



EVALUATING THE EFFECTIVENESS OF TEACHER MENTORING: Final Research Report

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Executive Summary

Overview: This report details a mixed-methods study of the Teacher Mentoring pilot program run by New Generation Pedagogical Research Center (NGPRC). The study explores the relevance and efficacy of using mentoring as an alternative to traditional methods of teacher training in the Cambodian context. It provides suggestions for how such a program could be made more relevant and effective and it recommends ways to strengthen research design and instruments in the service of establishing a robust evidence-base on which to make decisions about mentoring. Importantly, the report also details the significant impact that the Covid-19 pandemic had on both the implementation of the research as well as the actual mentoring program and the creative workarounds put in place by NGPRC staff to carry the program forward.

Methodology: A cross-section of stakeholders who are a part of the New Generation community were surveyed about various topics related to mentoring. Respondents included 125 teachers, 20 non-teaching staff, 1,016 students and 281 parents from six schools. A total of 22 Mentors completed a survey. Mentors also took part in focus group discussions (FGD) during their first “live” experience of mentoring, to collaboratively reflect on their personal practice and principals were interviewed about the mentoring work done at their school—its successes and challenges.

Findings: One significant finding is that prior to placing Mentors in schools, it is critical to ensure that school leadership (especially principals) clearly understand the concept of mentoring and have appropriate expectations for Mentors. There was a tendency for principals to overload Mentors with administrative tasks, thus reducing time and energy for the Mentors to actually mentor. As a related finding, it will be necessary to carefully moderate the Mentee to Mentor ratio going forward especially as Mentors expressed concerns that their workload was too heavy.

It is equally important that teachers clearly understand what mentoring is. As mentorship is new, it is possible that Mentees regarded mentoring as a burdensome evaluative exercise rather than an opportunity for skills development and improved teaching effectiveness. This, of course, affected their desire and ability to “take on board” the advice offered by Mentors.

Exploration of issues related to pairing of Mentors and Mentees was very instructive. Teachers were open to being mentored about general pedagogy; however, a significant portion were in favor of pairing up on the basis of subject matter similarity (e.g. a Mentor with experience/expertise in Physics should be paired with a teacher who is

teaching that same subject). And teachers as well as school leaders specifically noted a desire/need for Mentors with Science expertise.

Experience/age of the Mentor was another issue raised in pairing Mentors and Mentees. While most Mentors and Mentees did not express concern, principals noted that it was indeed difficult to have a less experienced Mentor work with a more experienced Mentee.

Gender is a fourth issue that arose in discussions about pairing. There was general openness for pairing up a Mentor with a Mentee of the opposite sex; however, there was a noteworthy difference in the comfort level of male Mentors with this arrangement. This finding should be explored further.

Surprisingly, Mentors were not as confident as NGPRC instructors anticipated they would be after the theoretical element of the program was completed. The study also showed that there is something of a slight mismatch between what teachers desired in terms of professional development, and the topics/skills that Mentors were confident to work on with their Mentees. This requires further exploration and could potentially be addressed by addressing teacher understanding of mentoring and/or refining the Mentoring curriculum.

Recommendations:

Recommendations in the report cover three main areas. First, very practical suggestions are given regarding development of a strong foundation of evidence about mentoring in Cambodia. Second, the recommendations address the need for and ways to have continuous evidence-based refinement of the NGPRC mentoring program. And third, there are several institutional-level recommendations for enhancing and strengthening the overall mentoring approach and system. Additionally, the findings on matching up Mentors and Mentees suggest that further qualitative investigation is warranted about the potential impact of socio-cultural norms on mentoring practice in Cambodia from both the demand- and supply-side.

Significance: This research has helped to inform critical questions about how to make mentoring work on a larger scale: details about choosing Mentors, how to best prepare them for their work, criteria for pairing Mentors with Mentees, reasonable expectations and workload for Mentors, and so forth. In addition, it makes recommendations on the institutional level—how to select the schools in which a mentoring program might flourish and, hence, how to scale mentoring more widely; how to make mentoring attractive to

teachers to motivate their long-term commitment to being Mentors and thereby ensure stability of school-based mentoring programs.

Conclusion: Despite the challenges caused by the Covid-19 pandemic during the period under review, this study has nevertheless succeeded in generating evidence that can inform the evolution of the Mentoring Program at the National Institute of Education (NIE) and elsewhere in Cambodia. The study sets a firm foundation for future efforts to better understand whether (and how) a formalized school-based mentoring system might function effectively in Cambodia's public schools.

Overall, researchers found that the effort to create a school-based mentoring system in pilot schools has quickly become established as a fixed feature of the New Generation School landscape. Technical problems in implementation such as the workload of Mentors, and other issues identified by researchers are probably all easily amenable to modifications in program design to realize greater efficiencies. What is more problematic are the ambivalent attitudes that Cambodian educators have towards a Mentor's role in the school, since this is an entirely new and untried staff position. In general, many school-level stakeholders do not yet know what to make of Mentors. School principals want to treat them as additional bureaucrats to help them in the office, while teachers perceive them as a new kind of 'inspector.' Yet the position of Mentor has been conceived to be neither that of a bureaucrat nor a policeman. Since attitudinal perceptions create their own reality, it is likely that Mentors will likely continue to struggle to establish themselves as an entirely new institutional entity with a constructive mission to turn school classrooms into dynamic places of learning. It will not be easy to change the attitudes of stakeholders along these lines and Mentors will no doubt need to display considerable diligence in establishing themselves in their new role.

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List of Abbreviations and Acronyms

CPD	Continuous Professional Development
FGD	Focus Group Discussion
KAPE	Kampuchea Action to Promote Education
KII	Key Informant Interview
NGPRC	New Generation Pedagogical Research Center
M.Ed.	Masters of Education
MoEYS	Ministry of Education, Youth, and Sport
NGO	Non-governmental Organization
NGS	New Generation School
NGS-KC	NGS Kampong Cham
NGS-KP	NGS Kork Pring
NGS-PA	NGS Prek Anhchanh
NGS-PK	NGS Peam Chikong
NGS-PL	NGS Prek Leap
NGS-SSW	NGS Preah Sisowath
NIE	National Institute of Education
PLC	Professional Learning Community
RGC	Royal Government of Cambodia
TTI	Teacher Training Institute
ToT	Training of Trainers
TPAP	Teacher Policy Action Plan

1 Introduction

1.1 Background

The purpose of the research outlined in this report is to support evidence-based recommendations to the Ministry of Education, Youth, and Sport (MoEYS) at both the level of policy and practical applications. Particularly, this research will support reforms related to the New Generation School (NGS) network that KAPE (Kampuchea Action to Promote Education) is helping MoEYS to implement. As tasked by MoEYS, KAPE has also set up an education research center at the National Institute of Education (NIE) in Phnom Penh. This center, known as *New Generation Pedagogical Research Center* (NGPRC), is the primary platform responsible for the implementation of the research described in this report.

1.2 General development goals & educational investment

Provision of quality education is central to the Royal Government of Cambodia (RGC)'s overarching development goal to “transform and modernize Cambodia’s industry from labor intensive to knowledge and skill-driven by 2025, creating a technology-driven and knowledge-based modern industrial economy ... and aspiring to attain upper middle-income status by 2030” (MoEYS, 2018). Moreover, it has been identified that “further diversification of the economy will require fostering entrepreneurship, expanding the use of technology and building new skills to address emerging labor market needs. Accountable and responsive public institutions will also be critical to meeting the evolving needs of citizens and the private sector. Quality of human capital will be of utmost importance to achieve Cambodia’s ambitious goal of reaching middle-income status by 2030” (The World Bank, 2019).

Capacity-building investments figure prominently in the Kingdom’s planning to achieve its ambitious goals. Indeed, capacity-building is one of the four pillars identified in the RGC’s National Rectangular Strategy; this refers specifically to investments in Cambodia’s formal education system. Education system reforms introduced by MoEYS in 2014 have sought to accelerate efforts to modernize Cambodian education including the introduction of New Generation Schools, which are a kind of Charter School contextualized to the Cambodian situation. But there are nevertheless numerous problems that have historically undermined investments in Cambodia’s education system and continue to hamper provision of quality education.

1.3 Purpose and Significance

This research focuses on one of the key problem areas in Cambodia’s formal education sector: ineffectiveness of current methods of teacher training and capacity building.

Traditionally, the frontline strategy of government and donors to improve classroom practice has been funding of periodic in-service workshops on numerous topics. However, research has shown that this kind of training only accounts for about 10% of the observed change in teachers' behaviors. Direct and immediate feedback to practitioners about their teaching (e.g., via mentoring) on the other hand accounts for about 70% of observed change (Centre for Creative Leadership, 1984).

Thus, the frontline strategy used by most donor-funded projects has been shown empirically to be the least effective. This suggests the need for consideration of alternative methods that can improve the efficiency of teacher training and lead to genuine positive change in classrooms. Such considerations should include continuous training of teachers, improved school management, emplacement of school-based Mentors (where feasible), and explicit administrative structures that can support mentoring. There are currently multiple opportunities in the development context for affecting a strategic shift within the education system away from in-service training to school-based mentoring.

Recent changes in the development context in particular refer to the elevation of "mentoring" as a key strategy in the Teacher Policy Action Plan (TPAP) approved by MoEYS in 2015 as well as the commitment of MoEYS to establish a Graduate Degree program, Master of Education (M.Ed.) in Mentoring, at the National Institute of Education (MoEYS, 2015). This strategic shift in approach could lead to significant efficiencies in the way that the MoEYS develops human resources in schools and training institutions. There is as yet insufficient empirical evidence about the effectiveness of such changes for teacher capacity-building in Cambodia, hence the recommendation for intensive research in this area.

The research introduced in this report is intended to be a pilot study focusing on the activities during and following the graduation of the first cohort of the Master of Education in Mentoring program at NGPRC. The expected outcome from this pilot study is to establish concrete implementation strategies and frameworks to support continuous research, evaluation and implementation of new teacher training and mentoring activities and methods in Cambodia. Research activities focus on evaluating the effectiveness of Teacher Mentoring (as proposed under the NGPRC model) to scale and accelerate effective capacity building activities aimed at improving classroom teaching.

In summary, there were three key research questions posed in the original design: (1) What are the Requirements to Study the Effectiveness of Teacher Mentoring in Comparison to traditional methods of teacher training in the Cambodian context? (2) What are the requirements for training teacher Mentors for the Cambodian formal education system?

and (3) What are the requirements for an institutional environment to support effective teacher mentoring?¹ The expected outcomes from this pilot study are to establish concrete implementation strategies and frameworks to support continuous research, evaluation and implementation of new teacher training and mentoring activities in Cambodia, as described below.

1.4 Operational Definition of Mentoring

In the context of this study, an educational Mentor holds a formal position or function that takes place in an administrative and legal framework. The selection, the tasks, and the attributes of a Mentor can vary significantly from one school system to another, even inside a single country, depending on what institution has the authority to appoint Mentors. These circumstances can affect the outcomes of mentoring significantly.

The framework of mentoring in Cambodian public schools is still under development and the purpose of this study is to evaluate and improve it. For the context of this research, the mentoring framework is currently defined in the scope of the Master of Education in Mentoring program provided by the New Generation Pedagogical Research Center. In this context, Mentors:

- Are experienced teachers who are responsible for helping other teachers through one-to-one professional relationships.
- Are school-based, which means that they spend most of their time in a single school, where they are available to help teachers on a daily basis.
- Have followed a specific 1-year training program at NGPRC. This training encompasses a whole stream on the principles of mentoring and leadership.
- Continue to fulfill normal teaching duties for a small portion of their time.
- Follow up with several Mentees at the same time.
- Undertake classroom observations as their primary method of action. They can undertake other tasks such as preparing lesson plans, co-teaching and animating pedagogical workshops, depending on the needs of the school.

The Mentees are mostly beginners in their teaching profession or new hires in the school, but other categories of teachers can be targeted. One of the objectives of this study is to examine how these different categories of teachers (e.g. age, experience, degree qualifications) respond to mentoring.

¹ See Annex 2.

1.5 A note on Covid-19 response

On 16 March 2020, the RGC announced nation-wide closure of all educational institutions in an effort to prevent the spread of Covid-19. Partial reopening occurred in November-December² with students taking turns to go to school in order to keep classroom numbers below 20 at any given time. All the schools reopened full time in January for a new academic year.³ Unfortunately, all the schools had to be closed again in March 2021.

The implementation of Mentor training and placement was profoundly affected by these changes due to the Covid-19 global pandemic. The RGC's response to the pandemic affected this research project in two main ways. First, it complicated the training of NGPRC's students. Second, it directly affected the installation of the new Mentors into their respective positions, causing major delays in their appointments and disrupting momentum.

1.5.1 *Impact of Covid-19 on Mentor training*

The 25 students in the first cohort of the M.Ed in Mentoring program at NGPRC began their year-long course in September, 2019. This was supposed to have consisted of nine months of classroom study followed by a 3-month practicum. However, along with all other educational institutions, the NGPRC had to close its facilities in mid-March, 2020 and shift to online learning. For the last six weeks of the 9-month theory component (through April 2020), the mentoring courses were held via online video conferences. Students and teachers utilized a host of technologies, which later proved to be very beneficial when they were mentoring in an online teaching environment, e.g., Zoom video conferencing, Google Drive for cloud storage, video creation software. Students were largely proficient with ICT and received a brief orientation about the online platform before the closure of the NGPRC. This meant that the closures due to Covid-19 did not have as significant an adverse effect on “classroom” study during the M.Ed in Mentoring program as it did on subsequent activities.

The practicum component, conducted in May-July, 2020, was intended as an in-person mentoring practicum to occur in two NGS secondary schools in Phnom-Penh, i.e., Preah Sisowath H.S and Prek Leap H.S. Instead, a “virtual practicum” was organized. This online practicum consisted mostly of simulations, as well as selected live observations of private partner school classes. There were two types of simulations. First, NGPRC instructors used existing video recordings of regular classroom lessons, and had the student Mentors conduct “observations” of these videoed classes. The second type of simulations were role plays performed by student Mentors. Though the simulations did not provide all of the

² A few privileged schools reopened in September, such as Sisowath HS and some private schools.

³ In Cambodia, ordinarily the school year starts in November (in October for New Generation Schools) and closes in July..

features of real classroom observations, this format proved to be very valuable because it permitted student Mentors to start their “real time” observing in a relatively safe environment. More importantly, it was an opportunity to intentionally introduce particular issues: for each role play, the instructors proposed a scenario that might or might not occur during a real practicum, such as “the Mentee challenges the authority of the Mentor”, “the Mentee starts to cry”, etc.⁴ So while school closures prevented conducting the practicum as it was planned, students did have a chance to do just what a practicum is designed for—*practice*.

1.5.2 Impact of Covid-19 on Mentor in-school experience

The installation of student Mentors into their placements in September 2020 did not happen under normal conditions, and the situation varied greatly from one school to another. Most of the Mentors actually started in an empty school, with little to do in terms of teaching or mentoring activities, from September to December 2020.

As for mentoring activities, most of them were limited to preliminary contacts with the teachers of their assigned schools, in the form of orientation workshops. They also helped the school management with administrative tasks and the preparation of the national exams for grade 9 and grade 12 students. Some schools provided only the most basic services and some prepared learning videos (mostly Preah Sisowath, Prek Leap, Hun Sen Kampong Cham). The most active school was Preah Sisowath where they experimented with flipped classrooms and various forms of blended learning. Mentors at Preah Sisowath were quite challenged, as they were required to improvise in a technical support role. Overall, during the September to December 2020 period, Mentors had little opportunity to engage in mentoring and some had little opportunity to engage in *any* educational activities.

Between January and March 2021, the schools reopened; however, the school situation had not fully returned to “normal” even then. In this respect, attendance tended to be erratic as many parents hesitated to send their children to school; many students were starting a new curricular program when they had not fully mastered their previous grade level; and the encumbrances of mask-wearing, hand washing, etc. as new routines tended to slow down the return of school life to normal.

In sum, the events that resulted from the COVID-19 pandemic impacted the research program significantly. Although NGPRC staff managed to follow up with the new Mentors

⁴ As a result of the success of this adaptation, the NGPRC has decided to include this activity in its normal practicum routine, as a 2-week preparation before placing student Mentors in real classes.

through monthly meetings, they were not able to conduct individual interviews during the critical period when the Mentors actually began to fulfill their new functions. These constraints need to be considered carefully when reviewing how the original research design actually unfolded.

2 Literature review

2.1 Principles of mentoring

Mentoring consists of pairing experienced teachers with less experienced teachers for the purpose of improving the quality of teaching of the less experienced teacher. Mentees, typically new or junior teachers, are assigned a senior teacher who can provide advice, recommendations, and constructive feedback that can influence whether or not that teacher is successful (MoEYS, 2019).

Mentoring goes deeper than solely technical assistance. Emotional support is another important dimension of the Mentor's role, as is assessing the Mentee's abilities and motivation. A Mentor guides the "protégé" through the whole process of becoming a self-reliant practitioner (Portner, 2015). As such, Mentors and Mentees work generally as pairs, though small group mentoring activities are also possible (Reinsch, 2020).

Related literature contains a myriad of personal and professional qualities a Mentor should possess. However, just a small number of those most commonly cited are sampled here. A Mentor should be: honest, a role model, a good listener, enthusiastic, a life-long learner, respectful, a subject-matter expert, and able to communicate objectively. Genuine trust between the Mentor and Mentee is also strongly emphasized as the key to successful mentoring (Portner, 2008). One essential condition for trust is confidentiality. A Mentee may share personal struggles or issues with the Mentor; such information must not be shared by the Mentor with anyone else.

Criteria for matching Mentors and Mentees are still contested. For instance, Lakein suggests that Mentors become "buddies" (Scherer, 1999), which suggests a deep degree of personal connection and even friendship. Reinsch (2020) posits that the selection of Mentors should be competence-, interest-, and aptitude-based, but that competence in the same subject as the Mentee is just one criterion among many. Other sorts of necessary competence include a general pedagogy as well as adult-learning methods and psychology. Some take the view that the Mentor and the Mentee should be purposely chosen from different disciplines (Lakein in Scherer, 1999). Another point of contention relates to age difference. As an example, Reinsch (2020) proposes that the Mentor does not necessarily need to be older than the Mentee. In NGPRC's experience, it is absolutely essential to take culture into account when designing any kind of education programming, as the importance of certain variables—in this case, age and social hierarchy—vary widely across cultures.

2.2 Effectiveness of mentoring

Mentoring as a principle is well established, and it has always existed to some extent across all types of employment and industry, not just in the field of education. As for mentoring specifically related to education, Husband (*in* Field, 1994) affirms that the real learning of new teachers has always been school-based (rather than the theoretical education that teachers experience in their pre-service classes). New teachers learn to teach in a classroom with students and they do this supported, mostly informally, by their peer and fellow teachers in that school.

In order to demonstrate the effectiveness of mentoring, researchers and trainers often refer to the “70:20:10 model,” which was developed in the 1980’s at the Center for Creative Leadership. This model posits that at work, people learn 70% through practical, “hands-on” experience; 20% is gained through social learning, coaching, mentoring, and peer-input; and just 10% is learned from formal, traditional instruction (such as a lecture). Interestingly, this model was developed in a business context, not an educational context. It has been widely criticized for failing to take into account virtual learning. In addition, it has received the common-sense critique that there are simply too many factors involved and their relative importance vary over time and across places and activities (Jefferson & Pollock, 2014) to enable establishment of such a tidy formula.

What is useful about the model is that it suggests learning can be stimulated and accomplished in different ways, and that there is always a gap between theory and practice, which must be closed to achieve success. Bill Gates notes “Everybody needs a coach” (TED conference, 2013). Gates continued: “In this regard teachers are not different from [athletes]....” Gates cited data from the PISA reading proficiency test to support his claim: 11 of the 14 countries that scored higher on PISA had a hands-on formal system to help teachers improve instructional practice in the classroom.

Asking an experienced worker to guide the novice who enters a profession is not a new idea, and it is not unique to the teaching profession. It happens across occupations and trades. Mentorship, formal or otherwise, has stood the test of time because it is effective: people learn well from others who have more experience than they do when that experience is shared in a safe way, and people learn well in a setting that provides opportunity for them to actually practice their skills and apply their knowledge. Novices approach seasoned practitioners when they believe that they can gain from the relationship; and the inverse also happens—a well-experienced person may approach a novice to share what they have learned over time. In summary, the value of mentoring is tacitly recognized by the fact that informal practice of mentoring across virtually every discipline has been happening for millennia.

2.3 Contextualization and institutionalization

Successful implementation of a mentoring program requires that it be both contextualized and institutionalized. That is, it must take account of the socio-cultural environment in which it rests, and it must also be embedded within the (regional and/or national⁵) formal education system in order to be sustainable. Depending on the education system, different authorities have the ability to establish and monitor a mentoring program. A major consideration, regardless of the institutional context, is the process of how to select potential Mentors, how to train Mentors, and how to re-insert Mentors back into schools once they have been certified as Mentors (Field & Field, 1994). Other critical questions include how to coordinate mentoring with other training channels in a formal education system; and what should be the main features of a formal mentoring system.

In answering those questions, it should be recognized that the requirements of an education system's administration can contradict recommendations of professionals and specialists. For instance, many mentoring programs require that Mentors write reports that will have a serious weight in the certification of new teachers (Field & Field, 1994; Portner, 2008). However, specialists emphasize the necessity of teachers recognizing the difference between a Mentor and an inspector: a Mentor is neither an inspector nor a monitor. Specialists also stress the importance of establishing a trustful relationship (see Portner, 2015, "Mentoring is not evaluating"). A Mentor has a two-fold challenge: (a) securing and maintaining a Mentee's trust while being required to share observation with school and system leadership; and (b) not allowing the need for a trusting relationship to interfere with objective assessment and grading of the Mentee (Portner, 2015).

2.4 Mentoring in Cambodia

Formal mentoring is relatively new in the public education system in Cambodia, so it is no surprise that the academic literature and grey literature specific to Cambodia is scarce. Nonetheless, there are many organizations using a mentoring framework or mentoring principles to guide their capacity development efforts within the public education system and other sectors as well. For example, the use of an apprenticeship model for vocational training or an internship model for business can be useful reference points in the design of a teacher mentoring initiative. It will be important going forward, to more intensively explore current examples and practices of mentorship across sectors in order to constructively inform mentorship in the education sector.

⁵ In some countries, the USA for example, there is very little national-level policy governing public education; rather, the individual States have significant authority to design their own policies and practice norms (see Scherer and see Portner for discussion on contextualisation in that context). This is in contrast to most ASEAN nations, including Cambodia, where the national government designs, monitors, and controls the public education system.

2.4.1 Teacher Policy Action Plan

Mentoring was introduced as a policy in the *Teacher Policy Action Plan* (TPAP) (MoEYS, 2015). While the details are few, the import of these articles is both positive and negative.

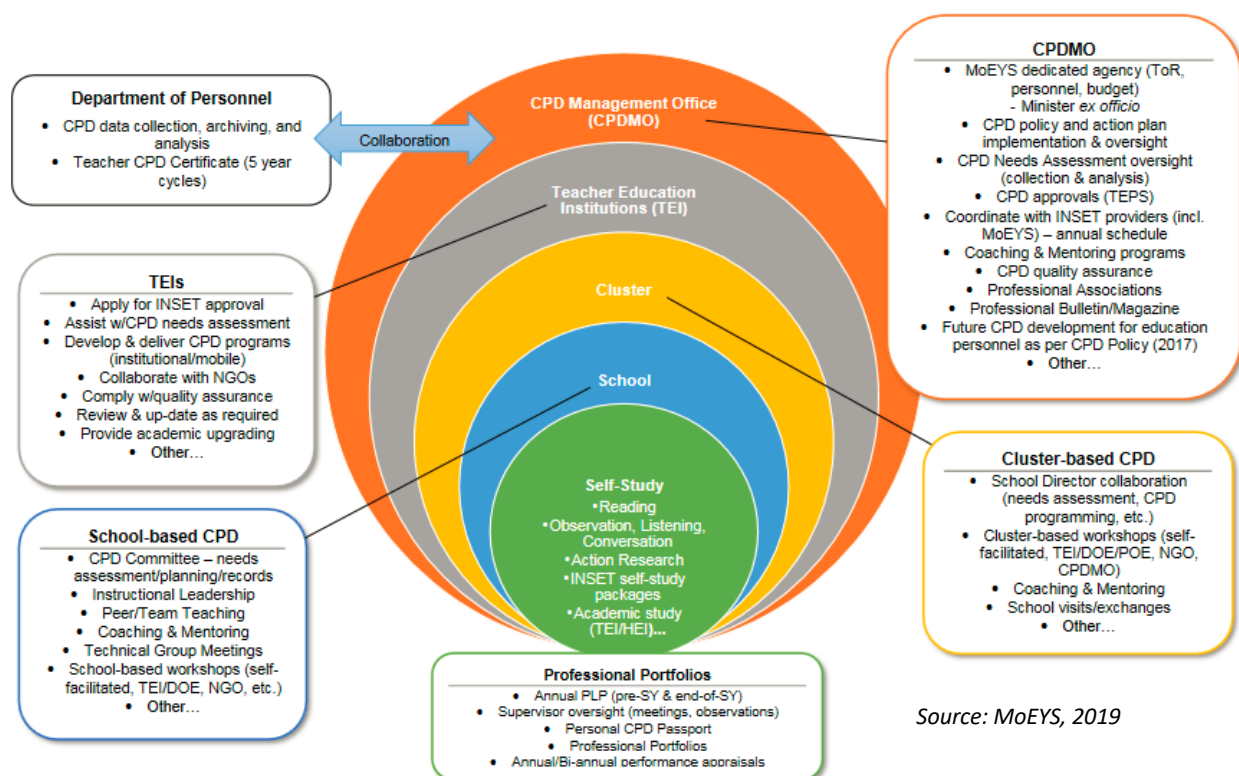
Table 1: Mentoring-related items in the Teacher Policy Action Plan (TPAP)

Article	Observation
Article 3.2.1.2: Create mentoring system at schools	This gives some indication the importance of induction and mentoring but no budget is allocated for this activity suggesting that it is not adequately valued.
Article 3.2.1.3: Reduce teaching workload of highly qualified and best performing teachers to support induction and mentoring activities	There are no standards or guidelines provided as to what an optimal workload composition might be; without such a standard, it is unlikely that individual schools would arrive at an optimal workload without a lot of trial and error.
Article 9.3.1.1 Train school directors on the skills to conduct onsite mentoring and monitoring (permanent inspectors)	This conflates the role of Mentor and monitor (“inspector”) in the form of the School Principal. This suggests that the official, formal view of mentoring in Cambodia does not respect the true nature of mentoring.

2.4.2 Continuous Professional Development Framework for Teachers and School Directors

In 2019, the MoEYS released the *Continuous Professional Development Framework for Teachers and School Directors* (CPD Framework). This document develops the ideas of the TPAP and presents the MoEYS plan to develop a “culture of life-long learning”. Mentoring is mentioned as a strategy at various levels, as can be seen in the figure below. Mentoring can be school-based, cluster-based or under the CPD Management Office (CPDMO).

Figure 1: Continuous Professional Development Framework for Teachers and School Directors



The CPD Framework references studies about the importance of the first three years for a new teacher, as that is the time when a teacher's perception of the profession is being developed. This perception affects a new teacher's decision about whether to remain a teacher for the long term. Mentors, it states, can provide the feedback and advice, especially in the areas of instructional skills and classroom management, which can influence a new teacher's success (MoEYS, 2019).

The MoEYS cites mentoring as part of the induction process for a new teacher. After pre-service training and placement of teacher training graduates in schools, novice teachers are on probation. This year-long period is supposed to include mentoring support by a senior teacher (MoEYS, 2019). The senior teacher is obligated to focus his/her support on the development of standards related to teacher licensing; nonetheless, the actions of the senior teacher are indeed that of a Mentor. The CPD Framework specifically mentions three areas of supervision: lesson planning, classroom instruction, and student evaluation (MoEYS, 2019).

The CPD Framework notes that coaching and mentoring roles can be performed by "anyone with the passion for education and helping others to become better educators" and such activities are not necessarily limited to a person formally appointed to the role of

“Mentor”. However, the responsibilities of the different stakeholders are not yet distinguished within the CPD Framework. This potential multiplicity of actors (to be mentors) can of course contribute to finding competent Mentors, but can also “over-complicate the CPD system, thereby creating ‘CPD fatigue’ for teachers,” (MoEYS, 2019).

It is an objective of the CPD Framework to reach agreement on coaching and mentoring in schools and clusters and to institutionalize the coaching and mentoring concept through pre-service and in-service training programs. The details of what this looks like are under development. KAPE and the NGPRC are involved in this endeavor, and are mentioned in several footnotes of the CPD Framework as possible actors to develop a handbook for effective coaching and mentoring among other things.⁶

2.4.3 Overview of existing mentoring programs for teachers in Cambodia

A study commissioned by the MoEYS in 2019 and conducted via UNICEF, analyzed initiatives on mentoring within the formal education system in Cambodia. The study reviewed several district and school-level programs, as well as NGO programs.⁷ It notes that the school programs were not as well organized by those of NGOs and the programs of the NGOs reviewed are more limited in their focus, e.g., promoting reading or other specific subjects, and are not aimed at ensuring teacher education in general (Reinsch, May 2020). This study also mentions programs organized by KAPE but does not specifically mention NGPRC’s mentoring program, which is among the most ambitious of mentoring programs in Cambodia. Mentoring initiatives by many other international and local NGOs were also left out of this study. More comprehensive evaluation of the various mentoring programs and frameworks in Cambodia is needed and an objective of subsequent studies building upon the research described in this report.

2.5 Training for Mentors

Unsurprisingly, the necessity of training the Mentors is a significant focus of the literature on mentoring. It is widely acknowledged that a good teacher does not automatically adapt to adult education and become a good Mentor (Portner 2015). Another issue is that teaching and mentoring are two different things entirely, and that Mentors are often unsure about their roles and may slip back into teaching (Coppenhaver & Schaper, in Scherer 1999).

⁶ Experts draw a distinction between coaching and mentoring on many levels. To name a few: coaching is generally shorter-term and performance driven. Mentoring is longer term and, while it includes performance enhancement goals, it also focuses on the broader picture of career development. Mentors concern themselves with the overall development of the Mentee; coaches focus on specific, measurable performance improvements (Kent State University, 2017).

⁷ Specifically, the report mentions Room to Read. See Beyond Borders and RTI.

The necessity of initial mentoring training in the Cambodia context is highly advised (cf. Reinsch & In, 2020). In this respect, practitioners generally propose a training of trainers (ToT) setup wherein national core trainers that have been equipped in a 4-day workshop then organize and conduct 4-day foundational mentoring workshops to train Mentors. Through this cascade model, Mentors would be oriented and trained with a limited number of resources. However, the inefficiencies of the cascade training model are well documented (e.g., Hayes, D. 2000; Bett, H.K., 2016). Even when the recipients of such training are enthusiastic and able, there is a loss of information, and reduction of the integrity of the contents each time the workshop is repeated. This is natural as no participant will be able to understand all aspects of the content in the way the original trainers intended it and more than likely the on-going training will not have access to the full set of resources available in the original training, which also hampers up-take and understanding.

Prigent (2016) attributes failure of the cascade model mostly to a lack of commitment, some teachers being unwilling or unable to take the time to relay the information or doing it only for persons within their immediate circle. In Cambodia this cascade model has led to unethical behavior, which Prigent calls “a cascade of per diem”. What he means is that financial incentives have an impact on the actions of both the trainers and the trainees: trainees may not actually pass on their learnings if they do not receive a financial incentive to do so and even the trainers are likely to stop conducting trainings if they do not receive a financial incentive. Following Chhin and Tabata (2003), Prigent suggests that the cascade model can be more effective if the intermediaries are consistently reliable; however, no suggestions are provided as to how to ensure reliability.

The inefficiency of the cascade model is one reason for the creation of the NGPRC. The program of NGPRC is unique, even from an international perspective, as it is a one-year training program focusing specifically on mentoring through which participants earn a Master’s degree. The duration and intensity of the program far exceeds many Mentor training programs. NGPRC assumes that a more lengthy, deep training of Mentors makes sense in a country where finding experienced teachers with a solid theoretical background in pedagogy is challenging. It seems unlikely that, at present, schools will find experienced teachers ready to serve as Mentors for new teachers if given just a short training. Another characteristic of NGPRC’s program is that it targets not only novice teachers, but also teachers who already possess some experience, an idea promoted by Reinsch (July 2020).

That a lengthy mentoring training program is necessary in Cambodia and that mentoring of non-novice Cambodian teachers is possible are both assumptions that must be carefully tested.

3 Research methodology

This was a mixed-methods study, employing both quantitative and qualitative measurement tools. For the surveys, NGPRC used a non-probability sampling design called volunteer sampling. This allowed all potential respondents to reply to the survey. Tools included a literature review, a quantitative survey with five stakeholder groups by school (Mentors, teachers, non-teaching staff, students, parents), Focus Group Discussions (FGD) with Mentors, and Key Informant Interviews (KII) with principals. Data was collected in two main stages. In addition, information was gathered informally from instructors at the NGPRC.

3.1 Literature Review

Secondary data was reviewed to provide a comprehensive understanding of mentoring as a concept in the field of formal education, and to illuminate existing mentoring programs or frameworks employed in other contexts (similar and different) that could be utilized in Cambodia.

3.2 Quantitative method: Survey (self-administered)

A survey was employed to assess expectations, opinions, and attitudes of stakeholder groups about mentoring before and after the mentoring activities at target schools. The aim of this tool was to enhance NGPRC's understanding of their perceptions, and was also designed to contribute to the project's three core research questions. Together, the two surveys were designed to determine how well the NGPRC Master of Education in Mentoring program curriculum prepared the Mentors for the practicum and their on-going mentoring responsibilities. Findings from surveys will inform program instructors so that they can improve their teaching and results from this analysis will be directly used to improve the program curriculum for the next cohort of NGPRC students.

The target groups for surveys were (1) Mentors, (2) Teachers, (3) Non-teaching staff, (4) Students, and (5) Parents of students at six New Generation Schools (NGS) High Schools (HS): Sisowath HS in Phnom Penh, Prek Leap HS in Phnom Penh, Prek Anchanh in Kandal, Hun Sen HS in Kampong Cham, Peam Chikong in Kampong Cham and Kok Pring HS in Svay Rieng.

Originally, the program planned to conduct a pre-survey and post-survey in order to see the differences before and after the Mentors' practicum. However, because of the closure of schools due to COVID-19, NGPRC changed the practicum procedure to consist of analysis of video recorded classes and role-plays rather than in-person observations (as explained above in Section 1.5). For this reason, they conducted the survey after the "virtual

practicum” and prior to Mentors being emplaced at their school. Therefore, the survey was conducted digitally in August 2020, and as per the Milestone 4 Report submitted to the Asia Foundation in September 2020. At that time a post-survey was planned to be conducted in December, 2020 in order to provide a before/after comparison of teaching capacity. Unfortunately, however, the post-survey was not conducted due to continued uncertainty around Covid-19.

During the 4th week of August, 2020 the pre-surveys were distributed to each target school. The NGS Team Leaders⁸ and School Principals had previously been informed of the survey verbally during an orientation workshop. NGPRC asked consent from all Principals via a “Letter to Conduct Research” outlining the purpose of the survey and the target groups. Principals then distributed links to the self-administered questionnaires to potential respondents.⁹ These links to the online surveys were sent through Telegram to the School Principal who subsequently forwarded the links to each target group through the school’s regular existing communication channels (i.e. each school’s internal Telegram groups). The online surveys were kept open for three weeks in order to maximize the response rate. All on-line surveys were self-administered.¹⁰

The numbers of responses from each target group by school are presented below.

Table 2: Number of responses by each target group from each target school

School/Target Group	Teachers	Non-teaching staff ¹¹	Students ¹²	Parents ¹³
Sisowath H.S	30	3	166	183
Prek Leap H.S.	31	8	433	52
Prek Anchanh H.S.	15	2	324	41
Hun Sen Kampong Cham H.S.	17	5	0	0

⁸ Under the NGS program design, each school receives a school animator who is employed by KAPE whose purpose is to coordinate all technical and material inputs with school managers and teachers.

⁹ Each school already has a Telegram communication channel with the teachers, students, and parents and this was employed for distribution of the survey link.

¹⁰ As all surveys were self-administered, the parent survey responses may be particularly problematic as parents may not have sufficient literacy or technology skills to be able to respond to the survey independently. Given the collective social nature of Cambodia, it is also likely that students collaborated on their survey responses and others stakeholders may have done so as well.

¹¹ This category of non-teaching staff was comprised of: 3 Principals, 4 Vice-principals, 2 Librarians, 3 Accountants, 3 Administrative staff, and 5 Career Counselors (who are also teachers). Of the 20 respondents, 18 had at some time or other functioned as a public school teacher. Their ages ranged from 28 to 53 years old.

¹² Most students were in lower secondary grades, few were in upper secondary level grades. The average age of responding students was 14.6 years old.

¹³ Of the total respondents, an overwhelming majority were from a single school – 183 (65.5% of the total) from Sisowath H.S. No parent responses were received from Hun Sen Kampong Cham or Kok Pring H.S.

Peam Chikong	13	1	65	5
Kok Pring H.S.	19	1	28	0
Total responses:	125 (56 f)	20 (10 f)	1,016 (559 f)	281 (139 f)
Response rate:	45%	50%	26%	7%

All of the 25 Mentors who enrolled in the program completed their degree requirements, graduating in August, 2020; however, only 22 of the graduating Mentors responded to the survey. Of the 22 respondents, 10 were female and 12 were male.

The survey topics and question counts for the five stakeholder surveys are as follows. The full surveys can be found in *TAF Ponlok Chomnes Emerging Research Grant Milestone 3 Report*.

Table 3: Survey question content

Stakeholder	Question areas	No. questions in survey
Mentors	<ul style="list-style-type: none"> State of their readiness Qualities of a good Mentor Perception of their future career as a Mentor 	<ul style="list-style-type: none"> 90 questions.
Teachers	<ul style="list-style-type: none"> General feelings about their job Communication School climate Difficulties encountered during actual practice Needs in terms of professional development Expectations and knowledge about mentoring 	<ul style="list-style-type: none"> 108 questions.
Non-teaching staff (Principals and administrative staff)	<ul style="list-style-type: none"> Communication with teachers School Climate (leadership, academic excellence and outcomes, student behavior & discipline, educational style, physical environment) Perceptions of Teacher Ability & Commitment (ability, commitment, training) 	<ul style="list-style-type: none"> 76 questions
Students	<ul style="list-style-type: none"> Perceptions of teachers Workload in class and homework Feeling about classroom management Communication between students and teachers 	<ul style="list-style-type: none"> 44 questions
Parents	<ul style="list-style-type: none"> Communication and involvement The relationship between parents and 	<ul style="list-style-type: none"> 42 questions.

school

- The quality of schooling in general
- The school built environment
- Child's behaviors and satisfaction

3.3 Qualitative methods: FGD and in-depth interview

Focus Group Discussions (FGD) were employed to gather information from Mentors about multiple aspects of their actual mentoring experience; for instance, what they did in their placement, what the Principals had requested of Mentors, how they felt in the delivery of their responsibilities, what challenges they faced, how they dealt with the challenges, and Mentor plans for the coming month. Mentors were also asked for their views on what they needed in terms of additional professional development. These FGDs took the form of monthly meetings with Mentors as a group for the period of January – April, 2021.

In addition to the monthly meetings with Mentors, NGPRC conducted in-depth interviews of four of the six participating School Principals in March, 2021 on an individual basis. The purpose of these interviews was to understand the general situation at the school and the performance of Mentors. The format for these interviews was a semi-structured questionnaire covering themes such as general situation of the school and performance of the Mentors.

3.4 Ethical considerations

This study was conducted by putting great attention on confidentiality and anonymity. All selected respondents were informed about objectives of the study and were asked to give their consent to participate in it.

For the surveys, to obtain valid consent, the study used an introductory statement at the start of each questionnaire. This study did not ask for the name of respondents in order to preserve anonymity. In addition to this, volunteer sampling techniques were employed, which meant all respondents were able to make decisions on their own whether or not to participate in the study. An external reviewer was assigned by TAF to review the design of the study and go through the survey questionnaires in detail to ensure consistency and that ethical implications were adequately considered.

3.5 Research Limitations

The following are situational limitations that readers should be aware of, as they constrained researchers' ability to optimize the implementation of the study's design:

- The research described in this study is limited to a small pilot study focusing on the practical training of 25 Mentors within the Master of Education in Mentoring program at NGPRC. This is a very small sub-set of potential Mentors nation-wide and may not be representative (though it is certainly representative of NGPRC).
- All student Mentors were drawn from NGS schools, an environment with an autonomous organizational structure that is quite different with respect to other public schools in Cambodia. Again, these schools are not representative of the norm in Cambodian public schools, so it will be important going forward to understand how the M.Ed. in Mentoring could be relevant for schools and educational institutions outside of the NGS framework.
- The original research design was adversely affected by the global Covid-19 pandemic that resulted in prolonged school closures in Cambodia necessitating a modified approach both to the Mentor practicum as well as to the NGPRC's ability to gather information for this research. Design short-comings made it difficult to answer all of the original research questions.
- All surveys were self-administered via electronic platforms; therefore, not all potential respondents would have been able to respond due to limited internet access and/or limited telephone/computer access. In addition, many potential respondents (particularly among students and parents) are likely to be semi-literate or not literate, thereby precluding many of them from participating in such a survey.
- The response rate from parents was very low generally; two schools only had single-digit parental respondents to the survey while another school comprised 66% of total respondents. Given these imbalances in respondent composition, it may be assumed that participating parents are those who are more actively engaged in the schools they are associated with, so the responses may be more optimistic than is representative of all parents across all target schools. These observations explain why there is limited information in this report about parental perspectives.
- There was very limited information supplied by stakeholders at two schools in particular: Hun Sen Kampong Cham or Kok Pring H.S.
- The surveys that were administered were "pre-surveys", i.e., surveys before any of the Mentors were placed in schools and able to perform their tasks. Since the interviews and post-surveys were not able to be conducted, there is limited information available at this time in regard to Mentor performance.
- Besides the FGDs and Mentor reports coordinated by NGPRC, there does not appear to have been a highly rationalized system in place for monitoring the work of Mentors when they were first placed in schools, due to the newness of this intervention. And, there has not yet been any systematic review of the actual mentoring work conducted by the NGPRC-trained Mentors, though these are currently in progress.

4 Research findings

Findings related to the first cohort of the NGPRC Teacher Mentoring program are presented. These have been garnered through analysis of a survey given to Mentors, teachers, non-teaching staff, students and parents at the end of the program in August 2020; feedback from FGDs from Mentors after their first live experiences mentoring in March 2021; and individual interviews with four of the principals where Mentor graduates worked.

4.1 Stakeholder Understanding of mentorship

The majority of teachers (67.2%) surveyed in August 2020 had only a vague idea of what mentoring is. Most (38.41%) had received information about the mentorship program from NGPRC but a fifth of teachers only knew something about it via informal rumors/discussions among teachers.

In interviews with principals in March 2021, Director of NGS Kampong Cham HS (NGS-KC) and others stated that they asked the School Management Team to orient teachers to the concept of mentoring and have Mentors explain their roles and responsibilities. Despite these formal introductions, Mentors indicated that some people still did not seem to understand their role. The principal of NGS Kok Pring HS (NGS-KP) noted the specific need to make clear the difference between a Technical Team Leader¹⁴ and a Mentor.

Some school principals themselves did not seem clear about the roles of Mentors and how to best utilize Mentors' skills. Many Mentors spent time doing administrative tasks which were not an optimal use of their skills and were not necessarily a part of their job as Mentors from NGPRC's perspective.

The principal of NGS Prek Anchanh HS (NGS-PA) noted that teachers and management team may not understand this new system well since mentoring is a new concept to them. This lack of understanding might have affected their willingness and ability to get involved.

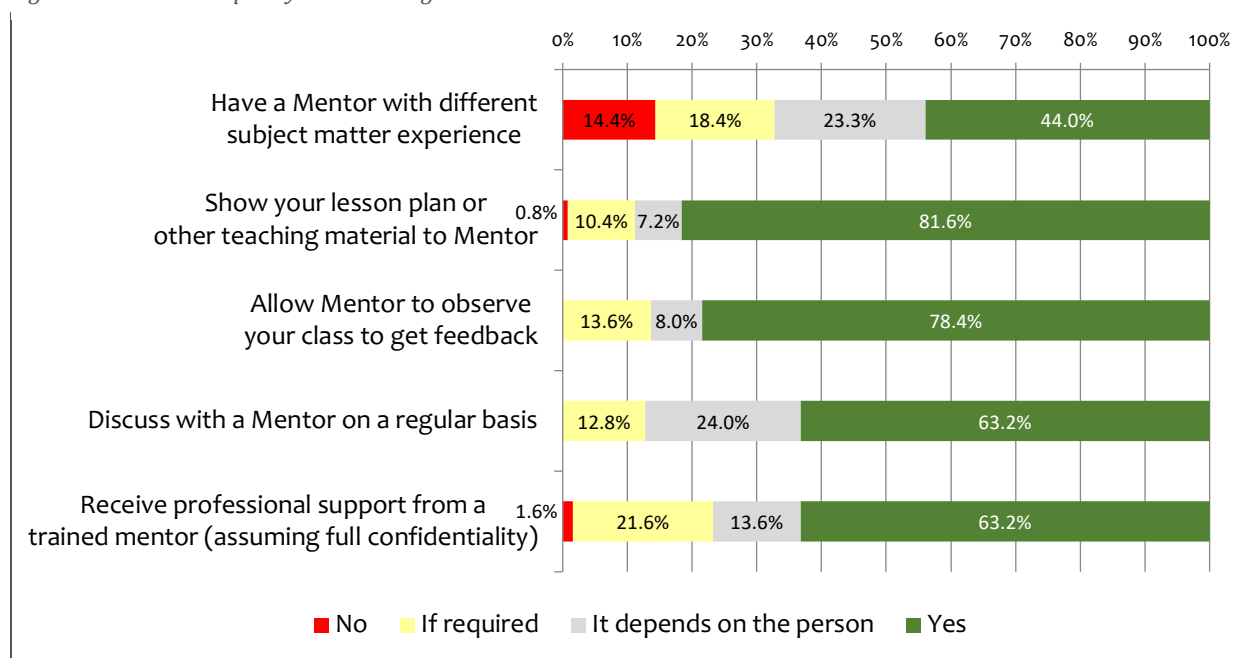
¹⁴ Technical Team Leaders are part of the official MoEYS structure whereby a senior teacher is given a nominal leadership role among other teachers in their grade (at primary level) or subject (at secondary school level). Their role is to organize Thursday technical meetings, classroom demonstrations, and other CPD activities. However, these individuals receive little specialized training to fulfill their senior roles effectively, and in many schools, these team leaders actually do very little.

4.2 Teacher openness to mentorship

Success of mentorship depends not only on a clear understanding of what it means, but also on teachers' openness — openness to different sorts of Mentors, to sharing their material, classroom observations, to discussions about their teaching, and to receiving professional support.

The following summarizes teacher responses to those very items. “If required” means that the teacher would do that activity if school policy required them to do it.

Figure 2: Teacher receptivity to mentoring



It should be noted that an “only if required by school policy” response is essentially a “no” since it means that the teacher would only agree if they had no choice. These responses indicate a clear need to “sell” mentorship as a benefit and opportunity for growth as distinct from monitoring or performance evaluation.

4.3 Matching: Institutions to Mentors

NGPRC stresses that mentoring is oriented around relationships; therefore, careful considerations are to be made about joining together institutions and Mentors as well as Mentors and Mentees.

As regards the first of these, in this pilot all Mentors were assigned to one of six New Generation Schools; and it should be noted that the schools where some Mentors were

assigned were not necessarily a Mentor's regular school.¹⁵ As discussed above, it was challenging for some Mentors to establish their role due to a lack of understanding of what their role was as well as poor familiarity with administrators and teachers in residence there.

In terms of logistics, program planners proposed having a placement fair to bring together Mentors and institutions. This notion was explored in interviews with principals. The principal of NGS-KP noted that a placement fair might not be feasible for schools in remote areas.

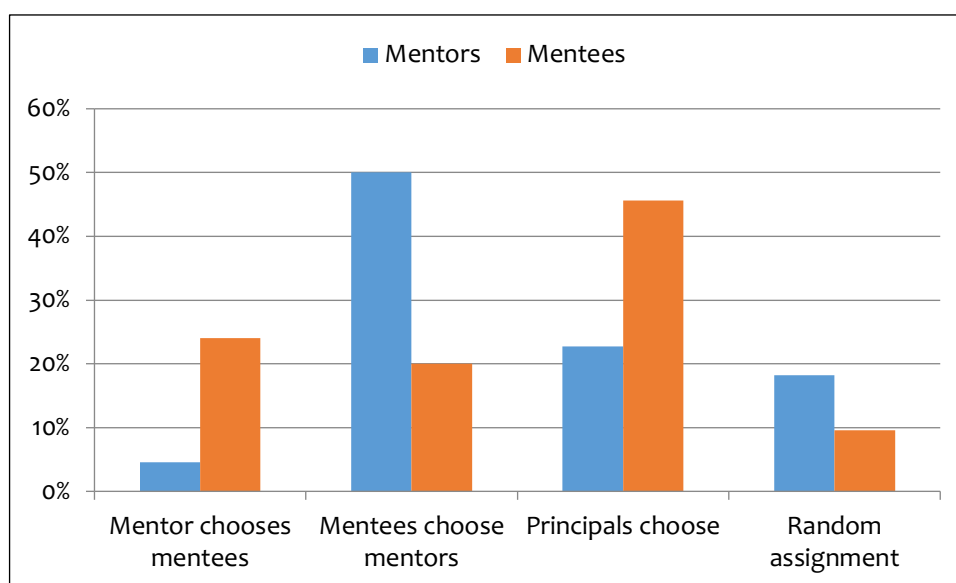
4.4 Pairing Mentors and Mentees

When pairing together Mentors and Mentees, there are many considerations to keep in mind: Mentor/Mentee preference, skills complementarity, subject area expertise as well as special considerations rooted in cultural structures and more.

4.4.1 Locus of decision-making

Program designers had planned that, to the degree possible, Mentees should be allowed to choose Mentors. Survey results revealed that Mentors agreed on this point. However, when the option of the Principal making the match was introduced, there was a divergence between the preferences of Mentors and teachers. For teachers, they overwhelmingly stated that they preferred if principals made the decision.

Figure 3: Mentor and Mentee preference for pairing process



¹⁵ 15 Mentors were also assigned to training institutions; however, these Mentors are not the focus of this study.

4.4.2 *Mentor assignments by subject matter*

Mentors surveyed after their coursework said they were relatively confident to mentor someone about general pedagogy even in cases where they had no specific expertise in the subject that the teacher is teaching (3.36¹⁶), but were more confident to mentor someone in their own subject area (3.91). Mentors were willing to seek cooperation from a Technical Team Leader to help with subject matter questions of a Mentee who teaches a different subject (3.5) and Mentors were willing to delegate if needed. Interestingly, these observations were truer for women (3.58) than for men (3.20).

On the part of teachers, a significant percentage of teachers (44%) surveyed in August 2020 saw the benefit of mentoring even from a person whose expertise was in a different subject area. Indeed, it was reported that updating in subject-specific matters was not even in the top 10 types of professional training teachers desired (see Table 7). However, 14.4% said that they would not agree to accept a Mentor from a different subject area. The remainder said that they would only accept mentorship from someone with different subject matter expertise if it was required by school policy.

In the teacher survey, just under half were science teachers yet only 12.1% of candidates in the mentoring program had taught science. When interviewed after a period of a few months into their mentoring assignments, several principals noted the specific need for Mentors with expertise in science. This suggests that at least in specific subject areas like science, there is a need for mentoring directly related to subject area knowledge, at least according to the perceptions of school level stakeholders.

4.4.3 *Assignment variables: experience and age*

The survey showed that some Mentors have less experience than some of the surveyed teachers. Mentors had an average of 4.4 years of full-time teaching experience with a range of 1 year to 10 years spent teaching full-time. In the survey given to teachers, the average number of years of teaching experience was 7.4.

The surveyed Mentors were younger as well. The average age of Mentors was 28.7 while that of teachers was 30.2.¹⁷ These age attributes reflect the tendency of younger teachers to be more attracted to work in a New Generation School while for Mentors, the NGPRC tries to select candidates who are under 35 years of age to maximize the number of years that they can spend in service.

¹⁶ Numbers in parentheses refer to scores on a Likert scale ranging from 1 ("not confident at all") to 5 ("very confident").

¹⁷ The teachers who took the survey were not all the same teachers who were mentored once that became possible. Still, assuming the survey was a representative sample, extrapolation about teaching experience and age for teacher participants is not unjustified.

In the March 2021 interviews, there was concern expressed by principals that Mentors should be older and more experienced than their Mentees. For example, the principal of NGS-KC noted that because some Mentors were younger and had less teaching experience than their Mentees, this might have made the mentoring process more challenging. It should be noted that Mentors did seem confident to mentor older, more experienced teachers (3.18), but this measure was lower as compared with other measures related to confidence.

4.4.4 Assignment variables: gender

Among the 22 Mentors surveyed, female Mentors were more confident than their male counterparts in mentoring a teacher of the opposite sex. On the other hand, as far as teachers go, the majority of teachers said that the sex of the Mentor did not matter. Both male and female teachers said that they would prefer to have a female Mentor; female teachers overwhelmingly expressed a preference to be mentored by a female Mentor.

4.5 Building Mentor-Mentee relationships

Building a relationship between Mentor and Mentee is critical to successful mentoring. Without such a relationship, mentoring can be experienced by the Mentee as a performance review or assessment rather than as professional development. The principal of NGS-PA said, "Building good relationships with teachers is really important for Mentors!" At NGS-KC, Mentors even created their own slogan: "Mentors are like close friends!" The majority of surveyed teachers were open to discussion with a Mentor and, it is worth noting, 24% said "It depends on the person," which underscores the importance of relationships. Teachers also stated that they prefer a Mentor who can follow them for a long period of time.

Even before the mentoring activities commenced, surveyed Mentors seemed keen on the importance of the non-technical, "human" aspects of the Mentor-Mentee relationship. On questions related to their perceptions of what makes a good Mentor, high mean scores were reported for the importance of a Mentor's ability to be trustworthy (4.23¹⁸), to build relationships (4.14), to be open to ideas (4.14), to be committed to confidentiality (4.09), and to be active listeners (4.00).

¹⁸ Numbers in parentheses refer to scores on a Likert scale ranging from 1 meaning "Strongly disagree" to 5 meaning "Strongly agree".

4.6 Teacher-Mentor ratio

Given that the relationship between a Mentor and teacher must, by definition, go beyond coach and trainee, it is critical that the Mentor be assigned a reasonable number of teachers where they might forge and maintain some sort of intimate relationship of trust required to make mentorship effective.

The NGPRC draft Policy Framework for Mentoring recommends a ratio of between 10 and 15 teachers per Mentor. When surveyed, Mentors' desired even fewer Mentees. All but one of the Mentors interviewed before they started mentoring preferred less than 10 Mentees. In fact, nearly half preferred 5 or fewer Mentees. When the Mentors were placed in schools, 69% of Mentors were assigned less than 15 Mentees.

Table 4: Number of Mentees per Mentor

School (# of Mentors)	Number of Mentees
NGS-KC (3)	9
	7
	7
NGS-SSW (4)	19
	16
	16
	9
NGS-PL (3)	8
	6
	5
NGS-PA (3)	33
	29
	Mentor did not participate
NGS-PK (2)	13
	13
NGS-KP (2)	11
	11
Battambang Teacher Education College (3)	*
Phnom Penh Teacher Education College (3)	*
National Institute for Education (2)	*

* Mentor positions at teacher training institutions are not yet well defined, so no information about Mentee counts is available in such institutions.

4.7 Mentoring tasks

Because of the situation with online teaching during school closures, findings related to several areas of inquiry were not able to be obtained; however, much can be learned from the time Mentors were able to spend at schools.

The FGDs summary document details the work of the Mentors doing expected tasks, e.g., helping teachers with work plans, lesson plans, assessments, as well as other tasks needed to facilitate school operation during COVID-19 school closures, e.g., online teaching, ICT support (e.g., producing videos and doing video editing for teachers), and performing administrative tasks.

Below is a comparison of the program's definition of typical mentoring tasks with what was reported to be performed by Mentors.

Table 5: Primary tasks of a Mentor and related tasks performed by NGPRC-trained Mentors

Typical mentoring activity category	Reported activity
Classroom observations followed by post-conferences	<ul style="list-style-type: none">Conducted classroom observations and provided teachers with feedback
Consultations to prepare lessons and other teaching activities	<ul style="list-style-type: none">Helped teachers with completing work plans and timesheetsChecked teachers' lesson plans, test plans and testsHelped teachers with test preparation and analyzed test itemsChecked question bank and testsStandby and helped teachers with video editingCheck teachers' folders
Co-teaching (intended to build up the skills of the Mentee not to replace him/her)	<ul style="list-style-type: none">Teaching: Mentors were given their own classes to teach which did not involve their Mentees. They taught online, took attendance and contacted parents for information, taught students' life-skills and followed up, and produced teaching videos for students to learn during school closure caused by Covid-19.
Classroom Demonstrations (Mentors demonstrate new techniques)	<ul style="list-style-type: none">--

Table 6: Other tasks of a Mentor and related tasks performed by NGPRC-trained Mentors

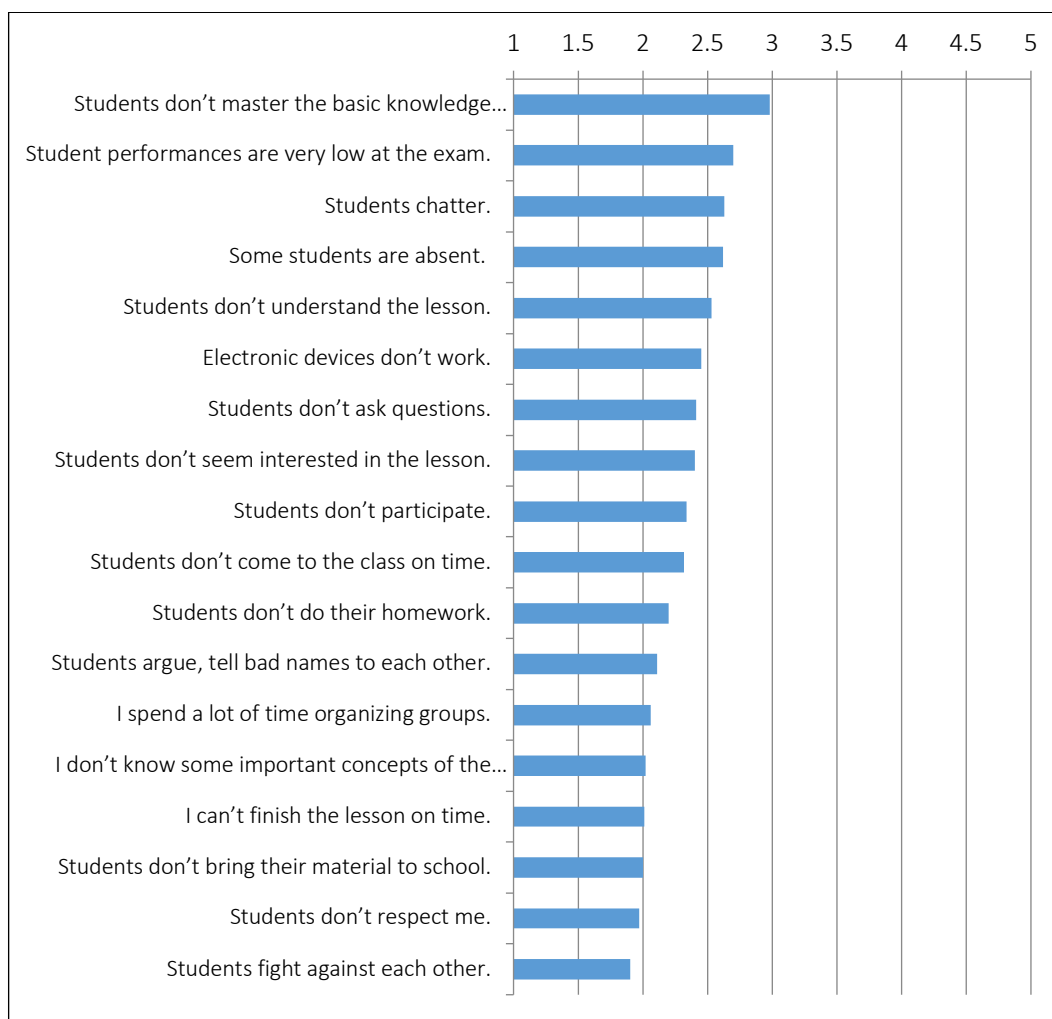
Typical mentoring activity category	Reported activity
Conducting workshops and other training sessions (in assigned school or outside)	<ul style="list-style-type: none"> Provided teachers with ICT support Provided training to non-NGS teachers in 21st century teaching methods Participated in workshop concerning club preparation organized by KAPE
Writing articles to answer questions raised by teachers during interventions	<ul style="list-style-type: none"> Wrote monthly report on mentoring work to submit to school principal Wrote schools reports
Animating professional teams through social media or physical presence	<ul style="list-style-type: none"> Involved in professional learning community (PLC) with teachers (technical meetings with teachers) Mentors were involved in various school development activities, i.e., attending a school development workshop, joining in school evaluations, and attending monthly meetings with management team and teachers.

Mentors were involved in other activities as well such as the following:

- Introduced the school-based mentoring to teachers
- Provided information for teachers regarding teacher career path
- Organized a meeting with technical team leaders to discuss teacher career path
- Helped facilitate Khmer and English Reading Competition
- Led Caribou math contest

Due to the nature of online teaching and related limitations, Mentors were not able to help teachers in some critical areas. Below are results from teacher surveys about some of those areas: difficulties teachers experience in the classroom. Under normal circumstances, an effective Mentor might engage in assisting a teacher with those types of issues, especially a new teacher.

Figure 4: Teacher difficulties in actual practice*



* Teachers were asked to rate the seriousness of each of these issues for them by using a five-Likert scale with 1 meaning "not serious at all" to 5 meaning "very serious".

4.8 Mentoring challenges

Due to school closures and online teaching, there were unique challenges faced by this cohort of the NGPRC program so that they could not do some of the things they were trained to do. As reported in Mentor FGDs, it was difficult to do some of the tasks related to mentoring in an online teaching environment. Classroom "observations" were limited and did not occur under normal circumstances in a face-to-face environment. Many teachers did not have the time to invest in the mentoring process. For instance, it often took significant time and effort to make appointments with teachers as they were struggling with managing new technologies when engaged in online teaching.

Also, there were unique challenges to do new things that were not a part of the mentoring program, e.g., train teachers how to create videos, upload files to Google Drive, use the Zoom online video conferencing tool. While the environment and timeframe evaluated in this study were quite unusual, the experiences reported here represent what will likely be key challenges faced by Mentors in the future.

4.8.1 Use of Mentors

Documents produced by NGPRC were quite explicit in stating that Mentors should not be used as substitute teachers or to take on roles not related to mentorship. The draft Policy Framework went as far as to specify that their teaching responsibilities should be limited to not more than one-third of their total working time to allow maximum time to focus on mentoring.

From Mentor FGDs and NGPRC informal communication, it is apparent that Mentors were, indeed, put to work doing administrative tasks generally not related to mentoring or expected of Mentors, at least part of the time. The most often reported situation was of school administrators offloading work onto the shoulders of Mentors. This phenomenon could explain the unwillingness of half of the principals interviewed to confirm the success of the mentoring program *yet* at the same time these principals requested that Mentors be assigned to their school again. This suggests that the ‘bureaucratic imperative’ is very strong in the Cambodian education system, even in New Generation Schools, which are very anti-bureaucracy in their avowed philosophy. The pronounced drift toward bureaucratic uses of Mentors, which can only undermine their ‘education quality imperative’ is a serious problem that is likely to be even stronger in a non-NGS setting.

4.8.2 Workload

Careful thinking went into NGPRC planning and recommendations to control workload for Mentors, as their dual role as Mentors and teachers presents a danger that they will become overloaded. Though Mentor activities and roles were not typical during the period under consideration, issues with workload did indeed present themselves.

Mentors reported that their workload was not sustainable and in FGDs some even mentioned considering quitting their job. Part of this was due to teachers needing special assistance due to gaps in ICT knowledge — gaps filled by Mentors who had already experienced online teaching via their own studies in the NGPRC program. Also, at issue was transfer of work responsibilities of some school staff to the Mentors.

4.8.3 Physical space considerations

In FGDs, Mentors also noted the difficulty in running PLCs because there were not enough rooms on the school campus. Space issues were also noted by principals. They reported that it became clear that Mentors need a physical space where they can work, especially to meet with Mentees confidentially. The importance of confidentiality was important to Mentors and teachers, according to the survey given before the practicum. At NGS-KC, Mentors had to use the office of the principal for private meetings. The principal of NGS-KP noted that Mentors did have a space but it was a challenge because it was too small. At NGS-PK, Mentors did have their own sufficient space and the principal said this helped them to their full potential with maximum effort and motivation.

4.9 Monitoring

Mentors noted that, in some cases, both teachers and administrators were lackluster in their engagement in mentoring and there was no monitoring system in place to correct for this. Some teachers worked around the process, only performing well when monitored, made the test plans after making the tests, or similar activities, which showed they had not bought into the processes and benefits of mentoring. Some teachers rarely participated and some never participated at all. Mentors did write monthly reports for principals; however, these did not necessarily result in an increase in teacher engagement.

Mentor monitoring was not performed during this time period. Mentors apparently gave information to principals via (confidential) written reports about Mentees and participated monthly in FGDs with NGPRC staff. However, feedback to Mentors could not be provided due to the lack of formal oversight.

4.10 Program effectiveness

4.10.1 Principals' level of satisfaction

One way to assess program effectiveness is to ask authorities who are working with Mentors about how well they worked in the school environment. Key Informant Interviews (KIIs) were used to solicit this information from school principals. All components from KIIs with principals — communication with teachers, school climate, teacher ability and commitment, teacher training, and style of the school — elicited a positive response from principals. If true, this would enable and support the effectiveness of mentoring performance. Principals also responded that teachers should be trained in more skills such as teaching methodology, professional ethics, ICT in teaching, and how to conduct research. In sum, the following recommendations were made by school principals:

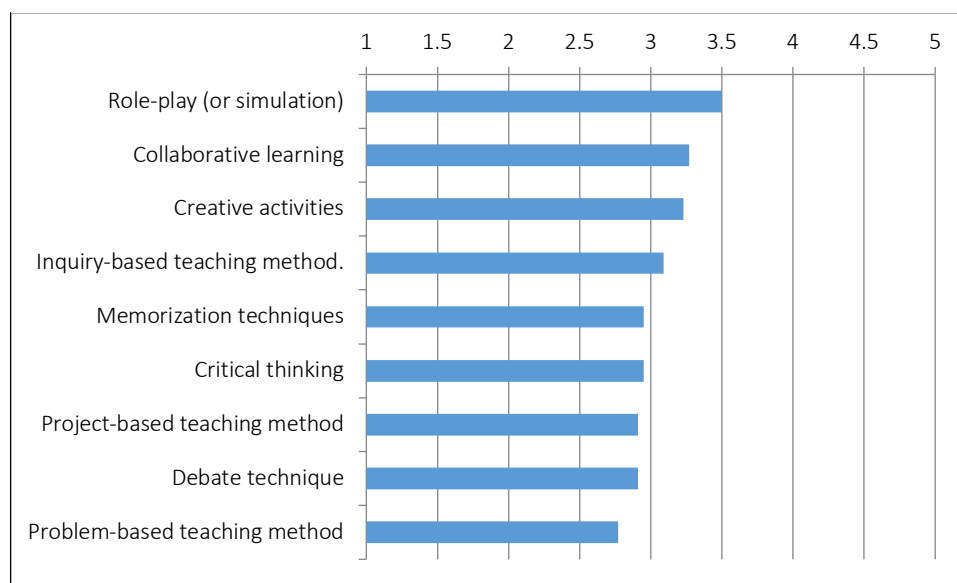
- Two of four principals (NGS-PK and NGS-KP) were strongly satisfied and the others (NGS-KC and NGS-PA) were reluctant to confirm their full satisfaction, as there had not been enough time to assess the effectiveness of the mentorship program.
- All four principals interviewed wanted Mentors back again.
- According to the principals, all teachers were happy to have Mentors, especially those at NGS-KP.

4.10.2 Mentor confidence and self-reported strengths

A second way to assess program effectiveness was to consider the level of confidence that graduates of the program had to do the job that the program has prepared them to do. At the end of the program, just half of Mentors expressed feeling confident/ready to be a prospective Mentor. A lack of confidence was mostly attributable to feeling insecure about teaching methodologies among other things.

Mentors were asked about challenges that they anticipated will occur during their work. Those challenges mostly include things relating to their relationship with their Mentee: building trust and good communication, working with defensive teachers and those with fixed mindsets, working with old and experienced teachers who do not want to make changes, and whether teachers have the time and determination to work collaboratively with them. Mentors have concerns about their own workload (having to do lots of administrative tasks and not having enough time for classroom observation and giving effective feedback) and general concerns about adapting to a new working environment and fitting into a role that is quite new for them. In terms of technical knowledge, they are concerned about their lack of content knowledge, a possible inability to solve Mentees' problems, as well as mentoring teachers in subjects where they have little expertise. Noteworthy is their lack of confidence about teaching methodology, since one of the entry requirements to enroll in NGPRC is multiple evidence of superior teaching ability (e.g., teaching demonstrations are part of the entry requirements to the M.Ed Program). The figure below summarizes Mentors' confidence in demonstrating various teaching techniques to teachers.

Figure 5: Teaching techniques that Mentors feel confident to provide*



* Mentors were asked to rate their confidence in demonstrating a lesson featuring each of these by using a five-Likert scale with 1 meaning “not confident at all” to 5 meaning “very confident”.

Mentors’ feelings of preparedness might also relate to an apparent disconnect between teachers’ professional development desires and levels of confidence of Mentors in particular areas. This is evident in the survey given after the program which examined self-reports from teachers about their professional development needs and Mentors’ self-reported strengths. For example, improving content area knowledge was not in the top ten desires expressed by teachers but it was the area that Mentors felt most confident about. Teachers’ most desired area of upgrading was in creating assessments, something not listed in the top ten list of Mentor strengths. The only clear match relates to explaining lesson content which was 8th for teachers and 2nd for Mentors.

Table 7: Teachers' needs versus Mentors' strengths

Teachers' most desired professional development	Mentors' self-reported support type strengths
1. How to design assessments (4.22)	1. Improve content area knowledge (3.91)
2. How to improve student memory (4.13)	2. Give clear explanations of content (3.73)
3. ICT in education (4.12)	3. Organize student work (3.73)
4. How to improve the critical thinking of students (4.06)	4. Recommend/provide teaching material (3.64)
5. IBL (Inquiry-based learning) how to organize research work for my students (4.06)	5. Organize their work at home, e.g., prep, corrections (3.64)
6. How to improve student creative	6. Organize classroom routines (3.59)
	7. Develop good lesson plans (3.59)

Teachers' most desired professional development	Mentors' self-reported support type strengths
thinking (4.02) 7. PBL (problem-based learning) how to improve problem-solving skills (4.02) 8. How to give explanations about the content of the lesson (3.99) 9. How to plan the school year (3.99) 10. How to organize work groups (collaborative learning) (3.98)	8. Help with voice and body language (3.55) 9. Help Mentees work collaboratively (3.55) 10. Conduct a role-play (3.50)

4.10.3 Teacher needs

A third way to assess program effectiveness was to consider the extent to which Mentors are able to meet the felt needs of teachers. Interestingly, Mentors generally felt less confident in those areas where teachers self-reported that they needed professional development:

Table 8: Teachers' needs and Mentors' confidence in those areas

Teacher's self-reported professional development priorities	Mentor's confidence rank (out of 31)
1. Assessments	24 th
2. Improve student memory	27 th
3. ICT in education	15 th
4. How to improve the critical thinking of my students	28 th
5. IBL (Inquiry-based learning) how to organize research work for my students	23 rd
6. How to improve student creative thinking	Not assessed
7. PBL (problem-based learning) how to improve their problem-solving skills	31 st
8. How to give explanations about the content of the lesson	3 rd
9. How to plan the school year	22 nd
10. How to organize work groups (collaborative learning)	Not assessed

The survey suggests that, based on self-reports, areas of focus for the NGPRC Mentoring Training program should be problem-based learning, critical thinking, creating effective assessments, and planning the school year since Mentors lacked the most confidence in those areas and they were identified by teachers as priority areas for development.

It should also be noted that some technical areas that were identified by teachers as important for their professional development are often not priority areas identified by research on Cambodian students' educational needs nor are they priority areas cited by MoEYS, e.g., improving student memory.

In addition, researchers would like to point out that Mentor confidence rate might very well have improved after their experience of mentoring. For example, it stands to reason that confidence in ICT increased after Covid-19 school closures forced teachers, and their Mentors, to become intimately familiar with new technologies for online teaching.

Finally, teacher professional development desires and Mentor strengths, both self-reported, might not hit the mark as far as student needs go. One of the highest rated feedback measures by students was that teachers explain the lesson clearly (4.47) yet teachers reported that they needed help in that area.

4.10.4 Teacher satisfaction

A fourth way to determine program success was to ask teachers how they felt about the mentorship they received. While teachers were not queried after their mentoring experiences, it is important to note that teachers are ready not only for professional development but also for *encouragement* to remain in the teaching profession — an instance a role of a Mentor that goes beyond “coaching”. When surveyed, only 11.2% of teachers had a negative feeling about their career and 87.2% said they are “happy when they enter the classroom”, but a quarter of teachers said that they think about quitting, at least from time to time. Those citing these feelings apparently wish for better pay, have different ideas about what career they want, say that the job is difficult, or that they are not suited for it, and others for personal reasons.

4.10.5 Mentor retention

A fifth way to determine program success was to consider the commitment and longevity of the program's “outputs”: Mentors. Part of the success of a program should be that it is creating lifelong Mentors who will remain in the Cambodian formal education system and who will work to support the improvement of teacher quality in Cambodia. In this regard, it should be noted that 50% expressed a desire to work at different places (for at least a few years) and 59% of Mentors have plans for another career after being a Mentor. Those who

expressed a desire to explore other jobs mentioned wanting to have new experiences and learn new things; those uninterested mostly spoke of security. Regarding changing jobs, the majority of responses related to jobs with higher income or prestige.

It should be a concern to NGPRC that newly graduated Mentors express a desire to work elsewhere or leave mentoring. NGPRC should explore this further as it is a concern for the sustainability of the program and for embedding mentoring as an essential part of the formal education system.

4.10.6 Mentor ongoing support needs

Mentors were asked if they still need continuous support from NGPRC when they work as a Mentor at their target school. The responses showed that 90.9% of the Mentors need the support from NGPRC while only 9.1% say that they do not need the support from the center. For those who answered “Yes”, they listed several kinds of support that they would need from NGPRC:

- Workshops on new teaching methods and ICT
- Help using the *Observic*¹⁹ program
- Training in test development and analysis
- Emotional support
- Research support
- Technical support
- Problem solving
- Training in new strategies dealing with people
- Counseling for work-related problems
- Help dealing with serious issues raised by their Mentees that they find it difficult to cope with
- Short trainings or workshops to reflect and deal with challenges where Mentors cannot find appropriate solutions
- Administrative work when Mentors want to change their job
- Continuous professional development

4.11 Parental engagement

Overall, parents were enthusiastic and positive about the school environment and their children’s learning opportunities; however, there are two points that bear further scrutiny by the program. The first point is that 10 of 160 parents said that they did not know how to help their children study. While this number may seem small, the problem is not: it is not

¹⁹ This is a cutting-edge Mentoring Software that Mentors learned about during their Master’s Degree Program.

that these parents *are not* actively engaged in their children's learning; it is that they feel they *cannot* be. It suggests that Mentors should be engaged in working with teachers to develop creative and practical ways that parents can be engaged in promoting learning for their children. More active engagement with communities and families will ensure a solid ecosystem in which children greater potential to thrive.

Secondly, parents expressed very strong agreement related to their trust of the school. While this might appear commendable, in fact caution is necessary in unpacking what this means. There is considerable literature written about how the socio-cultural norm of Cambodian parents ceding their responsibility for their children's education to schools/authorities. This is not what the government and New Generation Schools aim to do. The goal is that all stakeholders are engaged in the education of children. This suggests that Mentors would do well to help teachers work to promote parental engagement in the education of their children in real and meaningful ways.

4.12 Student response

Surprising to NGPRC, the response to the student survey question about if teachers ask students to pay for "extra lessons" was 2.17. This indicates that, indeed, there are teachers who are asking students for *rien khua* money. This directly contradicts the NGS policy and NGPRC should bring it to the attention of School Boards for action. As regards mentorship, this confirms the importance of ethics as part of the program curriculum.

4.13 Constraints in research findings as related to the original research questions

While this research study could not address original research questions in full due to Covid-19-induced challenges, some findings from this study do indeed inform those questions.

4.13.1 Studying the effectiveness of teacher mentoring

One research question asked, "What Are the Requirements to Study the Effectiveness of Teacher Mentoring in Comparison to Traditional Methods of Teacher Training in Cambodian Context?"

This study does not provide data to illuminate the specific issue of comparing a school-based mentoring system to traditional methods of teacher training; however, the research question specifies one particular type of measure which was central to current efforts. The research question asks in particular: "How to prepare, conduct and analyze comprehensive surveys among all the relevant stakeholders in the education system, including Teachers (both Mentees and non-Mentees), Mentors, School Principals, School Administration Staff, School Advisors, Students, Parents and Policymakers?"

As articulated, the question echoes the importance put on surveys by the researchers. It should be noted that the analyses that were planned for this NGPRC Teacher Mentoring pilot study included monthly meetings with Mentors and Mentees, daily check-ins with Mentors and NGPRC staff, and student reports — some of which were conducted, some of which were not.

Researchers prepared post-practicum surveys for all stakeholders; however, because of the adjusted practicum activities, post-practicum surveys were not given. Comparing pre- and post-survey responses was not possible.

There was not enough time to perform critical analysis, e.g., correlations within stakeholder groups, correlations across stakeholder groups. For instance, the following questions might be interesting to explore:

- Were teachers with more experience more likely to state, “helping students with memorization techniques” as a desired professional development topic? This might suggest that the mentoring training program include training Mentors how to share with Mentees research about gaps in students’ skills and 21st century educational needs, e.g., critical thinking is more important than rote memorization these days.
- Were Mentors with less teaching experience more likely to score lower on measures of confidence with mentoring tasks? What types of mentoring tasks? What might this suggest about program adjustments, Mentor support, etc.?

4.13.2 Requirements for training teacher Mentors

A second research question was “What Are the Requirements for Training Teacher Mentors for Cambodian Formal Education System?” For many of the sub-questions, this research does provide helpful information.

- What are the criteria for Mentor recruitment?
 - Interviews with principals spoke to the need to recruit Mentors with more experience than Mentees. Arguably, this is something that would be echoed by participants in mentoring programs generally.
 - Principal responses suggest that mentoring programs might query school leadership regarding if there is a need to recruit Mentors with experience in areas of high need.
 - Current findings that some Mentors are considering leaving the profession or principals’ observations that Mentors should have more experience have important implications for NGPRC entry requirements. The program desires

younger candidates (because they are easier to train and do not have entrenched views about teaching) with only two years of teaching experience or more. But given the findings above, perhaps these requirements are too lax and more years of teaching experience should be considered to ensure that only candidates who are committed to the teaching profession be admitted.

- Does the mentoring program adequately prepare for the mentoring tasks that Mentors actually encounter?
 - This study revealed a possible disconnect between teacher self-reports of needed professional development and Mentor self-reported strengths. Principals also can shed light on development needs of teachers. This indicates the need for program coursework to reflect real professional development needs as reported or as measured through objective assessments.
- What are the criteria for selecting Mentees for the Mentors?
 - While this study certainly made Mentor and Mentee desires clear, it should be highlighted that cultural and situational variables ought to be examined, perhaps through interview or focus groups rather than close-question surveys.

This study was not able to inform the following questions due to the limitations in controlling variables, which would otherwise be required:

- What are the optimal types of classroom observations?
- What is the optimal number of classroom observations?
- What are the criteria for distributing Mentors to different schools?

4.13.3 Supporting effective teacher mentoring

A third research question asks, “What Are the Requirements for an Institutional Environment to Support Effective Teacher Mentoring?” The present research illuminates several of the sub-questions.

- How to prepare all the stakeholders, including school principals, teachers, administration staff, students and parents, in order to create an effective mentoring environment?
 - Interviews with principals found that at least some schools were inadequately informed about what mentoring is and how it works. Formal school-wide sessions might be supplemented by other communication avenues.

- What are the expectations and receptiveness from all the stakeholders regarding school-based teacher mentoring?
 - In the current study, receptiveness varied from school to school. Half of the principals of the schools where Mentors worked vocalized their support; half did not.
 - Because of research limitations, all stakeholders could not be queried about this particular issue.

- What is the role of Mentors in Professional Learning Communities, particularly in relation to Technical Subject Leaders?
 - This was not explored; however, one principal noted the need to distinguish Mentors from Technical Subject Leaders.

- What are the optimal teacher-Mentor ratios?
 - All but one of the Mentors interviewed before they started their practicum preferred less than 10 Mentees. In fact, nearly half preferred 5 or fewer. Yet, when they were placed in schools, 65% of them were assigned more than 10 Mentees.
 - Because of closures and online teaching, normal interactions between Mentor and Mentee were not possible; therefore, it is not clear if the best ratio was closer to the desired (as expressed by Mentors) or the actual Mentor-Mentee ratio.

- What is the optimal background of teachers to become Mentees?

- Again, the data showed the need to have teachers with a background in subject areas of need is helpful.

This study was not able to inform the following questions due to the limitations in controlling variables which would otherwise be required:

- What are appropriate incentives for schools to host teacher Mentors?
- What are appropriate incentives for teachers to be mentored?
- What is the impact of practical training in the school environment?

5 Conclusions and recommendations

This study breaks new ground in the effort to better understand whether a formalized school-based mentoring system can function effectively in Cambodia's public schools. As this is the first school-based mentoring system ever piloted in Cambodia,²⁰ current findings create a milestone, the first of many it is hoped, about how to structure and establish school-based mentoring programs in Cambodia. Although the outbreak of the Covid-19 pandemic seriously affected this study's ability to answer all of the original research questions, it has nevertheless succeeded in generating evidence that can inform the evolution of the Mentoring Program at the National Institute of Education and elsewhere in Cambodia. This includes needed changes in Mentor selection procedures to ensure only those with a high commitment to the teaching profession are selected; modifying course content in the Master's Degree Program on Mentoring to be more in line with teachers' perceived needs; and the serious risks that "bureaucratic drift" in Cambodian schools poses to quality-focused mentoring programs.

The institutional setting provided by schools that are participating in New Generation School education reforms²¹ provides perhaps the most accommodating institutional environment of any public school in Cambodia to support a mentoring program. Thus, if a school-based mentoring system cannot succeed here, it is likely that it cannot succeed anywhere in Cambodia's public school system. This raises the stakes considerably for the education system to demonstrate that a school-based mentoring system of the kind proposed by NGPRC can succeed in promoting Continuous Professional Development for teachers in a systematic way. The stakes grow even higher when one considers the high national profile of the Mentoring Program and its imputed role as a catalyst for change in such documents as the *Cambodia Secondary Education Blueprint 2030*²² and others. Thus, the importance of this initiative and the present research cannot be understated.

Overall, researchers found that the effort to create a school-based mentoring system has quickly become established to the point where a sizable number of key actors in each school have accepted Mentors as a fixed feature of the NGS landscape and indeed many schools have actually provided Mentors with their own offices. Technical problems in

²⁰ This is not to undervalue the mentoring efforts undertaken by other organizations such as VVOB; however, the NGS mentoring program is the only one where Mentors are school-based as permanent appointments.

²¹ NGS Reforms are laid out in Point 14 of the 15-Point Education Reform Program inaugurated by MoEYS in 2015. These reforms provide New Generation Schools with high levels of autonomy and considerable amounts of special resources (both financial and material) to achieve high academic standards. Teachers are often competitively selected and receive incentives linked with a school's ability to maintain its accreditation as a New Generation School. Thus, the elements for a successful school are in place provided that the leadership and motivation of school personnel are up to the task.

²² MoEYS, 2021.

implementation such as the workload of Mentors, how to best assign Mentees to Mentors, the technical preparation of Mentors, and other issues identified by researchers are probably all easily amenable to modifications in program design to realize greater efficiencies. What is more problematic are the ambivalent attitudes that Cambodian educators have towards a Mentor's role in the school, since this is an entirely new and untried staff position. In general, many school-level stakeholders do not yet know what to make of Mentors. School principals tend to fall back on their bureaucratic instincts and often see Mentors as just one more bureaucrat in the school office who can help them deal with the piles of paperwork generated by the MoEYS paper mill. Teachers, on the other hand, tend to fall back on their ingrained views of inspectors and other members of the 'thought police' and see Mentors in this light. Yet the position of Mentor has been conceived to be neither that of a bureaucrat nor a policeman. Since attitudinal perceptions create their own reality, it is likely that Mentors will likely continue to struggle to establish themselves as an entirely new institutional entity with a constructive mission to turn school classrooms into dynamic places of learning. It will not be easy to change the attitudes of stakeholders along these lines and Mentors will no doubt need to display considerable diligence in establishing themselves in their new role.

5.1 Developing a more effective evidence base for effective teacher mentoring

The school-based mentoring initiative investigated in this study is fortunate to have an institution like the New Generation Pedagogical Research Center behind it, as it moves forward. The Center not only provides intensive training for Mentors and develops the policy framework to govern the initiative, but it is also well-equipped to do the research required to generate an evidence-based foundation for the initiative's consolidation and replication. In order for this to happen effectively, however, it will be necessary to take a comprehensive and strategic view of future research designs required to develop a base of strong evidence regarding the efficacy of teacher mentoring initiatives in Cambodia. Below are some points to take into consideration to promote these efforts.

- **Systematic, periodic assessment:** It is necessary to periodically (and regularly) assess both mentoring practice and results: before (baseline), during (mid-term), and after (post) the intervention. This will produce comparative data to illuminate the effectiveness of teacher mentoring (i.e. a comparison is necessary to establish whether positive change has occurred). For instance, the present research effort included both pre- and post-surveys as well as interviews with focus groups. These should be used in continued program evaluation and to support future research.

- **Cross-section of stakeholders:** Data should be collected from a variety of stakeholders in order to produce a comprehensive picture of what is happening with mentoring. AND, surveys across stakeholder groups must be linked by subject matter to illustrate the full picture of a particular topic, e.g., ask *all* stakeholders about discipline practices at school.
 - As regards analysis, the findings presented in this report are based on analysis by stakeholder groups. It will be objective of future work to perform comprehensive cross-sectional analysis which would consider particular questions across the full five stakeholder groups.

Disparities among stakeholders might suggest differences in perception (e.g., parents and students), theory and reality (e.g., principals and teachers) or bias in the survey taker. These could suggest the need for follow up in a different setting as part of a qualitative analysis.
- **Mixed methods:** The original project design included use of mixed methods to include a greater breadth of qualitative instruments, as outlined in Section 3 (Research Methodology); however, as pointed out, for example, the prepared focus group interviews were not conducted for the findings in this report due to the Covid-19 related modifications (as explained in Section 1.5). This is important to be included in future program evaluation and supportive research activities.
- **Survey design considerations:** Biases in survey responses should also be carefully considered. In Cambodia, one of these is “social desirability bias” where respondents give answers that they believe are “correct”. Therefore, assessments must control for such bias by using, for example, *anchoring vignettes* wherein a story/example of a situation is shared and respondents asked what they would do in response or what would happen in that situation. For the original research design, the focus groups and interview questions were selected to address this issue; however, as noted above, the findings in this report do not fully include such consideration as these interviews were not conducted due to the modifications induced by the Covid-19 pandemic. This also is an important consideration for future program evaluation and research.
- **Correlations:** To understand teacher mentoring success, it is necessary to systematically look at correlations between key variables and performance, e.g., sex, age, location, job experience, subject matter expertise, etc. For instance, does the age/sex of a Mentor relate to how they were perceived by a school principal? Or to the level of confidence they express going into their mentoring responsibilities? A

part of comprehensive cross-sectional analysis is to consider correlations. This is an important consideration and objective for future research.

- **Sustainability of change:** Teachers need to be assessed as to whether they continue to implement and grow based on what they learned from their Mentors. This suggests the need for longitudinal surveillance.

5.2 Continued improvement of the mentoring program

A set of carefully designed and well-sequenced assessment tools can be employed to provide continuous feedback into programming, e.g., courses, activities, duration, timing, program logistics, practicum details, and so forth.

- **Assessments:** A schedule for the administration of assessment tools needs to be clearly defined at the start of the program. Similarly, feedback loops must be clearly established.
- **Mentee's needs:** Mentees' own self-reports of their stated needs should be considered carefully and ensure that (1) the program includes content that prepares Mentors to address those needs with teachers, (2) Mentors confirm in their own survey their readiness to address those particular needs, and (3) Mentors exhibit through their practicum and after their ability to address those needs.
- **Dynamic, responsive curriculum:** Likewise, the observations of teachers about their classroom experience/challenges should inform teacher mentoring programs. In this research for instance, teachers responded that the top 5 issues affecting learning that they confront in their classrooms are: (1) students talking during class; (2) students do not master basic knowledge; (3) student do not do their homework; (4) students do not understand the lessons; and (5) some students are frequently absent from class.
- **Technology:** New technologies should be incorporated into the training program and encouraged for use in the practicum. New technologies are emerging all the time, so it is important that the trainers of mentoring programs are keeping up to date in order to provide their students with creative options for pedagogical improvement.

- **Looking outwards and inwards:** All education improvement programs can be improved by considering external research and global best practice. And, it is very necessary to contextualize external inputs to the unique Cambodian situation.
- **Scalability:** The first cohort and survey participants involved people associated with New Generation Schools in one way or another. Careful consideration needs to be made when applying results from the findings in this report beyond the NGS network, given the highly accommodating institutional environment implicit in such schools, which is not typical of other public schools.

5.3 Institutional-level recommendations

5.3.1 *Mentor Workload*

During monthly meetings, many Mentors mentioned the problem of their workload. To prevent the exploitation of Mentors by those in authority, it is necessary that the Mentor contract specifies time ranges for the main activities that Mentors can undertake:

- Teaching
- Classroom observation and counseling
- Administrative tasks
- Standby, lesson preparation and corrections of assessments

It is to be noted that, while Mentors can work in their office at school in order to be available for their Mentees, this standby time should not be filled systematically by the school principal. There is a good reason why teachers don't teach 40 hours a week. They need time to prepare their activities and thus should have some flexibility in their time table. A 40-hour figure could be reasonable only if it understood as the grand total for all the above-mentioned tasks.

5.3.2 *Mentor tasks*

A strict cap should be put on the activities that are not directly related to mentoring. It is apparently tempting for the school administration to use Mentors as free administrative workers, for tasks that are more or less useful (meetings, reports, checking teacher administrative documents, etc.).

A serious complaint has been made by Mentors in several schools about the lesson plans that they have to check. It is legitimate to ask Mentors to provide pedagogical feedback on lesson plans when it is useful. However, the role of a Mentor is not to enforce an

administrative rule. Teachers must not write lesson plans to appease the school director, but to improve their lessons. Excessive administrative scrutiny has induced some absurd practices, since many teachers write their lesson plans after the lesson is finished. This is not to say that Mentors should not undertake administrative tasks. Their role is to support the life of the school in general. However, a good balance must be found to satisfy all the stakeholders.

5.3.3 Unexpected pedagogical activities

It is expected that Mentors contribute to the life of the school in many ways. Therefore, we should not limit their activities too strictly. Just as we expect ordinary teachers to contribute to special events, such as the Caribou Math Contest, or science fairs, it is reasonable to expect that Mentors would extend their counseling activities beyond classroom observation, and take the lead when the school is trying to implement innovative educational approaches. When all the teachers have to shift their teaching to an online setting, it is logical that Mentors evaluate the new activities, observe remote classes and provide feedback to the teachers.

We should notice, however, that the new Mentors have not been trained specifically for such activities.

It is essential that the Mentors and school principals have a way to provide feedback to the training center, in order to improve its syllabus and include the supplementary activities that might become common in the near future. For instance, the Mentors of the first cohort have strongly expressed the need to reinforce the training on student assessments. One school director has suggested including school management in the curriculum.

If such a revision of the syllabus is deemed impossible or not cost-effective, for instance if the new activities concern only specific schools (question banks in NGS) or a limited time (video production during the Covid-19 crisis), it is important that the Mentors are given a platform to share challenges and solutions. The monthly meetings are not enough to do it. Because of time constraints, they rarely go deeply enough into technical considerations, and they might happen too late for the Mentors who are looking for quick solutions. Also, technical issues do not always concern every Mentor, and the faculty staff of NGPRC can provide support, but not on a daily basis. A recommendation would be to create an online forum, where Mentors can submit their questions to their peers and other pedagogical experts.

5.3.4 Incentives for Mentors

It is the policy of NGPRC to provide incentives to the teachers and Mentors of the NGS program. In exchange, teachers and Mentors are expected to be fully committed to their

mission and to renounce illicit advantages, such as the illegal fees that plague the Cambodian school system.

Unfortunately, those incentives have created expectations among non-NGS Mentors. It can create a sentiment of injustice for those who are assigned to a TTI or standard schools. Harmonization of the practices should be advocated.

5.3.5 Ongoing support for Mentors

Given that over 90% of Mentors expressed a desire for ongoing support, it seems necessary for the program to create realistic expectations for the type and duration of support that will be given to the Mentors. The goal is to foster Mentors to function independently, indeed to be able to support new Mentors themselves.

The program could do more to ensure that the Mentor PLCs set up and functioning through face-to-face interactions among peers and/or via an online platform for sharing experiences and ideas about mentoring.

5.4 Preparation at schools for embedding Mentors into schools

School Principals must be informed ahead of time about the concept of mentoring as well as key responsibilities of Mentors; and about the expectations for their involvement in supporting and enabling Mentors to be effective.

It is also very important that School Principals warmly welcome and introduce the Mentors, as well as explain their roles and responsibilities, to all teaching and non-teaching staff from the very beginning.

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