic engagement; entrepreneurship; innovation; ethical reasoning; intercultural understanding; etc.

[8] http://exploresel.gse.harvard.edu/frameworks/3
[9] https://link.springer.com/book/10.1007/978-94-017-9395-7
[10] https://www.oecd.org/pisa/

- **UNESCO's Education for Sustainable Development (ESD) framework[11],** which aims to develop learners' competencies to address the challenges of sustainable development. The ESD framework identifies three dimensions of learning: cognitive (knowledge, understanding, critical thinking); socio-emotional (values, attitudes, emotions); and behavioral (skills, actions). The ESD framework also identifies four key competencies: systems thinking; anticipatory thinking; normative thinking; strategic thinking.

2.2 Identification of the Main Themes and Trends in 21st Century Education, and Skills Framework

The various frameworks that define and describe the main themes and trends in 21st Century Education each have some important commonalities. For example:

- They all emphasize the importance of developing cross-curricular and transversal skills that are relevant and applicable across different domains and contexts.
- They all recognize the role of information and communication technology (ICT) as both a tool and a skill for 21st-century learning.
- They all highlight the need for learners to develop global awareness and citizenship competencies to engage with diverse cultures and perspectives.
- They all acknowledge the value of creativity and innovation as drivers of change and development.

However, these frameworks also have some strengths and weaknesses in terms of their conceptualization and operationalization of 21st-century education and skills. For example:

- Some frameworks are more comprehensive than others in terms of covering a wide range of skills and competencies that are relevant for 21st-century learning.
- Some frameworks are more specific than others in terms of defining the levels or indicators of proficiency or mastery of each skill or competency.
- Some frameworks are more aligned than others with the existing curricula or standards of different countries or regions.
- Some frameworks are more evidence-based than others in terms of providing empirical support or validation for their claims or assumptions.

2.3 Synthesizing the Common Elements and Principles of 21st Century Education Against a Backdrop of Social and Economic Change

In view of the above, it is important to critically examine the different frameworks for 21st-century education and skills, as well as to synthesize their common elements and principles. Based on the literature review, some of the common elements and principles that can guide 21st-century education include:

- **Learner-centeredness:** 21st-century education should be based on the needs, interests, strengths, and aspirations of learners, as well as on their prior knowledge, experiences, backgrounds, cultures, languages, etc.
- **Holistic approach:** 21st-century education should address the cognitive, socio-emotional, behavioral, physical, spiritual, moral, ethical aspects of learning.

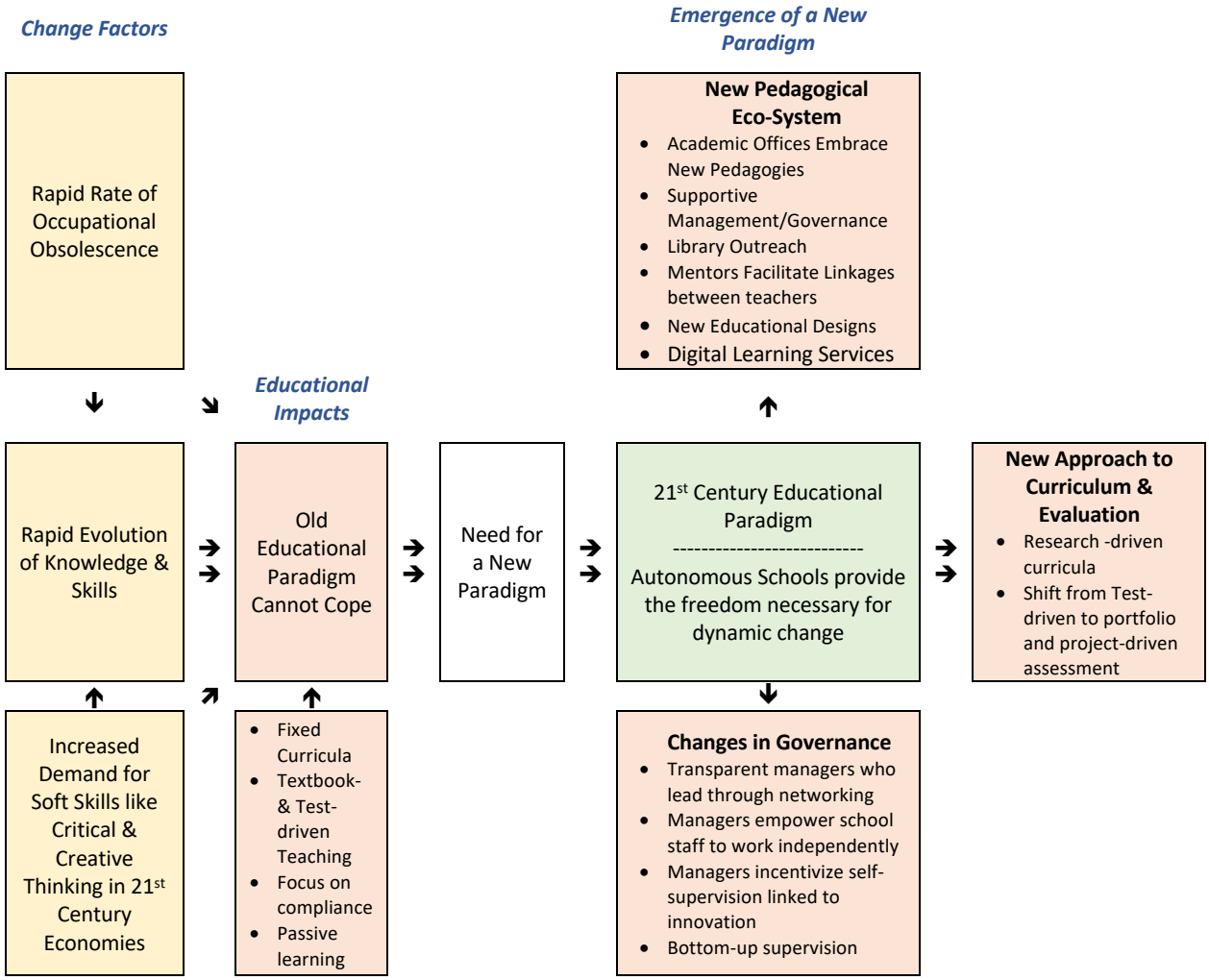
[11] https://www.unesco.org/en/education-sustainable-development

- **Lifelong learning:** 21st-century education should foster a culture of learning that extends beyond formal schooling to informal and non-formal settings throughout life.
- **Collaborative learning:** 21st-century education should promote a culture of collaboration that involves learners working with peers, teachers, parents, experts, and other stakeholders to co-construct knowledge and solve problems.
- **Inquiry-based learning:** 21st-century education should encourage a culture of inquiry that involves learners asking questions, exploring issues, seeking evidence, analyzing data, drawing conclusions, and communicating findings.
- **Project-based learning:** 21st-century education should facilitate a culture of project that involves learners applying their skills and competencies to authentic, real-world, and interdisciplinary tasks or challenges.
- **Reflective learning:** 21st-century education should support a culture of reflection that involves learners evaluating their own learning processes and outcomes, as well as receiving and giving feedback to improve their learning.
- **Innovative learning:** 21st-century education should inspire a culture of innovation that involves learners generating new ideas, products, or solutions that are original, useful, and valuable.

In addition to a need for new pedagogies such as those listed above to promote the acquisition of soft skills, we also see the emergence of other major changes in the nature of the learning environment in response to the 'change factors' that we commonly see in the 21st Century (see Figure 1). These changes (e.g., occupational obsolescence, the rapid evolution of knowledge and skills, etc.) affect the organizational culture of schools, the way that they are managed, and concepts of curriculum and evaluation. For example, when we speak about the organizational culture of a school, we are usually referring to the need to see the school as a tightly knit collection of interdependent units that include academic offices, management offices, the library, physical facilities, mentoring teams, and others. Another way of saying this is that our perception of a school should be one of an interconnected pedagogical eco-system in which different units of the school support and reinforce each other. In order for a pedagogical eco-system to be effective, it requires that administrators afford a great deal of freedom and independence to school staff so that they can interact with one another without constraint. This in turn requires a transformation in the governance of the school away from opaque and hierarchical management structures (that inhibit independence and innovation) towards more bottom-up forms of self-supervision. Indeed, school managers need to actively encourage independence among school staff and incentivize educational innovation.

Finally, we should note that under a 21st Century Educational Paradigm, the whole conception of curriculum and student evaluation needs to move away from fixed curricular programs (as knowledge in the 21st Century changes too quickly) that promote 'teaching to the test.' Rather, curricular programs need to be more research-driven with more flexible assessment methodologies that include portfolios and projects. To be sure, autonomous schools are often reluctant to make too many changes in the curriculum, especially when this is linked to high-stakes national examinations. This is especially true in highly centralized educational systems where tests are often centrally set. Thus, even when schools might have the freedom to change the curriculum, they may pull back from doing so. This suggests that changing an educational paradigm requires not only micro-changes at the level of the school but also macro-level changes in Ministries and provincial offices of education.

Figure 1: The interaction of Change Factors on Traditional Education Paradigms and How They Lead to the Emergence of a New Paradigm



3. AN AUTONOMOUS SCHOOL PARADIGM

3.1 Concept of Autonomous Schools and Their Characteristics

Given the earlier discussion on the changes that we see in 21st Century society and the new approach to skills training that it implies, we now come back to the role that autonomous schools can play in meeting the need for change in the learning environment. In this respect, we should note that autonomous schools are those that have a high degree of self-governance, flexibility, and innovation in terms of their vision, mission, goals, curriculum, pedagogy, assessment, management, leadership, culture, resources, partnerships, and accountability. Autonomous schools are not a new phenomenon, as they have existed in various forms and contexts throughout history. However, they have gained renewed attention and popularity in recent years, as a response to the challenges and opportunities of 21st-century education.

3.2 The Rationale and Benefits of Autonomous Schools for 21st Century Education

The rationale and benefits of autonomous schools for 21st-century education are manifold. First, autonomous schools can foster the development of 21st-century skills and competencies among students and teachers, by allowing them to design and deliver education that is relevant, engaging, and effective for their needs and aspirations. Through the freedom that transformed governance structures afford to school staff and students, autonomous schools can also provide more opportunities for teachers and learners to exercise agency, choice, voice, and ownership over their

learning processes and outcomes. Second, autonomous schools can promote a culture of innovation and improvement, by enabling them to experiment with new ideas, practices, or solutions that are original, useful, and valuable. Autonomous schools can also encourage a culture of inquiry and reflection, by enabling them to evaluate their own performance and impact, as well as to receive and give feedback to improve their practice. Third, autonomous schools can enhance a sense of identity and belonging among students and teachers, by allowing them to create and sustain a shared vision, mission, and values that reflect their diverse backgrounds, cultures, languages, etc. Autonomous schools can also foster a sense of community and collaboration among students and teachers, by allowing them to work with peers, parents, experts, and other stakeholders to co-construct knowledge and solve problems.

3.3 Comparison of Different Types of Autonomous School Models from Different Countries

The research literature posits three basic types of autonomous school models based on a review of operational characteristics in different countries and regions. Figure 2 below summarizes these school types and seeks to define each category as well as provide some exemplars of each.

Figure 2: A Frequently Used Typology of Autonomous Schools

Charter Schools

- These are public schools that operate independently from the district or state regulations in exchange for greater accountability for student outcomes. Charter schools are authorized by different entities such as districts, states, universities, or non-profit organizations. Charter schools have more autonomy over their curriculum, pedagogy, assessment, staffing, budgeting, etc. Charter schools are funded by public sources based on student enrollment or performance. Such schools are prevalent in the United States (e.g., KIPP network), but also exist in other countries such as Canada (e.g., Alberta charter schools), Sweden (e.g., free schools), and Chile (e.g., voucher schools).

Contract Schools

- These are public schools that operate under a contract or agreement with the district or state authorities that specify the terms and conditions of their autonomy and accountability. Contract schools have more autonomy over some aspects of their operation such as curriculum, pedagogy, assessment, staffing, etc., but less autonomy over others such as budgeting or facilities. Contract schools are funded by public sources based on student enrollment or performance. Contract schools are common in countries such as Australia (e.g., Independent Public Schools), France (ecole sous contract), New Zealand (e.g., Partnership Schools), and the UK (e.g., Academy Schools).

Network Schools

- These are public schools that belong to a network or cluster of other schools that share a common vision, mission, goals, curriculum framework or model. Network schools have more autonomy over their pedagogy, assessment, staffing, etc., but less autonomy over their curriculum content or standards. Network schools are funded by public sources based on student enrollment or performance. Network schools collaborate with other network schools to share resources, best practices, or professional development. Network schools are common in countries such as Singapore (e.g., Future Schools), Thailand (e.g., Chulaphorn Science High Schools), Finland (e.g., Innokas Network), and Canada (e.g., Living Schools).

There are sure to be some grey areas between different types of autonomous schools as well as significant overlap when applying this typology to the real world. For example, New Generation Schools in Cambodia appear to have elements of both Charter Schools (because they have broad freedoms to change most aspects of their learning environments including staffing, curriculum, budgeting, and physical facilities) but also work in a network with other New Generation Schools where they can share best practices. Thus, New Generation Schools appear to be a hybrid between Charter Schools and Network Schools. Despite the overlap between autonomous school types, this typology nevertheless provides a useful tool for understanding how autonomous schools may

converge and differ.

3.4 Highlighting the Best Practices and Lessons Learned from Autonomous School Models

These types of autonomous school models have different strengths and weaknesses in terms of their impact on student learning outcomes, teacher quality, school culture, and system improvement. Some of the best practices and lessons learned from autonomous school models are:

- Having a clear and compelling vision, mission, and goals that guide the school's decisions and actions
- Developing a strong and distributed leadership team that supports and empowers teachers and students
- Engaging and involving parents, community members, and other stakeholders in the school's governance and activities
- Adopting a rigorous and relevant curriculum that aligns with the 21st-century skills and competencies
- Implementing an effective and innovative pedagogy that engages and challenges students and teachers
- Using multiple and authentic assessments that measure and monitor student progress and growth
- Providing ongoing and differentiated professional development that enhances teacher capacity and collaboration
- Seeking external support and partnerships that provide resources, expertise, or feedback to the school

4. CHALLENGES AND OPPORTUNITIES FOR AUTONOMOUS SCHOOLS

4.1 Main Challenges and Barriers for Implementing Autonomous School in Different Contexts, Especially in Southeast Asia

Implementing autonomous schools in different contexts, especially in Southeast Asia, is not without challenges and barriers. Some of the main challenges and barriers are:

- **Policy and regulatory constraints:** Autonomous schools may face difficulties in obtaining the necessary approval or recognition from the relevant authorities to operate independently from the district or state regulations. They may also face challenges in complying with the existing standards or requirements for curriculum, assessment, accreditation, or accountability. For example, in Singapore, autonomous schools are still subject to the national curriculum and examinations, as well as to the school ranking system based on academic performance[12].
- **Resource and capacity limitations:** Autonomous schools may lack the adequate resources or capacity to support their operation and innovation. They may face challenges in securing sufficient funding, facilities, equipment, materials, or technology. They may also face challenges in recruiting, retaining, training, or rewarding qualified and committed staff. For example, in Thailand, autonomous schools have reported difficulties in obtaining adequate funding from the government or other sources, as well as in attracting and motivating teachers who are willing to work under more demanding conditions[13].
- **Cultural and social resistance:** Autonomous schools may encounter resistance or opposition from the cultural or social norms or expectations of their stakeholders. For example, Cambodian teachers often veto attempts to expand New Generation Schools because they challenge the *status quo* vis a vis their ability to exploit students through lucrative private classes. Autonomous schools may also face challenges in gaining the trust, support, or participation of parents, community members, or other partners. They may also face

[12] https://link.springer.com/article/10.1007/s13384-022-00573-w
[13] https://www.oecd-ilibrary.org/sites/b9b619c1-en/index.html?itemId=/content/component/b9b619c1-en

challenges in balancing the needs and interests of their diverse student population, especially in terms of language, culture, religion, or ethnicity. A good example of challenges relating to the violation of cultural norms relates to Malaysia. There, autonomous schools have faced criticism from some groups who perceive them as elitist, divisive, or threatening to the national identity or unity[14].

4.2 Main Opportunities and Enablers for Implementing Autonomous Schools in Different Contexts, Especially in Southeast Asia

However, implementing autonomous schools in different contexts, especially in Southeast Asia, also offers opportunities and enablers. Some of the main opportunities and enablers in this regard include the following:

- **Policy and regulatory incentives:** Autonomous schools may benefit from the policy or regulatory incentives that encourage or facilitate their establishment or operation. They may enjoy more autonomy over their curriculum, pedagogy, assessment, staffing, budgeting, etc., as well as more accountability for their student outcomes. They may also receive more funding, recognition, or support from the relevant authorities or agencies. For example, in Indonesia, autonomous schools are eligible for additional funding from the government based on their performance indicators[15].
- **Resource and capacity development:** Autonomous schools may leverage their resources or capacity to enhance their operation and innovation. They may seek external sources of funding, facilities, equipment, materials, or technology from various donors or sponsors. They may also develop their internal sources of human capital by providing professional development, mentoring, or coaching for their staff. For example, in Cambodia, autonomous schools have partnered with various organizations such as NGOs, foundations, or universities to obtain resources, expertise, or feedback for their programs[16].
- **Cultural and social engagement:** Autonomous schools may engage with the cultural or social norms or expectations of their stakeholders. They may communicate, consult, or collaborate with parents, community members, or other partners to build trust, support, or participation. They may also cater to the needs and interests of their diverse student population, especially in terms of language, culture, religion, or ethnicity. For example, in Vietnam, autonomous schools have adopted a bilingual curriculum that integrates Vietnamese and English languages and cultures[17].

4.3 Some Examples of Successful or Promising Initiatives or Projects Related to Autonomous Schools in Southeast Asia or Beyond

There are some examples of successful or promising initiatives or projects related to autonomous schools in Southeast Asia or beyond. Some of these examples are:

- **The New Generation School (NGS) initiative in Cambodia:** This is a public-private partnership between the Ministry of Education, Youth and Sport (MoEYS) and Kampuchean Action to Promote Education (KAPE) that aims to transform public schools into autonomous ones that provide quality education for all students. NGS schools have more autonomy over their curriculum, pedagogy, assessment, staffing, budgeting, etc., as well as more accountability for

[14] https://policytoolbox.iiep.unesco.org/policy-option/socio-cultural-barriers-to-schooling/
[15] https://core.ac.uk/download/pdf/213832482.pdf
[16] https://fordhaminstitute.org/national/commentary/how-make-more-autonomous-schools-effective
[17] https://journals.sagepub.com/doi/10.1177/2158244020973024

their student outcomes. NGS schools also adopt a learner-centered approach that fosters 21st-century skills and competencies among students and teachers[18].

- **The Princess Chulaphorn Science High School Network (or Chulaphon Ratchawitthayalai in Thai):** This is the name given to a group of science co-education boarding schools that was established by the Ministry of Education of the Royal Thai Government. PCSHS focuses on developing the talents of students in grades 7-12 (secondary and high school students) in science, mathematics, technology, and environment to support science and technology professionals in Thailand.[19] Originally, the curriculum used in these network schools depended on the state curriculum but the schools' course of instruction was changed in 2010 through a partnership with Mahidol University to develop a more modern STEM curriculum more in keeping with 21st Century education principles. Chulaphorn Science High Schools have used this curriculum since then. Students enrolled in these network schools often receive scholarships from the government for study, food, accommodation, and incidentals but must return all support to the government should they drop out before finishing their studies.
- **The Living School (LS) network in Canada:** This is a network of public elementary schools that operate under a charter agreement with the Ontario Ministry of Education that grants them more autonomy over their curriculum, pedagogy, assessment, staffing, budgeting, etc., as well as more accountability for their student outcomes. LS schools also adopt a holistic approach that integrates academic, social-emotional, physical, spiritual, moral, and ethical aspects of learning[20].
- **The Innokas Network (IN) in Finland:** This is a network of public primary and secondary schools that collaborate with each other and with external partners such as universities, companies, or NGOs to promote innovation education among students and teachers. IN schools have more autonomy over their pedagogy, assessment, staffing, etc., as well as more accountability for their student outcomes. IN schools also adopt a project-based approach that involves students applying their 21st-century skills and competencies to authentic, real-world, and interdisciplinary tasks or challenges[21].

5. DISCUSSION AND CONCLUSIONS

This paper has explored the concept of autonomous schools as a key to education reform in the 21st century, where rapid changes in knowledge and skills have drawn into question the relevance of public schools operating under an organizational paradigm designed for the 20th Century. In this respect, we have argued that autonomous schools, which are schools that have a high degree of self-governance, flexibility, and innovation, can foster the development of 21st-century skills and competencies among students and teachers. The paper has drawn on examples of autonomous school models from different countries and regions, such as the New Generation School in Cambodia, Chulaphorn Science High Schools in Thailand, the Living School in Canada, and the Charter School in the United States. It has also discussed the challenges and opportunities for implementing autonomous schools in different contexts, especially in Southeast Asia.

Based on the literature review and the case studies, the paper offers some practical and policy recommendations for promoting autonomous schools as a key to education reform. These recommendations include the following:

[18] https://link.springer.com/chapter/10.1007/978-981-15-2137-9_6
[19] https://en.wikipedia.org/wiki/Princess_Chulabhorn_Science_High_Schools
[20] https://www.canada.ca/en/immigration-refugees-citizenship/services/new-immigrants/new-life-canada/education/how-it-works.html
[21] https://www.innokas.fi/en/

1. Establish a clear and coherent policy framework that defines the scope, criteria, and process of granting autonomy to schools, as well as the roles and responsibilities of different stakeholders involved in the governance and accountability of autonomous schools.
2. Provide adequate and sustainable resources and support to autonomous schools, such as funding, facilities, equipment, materials, technology, professional development, mentoring, coaching, etc., to enable them to operate and innovate effectively.
3. Encourage and facilitate collaboration and networking among autonomous schools, as well as with other schools, districts, states, universities, companies, NGOs, or other partners, to share resources, best practices, or professional development.
4. Monitor and evaluate the performance and impact of autonomous schools, using multiple and authentic indicators and methods that capture their academic, social-emotional, physical, spiritual, moral, ethical outcomes.
5. Recognize and celebrate the achievements and contributions of autonomous schools, as well as their students and teachers, to the improvement of education quality and equity.

The paper also suggests some directions for future research on autonomous schools and 21st-century education. These directions are:

1. Conduct more empirical studies on the effects of autonomy on student learning outcomes, teacher quality, school culture, and system improvement, using rigorous research designs and methods
2. Explore more diverse and contextualized cases of autonomous school models from different countries and regions, especially from Southeast Asia and other developing contexts
3. Investigate more in-depth and nuanced aspects of autonomy, such as how autonomy is perceived, exercised, or constrained by different school actors or stakeholders
4. Examine more critically and ethically the implications of autonomy for social justice, democracy, or diversity in education

We would like to conclude our discussion with some implications and reflections on autonomous schools and 21st-century education. In this respect, we need to point out that autonomous schools are not a panacea or a one-size-fits-all solution for education reform. Rather, they are a promising and potential strategy that requires careful design, implementation, and evaluation to ensure that they serve the best interests of students and teachers. The paper also suggests that autonomous schools are not an end in themselves, but a means to an end. The ultimate goal of autonomous schools is to provide quality education for all students that prepares them for the future. Therefore, autonomous schools should be aligned with the principles and values of 21st-century education, such as learner-centeredness, holistic approach, lifelong learning, collaborative learning, inquiry-based learning, project-based learning, reflective learning, innovative learning. The paper hopes that this exploration of autonomous schools will inspire more educators and policymakers to pursue this strategy with vision, passion, and commitment.

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Chapter 8

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*Autonomous School Movements and the Link with Leadership (Paper in Preparation) **

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Abstract

This article examines the crucial role that school leadership plays in the effective operation of an autonomous school. While school leadership is important in any school, it is particularly so in an autonomous public school given the degree of freedom and independent decision-making that the government affords to such schools. The paper examines the link between leadership and school improvement using different leadership paradigms such as the one laid out in School-based Leadership & Management or SBLM. Key concepts that are analyzed include the role of decentralized control, school autonomy, and context-specific decision-making. Using this framework, the paper then reviews possible risks that can undermine SBLM as this relates to school autonomy. The paper then concludes with a set of key recommendations to defuse these risks including the need for clear delineation of job roles for school managers, discrete leadership programs for the training of school managers, merit-based selection, standardized induction, and other best leadership practices.

Keywords

School Leadership, Effective principals, Traditional school leadership, flipped sector approach, School-based Leadership & Management

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**Slide Presentation available in Annex 4*

Chapter 9

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Keeping Up: A Template for Autonomous Schools to Deal with Tech's Relentless Pace, and Expand Students' Horizons - A Case Study

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Abstract

This article details a pilot program in cutting-edge technology that has been facilitated through the medium of an autonomous school environment. The pilot program, known as Gaming Technology Skills Accelerator Initiative, has been piloted at Preah Sisowat High School, an autonomous New Generation School in Phnom Penh, Cambodia. The present article discusses the background of the Gaming Technology Skills Accelerator Initiative, its rationale, and how implementation has unfolded focusing on the twin development of technical expertise and strong critical thinking skills. The present initiative demonstrates how an autonomous school environment can facilitate national planning aimed at preparing the Cambodian workforce for the 21st Century and national initiatives such as the National Skills Accelerator, which is being sponsored by the World Economic Forum.

Keywords

Digital education, Digital visualization, Digital curriculum, Skills accelerator, Gaming technology

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1. INTRODUCTION

1.1 Challenges Facing Public Schools to Embrace Tech Education

As public education systems try to modernize their schools and curricula, the role of digital education invariably comes up as a key area of focus to better prepare students for life in the 21st Century economy. These efforts, however, are often stymied by rigidities in public schools such as the fixed nature of the curriculum and timetable, teacher resistance to accommodating digital learning modalities, scarcity of human resources, little freedom in the ability of schools to move budgets around, and a lack of leadership to push innovation. This is not an exhaustive list of the challenges facing public schools, as higher-level administrators urge them to innovate while ossified operational conditions offer little hope of being able to do so.

1.2 How Autonomous Schools Can Accommodate Technological Innovation

The policy framework in Cambodia that governs school autonomy ensures that those schools designated as New Generation Schools (NGSs) have the freedom to allocate budget, curricular time, teachers, and other resources. School leaders also have the freedom to undertake special initiatives if they so desire and in fact, there are incentives in place that encourages such initiatives (e.g., Oversight Board members often ask what new initiatives schools are involved in). This allows greater freedom and flexibility to pilot innovative programs or incorporate them into the curricula, including the use of appropriate educational technologies in the classroom as well as technology-based courses. This flexibility therefore allows for both the integration of technology into the classroom as well as into the broader curricula.

1.3 Mandate to Promote Skills Acceleration in Cambodia

The Minister of Education, Sports, and Youth (MoESY) has emphasized the need to introduce 21st century skills development in Cambodia, and mandate also reflected in various government policies such as the Cambodia Industrial Development Policy (2015-2025), which focuses on developing a knowledge-based economy through education, training, and private partnerships, and the Cambodia Technical and Vocational Education and Training (TVET) Policy 2017-2025, approved in 2017.[1] This has been reflected in the work of the NGSs, through different partnership and initiatives including the introduction of coding and Artificial Intelligence software systems that had, as of June 2023, been introduced on nine different campuses.[2] Among these novel initiatives have included the Gaming Technology Skills Accelerator Initiative.

2. THE CASE STUDY: HOW AUTONOMOUS SCHOOLS HAVE FACILITATED GAMING TECHNOLOGY SKILLS ACCELERATION

2.1 Why Focus on Gaming Technology

Gaming is a high-growth industry; the global market size was valued at $249.55 billion USD in 2022 & is anticipated to grow $665.77 billion USD by 2030 representing over a 16% compound annual growth rate.[3] It is also less likely to be immediately impacted by developments in artificial intelligence which remain largely in the purview of software developers and robotics, with its actual use in game development (versus game play) as still in its infancy.[4]

2.2 Approach to the Gaming Technology Pilot

In December 2022, NGS hired the present author to help develop gaming technology curricular programs. The author has now developed the first phase of a curriculum, focusing on practical skills that directly relate to needs in the 3D game development pipeline. At present, six students at Sisovath High School (SHS), a NGS in Phnom Penh, are midway through the first run of the course, which culminates in recreating traditional Cambodian dance, based on the collaboration with one of the

country's most notable Apsara masters. Asked to describe the approach to the pilot, I=the present author summarized it as follows:

> However, you think about games – and mostly we're focused on 3-D games – if you think of them as a story being told, the story is told in verbs and nouns. And what's reflected in most people's expectations when we say 'game development' are the verbs: you know, the actions that constitute the play of the game.
>
> We're more focused on the nouns in that story. 3-D game worlds allow expressive, rich, visual environments where people are drawn into nuanced, visually engaging environments. They can be either limited to a small world, or effectively unlimited. But they are places where players explore and go wherever they want and are presented with new possibilities for action.
>
> The possibilities lie mostly in the realm of the verbs. But we focus on the nouns, in the form of visual elements that add specificity to the world presented: not just nouns, but also adjectives. They convey the nuances and subtle differentiations between things.
>
> So that's what makes up this course. That means making the objects, making the characters, making the environments; the pieces of the underlying geometry of the game, and then the active elements of the game, like atmospheric or environmental effects. Visually nuanced components; we explore how they all come into being and exist.

New Gaming Technology Development Lab: *Students at Preah Sisovath HS in Cambodia participate in a new pilot to learn gaming technology skills that will help them work in one of the fastest growing ICT subsectors.*

2.3 Unique Features of the Pilot

The curriculum, which includes about 100 hours of instruction, "focuses on practical skills that directly relate to needs in the 3D game development pipeline. The present initiative focuses particularly on 'motion capture,' and a UK startup (Radical Motion) has helped to sponsor the program with complete access to their AI-driven motion capture service."[5]

In addition to the technical details of the program, emphasis was placed on creating a learning environment that would help maximize student uptake. This included equipping the studio with the prerequisite technical equipment needed, such as computers capable of running the required software and quality monitors, but also creating an environment conducive to learning.

The studio at SHS is equipped for six students. There is a designated monitor for each student, but in fact only three computers. This is because the pilot envisioned students working in pairs as collaborators. A primary goal was to eliminate "computer tunnel vision:" that is what happens when students fixate on a monitor and stop interacting with other students and the teacher. Instead, students must cooperate, and the layout of the room means that students remain aware of their partner, of the other students, as well as their instructor—all essential elements of a learning

environment. Given the arc-layout of the studio, when sitting at their desk, each student has a clear view of all the work being done by all the other students. That is why the arc exists. Even the depth of the tables is important, to improve that visual access and awareness. The flexibility afforded by the autonomous school environment helped maximize the control had over creating the learning environment rather than trying to accommodate to a pre-defined space that would not be conducive to maximizing student engagement.

Innovative pedagogical approaches are also employed to emphasis not only technical skills but also critical thinking and problem-solving. Each team is assigned to find a demo of a different technique. This is assigned in verbal/textual form: for example, "Show how you can make a cube taller or shorter; show how you can spin a cube around on its axis."

Students then must identify a video that demonstrates what they have been asked to focus on. Almost every technique is shown in a very short video clip – typically under 15 seconds. These videos are a key part of the course resources and present the single largest task in developing this course. Student searched return a set of 12 or 15 links. The names on the links and of the videos are uninformative. Identifying the videos to view becomes an exercise that demands critical viewing, paired to critical analysis of what they been asked to look for. The key is not only to match up those two things, but also reach agreement between the paired students.

On average, students will need to look at eight videos to find their answer, but some will see fewer before finding their answer, and others more. Part of the strategy is to expose them to other techniques via the "wrong" videos, broadening their understanding of what scope the software has, without having to actually learn any other new technique at that moment, hence priming them for subsequent learning. What they see can be deliberately ambiguous. For example, are they seeing the cube get bigger, or is it the view zooming in on the cube? Did the cube spin, or is it only the point of view rotating? At this stage, students have not engaged with the software. The initial learning goal is to correlate effect and cause, via the resources available, and it is viewing it, not performing the task, that marks that completion.

As students begin working in the software, they are then testing a hypothesis, rather than simply replicating a number of steps. Hence critical thinking and problem-solving are both involved in not only identifying the proper resource but testing the hypothesis that the chosen resource will allow the student to accomplish the task. This approach builds a conceptual framework that grows around the software, but it also eliminates – as much as possible – the frustration and confusion that starting to work with the user interface for an immensely complex application usually produces. When they perform this work, they use their right-hand monitor to display the video. When the software is run, it opens up in the left-hand monitor, where they see the exact same interface that the demo video shows. This makes correlation as easy as possible and accelerates skill acquisition as they test out the different approaches to accomplishing the task.

3. CONCLUSION

The flexibility and autonomy offered by the NGS autonomous model at SHS means provides an environment which facilitates innovation in teaching and learning and allows for high-impact practices and partnerships. Well-thought out and executed pilot programs, like the Gaming Technology Skills Accelerator Initiative, not only can offer proof-of-concept but can serve as models for future innovational initiatives. Such programs can only occur, however, in contexts where there is institutional support, local decision-making, and an openness to novel approaches. As such, the Gaming Technology Skills Accelerator Initiative has attracted wide support. The Center for Digital and Distance Education has also joined the initiative; private-sector partnerships like CG Spectrum, Radical

Motion, and EPIC are expected to contribute up $80,000 USD; and $100,000 USD is expected from Lichtenstein Economic Development to help support the initiative in the coming year. These partners' interest and support for this novel program is a testament to the possibilities when innovation is both embraced and enabled as has been possible in the autonomous New Generation Schools.

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Chapter 10

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The Role of NGOs in Scaffolding the Creation of New Generation Schools

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Abstract

This article explores the institutional dimension of school autonomy. It examines the delicate balance between autonomy and quality control, trying to articulate the respective roles of the government and the NGOs in a model based on subsidiarity. It emphasizes the need for a variety of actors in order to ensure the sustainability of the model. So far, KAPE has been leading the New Generation School program in Cambodia, but other NGOs could, and probably should be involved as well. Diverse points of view are the condition to allow pedagogical innovation, while preserving the resilience of the school system to any mistakes that could be made along the way.

Keywords

Subsidiarity, Quality control, School autonomy, Teaching methods

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1. INTRODUCTION

In this article, we will consider the institutional dimension of autonomous schools, as this is playing out in Cambodia. The current organizational arrangements for autonomous school reforms in Cambodia, known as New Generation Schools, are somewhat unique in that for the first time in its history, the Ministry of Education, Youth, and Sport has decided to outsource the implementation of a key educational reform to a national organization, named Kampuchea Action to Promote Education or KAPE. MoEYS retains full control of the reforms but delegates the direct task of implementation to this NGO. This demonstrates how the highly developed nature of social and institutional capital in Cambodia can facilitate educational development. It also suggests that the MoEYS is realistic about the constraints it faces in terms of human resources and internal accountability. Nevertheless, we need competitors within the New Generation School program. As we note above, so far, Kampuchea Action to Promote Education (KAPE) has been leading the New Generation School (NGS) program in Cambodia on behalf of the Ministry of Education, with ChildFund taking care of one school in Svay Rieng. But we would be happy to see other (Non-Government Organizations) NGOs involved in the creation of more New Generation Schools. It might sound paradoxical to make such a call. Are we suicidal? Not at all. Are we overwhelmed with too much work? We are busy, for sure, but it is not the point. We could hire more educators to keep up with the demand. Are we uncertain about the quality of our work? Not too much: we are quite confident in fact. But a diversity of points of view is essential to the success of autonomous schools, and to the resilience of a national school system in general. I'm proposing to cover this problem around 4 questions.

- What do NGOs bring to the school system that the public sector doesn't?
- What are the best teaching methods to promote in autonomous schools?
- How to ensure equity within autonomous schools?
- How to articulate quality control and autonomy?

2. WHAT DO NGOS BRING TO THE SCHOOL SYSTEM THAT THE PUBLIC SECTOR DOESN'T?

The key concept to answer this question is the principle of subsidiarity. If you are not familiar with it, the principle of subsidiarity states that, in an organization (public or private), if the lower echelon can make a decision effectively, the higher echelon should not interfere with it. This is a matter of justice and of efficiency: justice, because it respects people by giving them some grasp on their own destiny. It is also a matter of efficiency, not just because people are more motivated to act, but more deeply because they have circumstantial knowledge that the higher echelon doesn't have. It doesn't really matter if the high-ranking officers are smart or not, if they are honest or corrupt, or if they are dedicated or lazy. It's pointless to blame people for the mechanical effects of a bureaucratic structure. Micro-management is ineffective because strategic planners don't have time for the details and can only deal with very general orientations that have a high probability of being inadequate when they go down four or five layers in the administrative structure.

The principle of subsidiarity can be implemented in a variety of ways. One could expect to implement it within the public administration. And it is true to some extent. Let's establish Professional Learning Communities (PLCs) in every school. It's a good start. But people don't feel free just because we tell them to be creative and to take initiatives. And they don't feel accountable if they don't really feel entitled to make decisions. It is more than just being told that you can choose your teaching method. It's also feeling safe that no inspector will blame them because they have neglected a few activities in the textbook or because their lesson was too teacher-centered or too innovative. If there is less risk in inaction than in initiative, people prefer to do nothing. That's why it is important that the autonomy of the school is established in a statutory way. That's why it is a good strategy to involve NGOs and rely on public-private partnership.

There is no fundamental superiority of private workers over public servants. NGOs are not staffed with geniuses. And there are very competent public officers. But NGOs are statutorily autonomous. And they are accountable because of their position. If they fail, they can be replaced. One day, in ten years, or twenty years, maybe in fifty years, KAPE will run out of steam. I don't know when and why it will happen, but it will happen, as it happens to any organization. But it doesn't really matter, as long as another organization is ready to take the lead. What matters is that the service is still provided. Autonomy brings resilience to the whole system, not because autonomous schools are more solid, but because they can lose their accreditation and therefore, they must correct their mistakes or be replaced by better ones.

Autonomous school also means school of choice. They are based on the assumption that the families can choose the school that best matches their needs. This is a natural regulation that school autonomy brings to the system. If the families lose faith in an NGS or in the NGO that supports it, they can withdraw from that school. They send a clear message by voting with their feet. It is really important to keep in mind that the eventual failure of one school or another is to be expected at some point in the future. But the entire system is ready to survive the failure of one of its components. The students are not trapped in the autonomous school. There is an escape if something goes wrong. In the worst-case scenario, redundancies mean safety. We need redundancies in terms of governance structures, but also in terms of pedagogical approaches, which brings us to the next question.

3. WHAT ARE THE BEST TEACHING METHODS THAT WE SHOULD PROMOTE IN AUTONOMOUS SCHOOLS?

Every year, the young mentors trained by the New Generation Pedagogical Research Center (NGPRC) ask this question: What is the best teaching method? The answer is easy: I don't know. At NGPRC, we are quite knowledgeable about the topic. Some, with kindness, might even say that we are experts. And still, we don't know what the best teaching method is because nobody knows. It's a very serious topic but the question is poorly formulated. I need information about the context before answering. If you'd tell me which subject you want to teach, which grade you teach, how many students fit in your classroom and how much time and resources you have to dedicate, I could give you some reasonable advice and elaborate a strategy for your situation. Without that information, I'm very likely to do more harm than good by giving irrelevant advice. Or very vague and abstract advice, which is exactly the same.

For instance, collaborative learning is an important method that the ministry promotes, rightfully, and that is taught at the National Institute of Education or at NGPRC. In our mentoring practices we have observed many mistakes in the implementation of that method. For example, mathematic lessons with an astonishing productivity of one equation solved in one hour. And only one student in each group actually did the calculations. Instead of making students more active, the implementation of that student-centered approach might have the opposite effect of dividing several times the number of active students, if they are poorly implemented. But in other cases, for instance in speaking activities during English lessons, if does indeed multiply student activity, as compared with a more traditional method. Even with the best methods, policy makers cannot anticipate all the things that can go wrong. Therefore, it is essential that finer decisions can be made at a lower level.

As researchers in pedagogy, we must be cautious about our own hubris. It's tempting to search for groundbreaking theories that can bring national impact. Intellectual pride can be devastating when we try to implement those theories.

It is essential that educational policies open rooms for a large variety of teaching approaches and teaching styles. That diversity will be better ensured if there are different actors in the sectors. For sure, KAPE allows different NGS to make different choices. We recognize the right of NGS Sisowat to group the English learners by ability levels, and other school not to do it. But let's be honest, as an organization KAPE has its preferences, and we cannot be sure that they are always the best possible

options.

Progress is not possible without trying many ideas. Some ideas will be great. But some will be bad, necessarily. It is not good to bind the entire school system to just one approach. We need to keep enough flexibility to try innovative things and correct our mistakes when we are wrong. And that's where some kind of competition comes into play. Other NGOs will put different choices on the table and will open room for fruitful discussion, maybe hot debates, but those hot debates will force us to think more deeply about our own approaches and will prevent our own procedures from ossifying.

4. HOW TO ARTICULATE QUALITY CONTROL AND AUTONOMY?

But what about ensuring quality and preventing abuse? Should we rely solely on the natural regulation that I have described above? What can the government do to make sure that the autonomous schools will not become a problem?

A first answer would be: that's why you have curricula and laws. People can create restaurants with all sorts of styles and food. But they still have to follow some rules. They must respect labor laws and hygiene principles. If they serve poisonous food, their owners go to prison.

One might be concerned that too many approaches will hinder the consistency of the school system. This objection is not particularly worrying when we consider it from a technical point of view. All that is required is a basic national curriculum. We just need a clear description of the prerequisites for each grade and subject. With that, people know what to do, and families can choose the school without worries, since there is a standard to facilitate any movement. For the teachers, the rule is simple: "Stick to the objectives, adapt the means." The curriculum is sufficiently enforced by national examinations. Teachers can even choose their own textbooks, as long as they prepare their students for the final Baccalaureate (Bac II). This approach is quite classical in fact and is known as "command by objectives" as opposed to "command by orders". The only condition is to ensure that the local deciders are competent enough to make those adjustments. And we have good strategies for that, through mentoring and PLC. Proper local governance can already address most of the issues.

A longer answer would consider the different modalities of the control that a government can exert on autonomous schools without destroying their autonomy. There are a lot of ways a public administration can regulate an activity. We could distinguish five main models, although of course, they are just models and reality accepts all sorts of nuances. By the way, those models don't apply only to the regulation established by the State but can also be considered as different styles of management within any organization. All of them can be relevant to specific situations. Here are those models:

1. **A centralized regime in which the administration organizes everything by itself.** This model is suitable for regalian activities, such as the police or the justice administration, when any private involvement would imply dangerous conflicts of interest. This model implies a very rigorous application of the rules and doesn't allow much flexibility.
2. **A regime of authorization prior to any action.** This model is preferred when the risks are high, for instance, the installation of a nuclear plant, or a chemical factory. To work properly, it requires a very competent and non-corrupt administration. Even so, procedures can take extremely long before anything happens. This is not a good model for innovation.
3. **A regime of approval, in which people are free to try and then seek approval and certification.** This model is suitable when public support is needed but there is little risk in trying. It maximizes initiative while providing some guidance. Applying is not mandatory but procures significant advantages.
4. **A regime of declaration, in which people inform the State about their project and it is tacitly approved.** Most commercial activities fall under this category and are declared to a chamber of commerce or the equivalent. It does not imply active support from the regulatory body.

5. **A regime of total autonomy, in which there is no real need for declaration.** People can do whatever they want, and the police will intervene only if someone is harmed by the activity.

In the field of education, there is actually nothing fundamental that forces us to opt for regimes 1 and 2. The New Generation Schools are somewhere around the third model. NGS can be created, receive important investment, and have a few years to meet the standards and obtain their accreditation. The initiative of the project can come from various directions. So far, KAPE has done most of the job, by actively searching for suitable establishments. But it is perfectly possible for public schools, or even private schools, to apply for the NGS certification.

The third model is a matter of equity. The question of equity is a serious concern that might make people reluctant to endorse school autonomy. But we can address the difficulty, as long as we understand it. Individual responsibility does not apply well in the field of education. Students are not responsible for the lack of money of their parents. We must find a system that offers the flexibility and the quality of private education, while being accessible to the poor. That's what the NGS approach is trying to achieve. It is impossible to expect everybody to go to the best school, because there will always be schools that are better than the others. But at least, what we can guarantee is that the selection is not based on the incomes of the parents. NGS are open to all the children who have the skills and the commitment. And that's fair enough. Equity is the reason why NGOs are better at administering independent schools than most possible alternatives. Commercial private schools must make profit. NGOs just have to balance their accounts. Non-profit organizations are more likely to preserve the sense of public good, while maintaining a high level of initiative.

I will even argue that far from reducing the effectiveness of the administrative control, a significant level of autonomy increases it. One cannot be judge and jury. It's a very old principle. The referee doesn't play, or he will be biased. Statutory autonomy also means more serenity for the regulatory body. The same issue can be observed in the national examination. The examiners don't show the same seriousness for the grade-9 exam and the grade-12 exam. When you score your own students, fundamentally, you score your own work. And that's embarrassing. But if you don't score your own students, you can be more objective.

That's why the NGS system is not and should not be just KAPE. It has an accreditation board that can safely reject the accreditation precisely because it is not involved in the implementation. The system will be solid only when the accreditation is granted to schools that are not under KAPE supervision. In this regard, we have already reached some maturity, since KAPE has considerably reduced its participation in Preah Sisowath High School. KAPE support continues for special technical projects, such as Gaming technology, but is no longer involved in the day-to-day activities. By now, that school is pretty much self-regulated and fully capable of extending its activities on its own. Sisowath HS is currently supporting Preah Yukunthor High School without KAPE's direct intervention. As you can see, the role of the NGOs is not necessarily to administer the schools forever, but to accompany them over several years until they become fully autonomous. This is a truly educational approach. An educator guides a child until he reaches adulthood. NGOs bring in structure, governance, technical expertise and initial investments to put the school on the right tracks and then let it live its own life.

5. CONCLUSION

The NGS model has already gained significant recognition and is about to reach its maturity, as it poises for major expansion starting in 2024. As a proof, I would like to evoke some schools that are already emulating some parts of the NGS practices, without necessarily applying for the full accreditation, like the demonstration schools of the NIE or Preah Norodom primary school in Phnom-Penh. But in order to become sustainable, the NGS model still needs to involve more actors. And I hope this conference will contribute to fruitful discussions.

NGS INTERNATIONAL

Chapter 11

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Autonomous Schools and New Opportunities for Mentoring

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Abstract

This article explores the concept of autonomous schools and their potential for creating new opportunities for mentoring. With the advancements in educational technology and the growing need for personalized learning experiences, autonomous schools have emerged as a promising model for transforming traditional education systems. This article examines the principles and characteristics of autonomous schools, highlights the benefits of mentoring in the context of autonomous education, and discusses the potential challenges and considerations in implementing effective mentoring programs within autonomous schools. The findings of this article contribute to the understanding of how autonomous schools can leverage mentoring to enhance student learning, foster personal and professional development, and promote a culture of collaboration within the educational ecosystem.

Keywords

Autonomous schools, Mentoring, Mentee Engagement, Learning outcome, Teacher Mentoring

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1. INTRODUCTION

1.1 Background and Rationale

Traditional education systems have often followed a standardized and one-size-fits-all approach, which may not cater to the diverse learning needs and aspirations of students. However, with the rapid advancement of technology and the increasing recognition of the importance of personalized learning, the concept of autonomous schools has gained traction. Autonomous schools, also known as self-directed or learner-centered schools, provide students with greater agency and control over their educational journey.

In autonomous schools, the focus is on granting schools the autonomy to shape the learning environment and educational processes. These schools prioritize providing students with the opportunity to take ownership of their learning, allowing them to set goals and make decisions about the pace, content, and methods of their education. With an emphasis on individualized instruction, project-based learning, and the integration of technology, autonomous schools strive to create personalized learning experiences. By promoting school autonomy, these institutions aim to foster critical thinking, creativity, and problem-solving skills in students, preparing them to navigate the complexities of the modern world.

Mentoring, on the other hand, has long been recognized as a valuable practice in education. Mentors play a crucial role in guiding and supporting individuals in their personal and professional development. Traditionally, mentoring has been associated with workplace settings, but its potential in the educational context, particularly within autonomous schools, has received limited attention.

1.2 Objectives of the Research

The primary objectives of this article are as follows:

1) To explore the principles and characteristics of autonomous schools and their potential for transforming traditional education systems.
2) To examine the role of mentoring in the context of autonomous education and the benefits it offers to students, mentors, and the overall educational ecosystem.
3) To identify and analyze the key considerations and challenges in implementing effective mentoring programs within autonomous schools.
4) To highlight best practices and case studies that demonstrate successful mentoring initiatives in autonomous schools.
5) To provide insights and recommendations for educators, administrators, and policymakers on how to leverage mentoring to enhance student learning, foster personal and professional development, and promote a culture of collaboration within the autonomous school setting.

By addressing these objectives, this research article aims to contribute to the existing literature on autonomous schools and mentoring, providing a comprehensive understanding of the potential synergies between these two areas. The findings of this study can inform educational stakeholders in designing and implementing effective mentoring programs within autonomous schools, thereby maximizing the benefits of personalized learning and student empowerment.

2. AUTONOMOUS SCHOOLS: PRINCIPLES AND CHARACTERISTICS

2.1 Definition of Autonomous Schools

Autonomous schools are educational entities that possess a significant level of self-governance and independence in their operations. These schools have the authority to make decisions regarding curriculum, instructional methods, and assessment practices tailored to meet the specific needs of

their students and stakeholders. By embracing autonomy, these schools aim to promote flexibility, innovation, and responsiveness within the educational system, ultimately enhancing educational outcomes and the overall quality of education.

2.2 Elements of Autonomous Schools

Several key elements define the principles and characteristics of autonomous schools. These elements contribute to creating an environment that supports student autonomy and personalized learning.

One fundamental element is individualized instruction. Autonomous schools tailor instruction to meet the unique learning needs and interests of each student. This may involve personalized learning plans, flexible curriculum choices, and differentiated instruction techniques (McGregor et al., 2020). By adapting instruction to individual students, autonomous schools foster a more engaging and effective learning experience.

Another important element is project-based learning. Autonomous schools often emphasize project-based approaches where students engage in hands-on, real-world projects that promote critical thinking, collaboration, and problem-solving skills (Barron et al., 2019). These projects allow students to apply their knowledge in meaningful contexts, fostering a deeper understanding of the subject matter.

Furthermore, learner agency and self-assessment are integral to autonomous schools. Students are encouraged to take ownership of their learning by setting goals, reflecting on their progress, and assessing their own learning outcomes (Toshalis & Nakkula, 2022). This self-regulation and metacognitive awareness promote student motivation and accountability.

2.3 Role of Technology in Autonomous Schools

Technology plays a vital role in supporting the principles and practices of autonomous schools. Educational technologies provide tools and resources that facilitate personalized learning, collaboration, and access to a wide range of learning materials.

Digital platforms and learning management systems are commonly used in autonomous schools to organize and deliver personalized learning experiences (Blikstein, 2018). These platforms allow students to access learning materials, track their progress, and engage in online discussions and collaborations.

Adaptive learning systems are another technology-driven element in autonomous schools. These systems use algorithms to analyze students' performance and provide customized learning pathways and feedback (Koedinger et al., 2018). Adaptive learning systems enable students to receive tailored instruction based on their individual strengths and areas for improvement.

Additionally, technology offers opportunities for remote and flexible learning in autonomous schools. Online resources, virtual classrooms, and video conferencing tools allow students to engage in learning anytime and anywhere, expanding access to education and accommodating diverse learning needs (Means et al., 2019).

In summary, autonomous schools are characterized by individualized instruction, project-based learning, and learner agency, all supported by technology. These principles and characteristics create an environment that fosters student autonomy, personalization, and engagement in the learning process.

3. MENTORING IN THE CONTEXT OF AUTONOMOUS EDUCATION

3.1 The Importance of Mentoring

Mentoring plays a crucial role in supporting students' personal and academic development within the context of autonomous education. Mentors provide guidance, support, and encouragement to mentees as they navigate their individualized learning journeys. Research has highlighted the

following aspects of mentoring as essential for student success in autonomous schools.

Mentoring fosters a sense of belonging and community within the autonomous school setting. It provides mentees with a trusted adult who can serve as a role model, advocate, and source of emotional support (Zachary, 2019). Mentors create a safe and supportive space for mentees to discuss challenges, explore ideas, and develop self-confidence (Ragins & Kram, 2018).

Mentors also contribute to students' academic and intellectual growth. They offer guidance on setting goals, developing effective learning strategies, and accessing relevant resources (Higgins & Kram, 2018). Mentoring relationships facilitate the transfer of knowledge, skills, and expertise from the mentor to the mentee, enhancing the overall learning experience (Dolan & Johnson, 2020).

Furthermore, mentoring promotes the development of essential life skills and competencies. Mentors help mentees build self-awareness, self-regulation, and critical thinking abilities (Eby et al., 2021). Through regular interactions with mentors, mentees develop problem-solving skills, decision-making capabilities, and a growth mindset (Noe, 2019).

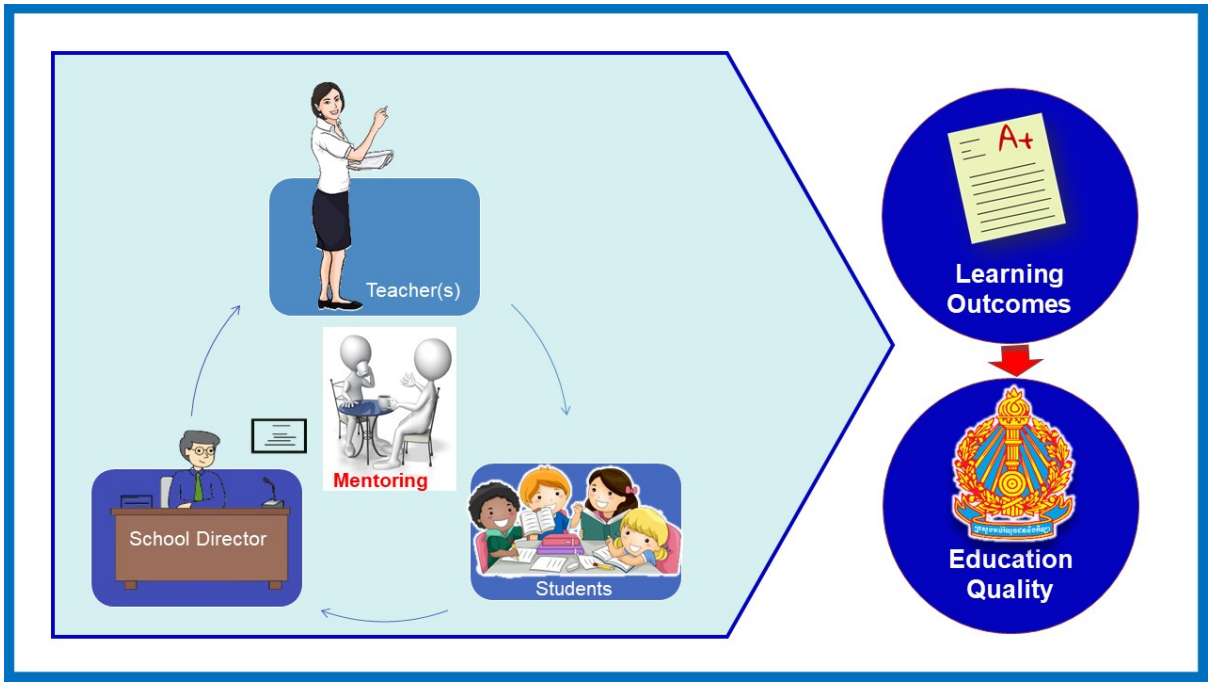

Figure 1: The Importance of Mentoring

As illustrated in Figure 1, mentoring plays a crucial role in supporting the process of teaching and learning in schools, particularly for school directors and the school management team. Mentors work closely with mentees, who are teachers, to enhance their teaching methodology and classroom management skills. Simultaneously, mentors provide support to teachers in order to facilitate student learning, ultimately leading to excellent learning outcomes. This, in turn, contributes to the overall improvement of educational quality.

3.2 Benefits of Mentoring in Autonomous Schools

Mentoring in the context of autonomous schools brings several benefits to students, mentors, and the educational ecosystem as a whole.

For mentees, mentoring provides personalized support and guidance, aligning with the principles of autonomous education. Mentors assist mentees in setting and achieving their goals, exploring interests, and navigating through challenges (Crisp & Cruz, 2020). Research has shown that students

who receive mentoring in autonomous schools demonstrate increased motivation, self-efficacy, and academic achievement (Zimmerman & Kitsantas, 2018).

Mentoring also contributes to the professional development of mentors. Mentors develop leadership skills, interpersonal competencies, and a deeper understanding of individualized learning approaches (Eby et al., 2021). Engaging in mentoring relationships can be personally fulfilling for mentors as they witness the growth and success of their mentees (Ragins & Kram, 2018).

At the systemic level, mentoring fosters a culture of collaboration and continuous improvement within autonomous schools. Mentors serve as connectors and facilitators, nurturing a supportive learning community where students, mentors, and educators can exchange ideas, share best practices, and engage in reflective dialogue (Brockbank & McGill, 2018). Mentoring programs also contribute to the overall success and reputation of autonomous schools by promoting positive student outcomes and fostering a sense of accountability and responsibility among stakeholders (Higgins & Kram, 2018).

3.3 Types of Mentoring in the Autonomous School Setting

Teacher mentoring within the autonomous school setting has gained significant attention in educational research. Mentoring programs in autonomous schools aim to support and develop mentees' professional growth, enhance instructional practices, and improve overall educational outcomes (Smith, 2019; Johnson & Anderson, 2021).

Various types of mentoring have been identified in the literature. One prevalent type is induction mentoring, which focuses on supporting new teachers as they transition into the profession and navigate the complexities of the autonomous school environment (Brown, 2018). Induction mentoring programs often involve assigning experienced teachers as mentors to provide guidance, emotional support, and practical advice to novice teachers (Johnson, 2020).

Another type is instructional mentoring, which aims to enhance teaching practices and pedagogical skills (Miller, 2022). Instructional mentors work closely with mentees to provide feedback, model effective instructional strategies, and co-plan lessons (Adams & Collins, 2019). This type of mentoring promotes mentee reflection, professional growth, and the implementation of evidence-based instructional approaches.

In addition to induction and instructional mentoring, collaborative mentoring has emerged as an effective approach in the autonomous school setting (Gonzalez, 2023). Collaborative mentoring involves creating professional learning communities where mentees engage in peer mentoring, collaborative lesson planning, and reflective discussions (Smith et al., 2021). This type of mentoring fosters a culture of collaboration, shared learning, and continuous improvement among mentees.

It is important to note that the effectiveness and impact of different types of mentoring programs may vary depending on contextual factors, such as school culture, mentor-mentee relationships, and the specific needs of mentees (Johnson, 2018).

4. IMPLEMENTING EFFECTIVE MENTORING PROGRAMS IN AUTONOMOUS SCHOOLS

4.1 Program Design and Structure

The design and structure of mentoring programs in autonomous schools play a crucial role in their effectiveness and impact on student outcomes. Research has identified several key elements that contribute to the success of these programs.

Firstly, program goals and objectives should be clearly defined and aligned with the specific needs and goals of students in the autonomous school setting (Eby et al., 2021). The program design should reflect the principles of autonomy, individualization, and personalization, ensuring that mentoring supports students' unique learning journeys (Zachary, 2019).

The structure of the program should incorporate flexibility and adaptability to accommodate the diverse needs and preferences of mentors and mentees. Autonomous schools often benefit from utilizing multiple mentoring models, such as one-on-one mentoring, group mentoring, or peer mentoring, to cater to different learning styles and preferences (Crisp & Cruz, 2020).

Furthermore, program activities and resources should be carefully designed to support mentoring relationships. Mentoring sessions can include goal-setting exercises, reflection activities, and skill-building workshops to enhance the mentees' personal and academic growth (Brockbank & McGill, 2018). Providing mentors and mentees with access to relevant resources and materials can further enrich the mentoring experience.

4.2 Mentor Selection and Training

The selection and training of mentors are critical factors in the success of mentoring programs within autonomous schools. Effective mentor selection processes ensure that mentors possess the necessary skills, knowledge, and qualities to support students in their autonomous learning journeys.

When selecting mentors, a comprehensive screening process should be implemented. This process may include interviews, application reviews, and reference checks to assess mentors' suitability for the role (Eby et al., 2021). Mentors should demonstrate strong interpersonal skills, empathy, and a genuine interest in supporting student development (Zachary, 2019).

Equally important is providing mentors with appropriate training and professional development opportunities. Mentor training programs should cover topics such as active listening, effective communication, goal-setting strategies, and providing constructive feedback (Ragins & Kram, 2018). Training should also address the unique aspects of mentoring within autonomous schools, such as understanding personalized learning approaches and supporting student autonomy (Crisp & Cruz, 2020).

Ongoing support and supervision for mentors are essential elements of effective training programs. Mentors should have access to regular check-ins, peer support networks, and opportunities for continuous learning and growth (Dolan & Johnson, 2020). This support ensures that mentors feel confident and equipped to fulfill their roles effectively. Although most of the mentoring programs are limited to the initial training of the mentees and prepare the mentors with very short orientation sessions, the New Generation Pedagogical Research Center (NGPRC) is taking a more systematic approach with a dedicated Master' degree in mentoring. This is especially relevant to the Cambodian context if we consider the lack of senior teachers who have a deep understanding of pedagogical theories. Unlike other programs around the world, we cannot rely on whoever is available to undertake the critical responsibilities of a teacher mentor.

4.3 Matching Mentors and Mentees

Thoughtful mentor-mentee matching is a critical aspect of successful mentoring programs in autonomous schools. The matching process should consider factors such as compatibility, shared interests, and the specific needs and goals of the mentees.

One approach to matching mentors and mentees is based on shared interests or career aspirations. Matching mentors and mentees who have similar academic or career interests can foster a deeper connection and facilitate meaningful learning experiences (Eby et al., 2021). However, it is important to balance shared interests with the mentee's need for diverse perspectives and exposure to new ideas.

Another approach is to consider the mentee's specific needs and goals when selecting a mentor. For example, if a mentee requires additional support in a particular subject area, matching them with a mentor who has expertise in that field can be beneficial (Zachary, 2019). Similarly, matching mentees with mentors who have experience in navigating autonomous learning environments can provide valuable guidance.

In Cambodia's context, NGPRC (2021) found it important to consider the subject expertise, experience/age, and gender when pairing mentors and mentees in order to optimize the effectiveness of mentoring relationships and meet the specific needs of teachers in different subject areas.

4.4 Monitoring and Evaluation

Monitoring and evaluation are essential components of effective mentoring programs in autonomous schools. Regular assessment of program outcomes and processes allows for ongoing improvement and ensures that the program is meeting its intended objectives.

Program evaluation should involve collecting feedback from both mentors and mentees. Surveys, interviews, or focus groups can be utilized to gather data on the perceived effectiveness of mentoring relationships, program activities, and the overall impact on student development (Brockbank & McGill, 2018). This feedback can inform program adjustments and enhancements. Additionally, monitoring the progress and outcomes of individual mentoring relationships is crucial. Mentoring coordinators or program administrators should maintain regular communication with mentors and mentees to identify any challenges or concerns and provide support as needed (Dolan & Johnson, 2020). This ongoing monitoring ensures that the mentoring relationships remain effective and beneficial for all parties involved.

In the Cambodian context, the monitoring of mentoring effectiveness by the NGPRC involves various methods. These include collecting monthly reports from mentors, conducting meetings with school directors, making informal visits, and conducting an annual survey. Additionally, the Cambodia Association for Mentoring (CAM) plays a crucial role by organizing regular meetings to provide support to mentors. These monitoring measures help assess the impact of the program, address challenges, and offer continuous guidance to mentors.

5. CHALLENGES AND CONSIDERATIONS

5.1 Potential Challenges in Implementing Mentoring Programs

Implementing mentoring programs in educational settings can pose various challenges that need to be addressed to ensure their effectiveness and long-term success. Several studies have identified common challenges faced by mentoring programs.

One significant challenge is securing adequate resources and funding to support mentoring initiatives (Johnson, 2018). Limited financial resources can hinder program implementation, training, and ongoing support for mentors and mentees. Furthermore, the availability of physical spaces for mentoring sessions and access to necessary materials and resources can also be a challenge (Crisp & Cruz, 2020).

Another challenge is recruiting and retaining qualified mentors. Finding mentors who possess the necessary skills, knowledge, and commitment to support supporting students can be a daunting task (Eby et al., 2021). Additionally, sustaining mentor engagement and preventing mentor burnout over time requires ongoing support and recognition of mentors' contributions (Dolan & Johnson, 2020). Program evaluation and assessment can also be challenging. Measuring the impact and effectiveness of mentoring programs requires well-designed evaluation methods and tools (Ragins & Kram, 2018). Gathering meaningful data to assess program outcomes, mentoring relationships, and student development can be time-consuming and resource-intensive.

Mentoring implementation in Cambodia encounters several challenges. These include mentors' reluctance to work in remote rural areas, limited understanding and recognition of the significance and effectiveness of mentoring by school principals and stakeholders, absence of a legal framework for mentoring functions, the lack of a supportive environment for mentors outside of the New Generation School context, and so on.

5.2 Addressing Equity and Inclusion in Mentoring

Promoting equity and inclusion in mentoring programs is critical to ensure that all mentees have equal access to mentoring opportunities and benefits. Research has highlighted the importance of addressing disparities and promoting diversity in mentoring initiatives.

One key consideration is providing equitable access to mentoring programs for all mentees, regardless of their backgrounds or circumstances. Efforts should be made to reach marginalized and underrepresented student populations, including students from low-income families, ethnic minorities, and students with disabilities (Crisp & Cruz, 2020). This can be achieved through targeted outreach efforts, partnerships with community organizations, and culturally responsive mentoring practices.

Creating inclusive mentoring environments is also crucial. Mentoring programs should foster a sense of belonging and cultural sensitivity (Zachary, 2019). This involves providing mentors with training on cultural competence and awareness to ensure they can effectively support students from diverse backgrounds. Mentoring materials and resources should also reflect the diversity of the student population.

Additionally, mentoring programs can incorporate strategies to address systemic barriers and promote social justice. Mentoring initiatives can include discussions on social issues, promote advocacy skills, and encourage critical thinking to empower mentees to navigate societal challenges (Eby et al., 2021). By addressing equity and inclusion, mentoring programs can contribute to reducing educational disparities and promoting social mobility.

5.3 Ethical Considerations in Mentoring Relationships

Ethical considerations are paramount in establishing and maintaining mentoring relationships. Mentoring programs should adhere to ethical guidelines and principles to ensure the well-being and integrity of all participants involved.

Confidentiality is a fundamental ethical consideration in mentoring relationships. Mentors must respect the privacy and confidentiality of mentees, ensuring that personal information shared within the mentoring context remains confidential (Ragins & Kram, 2018). It is important to establish clear guidelines and boundaries regarding the sharing of information and obtain informed consent from both mentors and mentees.

Building and maintaining trust is another significant ethical consideration. Mentoring programs should foster a safe and trusting environment where mentees feel comfortable sharing their thoughts, concerns, and aspirations (Zachary, 2019). Mentors should act in the best interests of the mentees and avoid conflicts of interest that could compromise the integrity of the mentoring relationship.

Power dynamics and professional boundaries should also be carefully managed. Mentors should maintain appropriate professional relationships with mentees, avoiding any exploitation or favoritism (Dolan & Johnson, 2020). Mentor training programs should address power differentials and provide mentors with strategies to navigate these dynamics responsibly.

Regular monitoring and evaluation of mentoring relationships can help identify and address any ethical concerns that may arise. Mentoring programs should establish mechanisms for reporting and addressing ethical violations, ensuring the well-being and safety of all participants involved (Brockbank & McGill, 2018). The NGPRC has developed a comprehensive mentoring guideline that includes specific templates for mentoring reports, monthly and annual plans for mentors, and reports to school directors and stakeholders. When submitting reports, mentors focus on general issues related to their teaching profession without disclosing the specific names of individual mentees. This confidentiality helps build trust, except in cases involving unethical or illegal behavior such as lateness, fighting, or harassment of students, which must be appropriately addressed.

6. CASE STUDIES AND BEST PRACTICES

6.1 Case Study 1: Autonomous School, New Generation School's Successful Mentoring Program

In the context of Cambodia, one New Generation School (NGS) implemented a successful mentoring program that can serve as a valuable case study. This program aimed to support student development and enhance academic performance through one-on-one mentoring relationships.

The mentoring program at this NGS incorporated several key elements that contributed to its success. Firstly, the program ensured careful mentor selection and training. Mentors were chosen based on their expertise, dedication, and ability to establish rapport with students. They received comprehensive training on effective mentoring techniques, communication skills, and understanding the needs of diverse learners.

Additionally, the program focused on providing ongoing support and professional development opportunities for mentors. Regular mentor meetings were conducted to address challenges, share best practices, and foster a collaborative learning environment among mentors. This continuous support helped mentors improve their mentoring skills and stay motivated throughout the program.

The mentoring program at this NGS also prioritized the establishment of a positive and inclusive mentoring environment. Mentors were encouraged to create a safe space for mentees to share their concerns, aspirations, and goals. The program emphasized the importance of cultural sensitivity and respecting the diverse backgrounds of the students.

Evaluation and assessment were integral components of the program. Regular feedback mechanisms (such as Monthly meetings with CAM, direct Telegram channel with the NGPRC, etc.) were implemented to gather input from both mentors and mentees. This allowed the program administrators to monitor progress, identify areas for improvement, and make necessary adjustments to enhance the mentoring experience.

6.2 Case Study 2: Lessons Learned from One SRS's Mentoring Initiative

A Secondary Resource School (SRS) in Cambodia implemented a mentoring initiative that provides valuable lessons for mentoring programs in the Cambodian context. This case study highlights the importance of addressing specific challenges and adapting strategies to meet the needs of the school community.

One key lesson from the SRS's mentoring initiative was the significance of mentor-mentee matching. The program recognized the importance of aligning mentees with mentors who shared similar interests, backgrounds, or career aspirations. This matching process facilitated stronger connections and increased mentee engagement in the mentoring relationship.

Furthermore, the mentoring initiative at an SRS emphasized the importance of integrating mentoring into the overall school culture. Mentoring was seen as a collective responsibility rather than solely relying on individual mentors. The program encouraged collaboration among mentors, teachers, and other school staff to ensure a holistic approach to student support and development.

Another lesson learned was the need for ongoing mentor training and support, recognizing that mentors require continuous professional development opportunities to enhance their mentoring skills. Regular workshops, seminars, and peer support networks were established to provide mentors with the necessary knowledge and resources to support their mentees effectively.

6.3 Best Practices for Mentoring in Autonomous Schools in Cambodia Context

Drawing on the experiences and practices in Cambodia, the following best practices are recommended for mentoring in autonomous schools, specifically in the New Generation School context:

1) **Comprehensive mentor training:** Provide mentors with initial and ongoing training that covers effective mentoring techniques, communication skills, cultural sensitivity, and understanding the diverse needs of students.
2) **Mentor-mentee matching:** Pay attention to mentor-mentee compatibility, considering shared interests, backgrounds, or career aspirations to foster stronger connections and engagement.
3) **Collaborative approach:** Encourage collaboration among mentors, school management team, and other school staff to create a supportive and holistic environment for mentee development.
4) **Continuous support and professional development:** Establish mechanisms for ongoing mentor support, including regular meetings, workshops, and peer networks, to enhance mentoring skills and maintain mentor motivation.
5) **Evaluation and feedback:** Implement regular evaluation processes to gather feedback from mentors and mentees, enabling program administrators to assess progress, identify areas for improvement, and make necessary adjustments.

It is important to note that while these best practices are based on the Cambodian context, they can also be valuable considerations for mentoring programs in other educational settings.

7. CONCLUSION

Overall, mentoring programs have the potential to impact student development and success positively. By understanding and addressing the challenges and considerations discussed in this review, practitioners can design and implement mentoring programs that foster supportive relationships and promote student growth.

7.1 Summary of Findings

This literature review examined challenges and considerations in implementing mentoring programs, addressing equity and inclusion in mentoring, and ethical considerations in mentoring relationships. The review identified several key findings:

In terms of potential challenges in implementing mentoring programs, securing adequate resources and funding, recruiting and retaining qualified mentors, and conducting effective program evaluations were identified as common obstacles. These challenges highlight the importance of resource allocation, mentor recruitment strategies, and robust evaluation methods.

Addressing equity and inclusion in mentoring programs is crucial for ensuring equal access and opportunities for all students. Efforts should be made to reach marginalized and underrepresented student populations, create inclusive mentoring environments, and promote social justice through mentoring initiatives.

Ethical considerations play a vital role in establishing and maintaining mentoring relationships. Confidentiality, trust-building, managing power dynamics, and maintaining professional boundaries are essential ethical considerations that need to be addressed in mentoring programs.

7.2 Implications for Practice

The findings of this review have several implications for practice in implementing mentoring programs:

1) Adequate resources and funding should be secured to support mentoring initiatives. This includes financial resources, physical spaces for mentoring sessions, and necessary materials and resources.

2) Mentor recruitment strategies should prioritize finding mentors with the necessary skills, knowledge, and commitment. Ongoing mentor support and recognition should be provided to prevent burnout and sustain mentor engagement.

3) Effective program evaluation methods should be implemented to measure the impact and effectiveness of mentoring programs. Meaningful data should be gathered to assess program outcomes, mentoring relationships, and student development.

4) To address equity and inclusion, mentoring programs should ensure equitable access for all mentees and create inclusive mentoring environments. Cultural competence training for mentors and the incorporation of diverse perspectives in mentoring materials and resources are crucial.

5) Ethical guidelines and principles should be established and adhered to in mentoring relationships. Confidentiality, trust-building, managing power dynamics, and maintaining professional boundaries should be emphasized and monitored.

7.3 Future Directions for Research

While this review provides insights into challenges and considerations in mentoring programs, there are several areas for future research:

1) Research should investigate effective strategies for recruiting and retaining qualified mentors, as well as sustaining mentor engagement and preventing burnout.

2) Ethical considerations in mentoring relationships can be further examined to develop comprehensive guidelines and frameworks for promoting ethical practices among mentors and mentees.

By addressing these research gaps, educators, policymakers, and practitioners can gain a deeper understanding of mentoring program implementation, equity and inclusion considerations, and ethical practices, leading to more effective and impactful mentoring initiatives. The NGPRC is actively working towards formulating concrete recommendations for the mentoring profession and advocating for its formalization in the Cambodian context.

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New Generation School Initiative in Cambodia: Revisiting Its Effects on Shadow Education

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Abstract

This article aims to address a puzzle of whether New Generation School (NGS) initiative has any impacts on the deep-rooted, vexing culture of shadow education in Cambodia. The purpose of the NGS project is to build good human resources with STEM knowledge, ICT, and 21st-century skills, all of which are the necessary commodities in this current fluid society. At the same time, it wishes to remove the ingrained culture of shadow education which is oftentimes offered from public school teachers to their own students. Thus, to realize the above objective, this paper reviews a policy document "New Generation School Operational Policy Guidelines, 2019" published by the Ministry of Education, Youth, and Sport (MoEYS) and other reports by Kampuchea Action to Promote Education (KAPE) organization. The analysis indicates that NGS has not entirely omitted students' participation but has eliminated teachers' engagement in shadow education—revealing its success in building teacher professionalism and effective school leadership, all of which are the complementary strands of school-level accountability and have been the conundrums in this context for many years. This article offers a nuanced understanding of shadow education as it steers the attention of policymakers and researchers in Cambodia and other contexts to look at the factoid of alternative assessments and school-level accountability—having implications on teacher and school leader professionalism and corruption—as the ways to penetrate shadow education.

Keywords

Cambodia, New Generation School, Education reform, Shadow education, Private tutoring, School accountability, Teacher professionalism

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1. INTRODUCTION

Shadow education is typically known as "private tutoring."[1] The use of the metaphor "shadow" signifies that shadow education occurs only when the public education system exists; meanwhile, its curriculum usually imitates that of the public education system (Bray, 1999a). Shadow education has been prevailing in several societies in the world (Bray, 2010; Mori & Baker, 2010); it has been prominently visible in some countries in East Asia (e.g., Japan, South Korea, and Taiwan) and gradually emerging in other regions such as Africa (e.g., Guinea, Mauritius, Morocco, Tanzania, and Zimbabwe), North America (e.g., Canada and the United States), South America (Brazil), and Europe (e.g., Germany, Romania, Turkey, and the United Kingdom) (Bray and Silova, 2006: 30). Yet, the provision of shadow education seems to be polarized in different societies. In more developed nations (e.g., Singapore, Hong Kong, or Japan), public school teachers usually do not engage in private tutoring because of the sufficient payment (Bray, 2015); the causes of shadow education are primarily driven by learning competitions and high-stakes examinations (see, for example, Entrich, 2014; Yung, 2021). In less prosperous countries, private tutoring is generally offered by public school teachers who seek supplement incomes to compensate for their inadequate salaries (Bray, 2015; Kobakidze and Suter, 2020). Unfortunately, this advent of teacher provision of private tutoring is more vulnerable to corruption (Dawson, 2010, 2011; Kobakhidze, 2014) and forced tutoring (Brehm and Silova, 2014; Kobakhidze, 2014).

Shadow education also has other detrimental effects including student workloads, household financial burdens and social inequalities (Brehm and Silova, 2014; Jung, 2018; Manzon and Areepattamannil, 2014), raising a challenge against the UNESCO's 1948 principle of "Education for All," (Bray and Kwo, 2013). This means while students are supposed to get access to knowledge for free, they have to spend money to perform well in the non-fee schooling system. Thus, shadow education pressures students from disadvantaged families who hardly or cannot afford private tuition fees (see Brehm et al., 2012). Without attending private classes, they might not learn well or compete with private tutoring students. In addition, shadow education is apt to have become a disposition to detach the public education from its real purposes, that is, "education as education of the public, for the public, and accountable to the public" (p. 1) and thereby contributes to the set-up of a threat to the public education, seen through the lens of two erosions: inner erosion, referring to pressures of performance standards (e.g., examinations); and outer erosion, referring to "the forces of privatization, marketization, or commercialization" (Biesta, et al., 2021: 2). Simply put, when pressures of competitions and standards (e.g., examinations, school admissions) have become intense, shadow education is always there to temper such tensions. This narrative can reflect that public education is likely to be in jeopardy as educators are favorably disposed towards the notion of education as competitions or standards rather than a preparation for living in society (Tesar, et al., 2021).

In Cambodia, shadow education has existed in the literature since the late 1990s, a decade of the end of military conflicts (Khmer Rouge Regime: 1975–1979; civil war: 1980–1990s). As a war-torn country, Cambodia at that time had a financial shortage in education development. Teachers' salaries were low and private tutoring became another source of additional income for some teachers. According to a report in 1999, 20 schools in Phnom Penh city (among 33 primary schools) reported that some students received private tutoring from their own teachers; the figure of private tutoring was higher than that in rural areas (4 out of 44 schools). The cost of private tutoring was between 100 and 300 riels per session (Bray, 1999b). Recently, the landscape of shadow education has grown in scale. For instance, one study conducted on Grade 9 and 12 students in Siem Reap province reported that 81.9% of 1274 students attended private tutoring classes on subjects such as Mathematics (79%), Chemistry (68.8%), Khmer (60.1%), Physics (59.7%), Biology (44.2) and English (28.4) (Bray et al., 2016). The study also showed that most students took more than one subject (e.g., 2 subjects, 10.1%; 3 subjects, 16. 9%; 4 subjects, 15.5%; 5 subjects, 17.1%) and the average cost was 500 riels per session.

As indicated above, the majority of the tutoring subjects were science subjects; this might result from the current education system, streaming the upper secondary school learning (Grade 11 and 12) into two: science track and social science track. And the popularity of science subjects might be because of the higher rate of students registered in the science track (62.52%) than the social science track (37.48%), as a study reported (Ung et al., 2021). Surprisingly, more than 80% of the science-track students enrolled in non-science majors in higher education whilst less than 10% of students in the social science track switched to science majors (Ung et al., 2021). Perhaps this agglomeration of students in the science track can be further elucidated by a stereotype[2] that students in the science track are smarter, more outstanding, or more hardworking than those in the social science track (also see Bray et al., 2018: 12). Hence, the above empirical data can suggest that the students' decision- making of learning tracks might not be mainly shaped by their learning goals and capacities but the stereotype intentionally created to attract students to register in the science track that has popular private tutoring subjects (e.g., Math, Chemistry, Physics, or Biology). In this sense, while the streaming system is basically exercised to group students into their learning abilities and interests, it has become another tactic for private tutoring marketing (also see Exley, 2019), inducing a deterioration in the public education in Cambodia.

In addition, research in Cambodia has also found that the vexing roots of shadow education are mainly the corollary of teacher unprofessionalism (see Bray, et al., 2016; Bray, et al., 2018; Soeung, 2021) and hierarchical corruption (see Dawson, 2010, 2011). That is, although the heavy public-school curriculum, high-stakes examinations, and insufficient salaries have been regarded as the menaces (see Brehm and Silova, 2014; Brehm et al., 2012), there are also other factors, namely that, pressures from teachers who actually employ certain strategies to directly or indirectly impel students to seek private tutoring. For instance, some teachers withheld curriculum contents or exercises for private tutoring classes (Bray, et al., 2018; Soeung, 2021). Sometimes teachers performed less enthusiastically in teaching during the public classes (Bray, et al., 2018). This persistence of shadow education in Cambodia also derives from poor school leadership (see Dawson, 2010, 2011; Bray, et al., 2018; Bray et al., 2019; Brehm, 2021) and corruption as Dawson (2010, 2011) called "a web of corruption system." According to Dawson, some tutoring-generated fees went to school officials and other higher-level officials, establishing a hierarchy apparatus that permits the culture of private tutoring to flourish. In other words, with support from the higher-level officials, school leaders seem to ignore the practices of shadow education as they all gain benefits from private tutoring. Moreover, instead of seeing shadow education as a pejorative phenomenon, school principals also tended to value it because of its guise being more ostensibly in line with the demands of students and teachers (see Bray, et al., 2019).

As the above narratives reveal, shadow education has received wider attention from researchers in various contexts and also in Cambodia. The literature from the Cambodian context suggests that the professionalism of teachers and school leaders seems to be under a threat posing concerns on the equity and quality of the public education. Concurrently, the instituted corruption has facilitated such (above-mentioned) unethical practices. In this regard, the NGS project is one of the Ministry of Education, Youth, and Sports' (MoEYS) efforts in combatting poor education quality and social inequalities, partially originating from shadow education. The purpose of the NGS project is to offer students a high quality of education and abolish the culture of shadow education in the context. Thus, with the focus on shadow education, this paper analyzed NGS policy (2019) and other reports that can offer rich insights regarding the situations of shadow education in Cambodia. Since the NGS initiative is implemented by (KAPE),[3] the annual reports by Kampuchea Action to Promote Education(KAPE) were used for the analysis. The next section offers a brief summary of the NGS project, after which the paper presents the discussions on the impacts of the NGS on shadow education, followed by the conclusion.

2. AN OVERVIEW OF NGS IN CAMBODIA

In the last two decades or so, Cambodia has experienced many education reforms, that is, "child-friendly schools approach, primary school clusters, district training and monitoring teams, mother-tongue education, Khmer e-Learning, school-based management, or New Generation Schools (NGS)" (MoEYS, 2021, p. 3). These reforms indicate the government's enterprises in enhancing education quality that has been subject to diverse interpretations. Among these reforms, NGS project, which was established in 2015 and is a joint project between the MoEYS and KAPE, has come to the fore because of its success over the years. Currently, there are about ten NGSs, being led by KAPE. Hence, this section of the paper discusses some core principles and achievements of NGS.

2.1 Key principles of NGS

According to the policy document published by MoEYS (2019), NGS is a school autonomy model. This model has gained a high profile in many social contexts as it allows schools to act independently to realize objectives developed by both schools and a central administration (Bo, 2021). In this regard, NGS leaders are supposed to bring innovation and guarantee the high-standard performances of teachers and staff (MoEYS, 2019). For instance, school leaders have to ensure that teacher performances comply with the regulations of incentives ($100/month in rural areas and $150/month in the city), non-private tutoring code, or teacher career path conditions. Besides, NGS utilizes up-to-date technology in teaching and well-developed curricula that are oriented to STEM subjects, ICT, or 21st-century skills. Teachers are also expected to use technology (e.g., laptops and slide projectors) in teaching. In this fashion, NGS consumes considerable investment (Chea and Chen, 2021). Yet, the NGS schools' access to government resources is dependent on whether their performances fulfill the expected-standard performances (MoEYS, 2019). In other words, the MoEYS will no longer offer support to NGS schools if they fail to satisfy the agreed regulations of their performances. This is because NGS schools are annually reviewed and evaluated by a national oversight board to decide on the possible renewal of the accreditation of NGS schools.

In addition, unlike traditional schools, NGS schools can recruit teachers or terminate teachers' employment contracts at the school level. This policy is undoubtedly the catalyst in fueling teachers' commitment to maintaining teacher professionalism. Teachers at NGS schools are not in their comfort zone but, instead, have to be devoted to their teaching onus. Yet, such a practice is unlikely to sustain as teachers might transfer to work at traditional schools where they can feel secure, comfortable, and less pressured. For students, they have to pass the entrance exam and interviews to secure a place; this practice permits NGS to select qualified or potential students. After having been admitted to study at NGS for about three years, they might be asked to voluntarily contribute some fees, but this contribution is based on negotiations between NGS schools and parents. The purpose of this fee contribution is to generate some income from affordable parents and the fees can be allocated to enhance educational services and other facilities. Thus, this practice is different from traditional schools where parents might pay fees directly to teachers who offer private tutoring and none of those fees contributes to school development.

2.2 Ongoing debates about the achievements of NGS

NGS initiative has progressed with both successes and challenges over the years. First, there has been an increase in student enrollment rate in which the total number of enrollments was about 6000 while the accepted number of students was at 5722 students by 2020. At the same time, the results of the Bacc II examination of grade 12 student cohorts in the 2018–2019 academic years were excellent. That is, the passing rate at NGS[4] in Preah Sisovath high school in Phnom Penh was 94% and Hun Sen Kampong Cham high school was 84%; these results were higher than the national passing rate of 68%. In addition, the number of students who scored high grades: A, B, or C was 38% at Sisovath

NGS and 27% at NGS in Hun Sen Kampong Cham (KAPE, 2020a). However, these academic results have brought about different interpretations. Chea and Chen (2021) slammed that these data are rather questionable as students at NGS are rigorously recruited; thus, those highly ambitious and committed students tend to perform academically better. Conversely, the reformers contended that the students in cohorts 2018 and 2019 were admitted without the exercise of selection procedures (KAPE, 2020a). In this respect, while the reformers' argument can be valid and applicable to those cohorts (2018–2019), the critics' argument can also be applied to the subsequent cohorts of students when the student selection regime is implemented.

Besides enrollment and academic achievements, NGS schools have engaged students with international competitions and learning projects (about 490 group projects) on topics driven by their own interests (KAPE, 2020b). For instance, in 2019, 612 students at NGS schools received 819 awards, among which 46% were gold, silver, and bronze medals (KAPE, 2020a). Yet, while these prolific achievements are remarkable, one might question about students' mental health or well- being—resulting from academic workloads—as students at NGS study full-time and must complete homework, projects, or presentations. These tasks are time-consuming and labor considerable efforts and commitment. In fact, the reformers also feel pressured from the public interest in how NGS schools can engage students in 21st-century learning approaches (student-center) and help students succeed in the Bacc II national examination (see KAPE, 2020a), let alone to mention students' feelings. Again, these lofty ambitions would cause fallouts more on students than staff. At this juncture, empirical evidence about students' well-being or mental health is nowhere. In overall, the reformers appear to be overwhelmingly pressured by standards and competitions, all of which might be the strands of propaganda for funding but also can be the inner erosions of the public education (Biesta, et al., 2021), as argued above.

In addition, the government has put a slew of capital investments in NGS schools to modernize educational facilities and school development. For example, by 2020, it was estimated that the reform would have consumed roughly $US 8.5 million during five years (2015–2020) (KAPE, 2020b). This investment has allowed the NGS schools to purchase modern equipment such as experiment tools, laptops, or slide projectors that teachers and students can use for their teaching-learning purposes. The engagement of technology in education is of the essence and the well-spent investment. Yet, although teachers have been reported to use technology in teaching, there is no empirical evidence about the impacts of the use of technology on students' learning. It has been only reported that teachers design activities that are centered around: group or pair work, projects, and presentations, yet tangible scientific evidence remains unavailable. Thus, the question about whether this huge investment is cost-effective remains the question.

Other achievements include poor dropout rates, high teacher professionalism, high higher education access rates (KAPE, 2020b). Again, many questions about NGS remain. For example, Bo (2021) was concerned with the equity of education as she raised concerns about learning opportunities between privileged and underprivileged students, unequal investment between traditional schools and NGS schools, and parental contribution fees which might discourage disadvantaged students not to choose to study at NGS schools. Considering the contribution fees, it is concerned in this paper that this principle should come into conflict with the universal and national principle of "Education for All," in which the government holds the responsibility to offer fee-free education to every citizen. NGS schools are operated under the oversight of MoEYS but they indirectly charge fees from students under the image of the Social Charity Fund. Another criticism is about whether the increase in teacher salaries can be a factor leading to good student academic achievements (Chea and Chen, 2021). Drawn on this discussion, it is argued that the reformers should pay more attention to the above-mentioned concerns by putting more attention on research evidence.

3. NGS REFORM'S IMPACTS ON SHADOW EDUCATION: KEY LESSONS

As discussed in the above section, NGS has left both achievements and questions to the public. This section elaborates whether the NGS reform has any effects on shadow education that has been a long-standing culture in Cambodia. Drawn on the NGS policy document (MoEYS, 2019), reports (KAPE, 2019, 2020a; and 2020b), and research findings (Nhem and Kobakhidze, 2022), this paper reveals three important lessons for policymakers, researchers or readers in the Cambodian context and other societies.

3.1 The absence of shadow education amid learning pressures?

The reformers claimed the absence of private classes within NGS schools (KAPE, 2020a), yet failed to attest whether students take private tutoring elsewhere or not. This question has been, to some extent, answered by a recent study that interviewed fourteen students in grades 11 and 12 at two NGS sites (8 students from NGS-A; 6 students from NGS-B) (Nhem and Kobakhidze, 2022); the study reported that the majority of the students participated in private tutoring outside the NGSs to cover lessons learned in NGSs, prepare for exams, or get more exercises. Regardless of the generalizability of the findings, the study has raised doubts about the quality of NGS reform. That is, it is puzzled about whether students' academic achievements [see Ongoing Debates About the Achievements of NGS] are determined by the NGS reform, private tutoring, or the combination of both. Thus, with the presence of private tutoring, any assertion about the success of the reform— having impacts on students' learning achievements—is rather too early.

In addition, the fact that students participate in private tutoring because of their anxieties about high-stakes examinations (e.g., Grade 12 exams) exists in almost every country, including developed countries (see, for example, Yung, 2021 in Hong Kong; or Entrich, 2014 in Japan). This can suggest that alternative assessments and selection procedures might play an important role to temper such anxieties (Bray and Lykins, 2012). The use of alternative assessments also concurs with the principle of child-centered pedagogy which is one of the pursuits of the NGS reform. That is, the assessment should be designed to evaluate students' performances or learning activities rather than their memories (see, for example, Wiggins, 1991). In fact, the notion of learning competitions or test scores as the quality standard is not only the catalyst for the existence of private tutoring but also the threat which erodes the foundation of public education for the public goods (Biesta, et al., 2021; Tesar, et al., 2021). That means meaningful construction of learning experiences has been often unheeded in the context of teaching-for-testing.

3.2 Teacher professionalism vs. shadow education: Searching for sustainability

The NGS reform has successfully maintained a high level of teacher professionalism. Teachers are required not only to deliver high-quality teaching services but also not to engage in private tutoring services (from teachers to their students). If a teacher at any NGS school is found to break any regulations and that school takes no action to stop unprofessional practices, then the school might face the risk of losing the accreditation, a passport to gain access to the government's funds and resources (see examples from the policy and report below). This claim is supported by a study (Nhem and Kobakhidze, 2022) which found that some NGS students sought private tutoring elsewhere outside the NGSs because their teachers were restricted from providing private classes.

"Ensuring that teachers are not teaching private classes to their own students during working hours" (p. 5, MoEYS, 2019)

"It is important to remember in this regard that private classes at all New Generation Schools are strictly forbidden so that students were able to achieve these very high outcomes through a combination of

extra hours of regular study (New Generation Schools provide 40 hours of instruction per week), practical lab work in 21st-century science labs, and special classes that the school organizes for ALL students that are free of charge." (p. 16, KAPE, 2020a)

In general, teacher professionalism is almost everything in the teaching profession as it creates accountability and transparent practices in classrooms (Sachs, 2015). Over the years, teacher unprofessionalism has come to the fore in Cambodia. Teachers have been reported to have split public school curriculum contents—leaving some parts for private classes (Bray, et al., 2018; Bray, et al., 2019; Brehm and Silova, 2014; Soeung, 2021), provided insufficient explanations (Bray, et al., 2016), treated students differently, appeared less energized in regular classes or lacked of commitment (Bray, et al., 2018). These acts have become the coercive strategies of teachers to create their market space for private tutoring. Without taking private tutoring, students might not perform academically well; one study in Cambodia also found that students who participated in private tutoring performed better than those who did not (Pov et al., 2020). This achievement does not necessarily mean private tutoring had impacts on students' learning, but it can be a kind of teachers' promise to students who attended private classes. Thus, this propensity of teachers has been successfully wiped off by NGS.

However, the enhanced practices of teacher professionalism have also been prone to challenges. Teachers who are recruited to teach at NGS schools have to agree and comply with the regulation of not providing private tutoring services to their students. According to the reports (KAPE, 2019, 2020a, 2020b), some teachers refused to join NGS schools as they were forbidden from engaging in private tutoring (see examples from reports 2019; 2020b below). Concurrently, the turnover rate is another concern—presenting a challenge in keeping good performing teachers. Unfortunately, empirical evidence on the teacher turnover is wanting—leaving this phenomenon, which has implications on the reform, questionable. In this sense, the practices of teacher professionalism are far from easy to find ways sustainable in the context.

"Opposition has been particularly vocal among upper secondary school teachers who are deeply opposed to the provisions in the New Generation School Framework that forbid teachers from extorting money from students as a condition to access the national curriculum." (p. 3, KAPE, 2019)

"The primary reason for their unwillingness to join the growing New Generation School program is that NGS Policy Guideline requires them to give up their private 'rien kua' classes, which they refuse to do, even though they would receive an incentive to compensate them." (p. 28, KAPE, 2020b)

3.3 Effective leadership: "Goodbye" to corruption for shadow education

Research conducted in Cambodia has shown that shadow education is coupled with not only teachers but also school leaders who permit the culture of private tutoring to exist (see Bray, et al., 2016; Bray, et al., 2019; Brehm, 2021; & Dawson, 2010, 2011). For instance, Dawson (2010, 2011) described shadow education in Cambodia, partially resulting from the hierarchy of corruption in which teachers paid bribes to school principals to run their private classes; the principals then shared the bribes to other higher-ranking officials. In this regard, as regulated in the policy document (MoEYS, 2019), NGS school leaders must ensure that teachers are not involved in any form of private tutoring (also see Nhem and Kobakhidze, 2022. If private tutoring exists in an NGS school, the school's accreditation to access the government's resources or investment will be terminated. In this manner, the NGS reform has implications on effective school leadership that gives no tolerance to corruption—allowing teachers to spoil the public-school curriculum and pay less attention to their teaching onus (see Bray, et al., 2016; Bray, et al., 2018; Bray, et al., 2019; Brehm and Silova, 2014; & Soeung, 2021). Thus, the NGS reform is the embodiment of the government's awareness of the compounding effects of shadow education and its strategy to intercept such a tedious phenomenon. "The Board also makes recommendations for continued accreditation of a New Generation School. If a school is found to be in noncompliance with key criteria for performance (e.g., no private tutoring, enhanced library services, etc.), it may lose its accreditation. Without continued accreditation, the school will lose its

access to special government resources." (p. 6, MoEYS, 2019) "When a school calls itself a New Generation School, one can be confident that the school has certain very high standards including longer hours of learning, no teacher corruption, modern library and laboratory facilities, regular access to ICT facilities, and other important features." (p. 4, KAPE, 2020a)

The above discussion about teacher professionalism and effective school leadership is particularly intriguing as the Education Law (2007) in Cambodia has long prohibited any misconduct of educators (see below). Unfortunately, the regulations seem to have little effect on shadow education, which is possibly because of corruption (Dawson, 2010, 2011) and poor school leadership (Bray, et al., 2016; Bray, et al., 2019; Brehm, 2021). Thus, this paper argues that the abolishment of shadow education is at the mercy of the accountability of school leaders and teachers who are aware of their professional misconducts—possibly having detrimental impacts on students' learning and forming a hierarchy of corruption (Dawson, 2010, 2011). Simply put, NGS reflects the essence of school- level accountability as the mechanism to combat private tutoring culture and corruption. However, it is important to note that accountability cannot exist without comprehensive regulations and effective reinforcements (e.g., working contract, private tutoring regulations, or school evaluation). Therefore, the accountability of teachers and school officials at the school level should come to major attention among policymakers and researchers at present or in the future.

> … educators have to comply with the professional code(s) of ethics:
>
> - To fulfill other duties that are stipulated in valid law;
>
> - To undertake and develop their work with due high diligence and responsibility. (MoEYS, 2007: 14, p. 14)

Concerning school accountability, school leadership plays a vital role in ensuring professional practices of teachers and administrative staff (Bush and Glover, 2014; Hallinger, 2003), yet research in Cambodia has found insufficient qualities of school leaders, that is to say, delegating unreasonable and unachievable tasks (Sorm and Gunbayi, 2018), or lack of teacher professional development (Kheang, O'Donoghue and Clarke, 2018). These findings should not be surprising because school leadership education has not much been prioritized in the context, and the recruitment of school leaders has been mainly based on good working experiences rather than sufficient training. In some developed countries, school leadership preparation has been taken with great care. For example, Singapore has had a rigorous school leadership program for a few decades already (Diploma in Educational Administration (DEA), 1984–2001; Leaders in Education Programme (LEP) (2001–present) (see Lim, 2007).

In Cambodia, the MoEYS has recently also recognized the essence of leadership by introducing a school-based management initiative that aims to develop school leaders and teachers to become more responsible for their duties (MoEYS, 2021). The MoEYS also allows the Royal University of Phnom Penh to take part in developing school leaders' capacities under a project "School Leadership Upgrading Program" (see Sok et al., 2020). Nevertheless, tangible data on whether this scheme has any impacts on the diminution of shadow education remains absent. Recently, school leadership education has also been listed among the priorities of the education development blueprint 2030 (see, for example, MoEYS, 2021), yet how this plan will come into effect might be still a long wait.

4. CONCLUSION

As indicated in the first section, shadow education is one of the major concerns in Cambodia and other contexts globally. In Cambodia, shadow education, which has implications on teacher and school leader professionalism and corruption, has become the subject of public criticisms and posed a threat to the quality and equity of the mainstream education system. Drawn on the analysis, this

paper shows that students' participation in private tutoring still persists and the reasons are inherently associated with the quality of NGS and examination pressures (Nhem and Kobakhidze, 2022), suggesting the need for further improvement of the NGS education reform and the use of alternative assessments. However, the NGS project has successfully removed the culture of private tutoring offered from public teachers to their students. This success offers implications on the accountability of school leaders and teachers who carry on their work professionally and who are opposed to corruption. It can also be learned that school-level accountability is not feasible without strict regulations and evaluations (e.g., teacher contract, regulations of professional practices, or school accreditation). Any violation of the prescribed regulations will put the professional work at risk. Otherwise, corruption—possibly leading to the continued practices of private tutoring—will return.

Indeed, school accountability can and should also be applied to other traditional schools. With rigorous evaluation and monitoring, school practices would be enhanced and teachers' engagement in shadow education is likely to disappear. I also believe that the careful and rigorous preparation of teachers and school leaders is indispensable. They should be trained about not only pedagogies or leadership skills but also educational development issues (e.g., shadow education) so that they become aware of problems arising from institutional practices. In Cambodia, although teacher preparation has been constantly improved, there seems to be no exact plan of rigorous school leadership preparation programs as some developed countries have done. I therefore argue that developing school leadership is a long-term investment in education development. To conclude, this paper invites researchers interested in shadow education to examine alternative assessments and institutional practices of school accountability as the ways to penetrate shadow education. To the NGS reformers, they should conduct more research activities to analyze the impacts of NGS on various aspects rather than expand the scale of the NGS project.

NOTES

1. These two terms "shadow education" and "private tutoring" are used interchangeably in this paper.
2. This stereotype is based on the author's learning experience in high school in a province; during streaming process, teachers who taught science subjects and had private classes explicitly described students in the social science track as lazy, uncommitted, or low performing students. This refers to the fact that most students in the social science track usually pay less attention to private tutoring as their core subjects (e.g., Khmer, History, or Geography) are not necessary to learn in private classes. The stereotype is also supported by research that interviewed 24 teachers and 48 students (Grade 9 and 12) in Siem Reap province. The study found that teachers viewed tutoring students as "smarter, more motivated and having a higher sense of responsibility" than non-tutoring students (see Bray et al., 2018: p. 12).
3. KAPE, established in 1996, has become one of the vital and independent NGOs which have implemented many innovative projects in Cambodia. It has gained trust from the MoEYs and the public.
4. There were only two NGS schools that had students taking grade 12 exams during the analysis.

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Innovative School Governance for Sustainable Quality of 21st Century Learning & Instruction

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Abstract

Cambodian education is facing the requirements in the new context of industrial revolution 4.0 and 5.0 that require substantial and comprehensive renovation. Teaching and learning require a strong transformation to embrace this new technological advancement. The New Generation Schools (NGS) reform launched in 2015 is used as a new school governance framework to promote the quality and the relevance of education to equip Cambodian youth with skills in industrial revolution era. As stated in Policy Guidelines for New Generation Schools for Basic Education in Cambodia, the establishment of NGS is based on the vision that 'New Generation Schools will lead to the emergence of a new administrative framework that ensures the necessary conditions needed for successful educational investment'. The Goal of NGS is to create a new development track within the public education system that will lead to the creation of autonomous public schools, which receive high investment linked to new standards of accountability and governance as well as professional standards for 21st Century learning. This paper analyses the innovative governance features of the NGS focusing on the school autonomy for quality of learning and teaching practices. First, we will discuss the school autonomy in global context. Secondly, we discuss the design of NGS under the school autonomy model. Then, we construct the features of school autonomy in NGS. Finally, we identify lessons learned from NGS which can be leveraged in non-NGS schools in term of innovative good governance.

Keywords

New generation schools, School autonomy, Innovations, School governance

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1. INTRODUCTION

Cambodian education is facing the challenges of the industrial revolution 4.0 and 5.0 that require substantial and comprehensive renovation in education. Teaching and learning muat undergo a transformation to embrace new technological advancements. The New Generation Schools (NGS) reform, launched in 2015, is being used as a new kind of school governance framework to promote the quality and relevance of education to equip Cambodian youth with the skills needed for an era of industrial and technological revolution. As stated in the Policy Guidelines for New Generation Schools for Basic Education in Cambodia, the establishment of NGS is based on the vision that "New Generation Schools will lead to the emergence of a new administrative framework that ensures the necessary conditions needed for successful educational investment." The goal of NGS is to "create a new development track within the public education system that will lead to the creation of autonomous public schools, which receive high investment linked to new standards of accountability and governance as well as professional standards for 21st Century learning" [1]. By 2017, NGS was officially operating in nine school sites in four municipalities/provinces including Phnom Penh, Kampong Cham, Kandal, and Kampong Speu. The Ministry of Education, Youth, and Sports (MoEYS) plans to expand NGS to at least two schools per province with an eventual goal of at least 50 schools by 2030 [2].

This paper analyses the innovative governance features of the NGS system, focusing on school autonomy. First, we will discuss school autonomy in the global context. Secondly, we discuss the design of NGS under the school autonomy model. Then, we describe the features of school autonomy in NGS. Finally, we identify lessons learned from NGS, which can be leveraged in non-NGS schools in terms of innovative good governance.

2. SCHOOL AUTONOMY AS INNOVATIVE SCHOOL GOVERNANCE

The school autonomy model has become a popular paradigm of school governance reform in various countries in the world. This model entails revising school governance toward a state of being a self-regulated school with clear functions and rights between the central administration and the school. School autonomy, which teachers and school directors are at core, will promote the activeness, initiatives, social responsibility, and transparency of public schools. Autonomous schools are fully entitled to develop their basic goals and policies of teaching and learning, stimulate the development of appropriate teaching and learning programs, invest in facilities, and manage teachers so that they are capable of effective teaching and learning.

Whatever the features of autonomous schools, there are at least three features to note, namely (1) the right of a school to run and manage its own activities without the external control; (2) the freedom to decide about how the school is organized and how it functions, including attention to the school vision, mission goals, and direction; and (3) the right to decide on the means to achieve the goals determined by the national education policy. The school autonomy concept has been incorporated in school-based management models (SBM) discursively permeated in policies and practices in many countries around the globe. In the US, UK, Australia and Canada, charter schools or independent schools are created to denote SBM [3,4]. In South-East Asia, innovative schools have been created in Malaysia and semi-independent schools in Singapore [3,4]. Many research findings have shown that SBM increases participation in decision-making which in turn improves student learning outcomes [5,6] and promotes innovative approaches of learning and teaching. The Organization for Economic Co-operation and Development studies [7] demonstrate that school governance with high autonomy has the capacity promote high performance. Good governance and accountability will improve the quality of education in schools [8].

3. EVOLUTION OF SCHOOL AUTONOMY IN CAMBODIA

3.1 The Origins of School Autonomy in Cambodia

Initiatives to enhance school autonomy in Cambodia's public education system are not new. Since 2001, the Education Sector Plan (ESP) has promoted the delegation of autonomy to schools in terms of shared responsibility, participation, and the cooperation of the state and relevant stakeholders through decentralization and deconcentration in education and school-based management (ESP 2001-2023). To actualize school-based management, MoEYS introduced the Local School Support Committee (LSSC) in 1994 and the Priority Action Program (PAP) in 2000. The PAP has been applied throughout the country to promote decentralization of educational management services, through district-based and institution-based budget management centers, and to reduce the financial burden on the poorest families. In addition, the MoEYS established school clusters in primary schools for mobilizing local resources and community involvement; a cluster is a group of schools within an area providing a mutual support network based on guidelines established by the MoEYS. Moreover, Local School Support Committees (LSSC) were formed; its members include the school director as chairperson, a local authority (i.e., village chief/commune chief) as vice chairperson, and members consisting of a school principal, local authority, teacher representative, community representative, parent representative, and a student representative.

Supported by Global Education Project (GPE), the MoEYS developed the SBM implementation plan 2019-2023 that is focused on providing capacity building for 3,642 primary school principals and providing follow-up support to 2,572 schools. This is a massive program to train school directors on the core elements of school-based management, including planning, budgeting, and fiscal management.

Recently, the MoEYS has piloted the SBM in a more comprehensive way than the previous SBM at secondary schools under the Secondary Education Improving Project (SEIP). So, the previous school-based programs are not obsolete but co-exist with the new pilot program. One hundred schools have been selected to implement SBM with technical and financial support from the World Bank and the central MoEYS support teams. The MoEYS plans to scale up this SBM model in the next five years.

These initiatives have been undertaken in response to the long-standing criticism that the Cambodian school system is not able to produce full potential learners with relevant knowledge and high thinking skills as defined in Bloom Taxonomy. Additionally, the system has been seen as inadequate for developing the behavioral values and human characters to meet the needs of the contemporary trends of Internet-driven society in the 21st century [9-11]. The World Bank study, "Growing Smarter," reports that rural Cambodian children attend ill-equipped schools with underprepared teachers [9]. School autonomy is likely to improve the quality and relevance of learning and instruction in the 21st century. Without a deep public-school reform, the MoEYS cannot achieve the vision per stated in its ESP 2014-2023 that "graduates from all its institutions will meet regional and international standards and will be competitive in the job markets worldwide and act as engines for social and economic development in Cambodia" through its three core policies of equity, quality, and life-long learning as well as the need for effective leadership and management at all levels.

While the attempts to delegate greater school autonomy are far from new, there is a renewed policy commitment of the MoEYS to this reform through the creation of New Generation Schools, a commitment that is expected to improve the quality of learning and spur innovation at school level.

3.2 Innovative Governance in New Generation Schools

The governance of New Generation Schools has several key features of a highly innovative nature. These are summarized below.

1) School autonomy and accountability: The establishment of NGS demonstrates the long-term commitment of the MoEYS to provide greater autonomy to public schools. With greater autonomy, the MoEYS allows NGS to waive several laws, rules, and regulations related to the curriculum, school organizations, personnel management, teacher recruitment and firing, and teacher professional development that are applied to normal public schools. It is to be noted that the Cambodian education system is highly centralized. The MoEYS holds power in teacher recruitment, training and deployment, curriculum content, instructional time, teacher salary, and resource allocation to schools, leaving schools with minimal power in terms of teaching methods and learning support activities. With this centralized governance paradigm, the school and student academic performance are low.

The NGS are autonomous public schools linked to new standards of accountability, governance, and professional standards for 21st century learning [1]. Such schools receive greater autonomy in governance and decision-making regarding matters of finance, staffing, and resourcing to stimulate educational innovation, high educational standards, and strong student academic performance that cannot be generated in normal public schools [1]. To ensure the accountability of the NGS, the National Oversight Board, created by the MoEYS at national level, and a Provincial Oversight Board will oversee the implementation of NGS policy and regulations, including the designation and withdrawal of accreditation and investment, at the national and provincial levels respectively [12].
The NGS administrative model allows schools greater control, flexibility, and efficiency in making improvements to respond to the needs of local communities. Adherent to school autonomy, schools must be accountable for the performance of teachers and school directors, linking teacher career pathways and remunerations, and the effective use and maintenance of high investment facilities. The accountability of NGS challenges corruption, which is one of key problems contributing to low learning performance in Cambodia. Two conventional practices in public schools are abolished in NGS: private tutoring and mandatory student purchase of teacher goods [1,12]. The NGS are more accountable than normal public schools because they must meet the high demands of parents and students and performance management contracts with the Ministry of Economy and Finance that provides annual funding based on the student academic performance.

2) The right to hire and fire teachers: NGS enjoys the right to hire and fire teachers based on its own selection criteria and process. This authority is not found in normal public schools. The selection and training of NGS teachers are managed by the MoEYS and Kampuchea Action to Promote Education (KAPE) through the New Generation Pedagogical Research Center (NGPRC). Teachers employed in the NGS are paid more than teachers in other public schools. Although the NGS is provided this key authority, the NGS is still facing high teacher turnover in some schools because of the heavy workload [12]. NGS teachers were on average younger than traditional public-school teachers, which makes them more likely to leave the profession or change schools. Teachers in NGS are often recruited from other schools, which may result in time-bound postings. This is particularly true for urban locations where there is often a surplus of teachers and MoEYS has strict prohibitions in place to prevent any additions to those surpluses. Recruiting from outside urban areas is often necessary because urban public teachers have less interest in New Generation School reforms, which place restrictions on their ability to extort money from students as part of private classes. But MoEYS places certain conditionalities on teachers being brought into urban areas to work at a New Generation School; that is, they may only work at a specified New Generation School and if they decide to stop working there, they must return to their original schools after finishing their employment contract. For such contracted teachers, they may not stay at NGS long if they could find another opportunity.

3) The use of Kampuchea Action to Promote Education (KAPE) is an institutional innovation in the way that MoEYS uses social capital in Cambodia to accountably outsource the implementation of educational reforms: The NGS creation is linked to Beacon Schools Initiative (BSI) project in Kampong Cham Province implemented by KAPE in 2011. This BSI project aims to provide practical concepts for improving school governance and cooperation between the public and private sector [2]. KAPE was

engaged by the MoEYS to oversee the process of creating NGS following the model of BSI in 2014. The use of a nonprofit organization like KAPE is a management innovation of the NGS that is not found in normal public schools. KAPE provides a variety of services covering almost all aspects of the schools such as the initial training of teachers, selection of the competent teachers, day to day management of the school, professional development programs for teachers and school directors, NGS related research, etc.

4) New strategies of parental engagement: NGS involves parents more than other public schools. The rationality behind this involvement is that NGS parents, because they choose to send their child to the NGS through a rigorous selection process, will be more involved than traditional public-school parents whose child are automatically admitted to the schools. With greater autonomy, NGS made available strong parental involvement policies. This creates institutional trust and confidence from the parents. For instance, one difference from normal public schools is that parents are invited to school meetings and school visits during the start and end of the school academic year. The NGS night shows are very popular and attract the participation of parents. In these shows, students demonstrate the innovations, the achievements, and credentials of their education.

5) Innovative role of school director in support teacher: Teachers and school directors in NGS collaborate effectively in the school's management. The school directors support the professional development of teachers, determine educational objectives of the school, ensure practical instruction is used to achieve these objectives, and propose amendments to improve teaching practices. The school directors at NGS effectively play a role as instructional leaders that motivate teachers to improve the quality of their practices and provide professional learning communities (PLC) between teachers. The NGS teachers form groups based on the subject area or grade, PLCs, to collaborate, reflect, and exchange ideas on their instructional practices to achieve the students' learning goals and their own professional growth.

4. DISCUSSION

4.1 Innovations

New Generation Schools are well positioned to do something different from what other public schools are doing and develop new ideas that help schools to improve performance. Their ability to be innovative lies in the regulations that govern the NGS establishment and operation. Unlike other public schools, New Generation Schools are entitled to school autonomy and accountability under the National Oversight Board chaired by the MoEYS in terms of curriculum and instruction, staff management and development, and the involvement of NGOs, parents, and target populations. School governance that is directed toward school autonomy, accountability, stakeholder engagement, and self-directed school management promotes educational innovation. But the central question remains whether the NGS is successful in terms of quality of learning and the efficiency of learning. In other words, do the innovations spurred by NGS change the qualitative and quantitative learning outcomes? And are time, money, and resources used efficiently to obtain high learning results?
As suggested by Peter Serdyukov [13], the purpose of innovation is consistent, which is "to create something different from what have been doing, be it in quality or quantity or both. To produce a considerable, transformative effect, the innovation must be put to work, which requires prompt diffusion and large-scale implementation." He further mentioned that qualitative learning outcomes refer to "better knowledge, important competencies, character development and values…" [13]. The quantitative results refer to "improved learning parameters such as test results, volume of information learned, amount of skills or competencies developed, college enrollment numbers, measured student performance, retention, attrition, graduation rate, number of students in class, cost, and time efficiency" [13]. This conceptual orientation of innovation will be the basis for analyzing the success of innovation in NGS.

4.2 Quality of Learning in the NGS System

The overall results at two NGS schools were excellent compared to the national average and non-NGS schools in the same locality. There are, at the time of writing, only two schools with students at the grade 12 level, which is Preah Sisovath High School in Phnom Penh and Hun Sen Kampong Cham High School in Kampong Cham province. Sisovath NGS and Hun Sen Kampong Cham NGS achieved 94% and 84% pass rate respectively compared with a national pass rate of 68%. These results show improvement from the results reported last year with Sisovath NGS pass rate at 89% and Hun Sen Kampong HS pass rate at 84% [14,15]. 4% of the students at the Hun Sen Kampong High School achieved an A score in comparison to the only 0.4% of students nationally [14,15]. Remarkably, students in the NGS received a number of medals and awards related to creativity and 21st century skills. This proves the promised success of the NGS model of greater school autonomy and improved accountability in achieving improved student learning outcomes.

However, with the high investment from MoEYS (at least 30% of the school's operation costs) and the parental contribution based on the negotiation between parents and school (for instance: $280 USD per student in Preah Sisovath High School and $250,000 USD in total, $100 USD per student in Hun Sen Kampong Cham High School and in total $66,000 USD), the NGS are costly compared to the normal public schools. Therefore, the equity and efficiency of education are at risk.

4.3 Equity of Education

There is a risk that NGS will create a gap between NGS and normal schools and a gap between the privileged learners and less privileged learners. Normal public schools receive less annual funding from the MoEYS than NGS. The high investment cost of NGS will make the large-scale implementation difficult. The high parental contribution cost of NGS makes it difficult for disadvantaged learners to access NGS, considering the low social resources and capacities of the parents.

5. CONCLUSION

Cambodia is now preparing its education sector to be that of a middle-income country by 2030 and a developed country by 2050. Cambodia must prepare itself for the challenges of industrial development 4.0, Artificial Intelligence's impacts on the workplace and daily life, and future technological advancements that will change the world of work. Development goals and global environmental changes will impose many challenges on the Cambodian education sector. The New Generation is a promising model of innovative school governance emphasizing school autonomy and NGO's engagement (KAPE) linked to strong accountability to improve the quality of 21st century learning. Although current evidence suggests the reform is well designed to fulfill its promised goal of improving the quality of learning in public schools, at this time further studies are needed to better understands the impacts of these innovations in terms of cost effectiveness, equity of learning, the 21st competency skill of the student enrolled in the NGS, and precise measures of prior student achievement to better explain the accountability measures of the NGS and how NGS and normal public schools evolved over time.

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Chapter 14

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Accreditation Mechanisms That Support the Integrity of Autonomous Schools

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Abstract

This article seeks to provide a definition of accreditation processes as they relate both to educational reforms involving autonomous schools and on-going changes in society (e.g., rapid technological change). Definitional explanations about accreditation focus mainly on a description of their functions (e.g., maintaining quality standards, enhancing accountability, etc.) and how these contribute to the integrity of the operation of an autonomous school. A description of accreditation practices in various countries is also provided focusing particularly strongly on ASEAN countries and recent developments in Cambodia as a case study country. The article also provides some comparative analysis of what is happening in SE Asia and the evolution of accreditation practices in Western countries such as the United States. The article concludes with a discussion on some of the key challenges facing viable accreditation practices such as preserving the independence of accreditation processes, enforcement of accreditation decisions, and the role of terminal learning outcomes in accreditation assessments.

Keywords

New Generation School, Autonomous School, Accreditation, Charter school, Academies, Independent School, World Class Standard School, Special Assistant Program

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1. INTRODUCTION

1.1 General Perspectives on the Changing Education Scene

Education plays an increasingly important role in this modern era, as society faces major challenges in the face of rapidly changing knowledge and technical skills. As such, we can expect to see major investments of capital and other resources into education systems both in the present and future. The impact of education can be understood from both a short and long-term perspective, especially when people have good discipline and good education (Pieter, Rumangun, & Welerubun, 2023). Accelerating economic and technological change increasingly spurs policy makers and education practitioners around the globe to improve the education sector. As a result of this increased focus on educational services, many countries have increased the proportion of the national budget allocated to education. Indeed, OECD reports that national education budgets worldwide have increased on average by no less than 17% between 2005-2013 (OECD, 2016). For example, the Royal Government of Cambodia provides a particularly stark example of increased education spending with budget allocation increasing by 114% between 2010 and 2021 (from 7.34% to 15.74%, Macrotrends, 2023). These increased budget allocations are used for a diverse range of educational investment strategies, such as autonomous schools, to promote educational innovation in accordance with the changing economic and technological context described.

1.2 Cambodia as a Case Study Country for School Accreditation

Cambodia provides an interesting case study of how autonomous schools and affiliated accreditation mechanisms are helping the country's education system to innovate in line with the needs of a 21st Century economy. After the first general election of the reconstituted Kingdom of Cambodia in 1993, Cambodia received a great deal of support in the form of international development aid and charity. At first, basic literacy, numeracy, and child rights-based programs dominated; however, quality outcomes continued to be meager because the government focused most heavily on educational access, mainly by building new schools and other structures, since these were fundamental needs for Cambodia after the widespread destruction caused by prolonged civic wars. Later, the Ministry of Education, Youth and Sport (MoEYS) realized that a single development strategy of development focused on the lowest common denominator throughout the country will not help to build the high-quality human capital required to meet the needs of the country's economy and labor market. That is why in 2015, MoEYS and a national education organization signed a memorandum of understanding to inaugurate a new high-investment school governance strategy that led to the establishment of a network of high-powered autonomous schools called "New Generation Schools," known simply as NGS (MoEYS, 2015). Under this agreement, the national partner supports MoEYS technically to set up and manage autonomous schools (based on an agreed policy framework endorsed by the Ministry) throughout the kingdom with positive prospects for scaling up based on the available budget. This school model has captured the imagination of the public because it very much addresses some of the most pressing issues in the education system, such as teacher quality, good governance, and innovative educational services that align with the economic and technological needs of a modern society.

A key feature of the governance framework that autonomous schools in Cambodia embody relates to a system of independent accreditation to validate that schools are well-managed and demonstrating educational innovation. Accreditation is the key mechanism used by the NGS System to ensure 'school accountability,' a key attribute of an autonomous school; this helps to maintain the credibility of the NGS 'brand'. School accreditation in Cambodia is carried out by a National Oversight Board that comprises both government and non-government staff (MoEYS, 2016a). The accreditation process is important because without the stamp of approval of the accreditation committee, schools do not have the right to enjoy the many freedoms and privileges enjoyed by a New Generation School including independent recruitment, changing the curriculum and timetable, budget independence, and the right to negotiate funding support from parents. Cambodia is only one of two countries in SE Asia to have

established a system of accreditation for public schools at the primary and secondary school education level (Indonesia being the other country, Susetyo et al., 2022).

Although the school accreditation system in Cambodia is a unique educational innovation that demonstrates the commitment of the government to school accountability, it has also generated several burning issues among national educators. This includes preserving the independence of the accreditation process in societies where patronage networks are an important part of social organization; maintaining the credibility of a school brand when enforcement authority is weak or lacking; resolving the tension between a focus on reflection and processes of operation versus a preference for terminal learning outcomes favored by some donors and the educational bureaucracy; and other issues. These are some of the issues that this paper will explore.

1.3 Purpose of this Paper

In this paper, the author seeks to promote better understanding of the definition of accreditation and associated mechanisms commonly used for brand protection in autonomous schools, which in turn helps to ensure quality, credibility, and accountability in a school's operation. Using Cambodia as a case study country, the author seeks to explore some of the important issues that can potentially undermine the viability of a school accreditation process (e.g., enforcement authority), particularly as this relates to the effectiveness of an autonomous school system. The author also hopes to emphasize the need for autonomous schools to proactively seek accreditation to establish themselves as reputable educational institutions while maintaining their innovative and independent nature.

2. AUTONOMOUS SCHOOLS AND THE LINK WITH ACCREDITATION

2.1 What Is an Autonomous School?

Before starting an analysis of key issues associated with the accreditation process in Cambodia and elsewhere, we first turn to a review of what it means to be an autonomous school. Autonomous schools are commonly understood to exist within the government school system and follow the national syllabus but enjoy special freedoms that offer a wide range of programing to enhance students' learning, experience, and talent (MoE/Singapore, 2023) (see Box 1). In this context, school principals and teachers are empowered to make decisions without any interference or domination from central school district offices or other external entities; that is, management is entirely school-based. There are many examples of autonomous school formation such as decentralized schools or pilot schools in innovation zones (e.g., Teacher-Power School, n.d.). In recent years, autonomous schools have been growing in popularity because they have been demonstrating better learning outcomes than normal schools; in this respect, PISA results suggest that when autonomy and accountability are intelligently combined, they tend to be associated with better student performance (Ikeda, 2011). There are many different autonomous school models across the world including Charter Schools in the United States; Academies in the United Kingdom; Independent Schools in Australia and New Zealand; World Class Standard Schools in Thailand, and New Generation Schools in Cambodia. Surprisingly, each of these models have very different methodologies to assess member schools with respect to the corresponding school brand, as it is defined in each country.

Box 1: Definition of an Autonomous School

Autonomous schools usually exist within an existing public administrative system through which they are funded but receive significant freedoms in terms of hiring, structure, funding, and academic programming.

2.2 Autonomous Schools in the ASEAN Region

Autonomous schools within ASEAN sometimes do not strictly follow the definition provided in Box 1. There is frequently some confusion about the difference between autonomous schools, which are supposed to be public and independent schools, which are usually private though in Singapore

independent schools are generally public. On the other hand, some private schools in Thailand are defined as 'government-dependent' private schools but resemble public schools because they actually use state teachers and receive copious state subsidies (OECD, 2023). New Generation Schools in Cambodia, on the other hand, generally follow the standard definition of an autonomous school and are fully public.

There are also significant differences in terms of how autonomous public schools do accreditation to preserve the credibility of their respective brands. For example, New Generation Schools have a very well-developed accreditation system while World Class Standard schools in Thailand lack formalized follow-up procedures following the designation of being a WCS school. That is, there is no independent agency to inquire whether WCS schools are continuously meeting designated standards. Singapore is one of the earliest countries in ASEAN to establish independent schools with strict standards of accreditation, starting in 1988 under the Special Assistance Program (SAP) schools (Cheo, R. K., 2009). In contrast, Lao PDR is attempting to set up autonomous schools without any accreditation standards nor even a policy framework to guide the formulation of such standards (Vongkamchanh & Bredenberg, 2023). Thus, it seems that while there are some major commonalities in ASEAN regarding the desire to establish autonomous schools, the differences in how each country is pursuing these goals are quite different.

2.3 Protecting the Brand of an Autonomous Schools

The rise of autonomous schools has revolutionized the education landscape in SE Asia, offering innovative approaches to teaching and learning. These schools, characterized by their ability to operate independently and implement unique curricula, have gained popularity among students, parents, and educators. However, with the increasing number of autonomous schools, it becomes crucial to establish accreditation mechanisms to protect their respective brands. As we will see below, accreditation plays a vital role in ensuring quality standards, accountability, and maintaining the reputation of autonomous schools.

3. ACCREDITATION IN THE CONTEXT Of AN AUTONOMOUS SCHOOL NETWORK

3.1 Defining School Accreditation

Accreditation is a voluntary process through which autonomous schools undergo rigorous evaluation to determine if they meet specific quality standards set by accrediting agencies (see Box 2). These agencies, which must be independent and impartial, assess various aspects of an institution, including curriculum, faculty qualifications, infrastructure, student support services, and adherence to ethical practices. Accreditation provides external validation of an autonomous school's commitment to excellence and assures stakeholders of its credibility. Accreditation is the process through which to review and determine if educational programs meet the defined standards of quality. Once achieved, accreditation is not permanent—it is renewed periodically to ensure that the quality of the educational program is maintained (Abet, n.d.).

Cambodia once again provides a good example of how an accreditation process works in actual practice. The New Generation School Initiative in Cambodia relies heavily on a well-developed accreditation process that seeks to both justify and validate the support received from government and parents. The accreditation process tries to make sure that the 'conditions' for successful investment are in place so that invested funds are utilized as effectively as possible. This is particularly

Box 2: What Is School Accreditation?
Accreditation, in education, is the process by which an association or agency evaluates an educational institution or program of study and formally recognizes it as having met and satisfied, or exceeded, certain predetermined requirements and criteria or standards of educational quality.

Ibrahim, H. A. H. (2014)

important given that the Cambodian government makes sizable investments in its autonomous schools including the emplacement of multiple science labs, ICT labs, 21st Century Libraries, and other modern facilities. Awards of NGS Certification, therefore, have major implications for whether a school may or may not receive special investment and whether it will have the special privileges for autonomous operation that are assured under the New Generation School Policy Guidelines (MoEYS, 2016a). In addition, the accreditation process in Cambodia tries to give 'meaning' to the designation of being a New Generation School (e.g., high standards of governance, abolition of unethical practices such as shadow teaching, rationalized budget allocation, etc.). Thus, accreditation validates the meaning of a well-defined brand and in theory prevents other schools from adopting the moniker of being a New Generation School without proper validation, though enforcement has been one of the major challenges facing Cambodia's accreditation authorities (see below).

Because New Generation Schools receive so much more investment than other normal schools, accreditations occur annually based on 24 'process' criteria. The formulation of these criteria generally takes the form of well-defined processes that require stakeholder reflection leading to incremental improvement (e.g., how does the library do outreach to teachers and students, what positive impacts have Professional Learning Communities had on teaching practice, etc.). It is important to note in this regard that the accreditation process in Cambodia studiously avoids the use of terminal learning outcomes when assessing schools. Although the inclusion of terminal learning outcomes is common in many countries, Cambodia avoids this practice because the test-driven nature of Cambodian education often leads to 'teaching to the test' during high-stakes evaluations, which undermines modern teaching practices; hence, the focus on 'process' rather than 'product.'

In contrast, Western countries treat accreditation somewhat differently. It may be that accreditations in SE Asia are seen by Western educators as more like 'audits' that focus heavily on accountability for the use of very scarce resources. Accreditations in the West on the other hand lack the high stakes nature of the process seen in SE East Asia. Thus, Charter Schools in the United States and the UK only do accreditations once every 5 to 10 years (NACSA, 2013). Nevertheless, Charter School authorizers are still responsible for maintaining high standards for school performance, upholding school autonomy and protecting student and public interests. Using the performance contract as both a guide and a tool, quality authorizers maintain high standards and oversee charter school performance – not only by dictating inputs or controlling processes – but by setting expectations and holding schools accountable for results. A quality authorizer engages in responsible and effective performance management by ensuring that schools have autonomy to which they are entitled and public accountability for which they are responsible (2013).

3.2 Functions of an Accreditation System

As noted in Box 2, accreditation uses formal processes to assess an educational institution's compliance with agreed standards. This process helps a network of schools to achieve several key functions relating to branding, quality, accountability, and other key features of an autonomous school. These functions are defined below:

Maintaining Quality Standards: One of the primary purposes of accreditation mechanisms is to ensure that autonomous schools maintain high-quality standards in their educational programs. Accrediting agencies establish criteria and guidelines that schools must meet to obtain and retain accreditation status. These standards encompass various areas such as curriculum design, teaching methodologies, student assessment, and extracurricular activities. By adhering to these standards, autonomous schools can demonstrate their dedication to providing a well-rounded education and safeguarding their brand as a reputable institution.

Enhancing Accountability: Accreditation mechanisms promote accountability within autonomous schools. Accrediting agencies conduct regular reviews and inspections to assess an institution's compliance with the established standards. This process encourages schools to continually evaluate their practices, identify areas for improvement, and implement necessary changes. By holding

autonomous schools accountable for their educational practices, accreditation mechanisms contribute to the overall improvement of the institution and ensure that it remains true to its brand values.

Building Trust and Confidence That a School Brand is Meaningful: The brand of an autonomous school is built on trust and confidence from various stakeholders, including students, parents, and the wider community. Accreditation serves as a powerful tool to foster trust by providing an objective and independent evaluation of the school's operations. When an autonomous school achieves accreditation, it demonstrates its commitment to maintaining high educational standards and meeting the needs of its students. Prospective students and their families can have confidence in the school's offerings, knowing that it has met rigorous quality benchmarks.

Strengthening Reputation and Marketability: Accreditation enhances the reputation and marketability of autonomous schools. Accredited schools are recognized as meeting or exceeding established standards, which sets them apart from non-accredited institutions. This recognition can attract more students, as parents and students prefer schools with a proven track record of quality education. Additionally, accreditation can facilitate partnerships with other educational institutions, enabling autonomous schools to collaborate and exchange best practices, further enhancing their brand reputation.

Perhaps the most important function of accreditation relates to 'branding.' As noted above, accreditation plays a crucial role in protecting the brand of autonomous schools. It verifies that the school meets certain established criteria and operates at a certain level of quality. For autonomous schools, accreditation serves as a form of validation and assurance to stakeholders, including students, parents, employers, and the public. By undergoing the accreditation process, autonomous schools demonstrate their commitment to maintaining high educational standards and continuous improvement. Accreditation helps protect the brand of autonomous schools in several ways:

1. **Credibility:** Accreditation provides external validation of the school's quality and credibility. It assures stakeholders that the school meets recognized standards and delivers a high-quality education.
2. **Reputation:** Accreditation enhances the reputation of autonomous schools by signaling their commitment to excellence. It distinguishes them from unaccredited institutions and demonstrates their adherence to rigorous standards.
3. **Student Enrollment:** Accreditation can positively impact student enrollment. Many students and parents consider accreditation as an important factor when choosing a school. Accredited schools are often perceived as more trustworthy and reliable, attracting more students.
4. **Transferability of Credits:** Accreditation facilitates the transfer of credits between educational institutions. Students from accredited autonomous schools can more easily transfer their credits to other accredited institutions, ensuring the value and recognition of their educational achievements.
5. **Employer Recognition:** Accreditation enhances the recognition and acceptance of degrees and qualifications earned from autonomous schools by employers. Accredited schools are more likely to be trusted by employers, increasing the value of their graduates' credentials in the job market.

3.3 How Accreditation Mechanisms Help Autonomous Schools Improve Their Educational Practices

Accreditation mechanisms provide valuable opportunities for autonomous schools to improve their educational practices in the following ways:

1. **Self-Assessment and Evaluation:** Accreditation processes often involve extensive self-assessment and evaluation exercises. Schools are required to critically evaluate their educational practices, policies, and procedures against established standards. This self-assessment helps identify areas

of strength and areas that require improvement. By engaging in this reflective process, autonomous schools gain a deeper understanding of their strengths and weaknesses, enabling them to make informed decisions for improvement.

2. **Benchmarking against Best Practices:** Accreditation standards are often based on best practices in education. By aligning their practices with these standards, autonomous schools can benchmark themselves against recognized benchmarks of excellence. This allows schools to identify areas where they are falling short and adopt strategies and practices from other successful institutions. It encourages the sharing of innovative ideas and fosters a culture of continuous improvement.
3. **Professional Development:** Accreditation mechanisms often include requirements for ongoing professional development for faculty and staff members. This ensures that educators stay updated with the latest pedagogical approaches, technological advancements, and research findings. By investing in professional development opportunities, autonomous schools can enhance the quality of teaching and learning in their classrooms. This, in turn, leads to improved educational practices and better outcomes for students.
4. **Collaboration and Networking:** Accreditation processes can facilitate collaboration and networking among autonomous schools. Schools often have opportunities to participate in workshops, conferences, and collaborative initiatives organized by accrediting agencies. These platforms allow educators and administrators to share experiences, exchange ideas, and learn from one another. By engaging in such collaborative efforts, autonomous schools can gain insights into effective educational practices and implement them in their own settings.
5. **Continuous Improvement Culture:** Accreditation mechanisms promote a culture of continuous improvement within autonomous schools. The process is not a one-time event but rather an ongoing cycle of evaluation, planning, implementation, and review. Accredited schools are required to develop improvement plans based on the findings of their self-assessment and external evaluations. This encourages schools to set goals, implement strategies, and monitor their progress regularly. The focus on continuous improvement ensures that educational practices evolve and adapt to meet the changing needs of students and the educational landscape.
6. **External Validation and Feedback:** Accreditation provides autonomous schools with external validation and feedback on their educational practices. Accrediting agencies conduct thorough evaluations to assess the school's compliance with standards. The feedback received from these evaluations can be invaluable in identifying areas for improvement. Accreditation reports often provide constructive feedback, commendations for areas of excellence, and recommendations for enhancement. This external perspective helps schools gain insights into their practices from an impartial standpoint and guides them in making necessary improvements.

   In this respect, accreditation mechanisms offer autonomous schools a structured framework to assess, evaluate, and improve their educational practices. Through self-assessment, benchmarking, professional development, collaboration, and continuous improvement, these mechanisms support schools in enhancing the quality of education they provide and ensuring that they stay at the forefront of educational excellence.

4. KEY CHALLENGES FACING ACCREDITATION IN AN AUTOMOUS SCHOOL SETTING

4.1 Preserving the Independence and Impartiality of an Accreditation Process

Maintaining the independence of school accreditation represents perhaps the greatest risk to the integrity and credibility of any accreditation structure, particularly in societies where patronage networks tend to be important features of a country’s social organization. In many cultures, people depend on patronage networks for their social survival. Clients depend on their patrons when they encounter problems while patrons often need to call in a favor that sometimes requires the client to do something he or she would rather not do (Hinton, 1998). Such situations often arise when, for

example, a school fails its accreditation and networks of inter-dependency kick in to change the outcome, creating social pressure on accreditors. Such occurrences are common in very poor countries like Cambodia and Lao PDR where there are few or no social safety nets on which people can reliably depend and the client-patron relationship is of great importance (1998).

In other cases, the independence of an accreditation authority might be undermined by conflicts of interest, such as when government entities and national partners are involved both in the implementation of an autonomous school policy as well as its assessment. Particularly in situations where government departments are evaluating each other, problems are bound to arise (MoEYS/Cambodia, 2021). In Cambodia, this is becoming a serious problem for accreditation procedures, as the national partner designated by the Ministry to be responsible for implementation seeks to distance the implementation arm of the agency from accreditation functions (2021).

Preserving the independence of an accreditation process is best served by creating autonomous bodies responsible for accreditation decisions that are outside of the government or separate from an implementing agency or project (MoEYS, 2016b). Oversight Boards are common institutional structures often used for such purposes. Staffing such boards with 'outsiders,' for example, from the non-state sector further helps to strengthen the transparency of such bodies and insulates decision-makers from patronage networks that are usually pulling in an opposite direction (2016b).

4.2 Problems of Enforcement

Problems of enforcement most commonly occur when an accreditation decision is disregarded by an educational institution or when non-accredited institutions adopt the moniker of a particular school brand without the formal recognition of an accrediting body. Weak enforcement of accreditation decisions is most likely to occur when autonomous schools with a well-defined brand rest entirely upon a government's policy framework only but have no legal standing in terms of the laws and regulations issued by a local or national legislative body. The well-developed legal framework developed for Charter Schools and Academies is one of their greatest strengths while countries like Cambodia, Thailand, and Laos have not yet been able to provide legal standing for their autonomous school networks and accompanying accreditation frameworks.

4.3 The Role of Terminal Learning Outcomes in School Accreditation

Traditionally, accreditation procedures often include a terminal learning outcome component. This usually takes the form of a review of test scores on national or state level examinations. The problem with including such high-stakes requirements in an accreditation process is that it leads to situations where teachers are encouraged to 'teach to the test, also known as 'washback effect.' Particularly in cases where the tests in question are paper and pencil examinations that focus on the lower-order cognitive skills, such requirements will often undermine investments in teacher capacity upgrading. Such investments usually seek to support teachers to use pedagogical methodologies like project work or problem-based learning where the learning outcomes are not so easily assessed by paper and pencil tests. And since the learning outcomes implied by these methodologies are not amenable to testing, teachers tend to ignore them when they are teaching to the test. As a result, accreditation authorities are increasingly resisting the inclusion of terminal learning outcomes in accreditation processes, preferring instead to focus on more reflective and process-oriented approaches (e.g., MoEYS, 2023). However, there is strong opposition to such trends particularly from donor agencies and educational bureaucracies, which are frequently wedded to assessments that are driven by checklists and quantitative measurements.

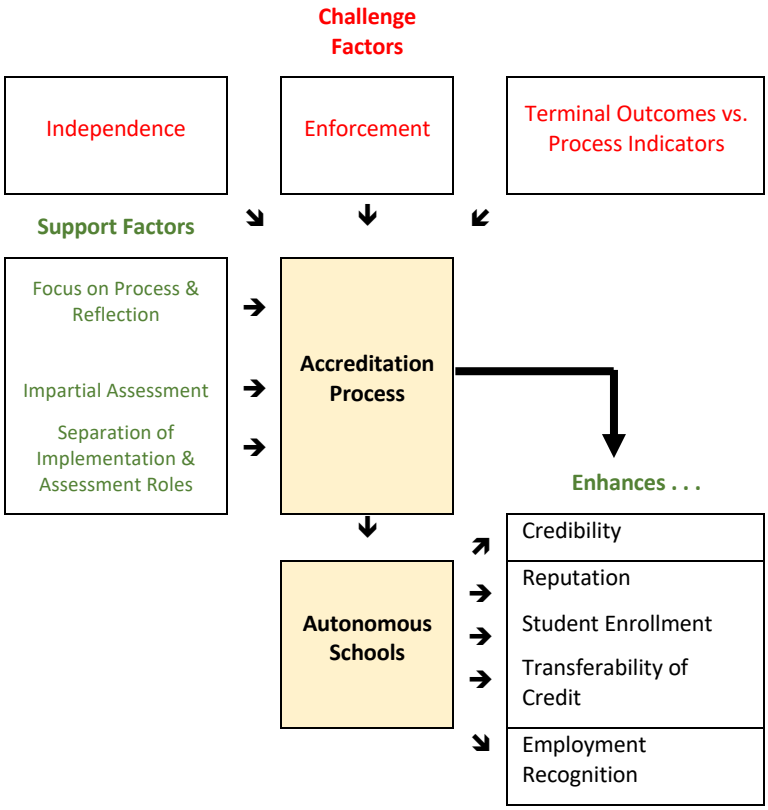
5. DISCUSSION AND CONCLUSIONS

Accreditation mechanisms play a crucial role in protecting the brand of autonomous schools. By upholding quality standards, promoting accountability, and building trust, accreditation ensures that autonomous schools deliver on their promises and maintain their position as credible and reputable educational institutions. This has the effect of enhancing their enrollment and recognition among

employers and other educational institutions (see Figure 1). As the number of autonomous schools continues to grow, especially in SE Asia, the importance of accreditation as a safeguard for their branding cannot be overstated. By embracing accreditation, autonomous schools can solidify their position in the education landscape and provide students with a high-quality education that aligns with their brand values.

To be sure, accreditation processes have not been without challenges and this article mentions three issues that are particularly difficult to address (i.e., independence, enforcement, and the role of terminal learning outcomes). Accreditation processes in places like Cambodia are shifting away from a focus on terminal learning outcomes, but rather looking at the processes at a school that will ensure meaningful reflection and incremental improvements. Similarly, challenges relating to 'independence' and 'enforcement' are often defined by deeply engrained social norms such as patronage networks or weak legal frameworks. This makes them difficult to address through educational reform alone but rather requires actions that involve broad-based social change.

Figure 1: The Interaction of Challenges & Support Factors on Accreditation and Autonomous Schools



Accreditation processes have traditionally focused mainly on tertiary level institutions. Interestingly, this seems to be changing as countries like Indonesia and Cambodia develop accreditation procedures focused at both the primary and secondary school levels (Susetyo, B., et al., 2022). There are many important lessons to be learned from the accreditation system in countries like Indonesia, which use performance indicators based not on academic success but rather qualitative measures that help assessors to make conclusions about the processes of school operation (2022). Such developments parallel the evolution of accreditation processes in Cambodia.

As a final observation, accreditation processes on one hand seem to hold great promise for education systems that seek to build credible brands of school operation focused on innovation, accountability, good governance, and strong alignment with the needs of a 21st century economy. On the other hand, they also bring with them a number of significant challenges that we have discussed above (e.g., independence, etc.). How education systems address these challenges will depend on a country's level

of commitment to educational reform, preferences among educators, and the degree to which broad-based social change can be achieved.

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Can Effective School Approaches Work in Cambodia? A Practitioner's Guide to Understand Competing Models of School Development in Cambodia

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Abstract

The educational scene in Cambodia today is dotted by numerous school development approaches that are each distinct and, in many cases, diametrically opposed. This setting often creates a partisan landscape of proponents for this approach or that where the latter are not always aware of how their preferred development model came about or why others may be so against what they believe to be the best way to develop Cambodia's schools. The Effective Schools Movement has in particular frequently been a lightning rod that tends to polarize educators into opposing camps, especially among those who are more comfortable with rights-based approaches to development. Herein lies the rationale for the present paper's focus on Effective Schools. The polarization among educators with regards to school development approaches has increased markedly in Cambodia as the Cambodian Government has moved to elevate Effective Schools into an official policy. Regardless of one's own development preferences, the purpose of this paper has been to help education practitioners better understand the origins of the Effective Schools Movement, its key tenets, and why it often conflicts with the beliefs of educators who have other preferences.

Keywords

Effective Schools, School Development Models, Model Schools

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1. INTRODUCTION

1.1 The Goals of this Paper

The educational scene in Cambodia today is dotted by numerous school development approaches that are each distinct and, in many cases, diametrically opposed in terms of their educational philosophy and implementation methodology. This setting often creates a partisan landscape of proponents for this approach or that where the latter are not always aware of how their preferred development model came about or why others may be so against what they believe to be the best way to develop Cambodia's schools. Such partisanship cuts across numerous constituencies including government officials, development partners, civil society, and local stakeholders. The Effective Schools Movement has in particular frequently been a lightning rod that tends to polarize educators into opposing camps, especially among those who are more comfortable with rights-based approaches to development. This polarization with regards to school development approaches has increased markedly in Cambodia as the Cambodian Government has recently moved to elevate 'Effective Schools' into an official policy. Regardless of one's own development preferences, the purpose of this paper is to help education practitioners in Cambodia better understand the origins of the Effective Schools Movement, its strengths and key tenets, and why it often conflicts with the beliefs of educators who have other methodological preferences.

1.2 The Origins and Definition of the Effective School Movement

The Effective Schools Movement has been around for at least several decades. Some theorists trace its origins back to the 1960s and 1970s in the United States, though the refinement of its theoretical framework had taken very clear shape by the 1980s. The term 'Effective Schools' was first coined by American researchers in the late 1970s when the first statistical analyses of the school characteristics associated with high learning outcomes were carried out.[22] It is important to note in this regard that the rise of Effective Schools coincided with the increased use of statistical modelling techniques in the education sector, which helped to provide an empirical basis for concluding that specific factors correlated with improved student performance. To be sure, there have been many criticisms of the quality of the research that has been done to validate correlates to the factors that proponents claim will lead to school effectiveness.[23] Most Effective School proponents hold that there are 7 key factors that will correlate with an 'effective school.'[24] These factors are summarized in Box 1. Ultimately, 'effectiveness' is generally defined by changes in students' learning performance, which is in turn usually operationalized in terms of changes in test scores. This definition of school effectiveness explains the very heavy focus that one often sees on testing in most Effective School oriented projects.

Box 1: What are the key tenets of the Effective Schools Movement?

The Effective Schools Movement argues that school effectiveness correlates with 7 factors:

1. Clear school mission
2. High expectations for success
3. Instructional leadership
4. Time on task
5. Safe and orderly environment
6. Positive home-school relations
7. Frequent monitoring of students' academic progress

The definition of an effective school is mainly operationalized in terms of measurements of terminal learning performance, usually student test scores.

One of the key features of Effective Schools is its focus on school leadership. Effective School proponents focus very heavily on the management role of school principals and their ability to lead

[22] For example, Edmonds, R. (1979). *Effective Schools for the Urban Poor,* Educational Leadership, Vol. 37, pp. 15-24.

[23] Goldstein, H. and Woodhouse, G. (2000). *School Effectiveness Research and Education Policy,* Oxford Review of Education. (https://www.bristol.ac.uk/media-library/sites/cmm/migrated/documents/school-effectiveness-critiques.pdf)

[24] Lezotte, L. W. (1991). *Correlates of effective schools: The first and second generation.* Okemos, MI: Effective Schools Products, Ltd.

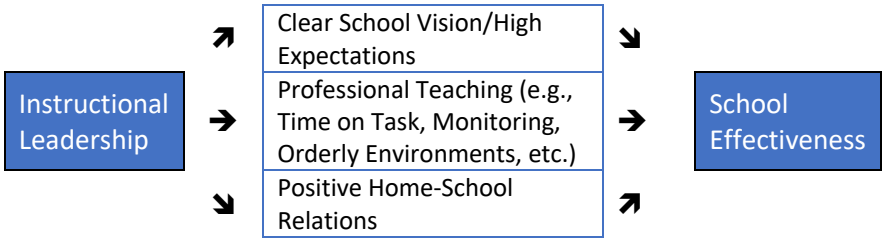
the school effectively; thus, defining school leadership clearly and using the school principal as an institutional catalyst is a prominent part of the Effective School implementation approach; indeed, some would argue that the leadership role of the school principal is the core element of the Effective School approach that drives all the others (see below).[25] In the Effective School context, school leadership is distinguished by a strong focus on 'instructional leadership,' which is defined as the proper management of curriculum and instruction. Nevertheless, the role of the school principal in an Effective School is still largely defined as guiding the school towards achieving quantitatively set standards of student performance.

1.3 What Are Some of the Key Strengths of the Effective Schools Approach

Although there are many commonalities in the research defining Effective Schools that all seem to coalesce around the factors identified in Box 1, there have been many permutations in the evolution of this approach to school development that make it difficult to generalize about specific strengths. Indeed, the formulation of Effective Schools in places like Cambodia seems in many ways far different from some of the earlier formulations that emerged in the United States and United Kingdom back in the 1980s. For example, some of the earliest writings on Effective Schools envisioned a multi-dimensional approach to school development that leads to 'transformational' change of the whole school.[26] This characteristic, which is perhaps one of the greatest strengths of Effective School philosophy, seems at odds with the more uni-dimensional methodologies employed in Effective Schools today where there is a singular focus on student testing and accountability as the central features of school development. Nevertheless, the idea of 'transformational change' in a school through a focus on a wide array of key factors such as leadership, visioning exercises, and frequent monitoring is a key strength of the Effective School approach.

The other key strength of the Effective School approach relates to the centrality of instructional leadership as the driving force behind many of the other activities that make a school effective, a point noted earlier. Instructional leadership in this case refers primarily to the key role of the school principal to both communicate and animate the school's vision to all teachers, promote linkages with communities and parents, encourage teachers to improve their classroom practice, and ensure frequent monitoring and student assessment. Without the school principal playing this animating role in the school, it is likely that many of these conditions for effectiveness would not occur. Thus, we can say that the now accepted conventional wisdom of the centrality of the school principal's role as instructional leader of the school first began with the Effective School Movement (see Figure 1.1).

Figure 1.1: The Primacy of Instructional Leadership in Effective Schools



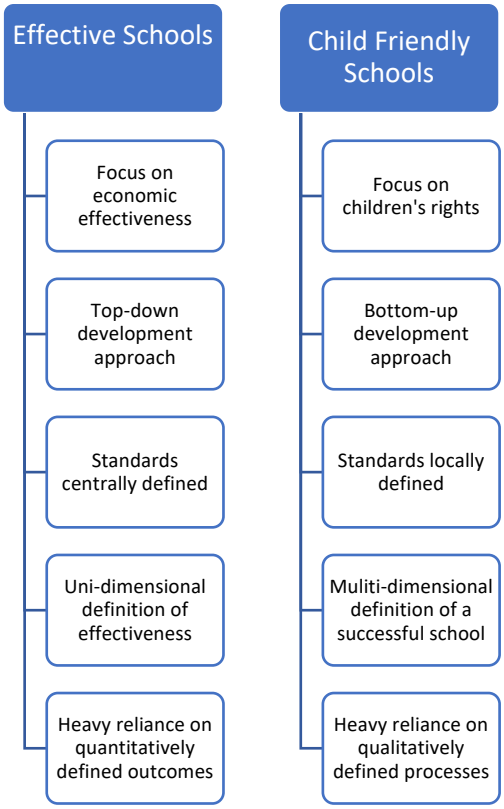
[25] For example, Kirk, D.J., & Jones, T.L. (2004). *Effective Schools: Assessment Report,* Pearson Education. http://images.pearsonassessments.com/images/tmrs/tmrs_rg/EffectiveSchools.pdf?WT.mc_id=TMRS_Effective_Schools

[26] Levin, H.M. and Lockheed, M.E. (1993). *Effective Schools in Developing Countries,* London & Washington DC: Falmer Press. (https://books.google.com.kh/books?hl=en&lr=&id=FqCXAPS2qrEC&oi=fnd&pg=PP5&dq=Effective+Schools+by+Routledge+Press&ots=6SBBdQg2XH&sig=KOQfGvyXA8Ez3_MxY8Ny62y0nhY&redir_esc=y#v=onepage&q=Effective%20Schools%20by%20Routledge%20Press&f=false)

1.4 Reactions to Effective School Concepts among Development Agencies

The World Bank was and continues to be one of the strongest advocates of the Effective School Movement.[27] International development banks often see strong synergies between their desire to impose 'economic' models of educational development on school systems in developing countries and the propensity of Effective School proponents to focus on quantitative analysis of factors associated with an effective school, especially the prominent use of student test scores. The 1990s, therefore, saw the beginning of intensive investment by the World Bank and similarly minded agencies in the Effective Schools approach in many developing countries.[28]

Figure 1.2: Contrast in Approaches Employed by Effective School and Rights-based Development Models such as Child Friendly Schools



It was not long, however, before there was a counter reaction to the economic model of school development, which the Effective Schools approach implied. Development agencies such as UNICEF and Save the Children with a more 'rights-based' approach to educational development began to express strong objections to the Effective Schools approach.[29] The basis of these objections was that the overreliance of Effective School approaches on quantitative measures of effectiveness (i.e., test scores and other quantitatively defined standards) generally ignored any consideration of children's rights. By the end of the 1990s, rights-based development agencies had put forward a practical alternative to Effective School approaches that eventually became known as Child Friendly Schools (CFS). Whereas Effective School proponents placed a very strong focus on quantitative measures to assess centrally set standards, Child Friendly School proponents put forward a totally different approach that stressed a multi-dimensional development framework characterized by a focus on educational processes such as educational inclusion, child protection, child friendly learning

[27] Ibid.
[28] Ibid.
[29] Bredenberg, K. (2009). *The Child Friendly School Movement and Its Role in Promoting Stakeholder-driven Development throughout the Southeast Asia Region,* Paper presented at *Comparative and International Education Society,* Charleston, SC (USA). http://www.kapekh.org/files/report_file/58-en.pdf

environments, stakeholder engagement, and other aspects of children's rights. A 'successful' school was, therefore, defined as one that promoted children's rights rather than a uni-dimensional focus on test scores and other quantitative measures of learning. Ideally, activities to promote these rights would be 'locally' (and not centrally) defined using more qualitative data such as case studies and learning portfolios and a focus on gradual but continuous change relative to a starting point, rather than fixed, absolute standards that are centrally formulated. Thus, by the Year 2000, development practitioners in Cambodia were confronted with two starkly different approaches to educational development (see Figure 1.2).

1.4 How Is the Effective Schools versus Child Friendly School Dichotomy Playing Out in Cambodia?

Historically, Cambodia has been very vulnerable to succumbing to donor-driven agendas. The result has been that multiple models of educational development are now quite prominent in Cambodia today to the point that there are in place education policy frameworks accommodating both Effective School and Child Friendly School development approaches, despite the stark contrasts in methodology that each imply. This suggests some serious contradictions in the policy framework that education practitioners at local level are supposed to be implementing. It is not clear how local practitioners resolve these contradictions or whether they are even aware of them.

Donors and development partners in Cambodia have also neatly aligned themselves with one ideological camp or the other with UN agencies, Save the Children, and large national organizations such as Kampuchea Action to Promote Education (KAPE) subscribing to more rights-based programming, whereas the international development banks have been advocating strongly for approaches more closely aligned with Effective Schools. For the first decade of the 21st Century, Child Friendly Schools seemed to be the ascendant development model in Cambodian schools but has gradually been supplanted by a transition to Effective Schools, as the World Bank started to re-engage in Cambodia's educational development in 2018. To some extent, the decline of Child Friendly School models has been a function of its checkered success. Although the Child Friendly School model was highly successful as a pilot (2001-07), its rapid transition from a pilot to immediate nationalization in 2008 was ill-advised.[30] The model has not been well-understood by local stakeholders and the government has followed a centralized methodology for implementation rather than a more organic approach (i.e., bottom-up) as CFS purists generally advocate. Thus, many schools did 'what' they were told to do but often had no idea 'why' they were doing it leading to an environment of 'mindless' implementation.[31] Such issues tended to undermine the effectiveness of CFS implementation and made it less compelling as a development approach.

As Child Friendly School reforms ran out of steam in the 2010s, a successor program sought to re-invigorate the rights-based, bottom-up approach to educational development. This successor program, known as New Generation Schools (NGS), began in 2016 as a key government reform to promote educational quality and good governance. NGS has followed a more bottom-up development approach with each New Generation School defining the things that it wants to excel in (multi-dimensionality) with little interference from central level. Schools are given autonomy to promote innovation and there is a strong focus on governance and accountability. While there is an accreditation framework in place to ensure school accountability, this framework focuses on 'processes' of functioning (e.g., the availability of science labs, access to varied library services, etc.) rather than centrally set terminal measures of performance such as test scores.[32]

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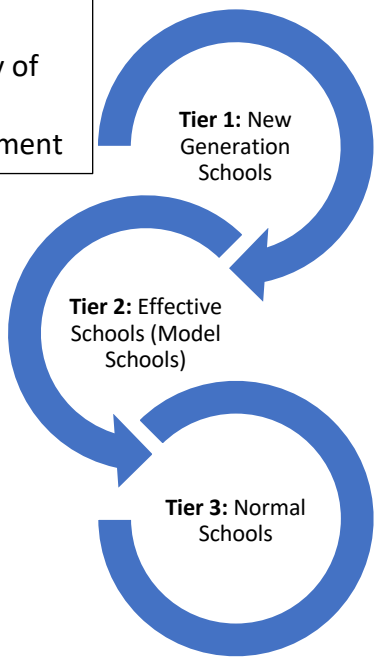
[30] Bernard, A. (2009). *Child Friendly School Evaluation Report,* Phnom Penh: UNICEF.

[31] Ibid.

[32] Bredenberg, K. (2022). *Progress with Secondary Education Reform in Cambodia* in 'Education in Cambodia: From Year Zero to International Standards,' (MacNamara, V. and Hayden, M., eds.), Singapore: Springer Press.

To accommodate these competing models of school development, the government has created a policy framework that describes a three-tiered typology of school efficacy (see Figure 1.3). The highest level of the typology (Tier 1) is occupied by 'New Generation Schools,' which follow a rights-based, bottom-up development model emphasizing autonomy, good governance, and innovation and where success is defined by process-oriented accreditation standards. Next in this typology come 'Effective Schools' (Tier 2), which are also sometimes referred to as Model Schools. Schools in this category follow a top-down development model focused on centrally set performance standards and terminal learning outcomes (i.e., test scores) as the key criteria of success (i.e., effectiveness). 'Normal schools' (Tier 3) are those schools that generally do not have access to intensive development assistance and have no explicit guidance about development approaches per se other than existing policies describing Child Friendly Schools, which are still not generally well-understood by local stakeholders. Ideally, the hope is that Normal Schools will gradually evolve into Effective Schools and then eventually into New Generation Schools. A potential challenge in this model is that transition from one tier to the next could be highly problematic because the development approach implied in each tier of the typology is fundamentally different, as the above discussion has sought to demonstrate.

Figure 1.3: Policy Typology of School Development



2. NAVIGATING SCHOOL DEVELOPMENT MODELS THAT ARE DIAMETRICALLY OPPOSED

2.1 Understanding the Partiality of Certain Constituencies to Effective School Approaches

To better understand the prospects for smooth implementation of Effective Schools in Cambodia, one has to be aware of its constituency of supporters and why it has proven popular within this constituency. As noted earlier, Effective School approaches have been championed by the international development banks because of their proclivity for facts and figures and quantitative definitions of efficiency (e.g., pass rates, completion rates, dropout rates, etc.). With its emphasis of quantitatively defined standards and affinity for statistical modelling as the basis for assessment, Effective Schools seem made to order for the typical donor bureaucracy. These methodological attributes make it easy to justify funding to superiors and advocate for more of the same.

Government bureaucracies are also very fond of Effective School approaches because of their methodological simplicity and 'formulaic' recipes for success. Especially when one is dealing with thousands of schools across the nation, there is a compelling attractiveness to the easy aggregation of facts and figures required for needed conclusions based on the proverbial checklist. Bureaucrats frequently have little patience for the complexities of educational progress that are not so easily quantified. And just like their counterparts in international donor bureaucracies, educational officials see Effective School approaches as providing an attractive means through which to justify investment decisions. Thus, it is easy to see why Effective School approaches have such a strong constituency among educational and donor bureaucracies.

2.2 Empirical Critiques of Effective Schools

Despite its popularity among certain constituencies in large donor bureaucracies and government,

there has been a growing number of researchers who have been highly critical of Effective Schools.[33] These research studies tend to echo an anti-Effective School constituency who are very antagonistic towards the top-down methodologies promoted by donor and government bureaucracies as well as the statistical modelling techniques used to validate a school's success.[34] This constituency generally includes child rights groups and organizations, civil society, and grassroots education practitioners, among others. Research critiques of Effective Schools can broadly be classified into the five categories that are summarized in Box 2, each of which are discussed in more detail below.

Box 2: Key Critiques of Effective School Approaches

Critiques of Effective Schools can generally be grouped under five headings:

1. Effective Schools promote an **oversimplified view** of how schools work that is essentially uni-dimensional in outlook.
2. Effective Schools take a **top-down approach** to development that is fundamentally unsustainable.
3. The prominent use of **standardization stifles innovation.**
4. The extensive use of student testing and other quantitative standards in an Effective School model creates a **distortionary feedback loop** that has unintended consequences on stakeholder behaviors.
5. Relatedly, the strong focus on quantitative standards lends itself to **data falsification** and obfuscation of the real situation in a school.

2.2.1 Oversimplification of Education Issues & Uni-dimensionality

Simplification of the approach to school development is at the same time one of the greatest strengths and weaknesses of Effective Schools. As noted above, it is a strength because it very much facilitates the work of large institutional bureaucracies, which seek to avoid complexity. However, some would argue that the way children learn and schools function are actually quite complex processes that cannot be so easily simplified.[35] Oversimplifying these processes through the extensive use of quantitative standards that do not capture the operational complexity of a school results in a uni-dimensional approach to school development focusing primarily on narrowly set standards, such as test scores. Such an approach potentially ignores real problems that really matter.[36] For example, compressing the entirety of students' learning performance into a solitary test score gives little idea of whether students are simply learning the basics or whether they are solving problems in real world contexts; and because paper and pencil tests tend to focus on the lower-order cognitive skills, it is more likely to be the former than the latter. Quantitative learning measures also say little about the inclusiveness of the learning environment or other issues relating to learning complexity. Thus, an oversimplification of the school development context creates significant challenges for real-life implementation as well as understanding the institutional dynamics of what is really happening at a school.

The tendency of Effective School approaches to oversimplify the process through which a school becomes successful also suggests that there is a 'formula' for a successful school, which many educators might question.[37] Some would hold that schools become successful when they develop sets of activities that effectively match their context and the needs of their students rather than when they are meeting centrally set standards.[38] Because every school is different, the idea that there could be a standard formula applicable to all settings is likely a fallacy that educational planners should beware

[33] Op. Cit., Goldstein, H. and Woodhouse, G. (2000).

[34] Coe, R. and FitzGibbon, C.T. (1998). *School Effectiveness Research: Criticisms and Recommendations,* Oxford Review of Education, 24, 421-438.

[35] Op. Cit., Goldstein, H. and Woodhouse, G. (2000).

[36] Ibid.

[37] For example, Robertson, B. (2020). *The Teaching Delusion: Why Teaching in Our Schools Isn't Good Enough,* Suffolk, UK: John Catt Educational.

[38] Carlyon, T., (2018). *Educational Change: A view from the bottom up*, New Zealand Journal of Teachers' Work, Vol. 15, Issue 2, 105-23. https://www.researchgate.net/publication/329839980_Educational_change_A_view_from_the_bottom_up

of, attractive though it might be to many educational bureaucracies. Such an idea implies that schools are 'static' institutional settings in which they reach a point of excellence (as defined by a quantitative standard) and then stop developing. Such a belief is likely to be challenged by many who would alternatively argue that educational institutions are continually evolving and that there is always room for improvement. [39] Formulaic approaches to school excellence are, therefore, another oversimplification of reality that does not reflect the real experience of many educators.

2.2.2 Top-down Approaches Are Unsustainable

Many education development projects in Cambodia that are affiliated with Effective School approaches embrace the idea that centrally set standards of school performance and student learning are an essential starting point for the implementation of inputs. One of the key standards of performance in this regard are often test scores, as noted earlier. Schools must then organize all of their activities around satisfying these standards, which as pointed out above, are set by the educational bureaucracy at central level. In development parlance, such methodologies result in decidedly 'top-down' approaches to development and institutional change.

The success rate of large institutional bureaucracies both in the corporate and public sector to create positive organizational change through centrally set mandates has been found to be quite low. Indeed, some researchers have found this rate of success to be as low as 30%.[40] Although top-down approaches to development are attractive to large institutional bureaucracies because they are expedient and simple to design, they generally fail to result in sustained change for a number of reasons. First, such approaches often overlook the role of local stakeholders in identifying either the problem or the solution. Thus, they have little ownership of the activities that are put in place to meet mandatory standards. When projects end, the activities often stop, too, because stakeholders have not internalized the values of the project nor have they any ownership of its centrally set goals. Indeed, local stakeholders may actually resent the pressure to drop everything and focus on standards-driven activities such as centrally set monthly tests.[41]

A second reason that top-down development approaches often fail is that the activities that they mandate to meet centrally set standards do not match the real context of a school. As noted above, school contexts tend to be highly variable from location to location such that centrally set activities often offer a poor fit for locally defined problems. This challenge was the crux of the conclusion offered by William Easterly in his masterful analysis as to why large-scale top-down development projects often fail.[42] In his analysis, Easterly points out that development aid is usually implemented by two groups of agents one of which he calls the 'Planners' and another group, whom he calls the 'Searchers.' The key strategy of Planners is to use central plans and standards to effect change while Searchers favor home-grown, bottom-up solutions. In his research, Easterly found that implementers who base their approach on centrally driven plans and standards often fail largely for the reasons mentioned above, i.e., stakeholders do not internalize the values of the program and the mandated activities do not match real problems in the local context.

In contrast to the top-down approach used in most Effective School programming, critics argue that development assistance should focus on creating the conditions for successful empowerment to enable local stakeholders to find their own solutions to perceived local problems. For example, New Generation Schools empower local schools by giving them the power to set their own goals, control budgets, hire their own teachers, change the curriculum, and other forms of institutional freedom

[39] Ibid.

[40] De Smet, A., Schaninger, B., and Smith, M. (2014). *The Hidden Value of Organizational Health – and How to Capture It*, McKinsey Quarterly, April, 1-11.

[41] Op. Cit., Carlyon, T., (2018).

[42] Easterly, W., (2006). *The Whiteman's Burden: Why the West's Efforts to Aid the Rest Have Done So Much Ill and So Little Good,* New York: The Penguin Press.

that leads to dynamic and organic change that is owned and directed by stakeholders.[43] Such bottom-up approaches while more complex in their organization and roll-out are more likely to achieve sustained change.

2.2.3 Standardization Stifles Innovation

The tendency of Effective School programming to rely on highly standardized implementation templates misconstrues the school as a 'static' institutional context. This mode of implementation is another aspect of the observation above that top-down implementation characterized by high levels of standardization disempowers stakeholders and undermines any effort for a school to become a 'dynamic' setting that promotes institutional change and innovation.[44] The struggle to achieve a balance between 'structure' on the one hand and 'freedom' on the other is a dilemma that faces all projects in the education sector during the period of their design. Too much structure stifles creativity and innovation while too much freedom can lead to anarchic conditions of implementation. Trying to achieve a balance of 'freedom in structure' is often easier said than done, but it is in general better to err on the side of more freedom than structure. Empirical research studies suggest the need for some structure when executing cognitive tasks but that without freedom, creativity is likely to be limited.[45] Because Effective School programming tends to be highly standardized (i.e., overly structured), it is unlikely to promote a dynamic environment that will lead to educational innovation.

The observation that bureaucratic systems and their penchant for standardization stifles innovation raises a conundrum for government, since large national projects will always need to be implemented by the educational bureaucracy. Some researchers, however, have observed that not all bureaucracies are the same. For example, one study has made a distinction between what they call 'Enabling' Bureaucracies and those that are 'Coercive.'[46] Enabling bureaucracies have been found to take measures that reduce the deadening effects of standardization by redefining their role so that there is more emphasis on providing guidance and oversight clarifications rather than rigid requirements relating to performance and assessment. The Cambodian government has made some movements in this direction by taking actions to outsource project implementation of some initiatives to smaller, less bureaucratic entities while redefining the government's role to one of oversight and problem resolution when issues arise.[47] This suggests that the government does have options when it comes to a choice between structure and freedom in the projects that it designs and implements.

2.2.4 Distortionary Feedback Loops

The phenomenon of 'washback' effects resulting from high stakes evaluations such as tests and other forms of assessment has been well documented.[48] In this respect, "washback" is a term used in education to describe the influence, whether beneficial or damaging, of an assessment on the teaching and learning that precedes and prepares for that assessment. Thus, washback describes an unintended effect on teachers and other stakeholders, as they change their behaviors to avoid blame

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[43] Op. Cit., Bredenberg, K. (2022).

[44] Heick, T. (2019). *12 Realities That Are Reducing Innovation in Schools,* in Teach Thought, September 2019. https://www.teachthought.com/education/reducing-innovation-schools/

[45] Sagiv, L., et al., (2009) *Structure and Freedom in Creativity: The Interplay between Externally Imposed Structure and Personal Cognitive Style,* Journal of Organizational Behavior, Vol. 10. https://faculty.runi.ac.il/jgoldenberg/pdf/structure%20and%20freedom%20in%20creativity.pdf

[46] Adler, P.S. and Borys, B. (1996). *Two Types of Bureaucracy: Enabling and Coercive,* Administrative Science Quarterly, Vol 41, No. 1, 61-89. https://www.jstor.org/stable/2393986

[47] Op. Cit., Bredenberg, K. (2022).

[48] For example, Tsagari, D., Cheng, L. (2016). Washback, Impact, and Consequences Revisited. In: Shohamy, E., Or, I., May, S. (eds) Language Testing and Assessment. Encyclopedia of Language and Education. Springer, Cham. https://doi.org/10.1007/978-3-319-02326-7_24-1.

by ensuring good student test performance.[49] Often this effect takes the form of 'teaching to the test,' which may necessitate abandoning certain kinds of teaching methodologies if these do not serve the purpose of helping students to do well on paper and pencil tests, even if these methodologies have been prioritized by government. And since conventional tests tend to focus on lower-order thinking skills as noted earlier, the use of methodologies such as Project Work and Problem-based Learning, which emphasize higher-order thinking is very likely to fall by the wayside. This is a good example of an unintended consequence of extensive testing. Indeed, there is also a well-established body of research that demonstrates that teaching to the test actually hurts student learning and dumbs down the curriculum.[50] It is in this sense that the high stakes evaluation used in Effective School settings has a distortionary feedback effect on the behavior of stakeholders.

It should also be noted that washback effects can be felt more broadly than from just testing, particularly if the standards governing other forms of performance (e.g., lesson planning, meeting frequency, etc.) are quantitatively expressed. That is, once stakeholders become aware of the centrally set standards for which central level bureaucracies will hold them to account, they start to alter their behavior in non-optimal ways to meet the standard(s). This often results in dysfunctional behavior such as 'teaching to the test' as noted above, falsifying data (see below), diverting attention from other key school functions for which there are no standards (e.g., extracurricular activities), and other behaviors that do more damage than good. Thus, the singular focus on centrally set standards that one sees in Effective School approaches is very prone to undermining any tendency among school level stakeholders to focus on homegrown solutions if these are not mandated by centrally set standards.

2.2.5 The Danger of Data Falsification

The falsification of educational data reporting has long been a common problem in Cambodia.[51] Research studies have mentioned that local level administrators often interpret centrally set targets as quotas, leading to pressure on schools to 'modify' data to meet the national target.[52] Given this culture of educational data reporting in Cambodia, it would seem to be an extremely risky strategy to create project designs that rely heavily on quantitatively set performance standards. For example, one Effective School project in Cambodia has posited 73 performance standards for schools to report on, all quantitatively expressed with little flexibility in the way that the data is reported. If schools feel pressured to report on standards in a way that satisfies bureaucratic imperatives, there are likely to be very real concerns about the validity of the data collection processes observed in projects that rely heavily on centrally set quantitative performance standards. Thus, even if one accepts the dubious proposition that quantitatively set performance standards can capture the real situation at a school (see Section 2.2.1 above), there are likely to be serious questions about whether one can really believe the data that is being reported given the data reporting culture in Cambodia.

3. CONCLUSIONS

The arrival of meaningful educational reform in Cambodia in the last decade has opened many possibilities for achieving educational change and innovation. In its efforts to make an important breakthrough in educational quality, the Cambodian government has shown its flexibility in accommodating many different school development models to achieve its educational reform agenda.

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[49] Smith, M.L. (1991). *Put to the test: The effect of external testing on teachers,* Educational Researcher, Vol. 20, Issue 5, 8-11.

[50] Singer, S. (2016) *Why Teaching to the Test Is Educational Malpractice,* in Gadfly on the Wall. https://gadflyonthewallblog.com/2016/11/03/why-teaching-to-the-test-is-educational-malpractice/

[51] KAPE (2013). *Enrollment Trends in Phnom Penh: A Needs Assessment,* Phnom Penh: Save the Children. http://www.kapekh.org/files/report_file/47-en.pdf

[52] For example, Bredenberg, K., (2000). *Student Repetition in Cambodia: Causes, Consequences, and Its Relationship to Learning,* Phnom Penh: UNICEF. http://www.kapekh.org/files/report_file/1-Student-Repetition-In-Cambodia.pdf

Effective Schools, Child Friendly Schools, and New Generation Schools are among the school development models that are currently in circulation in Cambodia, all of which have their own policy frameworks.

Nevertheless, the liberal accommodation of starkly different school development approaches may invite multiple challenges, since the typology of school development models allowed by the government promote very different stakeholder mindsets, which may impede the transition of a school from one model to the next. For example, Effective Schools focus on compliance with centrally set standards of performance while New Generation Schools foster non-uniform performance standards that are set locally. Similarly, the former seeks to define effectiveness in terms of economic efficiency models that tend to be quantitatively expressed and terminal outcome-based while the latter defines success in terms of promoting children's rights, stakeholder empowerment, and performance 'processes' (as opposed to terminal learning outcomes). Thus, there does not appear to be an easy path of transition from one developmental tier to another, even though the policy typology developed by the Cambodian government does seem to favor an evolutionary transition from one tier to the next as schools develop. But because of the lack of any developmental relationship between tiers in terms of their philosophy and methodology, it would appear that the school development model typology is really non-linear in nature. Thus, it might be possible for a Tier 3 school to transition directly to Tier 1 if it can meet investment criteria, thereby making the Tier 2 stage one of questionable relevance.

To some extent, the problem described above stems from the continuing predominance of donor-driven agendas. As long as the Cambodian government hopes to receive financial support from international development banks and other donors, it is going to have to demonstrate buy-in for economic models of school development regardless of whether there is a conviction that such models really work. On the other hand, the rights-driven and more holistic school development models embraced by the Cambodian government in the early 2000s do seem to have much more grassroots support, particularly among Cambodian civil society groups. And while rights-driven approaches also have their advocates among certain institutional donors such as the UN, there seem to be many more national groups who also support such approaches out of a heart-felt conviction for their effectiveness rather than a desire to appease a donor.

Advocating for more home-grown solutions to Cambodia's school development needs that also have grassroots support would seem to be the advised path for the country's education system going forward. Such development models are more likely to be internalized by stakeholders and provide a better match for the real needs in the education system. Stronger relevance and easy pathways for internalization for a school development model are in turn more likely to provide Cambodia with sustained pathways for school improvement, in contrast to imported development models that are imposed from the top-down. It remains to be seen, however, whether more 'Made in Cambodia' school development models will emerge to displace imported, donor-driven strategies.

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ANNEX 1:

Conference Program

28-29 September 2023 – Phnom Penh, CAMBODIA

Time	Program Topic	Kind of Event	Speakers
Day 1			
7:30 – 8:00 AM	**Participant Registration**	--	--
8:00 – 8:10 AM	**National Anthem & Traditional Welcome Dance**	**Plenary**	--
8:10 – 8:20 AM	**Welcoming Remarks**	**Plenary**	**Mr. Sao Vanna, KAPE Executive Director**
8:20 – 8:45 AM	**Introduction to the Conference: Prologue & Prospects of Autonomous Schools**	**Plenary**	Mr. Kurt Bredenberg, Sr. Technical Adviser, KAPE
8:45 -9:15 AM	**Keynote Address**	**Plenary**	**H.E. Dr. Hang Chuon Naron** **Deputy Prime Minister** **Minister of Education, Youth, & Sport** **Royal Government of Cambodia**
9:15 – 9:30 AM	***Coffee Break***		
9:30 – 10:30 AM	Do Mainstream Donors Have a Role to Play in Autonomous School Reforms like New Generation Schools?	Panel Discussion/ Q&A	**Moderator:** Dr. Andrew Jones, Education Consultant **Speakers:** ○ H.E. Sann Vathana, Undersecretary of State, MoEYS ○ Mr. Ul Run, Senior National Adviser (KAPE) ○ Mr. Mar Sophea, Asian Development Bank/Cambodia ○ Mr. Magnus Saemundsson, Former First Secretary of the Swedish Embassy
10:30 – 11:15 AM	Perceptions of Elitism and How This Impacts Autonomous Schools (Cambodia)	Plenary Q&A	Mr. Kurt Bredenberg, Sr. Technical Adviser, KAPE
11:15 – 12:00 PM	Lamplaimat Pathana School: An Early Pioneer of School Autonomy in Thailand	Plenary Q&A	Ajarn Wichian Chaiyabang, Director of Lamplaimat Patana School & Foundation, (Thailand)

Time	Program Topic	Kind of Event	Speakers
12:00 – 1:30 PM	***Lunch (to be provided to all participants)***	Lotus Restaurant	
1:30 – 2:45 PM	Autonomous Schools in Laos: The Latest Developments in Lao PDR	Break-out Session (Main Hall)	Dr. Sounieng Vongkamchanh, Director, Faculty of Education, National University of Laos
	Independent Public Schools in Singapore: Origins and Evolution	Break-out Session (Room A)	Mr. Vignesh Naidu, Director of Operations, HEAD Foundation of Singapore
2:45 – 3:15 PM	***Coffee Break & Short Documentary on New Generation Schools***	Main Hall	
3:15 – 4:15 PM	The Autonomous School Paradigm and 21st Century Education	Break-out Session (Main Hall)	Mr. Ul Run, Senior National Adviser (KAPE)
	Autonomous School Movements and the Link with Leadership	Break-out Session (Room A)	Dr. Andrew Jones (Education Consultant)
4:15 -4:30 PM	**Wrap-up Session & Preparation for Day 2**	Main Hall	Mr. Kurt Bredenberg, Sr. Technical Adviser, KAPE
DAY 2			
8:00 – 9:30 AM	What are the Best Practices for Autonomous Schools throughout the World? ○ ***USA:*** Charter Schools ○ ***UK:*** Academies ○ ***Singapore:*** Independent Public Schools ○ ***France:*** Ecoles sous Contract ○ ***Cambodia/Laos:*** New Generation Schools ○ ***Thailand:*** World Class Schools/ Government-dependent Private Schools/Science High Schools	Panel Discussion/ Q&A (Main Hall)	**Moderator:** Mr. Ul Run, Senior National Adviser (KAPE) **Speakers:** ○ Dr.Nela Navarro, Assistant Teaching Professor, Rutgers University (USA) (online participation) ○ Ajarn Wichian Chaiyabang, Director of Lamplaimat Patana School (Thailand) ○ Mr. Vignesh Naidu, Director of Operations of the HEAD Foundation (Singapore) ○ Mr. Phann Bunnath, NGS Accreditation Coordinator (USA & Cambodia) ○ Mr. Stanislas Kowalski, Master Mentor, NGPRC (France)
9:30 – 9:45 AM	***Coffee Break***		

Time	Program Topic		Kind of Event	Speakers
9:45 – 10:45 AM	Keeping Up: A Template for Autonomous Schools to Deal with Tech's Relentless Pace, and Expand Students' Horizons – A Case Study		Break-out Session (Main Hall)	Mr. Dan Donaldson, Founder of Apptessence (Education Technology Firm, Canada)
	The Role of NGOs in Scaffolding the Creation of New Generation Schools		Break-out Session (Room A)	Mr. Stanislas Kowalski, Master Mentor, NGPRC
10:45 – 11:00	*Short Break for Presentation Set-up*		--	--
11:00 – 12:00 PM	Autonomous Schools and New Opportunities for Mentoring		Break-out Session (Main Hall)	Dr. Sun Somara, Training Coordinator, NGPRC Mr. Stanislas Kowalski, Master Mentor, NGPRC
	New Generation School Initiative in Cambodia: Revisiting Its Effects on Shadow Teaching		Break-out Session (Room A)	Dr. Nhem Davut, Royal University of Phnom Penh (Researcher)
12:00 – 1:30 PM	***Lunch***		Lotus Restaurant	
1:30 – 2:30 PM	Innovative School Governance for Sustainable Quality of 21st Century Learning & Instruction		Break-out Session (Main Hall)	Dr. Bo Chankoulika, Director, MoEYS Policy Department
	Accreditation Mechanisms That Support the Integrity of Autonomous Schools		Break-out Session (Room A)	Mr. Phann Bunnath, Accreditations Coordinator NGS
2:30 – 3:00 PM	***Coffee Break & Small Group Organization for Discussions on Permanent Secretariat Establishment***			
3:00 – 4:00 PM	***Discussion on Permanent Secretariat Establishment***	Small Group Discussion (Group A)	Main Hall	Conference Facilitators
		Small Group Discussion (Group B)	Main Hall	Conference Facilitators
		Small Group Discussion (Group C)	Room A	Conference Facilitators
4:00 – 4:45 PM	***Short Group Reports***		Plenary	Group Reporters
4:45 – 5:15 PM	***Wrap -up Session and Next Steps***		Plenary	Mr. Kurt Bredenberg, Sr. Technical Adviser, KAPE

***Note: A Registration Form will be circulated during the conference to register individuals for the small group discussions**

ANNEX 2: Radio Interview with Ajarn Wichian Chaiyabang of Lamplaimat Patana School

Interview with Headmaster Wichian Chaiyabang

"No stone is stupid."

"Schools outside the shell"

Because we believe that every child has equal potential. No one is smarter or dumber than anyone else. There are only children who do not have the opportunity to access good, correct, and quality education. Lam Plai Mat Phatthana School It was therefore established in 2003.

With the objective of being a model school that aims to develop students effectively. To develop humanity for everyone equally.

Every human being has the potential to develop himself. True education is therefore a process of self-development. from asking questions Practice to find the answer yourself. Therefore, teachers are not teachers. But it is like a companion who will help support students on the same boat."

This is a private school that does not charge tuition. Most of the operating budget comes from donations. School income-earning activities and admit students by lottery Not measured by abilities or exams. No one is selected and no one is excluded. Most of the children come from farmer families in the area.

"Current education emphasizes memorization and memorization like a parrot, as they say. which they have been dead for a hundred years It is a form of education that focuses on measuring results by test scores. And it comes with the belief that those who score lower will fail. This is a level of separation that destroys humans from the interpretation that humans are stupid.

"The heart of education is the process of developing human beings to be independent. freedom from ignorance Freedom from what surrounds you" as the words on the sign in front of the school 'School outside the shell'

Educational management at Lamplaimat School is developed from kindergarten to Mathayom 3, thus emphasizing the development of humanity and the full potential of learners, both physically and mentally. By teaching students' skills in living life Occupation self-reliant Have a conscience in helping others and developing society

Upon graduation Every student will know himself. able to think analytically and have various problem-solving skills systematically These are characteristics that are necessary for growing and living in the present era.

"We are clear about our goals for student development. We look at human development. I want him to be a complete human being, looking at two sides. The first aspect is extrinsic intelligence. Understanding the world and various phenomena that occur and inner intelligence is understanding oneself Both sides of intelligence will lead to a normal and happy life.

"Wisdom is having both knowledge and understanding. The traditional education system emphasizes on letting children know. Children memorize those things without understanding them. Children know that trees produce oxygen. It has properties like this. But I didn't understand that living things in nature are supportive and interconnected. And how do we ourselves relate to them?

"At the same time Traditional education also teaches children to have very little understanding of themselves. One year the school might take the children to a Dhamma camp for three days. But the Dhamma camp does not make any difference in the ethical thinking structure in the children's brains."

Each day's class schedule at Lam Plai Mat Pattana School includes the promotion of Emotion and Spiritual Quotients (inner intelligence) and Intellectual Quotients (external intelligence).

Every morning, children will engage in psycho-educational activities. It is the development of wisdom from within. To create awareness of children by practicing mindfulness. Practice contemplating to be aware. Emotions Can control myself See the value of things and bring good things into the subconscious mind and

adjusting the brain waves of children who just ran around To be in a low brain wave state To be ready to receive information which affects memory and learning

Psychoeducation is not about forcing children to meditate. Because meditation may not be appropriate for the behavior of naughty children. If we are forced to do it He'll be even more bored. not cooperating and did not produce the expected results in the end

For example, the walkway is specially built with a small pond. At the end of the walkway and there were logs scattered all along the way. So that walkers can practice mindfulness Focus on the present and know what you are doing Because if you don't know You may easily trip over these obstacles.

After psycho-educational activities It comes to strengthening external intelligence. In the morning in a hexagon-shaped classroom designed to prevent problems for children in the back of the room, children will learn basic skills in Thai language, English, and mathematics in a holistic manner, such as Thai language, learned through literature that is appropriate for children of different ages. Practice analyzing language according to English language principles, emphasizing communication through foreign literature. and learn through applications Mathematics is learned through understanding. Don't rush to find the answer. But focus on drawing diagrams. Plan solutions, etc.

“Teachers are at the heart as supporters of learning. Not the position of the teacher Therefore, teachers will change their mindset from being a teacher to being a role player in organizing learning. We also have to change the way we look at children. His whole being is a human being who is hungry to learn. You have to look at it that way. Then stimulate with questions or other elements. for him to learn and always facilitate him to learn on his own and learn together.”

Then in the afternoon, children will learn with the PBL or Problem Based Learning process to enhance external intelligence. Let children know how to ask questions and solve problems on topics they are interested in or matters related to the community.

PBL is a student-centered educational model. Integrating various sciences together In line with the nature and learning of the brain. This will allow children to connect knowledge with real life.

“In addition to children being able to practice systematic thinking and problem solving skills, It also helps build confidence in them to express their opinions on the information they have sought and researched on their own. Exchange with friends freely without anyone deciding whether it's right or wrong. “When you try and make mistakes by yourself. Children will learn whether their assumptions are right or wrong for what reason from what is taught.

ANNEX 3: Transcript of Presentation by Mr. Daniel Donaldson, Keeping Up: A Template for Autonomous Schools to Deal with Tech's Relentless Pace and Expand Students' Horizons

We're running a project here in Phnom Penh through the NGS, or New Generation Schools. It's a partnership with KAPE, and it's directly supported by the Ministry of Education in the public school system; this is a public-school enterprise. As you know, KAPE are sponsoring this conference and they, through the NGS, have a mandate to build autonomous schools. Our project is very dependent on the autonomy that those schools have, and it's something we're using to show that new kinds of tech education can be incorporated into Cambodian education. Also, that they can originate right here, appropriate to what Cambodia is capable of, and not an adopted model from an outside source.

So what are we doing? We're teaching kids what we could call Game Construction. Another name we've adopted is Digital Visualization Using Game Engines. And I use those terms to manage expectations. If we say 'game development' people immediately think, "oh they're going to be writing code, creating a puzzle game". Or, "they're gamifying some educational task". Or maybe worse, "they're going to be teaching how to create a battle scene or a quest scene in a 3-D game".

However, you think about games – and mostly we're focused on 3-D games – if you think of them as a story being told, the story is told in verbs and nouns. And what's reflected in most people's expectations when we say 'game development' are the verbs: you know, the actions that constitute the play of the game.

We're more focused on the nouns in that story. 3-D game worlds allow expressive, rich, visual environments where people are drawn into nuanced, visually engaging environments. They can be either limited to a small world, or effectively unlimited. But they are places where players explore and go wherever they want, and are presented with new possibilities for action.

The possibilities lie mostly in the realm of the verbs. But we focus on the nouns, in the form of visual elements that add specificity to the world presented: not just nouns, but also adjectives. They convey the nuances and subtle differentiations between things.

So that's what makes up this course. That means making the objects, making the characters, making the environments, the pieces of the underlying geometry of the game, and then the active elements of the game, like atmospheric or environmental effects. Visually nuanced components: we explore how they all come into being and exist.

Our course is roughly 100 hours long. It is already being taught, and currently moving out of the piloting phase, and into production, to borrow software development terminology. For example, we originally designed it to be taught in one term over four-hour sessions. But that's not a schedule that works optimally for everyone, so we're revising it to be better aligned with school scheduling. We're not sure if that will produce a one term course, or a two-term course. In the first case, we'd cut some material, and in the second we'll expand it.

Besides curriculum, we also had to build a whole lab, devoted to the teaching of this course. And there were two reasons why.

One of them was because the equipment that we needed, which is mostly computers, needed to be in configurations that had particular capabilities, which were above the level of what the students normally use for things like writing essays, or doing Internet research or whatever else. Even programming is less demanding than what we're doing. So these are a somewhat higher-end computers than existed in the school before, in terms of capability.

We also needed better displays. We're matching the studios that students would encounter if they went into the game development world. If they look around to see pictures of studios where people are developing games, they'll see something similar to what we have. So that led to a particular fit-out of the workstations.

We also had to configure the learning environment, because in addition to the actual specific equipment. the learning environment is integral to the learning process we wanted to provide.

As it happens, my background is as a software developer. I started developing commercial software 40 years ago, even though I'd like to deny that. Around 15 years into that career, I started getting involved with teaching people how to code.

From very early days what differentiated my teaching endeavours was that in an era when nobody was teaching anyone – other than to people in universities, in computer science, and physics and mathematics programs – to code, my job was to teach coding to just regular human beings who had no pre-existing inclination towards the subject.

That made the job easier to quantify: you couldn't attribute what these inexperienced students learned, by resorting to pre-existing rich bodies of knowledge or experience that they arrived with, or their familiarity with how to research answers for problems in coding. If outcomes were better or worse, I could correlate those outcomes to factors that I could control

One of the things that clearly affected outcomes for people learning these very concentrated, intellectually challenging, cognitively shifting skill sets, was the learning environment.

We started off as you'd expect, putting desks in rows and dropping a computer on top of each one. But when we looked at the dynamics of how students organized themselves for learning in and outside the classroom – how they grouped themselves, what kind of furniture they used, what areas of the building, what size of groups they formed – we could easily correlate those behaviours to outcomes.

If you look here, you can see what our lovely new classroom looks like. You can see that the desks are arranged in a kind of arc. This reflects what I have observed, and so far, it's making a clear contribution to outcomes and more importantly, student attention and interest in the class.

We had the furniture made to put the workstations on, but also to create relationships between the students that would work in this context.

Besides the desks in an arc, you'll also see that there're six monitors and there are six kids; but there are actually only three computers. And I built our curriculum around the idea that pairs of students would collaborate with only one computer available.

Pair programming is a common tool in programming, both to learn, and to perform the work of programming. This is where two people work together on one body of code. But generally, they have two computers, and their attention is separated much of the time, between what one is doing, editing the code, while the other uses their computer to find out things; maybe look up tutorials, documentation, or whatever. That's a great technique but it's not the one we're using here.

A primary goal was to eliminate what I call computer tunnel vision: that's what happens when students fixate on a monitor and stop interacting with other students and the teacher. And that can include they partner they're supposedly working with.

They construct a kind of perceptual soundproof box that they get inside of, which blocks out their peripheral vision too. So when key interactions between teacher and student need to happen, you have to break into the box, and that's not a good thing.

So we have pairs of kids forming a unit of six, which is our basic learning group. All our classroom configurations are multiples of six. Sitting at their desk, each student has a clear view of all the work being done by all the other students. That's why the arc exists. Even the depth of the tables is important, to improve that visual access and awareness.

You can also see the desks force the seats a little closer than would normally be the case; that also helps keep situational awareness active.

So, six is the ideal number of kids, in three teams, to do a whole lot of things. For example, if one pair gains a new skill, it works perfectly for the pair to separate out, and each visit one of the other two teams, where they can act as instructor and guide to their peers.

A lot of tasks in the curriculum are divided up in exactly this way. Usually, that happens when we assign each pair to find a demonstration of a skill that is just described in the assignment.

Let's look at how we actually do this. Each team is assigned to find a demo of a different technique. This is assigned in verbal/textual form. Show how you can make a cube taller or shorter; show how you can spin a cube around on its axis.

We tell them to find a video that demonstrates what they have been asked to focus on. In my curriculum, almost every technique is shown in a very short video clip – typically under 15 seconds.

These videos are a key part of the course resources, and there are a lot of them. It was the biggest single task in developing this course. And when we ask the students to find the video that demos the technique they've been assigned, they all get the same set of 12 or 15 links. The names on the links and of the videos are uninformative.

So this becomes an exercise that demands critical viewing, paired to critical analysis of what they been asked to look for. The key is not only to match up those two things, but also reach agreement between the paired students.

On average, they'll need to look at 8 videos to find their answer, but some will see fewer before finding their answer, and others more. Part of the strategy is to expose them to other techniques via the "wrong" videos, broadening their understanding of what scope the software has, without having to actually learn any other new technique at that moment.

And what they see can be deliberately ambiguous. Are they seeing the cube get bigger, or is it the view zooming in on the cube? Did the cube spin, or is it only the point of view rotating?

And at this stage, they haven't yet opened the software, which we use. The initial learning we're interested in is learning to correlate effect and cause, via the resources available, and it's seeing it, not doing it that marks that completion.

When they then open up the software and try it out, we want them to be testing a hypothesis, more than just puppeting a set of actions, and the critical thinking is what does that. This approach builds a conceptual framework that grows and improves around the software, but it also eliminates – as much as possible – the frustration and confusion that starting to work with the UI for an immensely complex application usually produces.

When they perform this work, they use their right-hand monitor to display the video. When the software is run, it opens up in the left-hand monitor, where they see the exact same interface that the demo video shows. This makes correlation as easy as possible and accelerates skill acquisition.

So when they get up from their workstation, to go show the other students this fabulous new technique they've learned, they've not only got a very high degree of confidence in this new skill, but the have gone through the process as a pair of understanding and explaining it internally and to each other already.

This reinforces the number six as the ideal unit. This process of peer learning can be executed quickly, unlike the elaborate process that presentations on the projector tend to be.

Incidentally, when we ran exit interviews with the first group of students and asked them if the course would be better with one computer per student, all of them were very clear that sharing one computer was the preferred configuration. So yes, we saved money. But it also contributes significantly to the learning process – because that's how the curriculum is designed to work.

This tends to pull the responsibility for core learning away from the teachers. In Cambodia, we don't have a ready body of teachers who know all about this software. So, building a course around authoritative knowledge embodied in a teacher, who lacks deep familiarity with the application, or using it in production, would be a kind of misrepresentation. The clear onus on students to learn and develop techniques of mutual interdependence ideally makes the teachers conveners and directors of the time and sequence of lessons and doesn't need to be more.

That doesn't mean that we don't train our teachers: that's a process we are in the middle of right now, and it's going very well. We have two teachers who come from the National Institute of Education's New Generation Pedagogical Research Centre, which as a place for modernizing education in the NIE, is again sponsored by KAPE.

The NGPRC program focuses on inculcating teaching that is flexible, with an aware understanding of alternate methods of teaching. These teachers' skillset is in mentoring, which suits us perfectly, and compensates for their lack of inherent knowledge.

It's important to point out, that one of the difficulties of teaching genuinely new technology, is that the pool of individuals, and particularly individuals in education, who know these technologies, is going to be very small, or nil. This in turn means that new, vibrant, and important areas of tech and tech education can get overlooked by educators, because of this gap of awareness, familiarity, and understanding of the importance that they may have.

In describing the video-driven learning and peer-instruction before, I mentioned that until they have a model for how a technique is achieved, students don't even open the software. That happens when they can explain to their partner coherently how they will achieve the goal set for them.

This is a good time to mention that the software we use a lot is Blender. It's a completely free, professional quality tool for this purpose. Without free software, this whole course would be impossible. Competing software would cost around $1000 per seat, per year.

The tools in game development are immensely complex. And this type of software is notorious for leading people into the depths of frustration. After a while, many actions become part of the students' muscle memory. But until the student internalizes these things, we needed to create a method to eliminate or at least reduce frustration that basically stops the learning process.

So what we want to do is provide modelling of the system, modelling the outcomes, modelling the actions, modelling the technique. We don't do this in a way that predetermines the outcome of a larger, probably creative task, but only focus on the pure technique. Students review whatever it is they're learning, over and over if needed, to be sure that the model of what is required in the challenge matches the model they've constructed of what that outcome should look like.

Another aside: you may notice our videos do not depend on any language: students can rely on visual pattern memory, and not only the names of things, which means English proficiency is not an impediment. This also reduces teacher dependence when the individual students teach their peers.

There's another primary peer-teaching technique that we use, besides the way I described of each member of a pair physically going to one of the other pairs.

One of our key tools, and one of the reasons we have two monitors in this set up is because all the students are always connected on a service called Discord. Discord is a game chat service that runs on everything, and its primary audience are gamers.

Discord exists in the wild as a way that gamers share how they're playing games. This can be either for purposes of prestige by showing off their Mad Skillz, or to stream tournaments, or to run demos, or whatever else. Gamers use it also for things like charity events focused on games that raise tens of millions of dollars for hospitals and causes too, by the way.

Discord is ideally set up to share the screens of game development software. And our students can demonstrate what they're doing and learning in the class using Discord.

This is the same configuration we saw with the demo videos. Discord will be on the right-hand screen, and on the left, the students will have Blender itself. The same visual correlations are made. The difference is that in a Discord demo, the pair of students performing the demo can customize it, add nuances, demonstrate errors or pitfalls, respond to requests, and so on.

You can see how this is a much more direct way to share skills, where the parallels are direct, and immediate. And of course, unlike depending on the intervention of a teacher, video or Discord demos can be happen when the students are not in class – although because most students have one monitor or a laptop, the juxtaposition will be lost.

It's a great pathway to achieving their goals in learning of technique, but also the underlying cognitive model they must develop to work in this environment. And of course, unlike a projector, it doesn't leave some students unable to directly compare the demonstration, and their own open Blender window, in a side-by-side manner.

By repurposing Discord as an educational tool, I started a process of re-positioning games in our students' minds. Games start to be seen as not just a face-value spectacle, but the result of specific effort and attainable skills using accessible technology. Discord, which most of our students are signed up for well before joining the class, is associated with games and game communities. Now, it's being integrated into their teaching experiences in an academic-connected context. That alone makes it a better choice than, say, Zoom.

One of the things I should clarify is that the piloting of this project has been with six students: that's our primary learning unit. The interactions built on six students are fundamental. But the goal is to have 12 and even potentially 18 in a class. We have a room that is probably big enough to get 18 kids in, and easy to get 12 into. We just don't have the money yet for the extra workstations, but that's coming.

Our tripartite division into pairs in groups of six works in these larger contexts. Learning for the 2 or 3 groups in a class of 12 or 18 only repeats the activities in a unit of six.

Besides learning, there is application of skills. A typical early assignment is to build a robot. In this case, one pair will build the head and body, another will build the arms and hands, and the last will build the legs and feet. At some point each pair exports what they've made, knowing it all has the converge to form a single, perfectly unified model. They know what it will look like as we give them references, but they get full freedom to interpret what they want to build using the skills they've learned.

Since there are points of contact between each pair's task, they soon learn that common things need to be set up at the outset, for all the parts to match perfectly at the end. For them to succeed, it has to be configured correctly, and if it doesn't, they have to analyze why.

With a collaborative environment already in place they can still miss lots of things because they're not aware that they should be concerned with those things. Those include scale, or setting a common reference point, this leads to errors that the course encourages as key learning opportunities. Where the skills acquisition sections aim to eliminate misdirection, the application of skills depends on it.

It's easy to include a step in the exercise to cover these conditions. But we don't do that. The students must initiate practices, and convince the others to buy into those practices, to produce better outcomes.

This creates a model of interdependence, where rather than getting isolated in the one thing that they're building, they develop an increasing understanding of the interactions, and relationships that what they build will have with what everybody else is building. In general, this is part of the goal of socializing display-focused education and breaking down that box I was talking about.

The key is that this is not a situation one team can say they did stuff right, but others did not. It all must be done together, in a way where you know each student is given equal input, and they all must reconcile and explain their model of how to succeed.

And of course, in larger classes, this exporting and sharing can be broader. Those other pods of 6 act as external validation of approaches, and provide corrective, constructive feedback.

Some Policy Aspects of the Project

So we've built this environment and this is where we start to get into some of the interesting policy-inflected aspects of this project. When we started, we had a very limited budget, with just enough money by using KAPE's equipment acquisitions budget to create the pilot. My company made the primary investment in curriculum and resources.

But to get a pilot project going we had to find a school to locate it at. That was a critical thing that had to be in place. Once we had that, I would be able to teach the course, learn what shortcomings were in my curriculum, and start a process of updating and improvement.

KAPE brought the course to Sisowath High School, part of their NGS system. Sisowath is a high school in downtown Phnom Penh, with a perhaps elevated position in the general ranking of public high schools. Briefly, it was built by the French in the 19th century as the *lycée* for the children of the elite. It's congenial, with a big wall to enclose a two-block square campus, filled with buildings and kids and play areas and so forth.

It is, however, somewhat hampered, if not actually antiquated, because all the original nineteenth century classrooms were preserved: It was one of the few architectural complexes to come through Phnom Penh's many tribulations worth restoring. But that meant working with the existing structure in an historical context. And for us, that could have been somewhat limiting.

Sisowath however, recently constructed a new building, using money raised from parents. This meant a further level of autonomy. We got a first-floor classroom there, which meant more freedom to configure the classroom space and the learning environment, which as I've said is crucial to our project.

We focused on building this classroom, equipping it with furniture, technical equipment and getting networking installed in it, as well as all the other systems that we needed. We also focused on getting outside services to enrich our program, and buying some special equipment besides the workstations, such as a 3-D scanner.

The 3D scanner is a crucial part of what we're introducing in the course. And to use it effectively, it requires operator space around whatever subject is being scanned. This is another example of how we tried to think the space through carefully, to allow multiple functions to be accommodated, in a way compatible with regular teaching activities.

When we started on this fit-out, we were thinking of it as a lab at Sisowath. But we quickly realized that as an expensive resource for one school, it was going to be underutilized. Even at the projected maximum 18 kids, Sisowath could only sustain one or two courses per year.

We started to rethink this issue of underutilization, and before the doors were open, understood that what we were building was a resource centre. Not just for the school, but for multiple schools. Effectively, Sisowath is the host, but also a client among other clients.

Now, our active plan of development is to reach out to other schools, to offer offsite learning. Other schools have responded very well to the program as we've introduced it to them, so there's interest, as well as interest from the Ministry of Education in the model we're proposing. Of course, there will be issues around scheduling and the logistics of moving kids around. But these seem manageable.

Our takeaway is that for courses of this type, which have the potential to open new career possibilities for students, one school/one centre is not the right model. We are on track to build multiple other such resource centres, including in Kampong Cham, where KAPE is headquartered and other NGS schools operate. That gives us a real opportunity to test this offsite resource-based model in a larger context.

So at a policy level, one question is, does this course provide a more general template to expand the range of technically focused courses with demanding technology? These types of courses have a potentially transformative effect for students if they can expand career and study options from the challenging domain of technology. Technologies will only become more complex, and more demanding, so the answer to this question carries weight. High schools offer early exposure that broadens possibilities. This can't be brushed aside.

Interestingly, it seems that exactly this kind of project is only possible in the public school system. Private schools, with higher revenue, can have better access to some tools, but respond best to established risk-reward ratios. The freedom from immediate cost justification allows the conditions to exist in a Ministry-supported system, to develop the right response.

So we have also explored offering the course to the private sector. This is simpler in a building created with private subscriptions, even on a public-school campus. While our lab is prohibitive for a given private school, or likely most consortiums, we can offer the access to them at a fraction of that cost, having made the initial investments. And private schools seem more likely to engage with a reputable public school than a direct competitor.

Public schools will obviously pay a fee for all of this. The package we offer provides the space, the workstations, the ancillary equipment, the curriculum, the resources, the learning environment, and the teaching staff, at a reasonable cost. The fact that the public sector can lead and define the project to meet their own needs is what makes this unusual and powerful.

But Why Games?

All of this still leaves the question unaddressed: why teach game development at all? We can see that this course is demanding both in its technical and pedagogic approach. And other options that make up the T for Technology in STEM exist. To be frank, most educators are instinctively unenthusiastic about games. Why do it?

Well, let's look at games as an industry to begin with. The games industry is approaching half a trillion dollars, rapidly: that's twenty times the entire economy of Cambodia. It's one of the fastest growing industries on the planet. It's producing employment opportunities a greater rate than programming is, even though it's only half the size.

And one of the reasons that comparison to ICT is what it is, could come down to two letters: A.I.. This is because in games, AI plays a lesser role, and exists in more employment-compatible forms, than in the ICT sector.

Games have a tiny open-source movement, but in ICT, decades of contributions of billions of lines of publicly available code exists, and has been used to train AI, like ChatGPT.

The effect may be that experienced programmers can massively expand their productivity, in part by managing through AI, what they might have delegated to juniors. This looks like ICT as a harder-to-enter, lower-initial-remuneration field in the future, which will affect students.

The jury is most definitely out about the effect of AI on code. But as a matter of basic responsibility to students, the expectation that we do not mislead or misdirect, and give good options, our course was conceived as a kind of hedge against what might happen. Even if ICT finds a way to survive as a valuable career option, so will games. So, incorporating them into student options seemed to us not only justified, but also responsible.

Meantime, in game dev, instead of a simple division into levels of experience, jobs are divided by highly diversified skills, from character creation, to creating props, to environments, which then subdivide into built urban environments and natural environments, which themselves subdivide. Character development comprises concept art, initial modelling, scanning, a process called retopologization, sculpting, clothing, and so on.

And those are just the static elements. Then there's rigging, motion capture, animation, which includes manual animation and the refinement of motion capture. There are specializations for face rigging and animation, and the same is true for hands, and even feet. We teach many of these skills, if only in introductory form, in our course.

Some of these skills may be more affected by AI than others, and the difference will become a matter of much higher value for some specialities than others. Still, after decades, there remains little or no training data for AI to scrape in game development.

And there's of course another reason. If we want to get students involved in technology, we should remember that games are the technology that they deeply care about. The devotion some students have to games arises in part from bad motivations on the part of developers. But if we see that those developers have the field to themselves, I think it is a duty to guide students to change their perception of games, in a way that can lead them to great outcomes.

The Importance of Game Engines

But besides the money, are games too inherently limited to a single sector, just an aspect of entertainment? And here we come to what I think reinforces that hope for better outcomes.

Underlying almost all games are Game Engines. And in the last decade or so, the Game Engine has become an incredibly powerful tool, put to use for a bewildering variety of purposes it was not initially intended for.

Architecture was one of the first fields to adopt game engines, where clients and developers use incredibly detailed, and even more importantly, accurately rendered, immersive and informative environments in 3D to understand projects, large and small.

Note the emphasis on information. Game engines are becoming a part of informatics, and not just entertainment.

Architecture is leaving behind the relatively crude 3-D modelling that was the standard and are moving to a much higher level of presentation. Soon, the ability to put on goggles and move through a project, large or small will arrive. That's going to be a huge shift in the way people do things, and this is and game engines will be a primary driver, even if this is never part of day to day computing for most people. But I think it will be.

A company like Apple is pretty much at the top of the innovation heap and has gotten a lot of crucial new technologies right first and brought them to the market successfully. Their new Vision product is an AR headset: augmented reality interposes synthetic objects from the domain of 3D into our world and allows us to interact with them.

Did Apple build this tool to provide the means for another game-engine driven model of computing, as massive in its changes as the mouse and windows and menus of the original Mac, or the touchscreen of the iPhone? All of these allow us to more directly interact with representations of objects, to perform real-world tasks, in compelling ways.

We have long seen disciplines like Aeronautics using game engines in an informatics context, to understand the dynamics of cockpit and cabin interiors and activities. For years, specialized game engines for aviation provided a massive variety of simulations, allowing pilots to familiarize themselves with different aircraft, in and outside of certified training regimes.

Now, in a fusion of aviation design and architecture, the simulation of moving physical resources and people onto or off of airplanes, and the complex facilities it happens in, can be modelled much more accurately and much more meaningfully in a game engine. It's the aspect of real-time, rules-based interaction that makes this something new.

Now imagine all the other industries that face similar needs to understand, explain, and improve in this way.

In biochemistry, the ability to take chemical schematic information and convert it into visual elements, interacting in three-dimensional space that has physics incorporated into it, allows biochemists to understand and better explain the actions and interactions between proteins and the ways they fold: which was, of course, crucial to the development of vaccines for Covid and cancer therapies.

Cinema has used computer 3-D for a long time. But we now see cinematographers shooting on virtual sets in which all of the walls are moving images, generated in game engines in real time. In these sets, the cameras themselves act as the controller that a game player would use. By feeding positional, lens, and lighting data directly into the game engines, ultra-high-resolution synthetic backgrounds display the exactly matched view that the camera would see. It works even if that location is next door today, or far distant in time or space, or in the realm of fantasy.

So if all that went over your head, the message to take away is that game engines are not just about games, and they can be a very enriching and enabling technology for students going into everything from math to science to engineering, and all the other elements of STEM. So it makes a lot of sense to teach game development in that context.

A Note About Technology

I want to say a couple of things to close.

A possible inherent bias against games on the part of educators is a real thing. I said earlier that, **"one of the difficulties of teaching genuinely new technology, is that the pool of individuals, and particularly**

individuals in education, who know these technologies, is going to be very small. This in turn means that new, vibrant and important areas of tech and tech education can get overlooked by educators, because of this gap of awareness, familiarity, and understanding of the importance that they may have."

I know it's a bit much for me to quote myself, but I think it's clear that we need to examine the direction that technology is moving. Educators and the education industry must make decisions about what technologies to incorporate into teaching: you can't teach everything. We should avoid seat-of-the-pants heuristics, based on a limited understanding of how games or any other technology has developed, to decide whether or not these technologies should be dismissed. We need to see what's happening in game technology on its own terms, but we should teach it on ours.

But here's the problem: all technology harnesses scientific advances, in practical form, in order to disrupt the most practical of things: Markets. Technology brings chaos and disruption.

Markets are crowded. Established suppliers dominate, whether that's Apple or Microsoft or Google or Amazon. Since those guys own it all, how is change supposed to happen? Where will the opportunities come from for today's students, especially in a rapidly developing economy like Cambodia?

Technology is the disruptor which allows new or existing players to move into new areas. And they do this by undermining the value of what already exists, what existing market leaders depend on, often at the level of technology.

This means that all technology runs on a very fast time clock; it's always changing. And one of the things that we have to grapple with, is how do we deal with the change in technology? Nobody's going to tell you must rewrite the math curriculum every year and a half because of the big changes in math. No one is going to tell you the same thing for physics. Yeah, we know about dark matter, but you're not going to be teaching the kids dark matter on the first class. F still equals MA.

At the end of the day, the task of incorporating an essentially chaotic discipline, or a chaotic subject, is not necessarily what educators are best able to do. One of the challenges our course tries to face is dealing with one of the most rapid-changing, disruption-oriented industries there is.

Let me give you an example: when I was first developing the idea for the course, I knew Blender, and had been using it for years. I was on version 2.93. You don't update software every day just for the fun of it. But when I started to write the curriculum, I thought I'd better get the most recent version.

That turned out to be 3.2, which is a major upgrade. When you change from 2 to 3 that usually signals a lot of changes. So then I had to go through everything I had planned out, which wasn't very much writing yet. But it was a lot of planning. And I had to check and see if it was still valid. Most of it was, and I proceeded to write the curriculum based on 3.2.

About three months later, we got our computers set up the lab and I had to install the software for the students. The current Blender version, to my horror, was now 3.4! That's not as big a change as 2.9 to 3.2, but it signified that other changes may have happened.

I had to go through all the lessons written, test and correct them to make sure that everything would work. So that gives you some kind of idea of how fast changes happen. In three months, I encountered something that had the potential to undermine the curriculum, and we hadn't even taught it yet.

If it had been worse, we could have just installed the older version. But that points to a problem, which is, when things are changing rapidly, your strategy can be, "we just won't keep up with the changes". And that's not a good idea.

This is what we're learning to grapple with. Blender has moved now to the beta of version 4! At some point in the process of maintaining a technologically focused course like ours, you must deal with change.

In software – where I come from – there are strategies like continuous deployment. These favour multiple small, frequent updates to code, over infrequent, massive changes. This reflects the internal strategies of tech itself to keep up with change, and so we can learn from it.

In tech bootcamps, where this is a big issue, I've built systems where three teachers work in the class at all times, Two are there solely to deliver the content. The third does so too; but if a problem is encountered with the curriculum in class, that instructor can edit the curriculum live, push the changes up to the LMS, and then deploy it to the students, in as little as ten minutes.

This additional instructor would seem to raise costs, but in fact it saved my companies a lot of money. Broken curriculum in technology-focused lessons can bring everything to a grinding halt, while you try to understand the problem. Whole days can be lost.

Using our strategy, the problem is eliminated, and no changes are lost. It's fine to track errors found, whether technical or simply in poor writing (guilty on both counts!). But by continuously deploying in this way, you don't get a worse problem than losing a day to a problem, which is losing another day 4 months later, to the same problem, that you forgot to fix.

A situation where teachers are not equipped to troubleshoot a problem like this, and with dozens of classes in different locations around the country, acts as a multiplier. There are other strategies, but the strategy of continuous deployment, although it adds a layer of work, seems like a good candidate to make tech-heavy courses work.

The other implication is that we don't just change the curriculum; we also must continuously deploy teacher training to reflect the curriculum. This supports resource centre approaches; if you accept the task of continuous updates to the information you are teaching as required, that entails continuous updates for the teachers. Resource centres are where fewer, more subject-focused teaches can build expertise, become attuned to teaching strategies that work, and spot areas for improvement in the curriculum.

Underutilized, teachers are only partly engaged with the course material, and these opportunities are much less available that build course integrity. It also increases the cost, inconvenience and inconsistencies that will arise as a function of curriculum changes, with more teachers to track down and upgrade. In actuality, this will act as a retardant to maintaining the course, making it, over time, a lower value for the already significant investment required.

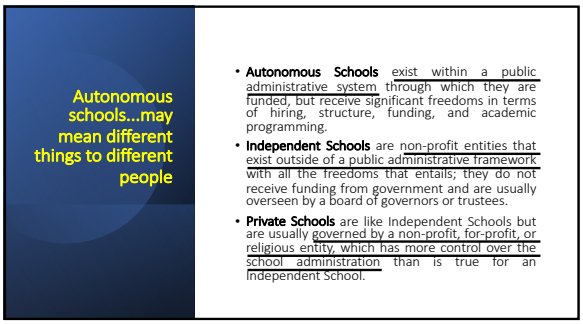
This is not just true of games. Games are a placeholder for anything taught in the realm of technology which has potential for aging out very quickly. To keep up. you must update your resources, update your curriculum, but you also have to update your teachers. And that can be, but doesn't have to be, a significant expense.

So this I think has implications for teaching of technology, and also points to the solution that is a resource-based model. That policy-oriented question, does this model of ours have something to offer in addressing the intersection between academic teaching and technology? I think it does.

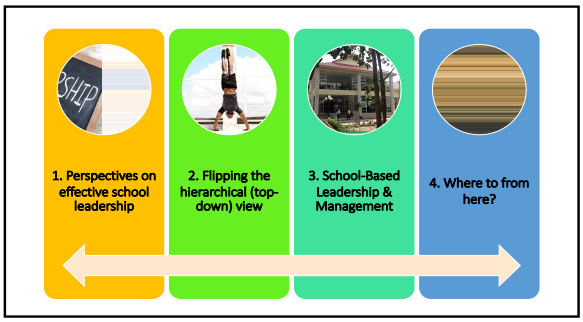
That's all I wanted to say. I wanted to provide you with a thumbnail sketch of what we're doing to more fully engage the educational system here with the challenges of technology, in all its dynamic, chaotic and frustrating importance. There are a lot more issues raised by this than fully explored. I hope you found it interesting, and I am happy to answer any questions that I have competence to, which may not bode well for the answers....

Annex 4: Slide Presentation: Autonomous School Movements and the Link with Leadership

1



2



3

Leithwood & Jantzi contend that, "school leadership is second only to classroom teaching as an influence on student learning."

Leithwood, K., & Jantzi, D. (2008). Linking leadership to student learning: the contributions of leader efficacy. *Educational Administration Quarterly*, 44(4), p.4.

4

McEwan's ten characteristics of effective principals

McEwan, E. K. (2003). *10 Traits of Highly Effective Principals*. Thousand Oaks, CA: Corwin Press, Inc.

DISTINGUISHING QUALITIES OR CHARACTERISTICS
✓ Ability to listen and communicate well
✓ Instructional leadership including teaching and learning capacity
✓ A sense of purpose and mission
✓ Appropriate human relations skills
✓ Flexibility and ability to address change
✓ High expectations
✓ Humour, energy, and enthusiasm
✓ A sense of accountability
✓ Trustworthiness and authenticity
✓ A sense of service

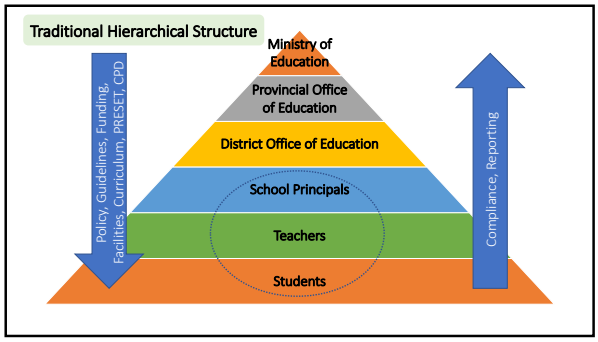
5

Traditional and excelling school principals

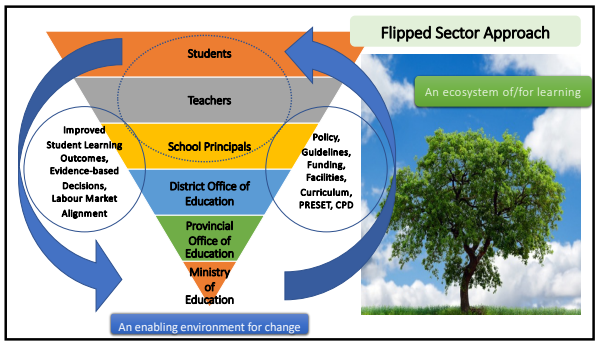
MOEYS School-Based Management Workshop, 2015

A traditional school principal...	An excelling school principal...
o Is a follower	✓ Is a follower and an initiator
o Implements guiding manuals	✓ Interprets and implements manuals
o Follows processes	✓ Follows and creates processes
o Avoids challenges	✓ Addresses and resolves problems
o Waits for support from the top	✓ Creates support at the bottom
o Avoids making mistakes	✓ Learns from making mistakes
o Sees the school as separate from community	✓ Collaborates with the community
o Receives a salary	✓ Receives a salary and incentives
o Is restrained by authorities	✓ Is facilitated by authorities
o Has a job	✓ Has a passion

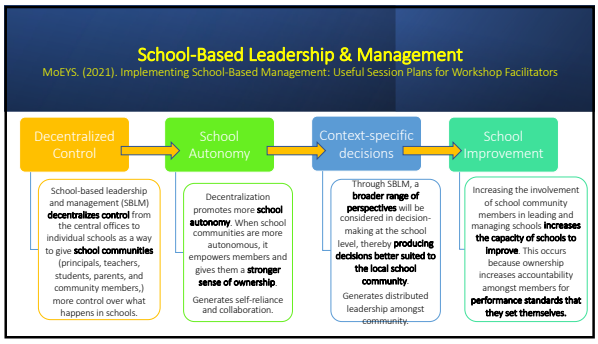
6


Traditional Hierarchical Structure
Ministry of Education
Provincial Office of Education
District Office of Education
School Principals
Teachers
Students
Policy, Guidelines, Funding, Facilities, Curriculum, PRESET, CPD
Compliance, Reporting

7


Flipped Sector Approach
Students
Teachers
School Principals
District Office of Education
Provincial Office of Education
Ministry of Education
Improved Student Learning Outcomes, Evidence-based Decisions, Labour Market Alignment
Policy, Guidelines, Funding, Facilities, Curriculum, PRESET, CPD
An ecosystem of/for learning
An enabling environment for change

8

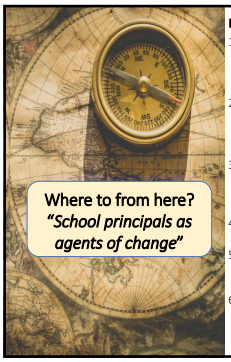

School-Based Leadership & Management
MoEYS. (2021). Implementing School-Based Management: Useful Session Plans for Workshop Facilitators
Decentralized Control
School Autonomy
Context-specific decisions
School Improvement
School-based leadership and management (SBLM) decentralizes control from the central offices to individual schools as a way to give school communities (principals, teachers, students, parents, and community members,) more control over what happens in schools.
Decentralization promotes more school autonomy. When school communities are more autonomous, it empowers members and gives them a stronger sense of ownership.
Generates self-reliance and collaboration.
Through SBLM, a broader range of perspectives will be considered in decision-making at the school level, thereby producing decisions better suited to the local school community.
Generates distributed leadership amongst community.
Increasing the involvement of school community members in leading and managing schools increases the capacity of schools to improve. This occurs because ownership increases accountability amongst members for performance standards that they set themselves.

9

Questions around SBLM and autonomous schools…

1) **How do we promote decentralized, autonomous schools within systems that are largely geared towards centralized decision-making** (policy, funding, curriculum, hiring, infrastructure, assessment, teacher education and professional development, etc.)?
2) **Is there a risk of confusion or dysfunction when responsibility and accountability are given over to the school level?** *[For example, some school principals may not have the leadership skills – i.e., delegation, consensus building, instructional supervision, community engagement – to apply the SBLM approach effectively.]*
3) **Might decision-making through consensus take more time, thereby possibly slowing down the school improvement process?**
4) **Will decentralization of roles and responsibilities require more staff development to enable local stakeholders to perform their new duties?**
5) **What other issues should be highlighted and considered around SBLM for autonomous schools?**

10



For consideration:

1) Develop and require the application of **school principal terms of reference (ToR) indicating roles and responsibilities within autonomous schools** complemented by School Principal Professional Standards.
2) A **balanced school leadership and management program for aspiring and practicing school principals** to be delivered by accredited institutions with professional curriculum and qualified and competent facilitators.
3) School principals to be **selected based upon academic qualifications, prior work experience in schools, continuing professional development, and performance appraisals** – merit-based appointments.
4) A **standardized induction program in place for new school principals** with annual performance appraisals.
5) Establish and sustain **CPD programming for school principals to improve school operations and student learning outcomes**, while realizing career advancement opportunities.
6) Establish **cluster-based (primary) or network-based (secondary) learning communities amongst school principals** to encourage problem-solving, decision-making, and accountability at local levels.

11

> The more leaders focus their relationships, their work, and their learning on the core business of teacher and learning, the greater will be their influence on student outcomes.
>
> - Viviane Robinson 'Student-Centred Leadership'

12