Prospects
DOI 10.1007/s11125-014-9318-x

OPEN FILE

Student transition from primary to lower secondary school in Cambodia: Narrative insights into complex systems

D. Brent Edwards Jr. · Thomas Zimmermann · Chhinh Sitha · James H. Williams · Yuto Kitamura

Abstract This article has three purposes. First, it presents findings from a study of student retention and dropout in Cambodia, as pupils transition from primary to lower secondary school. Second, it aims to understand from an in-depth, emic perspective the dynamics of this process and the challenges that individual families and their students face around this transition. Third, it offers policy-relevant suggestions for addressing obstacles to students continuing in school. It meets these goals by combining complexity theory with the use of narrative research methods in interviews with student-parent pairs in urban, rural, and remote communities in Cambodia.

Keywords Cambodia · Dropout · Retention · Complexity theory · Narrative · Primary · Lower secondary education

D. B. Edwards Jr. (✉)
Drexel University, 3001 Market St., Philadelphia, PA 19104, USA
e-mail: dbrente@gmail.com

T. Zimmermann
University of Kassel, Nora-Platiel-Str. 5, 34109 Kassel, Germany
e-mail: thomas.zimmerman@uni-kassel.de

C. Sitha
Royal University of Phnom Penh, Russian Blvd., Khan Toulkork, Phnom Penh, Cambodia
e-mail: sithachhinh@rupp.edu.kh

J. H. Williams
George Washington University, 2129 G St., NW, Washington, DC 20052, USA
e-mail: jhw@gwu.edu

Y. Kitamura
The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo, Japan
e-mail: yuto@p.u-tokyo.ac.jp

Published online: 14 September 2014

UNESCO used the 2012 edition of its *Global Education Digest* to highlight the severity of student dropout and the urgency of addressing retention. With the title *Opportunities lost: The impact of grade repetition and early school leaving,* it reported that, as of 2010, approximately 31.2 million students worldwide left school early; that is, they dropped out before they had attained the level of education compulsory in their country (UNESCO 2012). While the highest concentrations of early school leavers were found in South and West Asia and sub-Saharan Africa, the issue continues to affect countries in each world region, particularly as students transition from grade 1 to 2 and from primary school to lower secondary school (LSS).

While more research is being conducted on this issue, prior studies have tended not to dedicate significant attention to how key actors (such as students) understand the pressures they face; nor do they account "for the complexities of access, and the interactive, dynamic nature of factors which may contribute to dropping out", according to Hunt (2008, p. 5), who reviewed the literature on dropout in numerous countries. In response, in this article we present results from a qualitative study on the process of student transition from primary to lower secondary school in Cambodia. In doing so, we aim to present student and parent perspectives on this transition and to offer policy-relevant suggestions, derived from our application of complexity theory to the obstacles that complicate student continuation.

The context of student transition, dropout, and retention in Cambodia

From the mid-1970s to the early 1990s, Cambodian society endured many challenges. These included a totalitarian regime (the Khmer Rouge, in power 1975–1979), Vietnam's control of the country during the 1980s, and the installation of a United Nations-led government, as Cambodia transitioned to democracy in 1989–1993. Since that time, the Cambodian economy has continued to liberalise, and has developed a sizable garment industry—one of the few options for employment aside from agricultural work for those students who drop out (Springer 2011).

After being destroyed by the Khmer Rouge, the education system progressed significantly during the 2000s toward universal primary education (Kitamura, Edwards Jr., Chhinn, and Williams forthcoming). Primary education in Cambodia includes grades 1–6; basic education also includes three years of LSS. Recent data from the country's Education Management Information System show an increase in net enrolment at the primary level, from 77.8% in 1997/98 to 95.0% in 2009/10. Now the two central issues are low rates of student transition from primary to lower secondary level and high dropout rates. The transition rate is the percentage of children who successfully complete primary school and enroll the next year in lower secondary school. It currently stands at 78.4% countrywide, ranging from 60.5% in remote areas to 76.0% in rural areas and 92.6% in urban areas, while the dropout rate is 20% for each year in grades 7 to 9 (MoEYS 2008/2009).

Previous research

Researchers have looked at transition, retention, and dropout in Cambodia in relation to both economic and non-economic factors. In terms of educational supply, for example, although the Ministry of Education, Youth, and Sport (MoEYS) has continued to increase the number of LSSs, proximity is still an issue: 16% of villages in the highest income quintile have a LSS, compared to only 8.4% of those in the lowest quintile (Benveniste, Marshall, and Araujo 2008). Benveniste et al. (2008) also found that the average distance a student must travel to arrive at school ranges from 3.1 to 7.7 kilometers, for the highest and lowest income quintiles, respectively. Moreover, Velasco (2004) found that those in rural and remote locations tend to have poorer infrastructure compared to those in urban areas, particularly in terms of sanitary facilities for female students. Finally, teacher absenteeism in LSSs has been reported to be an issue that can influence student performance and, hence, dropout (Benveniste et al. 2008; No, Sam, and Hirakawa 2012). However, No et al. (2012) note that lower teacher effort seems to be related to high teacher-student ratios and the need (or requirements in rural and remote areas) for teachers to work two shifts.

In terms of demand, attention has been drawn, for example, to how direct costs (i.e., school fees) jump in the transition from grade 6 to 7. As of 2005, these costs ranged from 107,000 riel/year (about US$29) in rural areas to a high of 379,000 riel/year (about US$102) in urban areas (Bray and Bunly 2005).

Second, the costs for supplementary tutoring—a necessity if students are to succeed on key tests—becomes the most significant cost aside from pocket money for food (Bray and Bunly 2005). Given the excessive expense of tutoring, relative to household budgets, many of the poorest students do not participate in tutoring and thus do poorly on the exams, affecting their ability to continue on to higher grade levels (Brehm, Silova, and Tuot 2012).

The opportunity cost of children's time also comes into play: many students start school late (or drop out early) because they must help their families by working, both outside and within the home, although the latter is more common for girls (NIS 2009; Velasco 2004). As of 2001, 50% of children aged 7 to 14 were economically active (Velasco 2004). An important compound effect also occurs: students who start late because they are working are also more likely to drop out at lower grade levels, since opportunity costs increase once students reach their teenage years (Bray and Bunly 2005; No et al. 2012).

Looking at non-economic factors, No et al. (2012) found that student self-confidence and relationships among students were important, since Cambodian children are easily intimidated and will drop out if they do not have friends to support them. Separately, relative student achievement and parental education were also statistically significant predictors of student retention between grades 1 and 5. Finally, Ang and Conochie (2014) found teacher behaviour to be an issue in that teachers subject students who arrive late to humiliating punishments (e.g., running around the school or standing on one leg), and thus students prefer to miss school than to endure this treatment.

Prior research has clearly helped to identify a range of specific issues that affect whether or not students remain in school. In this article, we move beyond associations among individual factors, instead considering multiple issues and contexts.

Analytic orientation: Complexity theory

We employ complexity theory because it focuses on the ways that development "problems" are embedded in a web of influences that can propitiate or stifle positive change, often unpredictably (Nordtveit 2010). As we will explain, this approach is appropriate because the phenomenon of student transition—or not—to LSS is at the nexus of multiple, overlapping systems and contexts that relate to the family, school, community, and region, as well as to the organisation of various sectors (e.g., economy, health, education). Although many scholars have written on complexity theory, we draw on work that has applied it directly to the nexus of education and development (Mason 2009; Nordtveit 2010). The theory has four central tenets.

First, one must consider systems holistically, with attention to how the initial conditions of the system will influence the way specific elements influence each other. Put differently, one must be attentive to where and how the initial conditions reveal path dependence, meaning the ways that "the inertial momentum of a particular phenomenon will sustain its direction and speed along a particular path… [until] a competing phenomenon results in a redirection of that path" (Mason 2009, pp. 119–120).

Second, one must understand "human cultural settings and institutions as… complex and dynamic by nature" (Nordtveit 2010, p. 111). Put differently, "Individual human beings (local participants, donors, administrators, service providers) as well as associations of individuals (institutions and associations) are multi-dimensional, non-linear, interconnected, far from equilibrium and unpredictable" (p .111). O'Shea (2007) defines systems as being non-linear when "they are more than simply the sum of their component parts", that is, when the behaviour of the system is "not only determined by the individual behavior of the parts, but also by the 'interaction' of the parts" (p. 637). Complexity and dynamism thus stem from the fact that "the successive addition of new elements or agents to a particular system multiples exponentially the number of connections or potential interactions among those elements or agents, and hence the number of possible outcomes", where outcomes can be understood as emergent properties or behaviors (Mason 2009, p. 119).

Third, complexity theory "emphasizes the need" to understand "each actor's motivation and bounded rationality" because "a small change in the initial conditions of a system may exert great influence on the subsequent behavior of each added factor of change" (Nordtveit 2010, p. 113). The point is that understanding bounded rationality provides an indication of how conscious actors perceive and thus may respond to the environments—or "contingent complex wholes" (Mason 2009, p. 119)—in which they are located and the interventions to which they might be exposed in an attempt to create new connections that lead to alternative outcomes.

Fourth, and relatedly, it is necessary to achieve a localised understanding of the systems being investigated, since "the agents for change do not interact in" exactly "the same way" across locales; "the bounded rationality of each actor is not the same, and the possible outcomes of each added factor are therefore variable according to the initial circumstances" (Nordtveit 2010, p. 114). Localised understanding sheds light on the best ways to provide positive feedback and thus contributes to self-reinforcement, which over time leads to the development of an "auto-catalytic chain of events in the field", or what Mason (2009, p. 120) describes as the "lock-in" of a new self-sustaining phenomenon.

Methodology

In this study, we used narrative methods, which fit well with complexity theory because they help researchers understand not only how students and parents view the transition from primary to lower secondary school but also the web of pressures, connections, and obstacles that they experience when anticipating and engaging in the process of transition itself. As Moen (2006) states, "narrative research is… the study of how human beings experience the world,… narrative researchers collect… stories and write narratives of experience" (p. 2). Importantly, then, through narrative research we arrive at findings that are "neither reductionistic nor static" because, "as individuals are telling their stories, they are not isolated and independent of their context". Instead, in drawing in the work of James Wertsch (1991), Torill Moen (2006) has pointed out that the reverse is true: "the individual in question is irreducibly connected to her or his social, cultural, and institutional setting… Narratives, therefore, capture both the individual and the context" (Moen 2006, pp. 4–5).

Data collection

In June and July of 2011, we worked together, with the assistance of Khmer translators, to conduct in-depth interviews with ten student-parent pairs from ten different communities using a semi-structured interview protocol; in some cases we interviewed a grandparent, older sibling, or other family member if a parent was not available. In developing the protocol we were guided by the series of factors that previous researchers found to influence educational decision-making at the family level (Maaz, Hausen, McElvany, and Baumert 2006). The focus of the interviews was the interviewees' experiences and perspectives with these issues as the participating student for each family approached the end of grade 6 and faced the transition from primary school to LSS.

Data analysis

We created narratives for each family to depict the various systems, contexts, and sectors in which the student participants are nested. The analytic strategy we used is what Lieblich, Tuval-Mashiach, and Zilber (1998) label a "categorical-content" approach; in it, individual statements and remarks are "extracted, classified, and gathered" into categories and groups (p. 23). In accordance with prior research on student dropout, we focused on such categories as family, community, school, child, and school relationship, parents and education, tutoring, work/education aspirations for the child, elements of success, and the good life (Maaz et al. 2006). For each narrative, we sought to produce "an integrated whole" which connected the participants to their contexts, that is, to their "social, cultural, and institutional setting" (Moen 2006, pp. 4–5).

Findings

To provide insights into a variety of perspectives, we draw narratives from three different geographical categories: urban, rural, and remote. In Cambodia, the urban label is given to schools located in large towns or cities; the remote label is given to those schools located in "isolated areas where communication with and transportation to the schools is difficult and where population density is less than 10 people per square kilometer (Geeves and Bredenberg 2005, p. 30). Other schools are referred to as rural.

Case one: Urban community

Sok San and his daughter, Sok Mina, live in a community that connects with a provincial city in a southern province in Cambodia. [All names in this article are pseudonyms]. Most families in this community are farmers and intermittent laborers; many generate income "by climbing the mountain to cut down the bamboo and trees to sell", as Sok San told us. He does not "have any real job" and is willing to do anything, "such as being a laborer, whenever anyone hires" him. At times he has worked as a waiter at wedding festivities; at other times, he farms and cuts bamboo and rattan to sell. His wife, on the other hand, is a housewife, without formal employment. Sometimes, in the rainy season, she works in the rice fields. In the past, during the dry season she has found employment at weddings, where she cooks and washes dishes.

Life has not been easy for this family since they arrived in this community more than two decades ago, though the older of their two sons can augment the family income now and then. He is 22 and single; while he does not have a steady job, he finds construction work when he can, in addition to helping the parents in their rice field. The second son, who is 16 and single, does not bring in any money because “he is too young to do anything besides stay home and look after the cows”, as Sok San puts it. He is concerned: “I don’t know what I should do… I cannot earn much in the community. I work based on my ability and eat based on the income I earn”. Neither of the parents or their sons advanced very far in school. Sok San explains his situation:

> I was in some difficulty because I didn’t have a father and lived with only my mother. She wanted me to study hard, but our living standard was poor, and the school was so far away, at the [city] market, in the provincial capital, so it was difficult for me to go on foot both in the morning and afternoon for several years. My mother didn’t have money to buy a bike for me to go to school, so I stopped going to school.

The same fate later befell the younger of the two older sons, who stopped after grade 6 because the family did not have resources to purchase a bicycle. Lack of transportation was the only thing holding him back.

Sok Mina’s primary school is located nearby, about 3 kilometers from the family’s house; in contrast the LSS is a full 10 kilometers away. Currently, she can walk the 30 minutes to school, but she will need a bicycle next year to travel to the LSS. This problem is compounded by the recently completed train track that endangers students walking along the path to school.

From the perspective of the family, the quality of the community’s primary school is “neither so good nor so bad, but medium”, according to Sok San. The teachers teach those students who show up, but when students stop coming to school, they “do not say or do anything”.

Importantly, Sok Mina has a good relationship with the school and is engaged in her education. As her father says, “My daughter likes school so much. She likes studying”. Her success—she is ranked 5th out of 36 students—results from the fact that she applies herself and is given reinforcement by her parents, who very much want her to continue in school. Sok San said:

> My two sons stopped studying, and I have only one daughter, so I want her to try hard to study to get knowledge like the others. I don’t want it to be difficult for her to find a job when she grows up because she is a girl. If she [learns a lot], she can work and find a job.

To support this plan, her parents are committed to buying her a bicycle so she can make the trek to LSS next year. Moreover, both father and daughter express a desire for Sok Mina to become a teacher, though neither is sure what level of education she would need to get such a job.

After school, Sok Mina receives tutoring in English, which is not offered during the day. These extra classes are offered by a monk, at the school, every day for one hour, from 3 to 4 pm. The monk works for donations, and while the family gives what it can, the cost of tutoring is a burden. Despite the hardship, the parents see her learning English as important for economic reasons: it will help her communicate with foreigners.

Going forward, the family's economic predicament threatens Sok Mina's progress. Sok San says:

> Nowadays, we have a lot of difficult problems because we lack money to cover our daily needs. However, we have to try to overcome and struggle to help our daughter continue her study because we have only one daughter. However difficult it is, we have to struggle.

If the family can come up with the necessary money, they will be able to purchase basic materials and services that she will need, like clothes, a bike, and tutoring.

Case two: Rural community

In a rural community near a national road, So Samphors lives with her grandfather, grandmother, and younger brother. The family came to this community in 1984, in the midst of ongoing conflict between the Khmer Rouge and the government. Although So Samphors and her brother have lived here since they were born, their parents, and others from the community, are currently living elsewhere, along the Thai-Cambodian border. There, they are agricultural laborers—because there are no employment opportunities here outside of rice farming and a few informal jobs, such as cutting down trees and cutting and collecting grass.

The grandfather, Ouk Chan, completed grade 3, and each of his five children completed at least grade 9, with two continuing on to finish high school. So Samphors is currently in grade 6, and her brother is in grade 4. The members of this family are above the community average when it comes to their level of education, she said, as "most students here do not complete grade 9". Reportedly, students stop attending school because they do not have basic school materials, they must help their families earn income, their families move fairly often, and they do not have transportation. Ouk Chan says that to combat the problem of student dropout out, he actively shares his belief in the importance of education with community members. He tells them:

> With education, [the children] will have a better future, because without education one might have to become a blue-collar worker… To work as a merchant or a civil servant requires a high level of education… If this level is high, the living standard is also high, and their professions are also quite good because they are well-educated.

Previously, Ouk Chan convinced a non-governmental organisation to donate 17 bicycles to the community in order to help the "small children who left school because they did not have a way to get to school and were… cutting grass to earn money". He felt "sympathetic to those children because they want to study, but they didn't have enough money for transport, good clothing, school supplies, etc." The bicycles were distributed one to a household so that two or three children could share them. However, it is not possible to put more than three students on one bicycle, so some children transport a brother or sister to school and then go back to bring the rest.

Ouk Chan and So Samphors both say the community primary school is of good quality. Ouk Chan says this because the buildings were constructed of durable materials. So Samphors says her teacher takes time to explain things to her, and speaks in a friendly way. Notably, parents only visit the school when they receive a formal invitation or when they return from their distant jobs. The parents of So Samphors, for example, come to the school once a year, just before the Khmer new year, when they return to the community for a visit.

Although So Samphors performs well in school—she is ranked 4th in math, her favorite subject—she often finds it difficult to concentrate "because she misses her parents who are far away from her," as Ouk Chan says. Other students in the community also experience distractions and disruptions. For them, the issue is a lack of sustenance. Ouk Chan explains:

> The living standard of the people is not good … they don't have enough food … This problem affects the children's feelings; consequently, they might miss their class one or two times. Some might no longer come to school.

Families in this community commonly have their children privately tutored outside of the normal school day, to supplement their learning and to help them make the transition to LSS. So Samphors was taking English classes from a teacher at another school, but this has been suspended because that teacher has taken on additional responsibilities as assistant principal. When tutoring was offered, So Samphors attended in the afternoons from 1 to 3 pm, though she sometimes stayed until 5 pm. She paid 500 riel (about 12.5 U.S. cents) daily, though the price later rose to 700 riel (17.5 cents). She was particularly interested in taking these extra classes because "in the future, any job needs English in addition to the main skills she has", as Ouk Chan put it.

Looking to the future, Ouk Chan has hopes that So Samphors will be either a teacher or a banker, though he recognises that it ultimately depends on her decision and abilities. So Samphors herself says she wants to become a doctor, though she does not understand what level of education that requires. Nor is her self-concept in line with a desire to become a doctor:

> I don't have the capacity to reach university.… It's not because I want to stop studying, but just because I think I cannot reach that goal. No one says that I lack the ability.

It may be that her confidence and sense of self-efficacy have been damaged somewhat because her parents have been absent over multiple years during a crucial period of her personal development—and because her grandfather is usually busy and is not home very much.

Despite the family's currently precarious economic situation, Ouk Chan will do what he can to improve the likelihood that his granddaughter can continue. This includes advising So Samphors' parents to put money away when they are able and to buy cattle that they can sell when they need money for her education. If they do this, they will be able to cover the fees and other costs that accompany higher levels of education, such as buying a bicycle. Otherwise, the only hope for So Samphors, as her grandfather points out, is either to receive a government scholarship or be sponsored by an outside organisation.

Case three: Remote community

Chan Vorleak grew up in a remote community with her large, eleven-member family, though only six people are living in the house at the moment. These eleven family members include two parents and nine children, who range in age from 14 to 28. They have also completed a wide range of levels of education: One did not attend school at all while another got as far as grade 9 before stopping. The only two children still in school are Chan Vorleak, in grade 6, and her older sister, Chan Dyna, currently in grade 12.

Five of the nine children are currently living elsewhere. Four are already married and have their own families, and the other moved to Phnom Penh to work in a factory, a common option for students from the provinces seeking employment. Although these siblings live apart, they still help the family. It also bears mentioning that, though the 12th-grade student is still considered a member of the household, she only comes home once a week because her school is far enough away (more than 10 km) that she must stay with a friend.

Many of the older siblings stopped going to school because of the difficult situation in which the family has found itself. For the past 10 to 15 years, the father has been sick and cannot work. This has meant that various children have had to raise the cows and work in the rice field in order to sustain the family. More recently, the mother fell and broke her hand as she was going to check on the rice; now she cannot perform farm work either. According to Chan Vorleak, “she can’t use her hand much. She can cook, but she cannot carry heavy things”. In response, the older siblings have stepped in and taken over much of the housework. Because of the assistance the siblings provide, especially the older ones, the family has all it needs, though they are not rich.

This community where the family has been located for nearly 20 years has few employment opportunities. Most villagers are engaged in rice farming and in growing fruits and vegetables to sell. Outside of those avenues, many people, especially adolescents, leave the community to find work in the Phnom Penh factories, alongside Chan Vorleak’s sister, because they are “sorry to see their parents farming”, as she puts it. Out of economic necessity, many students leave school to assist their families either by farming or by working in the capital. Based on these sources of income, the standard of living in the community is good, she says, “but some people are very poor”.

The Chan house is located about 6 km from the primary school; few of the other students live that far from the school. Over the years, the school’s quality has improved, mostly as a result of personnel changes. As Chan Dyna explains:

> When I studied there, the teacher was not good because he was cruel and he drank wine, and we didn’t learn much. But he was replaced. I think the teachers now are good because they know a lot and because they have finished university degrees, unlike the previous teachers, who were also old.

Chan Vorleak adds that the current teachers are good because they explain things clearly.

Community members and parents visit the school at times, but above all when there are parent-teacher meetings or information sessions. The latter have focused on various aspects of education, health, and sanitation. Otherwise, contact between the school and family is limited to the times when teachers call Chan Vorleak’s parents to check on her when she is absent or arrives late, which is happening more often now because her household responsibilities are increasing.

Chan Vorleak not only likes school but is an excellent student who consistently ranks among the best in her classes. In grades 4 and 5, for example, she was the number 1 student; now, in grade 6, she is ranked third.

Outside of regular classes, Chan Vorleak gets private tutoring in both math and English. She goes every day at the same time, from 11am to noon, though the subject (math or English) alternates each day. A teacher from her school offers these classes. Math costs 300 Riel/hour (about 7.5 US cents), and English costs 500 Riel (about 12.5 US cents). These prices make it “difficult” for the family to provide Chan Vorleak with this extra preparation. Though the classes began with 10 to 20 students, they may not continue for much longer, as fewer and fewer students are showing up. Chan Vorleak hopes they will continue. As Chan Dyna says, "if we don't study in an extra class, we will not understand [because, as it is], we cannot understand much in the public class".

In the future, while Chan Dyna has thoughts of being a doctor, the family wants Chan Vorleak to work as a teacher—either at the primary or LSS level. In part, this is because the family cannot afford to have her continue past grade 12, which she should be able to attain because "she is the youngest child, and because she has her brothers, sisters, and mother to earn money to support her", as Chan Dyna says. As is true for other families, Chan Vorleak's parents are eager for her to get a government job because they see it as a stable job that provides a middle-class income.

Cross-case discussion

The cases presented here provide insights into how different systems, contexts, and sectors overlap and are inseparably linked, not only to each other but also to student continuation in school. For example, in many communities, a lack of economic opportunities (outside of agriculture and the informal economy) combines with poor schools (especially with regard to facilities and resources) and a lack of access in the education sector, particularly in more rural and remote areas. Together, these factors can contribute to student dropout and migration to urban areas, in turn placing more stress on city schools over time. Or, as the rural case showed, a lack of economic opportunities can lead to parental migration to find employment, which can affect students' mental and emotional state and thus their educational achievement. Moreover, given that social and psychological services are rarely available, students find little relief from their worries and thus their performance can continue to suffer, which can raise the likelihood of their dropping out, especially in LSS and beyond as the pressure increases to perform well in order to be able to continue. Hence, our cases demonstrate how the characteristics of economic, educational, and health systems, for example, are (or are not) linked in ways that make dropping out more probable. On this point, Mason (2009) writes, "weaker educational institutions or systems… compound the failure of their students, thereby further weakening themselves in an endless and vicious cycle", unless or until momentum is sustained in a different direction (p. 120).

We also saw in the remote case how the characteristics of the health and economic sectors intersected with the family system in a particular way. In addition to having to subsist on rice, the parents are unable to work due to sickness or injury—and in a locale with no options for either formal economic employment or basic health care. We then saw that a family's size and a child's location within that family affect both how the family responds and the likelihood that each child will be able to continue in school. While older children are pressured to leave school early to take on income-generating activities and to care for the parents, the middle and younger child are able to remain in school. But those children who continue in school are treated differently because, depending on each student's abilities, the family may decide to invest most in the educational potential of a middle child, in order to receive the economic benefits of that additional education as soon as possible. Moreover, facing limited employment options, families often direct occupational aspirations for their children towards the government sector, where jobs as civil servants and teachers are seen as a source of stable and middle-class incomes.

Separately, the tutoring system merits further attention from researchers. The students in this article's narratives are all tutored privately outside of the regular school day; they also commented that this tutoring is necessary because it is difficult to understand what is going on in class without it. Various types of private tutoring are discussed by Brehm and Edwards Jr. (2014).

The comments from these students align with previous studies on private tutoring in Cambodia, which have found that, without private instruction, students cannot pass monthly examinations, thereby lowering their class rank and their chances of continuing in school (see, for instance, Brehm et al. 2012). Given this situation, it will be essential that reforms geared towards improving student retention keep the issue of tutoring in mind. They must also attend to the system of patron-client relationships that has historically characterised community dynamics (Pellini 2005), and which increasingly shapes the provision of government services more generally (Springer 2011). Our point here is that the patron-client relationship between teachers and students may serve as a link between the family and school systems that thwarts other possibilities, which we discuss below, for improving student retention.

Student retention in Cambodia: Implications and conclusions

As complexity theory suggests, "a small change in the initial conditions of a system may exert great influence on… subsequent behavior" (Nordtveit 2010, p. 113). In accordance with this, we see several potential issues that merit policy responses. First, in two of the three cases, we noticed the lack of any solid school-family connection: these parents visit their children's schools only when they are formally invited, and teachers may choose not to contact students' homes when they notice they are dropping out. Enhancing and improving connections between home and school may be one way to improve student retention. That said, from the perspective of complexity theory, the ways that parents engage with their children's schools may involve particularly intractable issues because of ingrained hierarchical cultural norms (Pellini 2005). These norms teach respect and promote deferential behaviour towards those in positions of authority, including teachers. Thus they act as "lock-in" mechanisms—or systemic inertia—that would require concerted and sustained intervention in order to build momentum towards alternative forms of school-family interaction. Over time, it will be necessary to develop positive feedback loops that encourage more and closer connections between families and schools, which in turn may indirectly help students remain in school.

Second, basic materials, such as uniforms and school supplies, represent significant costs for families. These costs, and others for transportation and food, increase as students progress, and they are likely to be felt even more intensely by families in rural and remote areas, who have fewer economic opportunities. A key issue for the MoEYS is to ensure that students are not charged either formal or informal fees for such basic materials, including meals during the school day. Although the government has made a commitment to provide educational services free of charge, more must be done, particularly by providing transportation, like bicycles. As we saw in the cases, not having such a simple means of transport presents a critical challenge to student continuation in and beyond LSS. Indeed, in the rural case, the grandfather was able to convince an NGO to donate 17 bicycles—in a move that illuminates the unpredictability of students' local contexts. But not all students live in such a community context. Within the aid-dependent education sector, it may be possible to designate or direct funding from international organisations to provide basic school supplies and bicycles to students (Morton 2014). Though such actions may seem minor, in combination they could significantly alter family decision-making, for example allowing a student to remain in school rather than dropping out to help with income-generating activities or household tasks. In this way, engaging “complexity at lower levels of the system” can contribute to different outcomes (Mason 2009, p. 120).

A related finding, in the remote case, was that the absence of accommodations near LSSs can make it harder for students to continue. Students in such communities may not be able to travel long distances to and from school each day; therefore, providing lodging could have a direct impact on student and family decision-making. While the provision of student housing could serve as an additional connection between family and school system, it would also present a challenge: how to ensure that it is a “positive interaction” that adequately responds to the “self-organized and non-formal relationships between the community members” in those communities where the housing would be based (Nordtveit 2010, p. 114)? Considering this dilemma, it may be wise to work with or learn from the system of Buddhist pagodas found in Cambodian communities. These pagodas, and the communities connected with them, have historically been a source of social capital and have often worked with communities in various ways to facilitate the provision of education (Pellini 2005).

Fourth, we found that both parents and students are unaware of the amount or level of education they will need to realize their occupational aspirations. The urban family hopes its daughter will become a teacher, while the rural family wants its daughter to be a doctor, but neither was able to communicate how much education their daughter would need to occupy these positions. It follows, then, that students and families would benefit from discussions—in school and with parents—of various careers and the education required to pursue them. That would allow all parties to adjust their aspirations and plan accordingly. On the one hand, such awareness campaigns are important because, as Mason (2009) points out, when working with systems of “conscious agents”, it is essential to “take account of… expectations” that guide their behavior (p. 119). On the other hand, raising awareness in this way is likely to change parental and student decision-making in unpredictable ways: rather than keep a child in school, a family may decide that dropping out is the best option once they learn the required education level for certain careers, particularly if other supports, such as scholarships, are unavailable.

Finally, we see some larger issues and more ambitious options to address and consider. These include the need for improved infrastructure (specifically, for safe paths so students can travel to school), health services (e.g., counseling and school nurses), and targeted government scholarships, for example, for girls, for a family’s first child, for children from remote communities, and for members of other sub-groups that experience disproportionate difficulties due to particular circumstances. Scholarships for girls may also be a particularly promising action in light of family tendencies to place a priority on educating boys.

Each of the strategies we mention here holds the promise of positively impacting student retention. If complexity theory is correct, their cumulative effects may be non-linear, or more than the sum of their individual parts. Put differently, student retention will be more significantly impacted in a positive direction if multiple strategies that span and connect multiple systems (e.g., the family, health, education, and economic systems, to name a few) are enacted simultaneously. To the extent that positive interactions and positive feedback loops can be developed at multiple levels, that will increase the likelihood that students across geographic locales will remain in school (Nordtveit 2010). The idea is to build momentum towards the emergence of a new auto-catalytic state; in this case, that would mean student retention in school through the end of secondary education as the new norm.

References

Ang, S., & Conochie, G. (2014). *Rights to education in Cambodia*. Phnom Penh: National Education Partnership.

Benveniste, L., Marshall, J., & Araujo, M. (2008). *Teaching in Cambodia*. Phnom Penh: World Bank.

Bray, M., & Bunly, S. (2005). *Balancing the books: Household financing of basic education in Cambodia*. Hong Kong: University of Hong Kong.

Brehm, W., & Edwards Jr., D. B. (2014). The many spaces of learning: Private tutoring and post-2015 Education for All. *Norrag News*, *50*, 56–58. http://www.norrag.org/en/publications/norrag-news/full-list-of-norrag-news.html.

Brehm, W. C., Silova, I., & Tuot, M. (2012). *The public-private education system in Cambodia: The impact and implications of complementary tutoring*. London: Open Society Institute.

Geeves, R., & Bredenberg, K. (2005). *Contract teachers in Cambodia*. Paris: UNESCO International Institute for Educational Planning.

Hunt, F. (2008). *Dropping out of school: A cross-country review of literature*. CREATE research monograph no. 16. Brighton, UK: University of Sussex. http://www.create-rpc.org/pdf_documents/PTA16.pdf.

Kitamura, Y., Edwards Jr., D. B., Williams, H. J., & Chhinh, S. (Eds.) (2015). *The political economy of schooling in Cambodia: Issues of equity and quality*. New York: Palgrave MacMillan (forthcoming).

Lieblich, A., Tuval-Mashiach, R., & Zilber, T. (1998). *Narrative research: Reading, analysis and interpretation*. Thousand Oaks, CA: Sage Publications.

Maaz, K., Hausen, C., McElvany, N. & Baumert, J. (2006). Stichwort: Übergänge im Bildungssystem. Theoretische Konzepte und ihre Anwendung in der empirischen Forschung beim Übergang in die Sekundarstufe. [Transitions in the education system. Theoretical concepts and their application in empirical research at the transition to lower secondary school]. *Zeitschrift für Erziehungswissenschaft*, *9*(3), 299–327.

Mason, M. (2009). Making educational development and change sustainable: Insights from complexity theory. *International Journal of Educational Development, 29*, 117–124.

Moen, T. (2006). Reflections on the narrative research approach. *International Journal of Qualitative Methodology*, *5*(4), Article 5. http://www.ualberta.ca/~iiqm/backissues/5_4/pdf/moen.pdf.

MoEYS [Ministry of Education, Youth and Sport] (2008/2009). *Education statistics and indicators*. Phnom Penh: EMIS Office, Department of Planning.

Morton, E. (2014). Government spending, foreign aid up in 2013. *The Phnom Penh Post*, May 22. http://www.phnompenhpost.com/business/government-spending-foreign-aid-2013.

NIS [National Institute of Statistics] (2009). *Education 2007. Report based on the Cambodia Socio-Economic Survey*. Phnom Penh: NIS.

No, F., Sam, C., & Hirakawa, Y. (2012). Revisiting primary school dropout in rural Cambodia. *Asia Pacific Education Review, 13*(4), 573–581.

Nordtveit, B. (2010). Development as a complex process of change: Conception and analysis of programs and policies. *International Journal of Educational Development, 30*, 110–117.

O'Shea, P. (2007). A systems view of learning in education. *International Journal of Educational Development, 27*, 637–646.

Pellini, A. (2005). Decentralisation of education in Cambodia: Searching for spaces of participation between traditions and modernity. *Compare, 35*(2), 205–216.

Springer, S. (2011). Articulated neoliberalism: The specificity of patronage, kleptocracy, and violence in Cambodia's neoliberalization. *Environment and planning A, 43*, 2554–2570.

UNESCO (2012). *Opportunities lost: The impact of grade repetition and early school leaving*. Paris: UNESCO.

Velasco, E. (2004). Ensuring gender equity in education for all: Is Cambodia on the track? *Prospects, 34*(1), 37–51.

Wertsch, J. V. (1991). *Voices of the mind: A sociocultural approach to mediated action*. Cambridge, MA: Harvard University Press.

D. Brent Edwards Jr. (United States) is an assistant professor at Drexel University, in Philadelphia. His work focuses on the political economy of education reform and global education policies. He is co-editor of a forthcoming book, *The political economy of schooling in Cambodia: Issues of equity and quality* (Palgrave MacMillan).

Thomas Zimmermann (Germany) is a doctoral candidate and researcher at the University of Kassel, Germany, where he works with the Chair for Methods of Empirical Social Research. His research interests relate to educational sociology, e.g. family decision-making, aspirations, and empirical social research. Previously, he was a researcher and lecturer at the Royal University of Phnom Penh, Cambodia.

Chhinh Sitha (Cambodia) is vice dean of the Faculty of Development Studies at the Royal University of Phnom Penh. He is also a co-editor of the forthcoming book on the political economy of schooling in Cambodia.

James H. Williams (United States) is an associate professor of International Education and International Affairs at George Washington University, in Washington, DC. His recent research includes work in Cambodia, Sri Lanka, and Malaysia, as well as Japan. He is also a co-editor of the forthcoming book on the political economy of schooling in Cambodia.

Yuto Kitamura (Japan) is an associate professor in the Graduate School of Education at the University of Tokyo. He has conducted extensive research on education policies in developing countries, particularly in South and Southeast Asia. He is also a co-editor of the forthcoming book on the political economy of schooling in Cambodia.