



Improving Teacher Quality

Maximizing Returns on Investment in Teacher Education in Cambodia

MINISTRY OF EDUCATION YOUTH AND SPORTS
KAMPUCHEAN ACTION FOR PRIMARY EDUCATION

CHILD FUND CAMBODIA

Research Report

Written by

STEVEN PRIGENT

In close collaboration with

**PISSETH HANG, KAONGYOU YUTH, DARO KHORN,
RUN UL & KURT BREDBENBERG**

August 2016

Disclaimer

The views expressed in this document are those of the authors and do not necessarily reflect those of Child Fund or Kampuchean Action for Primary Education.

Table of Contents

1. Introduction: In-service and pre-service educations - problems and questions	1
2. Research Methodology	7
3. Views of Teaching as a Profession	11
3.1 The « only choice » during the 1990s	12
3.2 Devaluation of teaching profession perceptions in the 2000s	13
3.3 Extra class for extra salary	15
3.4 A profession for the Grade 12 Graduates with few options.....	16
3.5 The 2010s: Improving perceptions of the teaching profession?	19
3.6 Where do perceptions of the teaching profession go from here?	20
4. Pre-service teacher education	22
4.1 Pre-service Education Recap.....	22
4.2 PTTC Trainees’ living conditions.....	22
4.3 Academic Standing of PTTC Students	24
4.4 PTTC trainers and job satisfaction	25
4.5 The PTTC Curriculum.....	27
4.6 Trainers’ methods and pedagogical practices	31
4.7 Test development and a “Cambodian-style Bloom’s Taxonomy”	36
4.8 Teaching Practicum.....	37
4.9 The end of the course	39
4.10 Prospects for a four-year pre-service education program	41
5. Twenty years of in-service education	43
5.1 The importance of understanding the teacher audience	43
5.2 The cascade model.....	44
5.3 In-service teacher training methodology.....	47
5.4 The effectiveness and relevance of in-service trainings	49
5.5 Follow-up and monitoring	57
6. Conclusions and Recommendations	58
6.1 Overview: Opportunities offered by an educational system in flux	58
6.2 How effective is in-service teacher education in Cambodia today?.....	58
6.3 Pre-service education: Current status and future directions	60
6.4 Improving the attractiveness of the teaching profession.....	62
6.5 Concrete Recommendations.....	63
11. Bibliography	67

12. Annexes	69
Annex 1. General knowledge test for Year 2 PTTC trainees.....	69
Annex 2. PTTC trainee survey.....	73
Annex 3. Primary school teacher survey	85
Annex 4. Classroom observations.....	98

List of Tables

Table 1.1:	Statement of Research Factors
Table 2.1:	School Selection Criteria
Table 2.2:	Stakeholder Selection Matrix
Table 3.1:	Education and Training Level of All State Teachers (National & Sample), 2015
Table 3.2:	Motivation & Perceptions of Teaching as a Career among PTTC Students
Table 4.1:	Demographic Profile of PTTC Students in Three Provinces
Table 4.2:	Bac Double Scores of Year 1 Intake to PTTCs (3 Provinces)
Table 4.3:	Breakdown of PTTC Instructors by Gender and PTR
Table 4.4:	Curricular Program for Year 1 and 2 PTTC Students
Table 4.5:	General Knowledge Test Results among PTTC Students in Three Provinces (Year 2)
Table 4.6:	PTTC Trainee Responses to Statements about PTTC Training Quality
Table 5.1:	Demographic Profile of Primary School Teachers in Two Provinces (Sample)
Table 5.2:	Teachers' Self-assessment of Their Knowledge of Various Teaching Methods
Table 5.3:	Most Frequently Encountered In-service Training Workshop Topics
Table 5.4:	Topics Most Sought in the Next In-service Training Workshop
Table 5.5:	Teacher Responses to Statements about In-service Teacher Training Quality
Table 5.6:	Correlations between Classroom Observations and Ascribed/Achieved Teacher Characteristics

List of Acronyms

ADB	Asian Development Bank
ANOVA	Analysis of Variance
CDRI	Cambodia Development Research Institute
CF	Child Fund
CFS	Child Friendly Schools
CITA	Cambodia Independent Teacher Association
DK	Democratic Kampuchea
DOE	District Office of Education
DP	Development Partner
DTMT	District Training & Monitoring Teams
ECCD	Early Childhood Care and Development
EFA	Education for All
EMIS	Education Management & Information System
ETL	Effective Teaching & Learning
FGD	Focus Group Discussion
GKT	General Knowledge Test
GPK	General Pedagogic Knowledge
IBL	Inquiry-based Learning
ICT	Information and Communication Technology
INSET	In-service Education Training
IO	International Organization
JICA	Japan International Cooperation Agency
KAPE	Kampuchean Action for Primary Education
MoEYS	Ministry of Education Youth, and Sport
NCT	National Core Trainers
NEP	NGO Education Partnership
NGO	Non-governmental Organization
NGS	New Generation Schools
NIE	National Institute of Education
PCK	Pedagogic Content Knowledge
POE	Provincial Office of Education
PRESET	Pre-service Education Training
PRK	People's Republic of Kampuchea
PTR	Pupil Teacher Ratio
PTTC	Provincial Teacher Training Center
RTTC	Regional Teacher Training Center
RUPP	Royal University of Phnom Penh
Sida	Swedish International Development Agency
SPSS	Statistical Package for the Social Sciences

TEC	Teacher Education College
TGL	Technical Grade Leader
TOP	Textbook Orientation Program
ToT	Training of Trainers
TPAP	Teacher Policy Action Plan
TTD	Teacher Training Department
UNDP	United Nations' Development Program
UNESCO	United Nations' Education, Scientific, and Cultural Organization
UNICEF	United Nations' International Children's Education Fund
VVOB	Flemish Association for Development Cooperation and Technical Assistance

1. Introduction: In-service and pre-service educations - problems and questions

Background and Context

This study was commissioned by Child Fund-Cambodia and implemented by Kampuchean Action for Primary Education to investigate the effectiveness of investments in teacher education as a means to improve educational quality. In this respect, heavy investment in teacher education, particularly in-service education, has traditionally been an important means through which to improve the quality of public schools. In order to assess the effectiveness of this investment strategy, both agencies wish to assess to what degree in-service programming in ongoing projects is actually changing attitudes and improving classroom practice and whether other avenues of intervention (e.g., increasing investments in pre-service education) could add value or even partly replace current teacher education approaches of a more conventional nature.

This desire for a better understanding of the most effective strategies to improve teacher performance takes place in a broader context of growing concerns about educational quality in Cambodia's public school system. Since donor funding restarted in Cambodia in 1994 following UN-sponsored elections, tens of millions of dollars, perhaps even hundreds of millions, have been invested in teacher education by multi- and bilateral donors over the years. These investments have flowed mostly into in-service training with the vast majority spent on per diem and travel for both trainers and trainees, and material costs. A wealth of good training materials have been developed by many agencies over the years as a result of these efforts; yet, most literature on the subject suggests that the quality of teaching practice in the public sector is still generally considered to be very low (e.g., World Bank, 2014; CDRI, 2014, Wheeler, 1998). Indeed, Cambodia's education system is ranked among the lowest in quality in the region (World Economic Forum, 2014).

In other countries, too, there is a large body of research that suggests that professional in-service teacher training is not effective (e.g., Fullan 1993; Joyce & Showers, 1995; Sprinthall, Reiman & Theis-Sprinthall, 1996). This poor return on investment raises serious questions about the wisdom of supporting even more and bigger programs for in-service teacher education (e.g., KAPE, 2016). Fennessy (1998) observes that, '[i]n some countries there is less reli-

ance on trying to change education systems through in-service teacher development. As an alternative, certain governments have attempted reform by dramatically restructuring their education systems around *self managed* schools and specifying system wide curriculum and assessment frameworks.’ Cambodia is also experimenting with parallel approaches such as this through its *New Generation School* programming while at the same time continuing to pursue more conventional approaches that focus on nation-wide INSET programs. NGS programming currently being funded by MoEYS supports the establishment of autonomous public schools with a strong focus on *career path planning*, *professional learning communities*, and *peer support groups* among teachers. New Generation Schools are essentially Cambodian *Charter Schools* that are free to pursue more experimental approaches to teacher development (e.g., use of teacher peer support networks, individualized conferencing, etc.) rather than more traditional methods associated with national INSET programs. Because the NGS initiative is a new one, however, there is not as yet any empirical evidence to demonstrate whether this new approach will prove to be more effective than earlier attempts to improve teacher quality.

Historical Challenges for Teacher Upgrading

Numerous causes have been identified for the general failure of donor investments in teacher education in Cambodia to have long-lasting impact on classroom practice. These include a long list of issues including:

- ***Low salaries:*** Cambodian teachers are generally paid less than those in other comparable professions with a reported wage difference of about 40% (World Bank, 2014). However, teacher wages have increased significantly in the last several years and now range between \$140 and \$250 per month. However, poor linkages between incentives and performance as well as weak accountability systems mean that Cambodia is quickly achieving a more highly paid but stubbornly low-quality teaching force.
- ***Weak School Management and Poor Accountability Measures:*** The highly politicized and opaque appointment process in Cambodia’s education system ensures that many school directors often do not have the leadership and management skills required for teacher oversight and effective school management. Much money has been spent on training school directors as well as teachers but yet this has not translated into well-run public schools (Bredenberg, 2008).
- ***Failure to Attract Highly Qualified Individuals into the Teacher Workforce:*** Unlike countries like Singapore, which will only accept high school graduates in the top third of their class for admittance to the teaching profession, Cambodia generally recruits its teachers from among the poorest scoring high school graduates. A World Bank survey recently found that 84.9% of PTTC students in selected provinces scored at the D, E,

or F level¹ on their *Bac Double Examination* and that teaching is usually the last choice for most graduates (World Bank, 2014). There were no A's or B's among those surveyed and only a handful of C's.

- **Low Teacher Motivation:** Poor pay, lack of leadership, and poor accountability practices at school level often ensure that teachers feel no need to apply what they learn in expensive workshops when they return to the classroom. Meager operational budgets in many schools have also meant that basic, consumable materials have not been available for activity-based learning or group work. The result is that huge investments in-service training have little impact on actually changing classroom practice (e.g., KAPE, 2016).
- **Dysfunctional Habits Reinforced by Donors:** Related to the above, donors have over the years continued to pour funds for per diem into teachers' pockets for large workshops with little regard for conditions of actual performance following the workshops. The workshops are large, rarely followed up and often conducted by trainers with limited technical capacity or, in some cases, without relevant classroom teaching experience. Many have claimed that these patterns have led to an entitlement mentality in which large investments in teacher education have few impacts (e.g., PEPY, 2012).
- **High Attrition Rate:** Every year, the education system loses about 3,000 teachers as a result of retirement, resignations, and death. This comprises about 5 or 6% of the teaching force. New recruitment barely absorbs this loss (EMIS, 2014). The problem posed by high attrition rates is that in-service training investments in this population are largely wasted and further diminish the return on investment.
- **High Rate of Movement Within the System:** Some recent long-term projects that invested in teacher education have started tracking the movement of teachers within the system. For example, the Improved Basic Education in Cambodia Project reported that as many as 27% of trained teachers had left for other schools during the project's duration (IBEC, 2014). While it is true that these teachers will bring increased capacity to their new school, this ignores the fact that schools operate as an organic whole with parallel investments in classrooms, school director leadership, libraries, etc. that are intended to support and maximize the impact of teacher in-service within target schools. In this sense, the 'whole is greater than the sum of its parts.' Thus, moving to a new non-target school without these other interventions in place undermines the full potential of the investment made in teacher education.

This list of factors affecting the impact of in-service teacher education interventions is not exhaustive but gives some sense of the challenges to making such investments effective. They

¹ In the examination scoring system for the *Bac Double*, A=Excellent; B=Very Good; C=Good; D=Satisfactory; E=Limited Achievement; and F=Failed.

also raise questions about the effectiveness of in-service education activities under Child Fund and KAPE-supported programming.

Pre-service education is also not without its own problems. These include low quality recruitment, failure to integrate teacher standards into the Teacher Training College curriculum, and the poor capacity of teacher trainers (World Bank, 2014). Nevertheless, the investment in pre-service teacher education has been much lower than for in-service even though there are also significant advantages accruing to the young age of trainees (ensuring that they will be in place for longer) and the ease of training individuals with a blank slate (as opposed to those with deeply rooted dysfunctional habits).

Key Research Questions

The present research study aims to assess the effectiveness of in-service training programming (provided to improve teaching attitudes and classroom practices); the relevant conditions that would be required to build an effective pre-service education; and what trainees learn and understand during their two-year course at PTTCs. The study was administered in three provinces where Child Fund and KAPE are implementing common programming, namely Svay Rieng, Kampong Cham, and Kratie.

The present study has formulated four key research questions to guide the investigation of teacher education practices that deal with issues of training efficiency, best practices, and alternative approaches to teacher education. The research questions identified include the following:

Research Question 1: How efficient has in-service teacher education in target schools been in terms of changes in classroom practice and in comparison with the magnitude of the investments made?

Research Question 2: What are best practices that heighten the impact of in-service teacher education both in Child Fund-KAPE program sites and in other programming?

Research Question 3: What are the standards and conditions of pre-service education in target provinces in terms of the Pedagogic Content Knowledge (PCK) acquired and subject matter proficiency?

Research Question 4: What are specific actions and practices that could help to improve the effectiveness of pre-service education in terms of recruitment; higher diversity in ability groupings among students; curriculum content; and classroom practices among trainers.

Using the research questions stated above, researchers identified a total of 20 variables or factors to study in depth and to guide the development of data collection tools. The factors identified for this purpose are summarized in Table 1.1 below.

Table 1.1 Statement of Research Factors

RESEARCH QUESTION 1 Effectiveness of in-service	RESEARCH QUESTION 2 Best practices that heighten impact of in-service	RESEARCH QUESTION 3 Conditions of pre-service education	RESEARCH QUESTION 4 Actions and practices to improve pre-service
A. Pedagogic Knowledge	G. Context & organization (Location, spacing of training)	A. Pedagogic Knowledge	Q. Curricular Considerations
B. Standards of Teaching (application of the PCK)	Determination of topic	L. General knowledge of PTTC students	R. Teaching Methods
C. Quality of delivery (Perceptions of relevance, workshop methodologies, curricular materials, etc.)	H. Incidence of follow-up	M. PTTC curriculum organization*	S. Materials & Facilities
D. Rates of utilization	I. Channels for feedback	C. Quality of delivery	T. Management Considerations
E. Background Characteristics (SES, age, educational background, sex, years of teaching)	J. Role of concrete task work	N. Situational factors (Economic, social class)	
F. Motivation levels (desire to improve professionally)	K. Volunteerism	O. Power relations	
	E. Background Characteristics	P. Perceptions of the Teaching Profession	
	F. Motivation levels	E. Background Characteristics	
		F. Motivation levels	

Policy Context for Teacher Upgrading

Concurrent with the design and implementation of this research study, MoEYS and its Development Partners have started the development of a new policy framework related to teacher education known as the *Teacher Policy Action Plan (TPAP)*. Since 2015, the TPAP taskforce has sought to design a new national teacher education structure for both in-service and pre-service teacher training that will start implementation sometime between 2018 and 2020. The TPAP taskforce, that includes approximately 13 people notably from among various Ministry departments and development partners,² regularly meets to finalize the design of the policy guidelines.

² For example, from RUPP, MoEYS (TTD, EQAD), NIE, UNICEF, UNESCO, VSO, JICA and KOICA.

Regarding in-service education, the TPAP task force is currently designing a "fast track" training program focusing on six subjects such as math, sciences, chemistry, and Khmer to upgrade teachers' educational certification to a bachelor's degree (12+4). Teachers will be expected undertake such studies during weekends and holidays. This "fast track" will be ready for implementation in November 2016. The TPAP task force is also designing a "teacher career pathway", that will be ready for implementation in 2018. This new INSET framework will allow teachers to upgrade themselves over their careers and achieve certificatory credits as well as new areas of specialization (e.g., school leadership, research, admin, etc.). In doing so, the proposed program will create a national and standardized in-service training framework. One of the underlying goals of the national INSET framework is to reduce dependence on donor driven in-service programs, which undermine standardization. This career pathway is also supposed to increase teacher motivation and retention during their career, thereby bringing about improvement, change, and new opportunities, etc.

Regarding pre-service education, the TPAP framework envisions a process of both consolidation and upgrading. By 2018, teachers will require a four-year degree for certification (i.e., 12+4). In addition, the current PTTCs and RTTCs will be consolidated into six institutions known as *Teacher Education Colleges* (TEC). These institutions will provide teacher training for individuals teaching multiple grade levels stretching from ECCD to lower secondary. The *National Institute of Education* will retain its monopoly on training teachers for upper secondary school level (Grades 10 to 12). JICA is in the process of making a serious commitment to fund the infrastructure upgrading of TECs as well as the standardization of curricula across all institutions. Retired PTTC facilities may be used as a venue for INSET workshops. In addition, the TPAP framework will also require TEC educators to hold a Master's Degree as part of the upgrading of teacher training facilities. These plans are ambitious and will challenge Cambodia's very limited base of human resources. A "12+4" pilot is currently being conducted in Battambang and Phnom Penh PTTCs to better inform the replication process.

Given these very ambitious plans envisioned under the TPAP framework, the present research on teacher education comes at an opportune time when there is much interest in rebuilding the Kingdom's teacher education approach. KAPE and Child Fund hope that the findings and recommendations of the research will be relevant and timely enough to contribute effectively to the TPAP development process.

2. Research Methodology

Overview: In order to gather data on the four research questions identified earlier, the research team designed 11 data collection tools according to the 20 variables shown in Table 1.1 above. As stated earlier, the purpose of these tools is to gather information that will help determine the relevance and effectiveness of both pre-service and in-service education (in the past, currently, and in the future). These tools include Classroom Observations, Interviews, Focus group Discussions (FGD), Questionnaires and a General Knowledge Test (GKT). These tools enabled researchers to give voice to several stakeholder groupings including:

- *Primary School Teachers* (who received many in-service trainings since their pre-service education);
- *School Directors*
- *PTTC Administrators, Trainers and Trainees* (current pre-service education);
- Provincial/District Officials of education;
- *High Performing Grade 12 Graduates* (with questions focusing on the extent to which these individuals might consider a career in teaching and why or why not)
- *NGO, IO & MoEYS Staff* (who have a general knowledge about the history of in-service and pre-service education both at provincial and national scales).

Sample Construction Procedures:

By and large, this study employed non-probability, purposive sampling techniques in the identification of schools, Provincial Teacher Training Centers, and other institutions. Within institutional units, however, researchers employed simple random sampling techniques when selecting individuals for survey participation.

Researchers met a variety of stakeholders across the three provinces, mainly from among the schools in which KAPE and Child Fund work. For ethical reasons, researchers have sought not to identify the provinces in which particular findings occurred and refer to provinces and institutions only by the designations of Provinces A, B, and C. Similar protocols have also been observed when citing findings from particular schools. In all, researchers visited 15 primary schools and four high schools in Provinces A and C to participate in the study. The selection of schools sought to maintain a mix of schools in rural and semi-rural settings, which can be considered as a “representative mid-point” between urban and remote schools. Semi-rural criteria refer to schools that are located on national roads or next to central markets. Other criteria

used in the selection of schools included school size (i.e., Pupil Teacher Ratio), the presence of minorities, and other factors to create a sample that is representative of multiple settings. The mix of schools included in the sample is summarized in Table 2.1.

Table 2.1: School Selection Criteria

No.	School Name	Rural	Semi-rural	Plantation	Minority	High PTR (>40:1)	Low PTR (<40:1)	Grades 1-6	No. of Teachers
Province A									
1	School 1	X				X		X	14
2	School 2	X					X	X	9
3	School 3		X				X	X	9
4	School 4		X			X		X	9
5	School 5	X		X			X	X	14
6	School 6	X			X		X	X	8
7	School 7	X				X		X	6
8	School 8	X					X	X	11
Sub-Total									80
Province C									
9	School 9	X					X	X	18
10	School 10	X					X	X	24
11	School 11	X			X			X	17
12	School 12	X					X	X	17
13	School 13	X					X	X	23
14	School 14	X					X	X	17
15	School 15	X					X	X	8
Sub-Total									124
Total									204

Data Collection Procedures

As noted above, this study used a wide variety of data collection procedures including Focus Group Discussions, Questionnaires, Interviews, Classroom Observations, and General Knowledge Testing (for PTTC students). Data collection activities generated both qualitative and quantitative data sets. Quantitative data survey tools made extensive use of *Likert Scales* in order to explore opinions on the value of capacity-building inputs that stakeholders had experienced over the years. In all, data was collected from 649 informants and respondents (see Table 2.2 below).

In addition to the large number of teachers who completed questionnaires, there were also 30 teachers who were invited to participate in Focus Group Discussions (FGDs). These individuals were selected randomly from six of the fifteen primary schools participating in the study (each FGD comprised five teachers from the same school); similarly, 20 Grade 12 students were also selected randomly from among the four high schools participating in the study (five individuals from each school). In this respect, two high schools were selected from Provinces A and C. The research team also conducted interviews with school directors, PTTC and POE/DOE administrators, as well as individuals working in POEs and DOEs. A summary of sampling methods by stakeholder grouping is provided in Table 2.2 below.

Table 2.2. Stakeholder Selection Matrix

No	Key Informant	Data Collection Methodology	Number Interviewed	Sampling Methodology	DETAILS
1	School Administrators	Interview Schedule	15	Purposive	15 Schools (Provinces A & C)
2	Teachers	Focus Group Discussions	30	Random	6 FGDs (1 per school x 6)
		Questionnaire	184	Population	99% of the population
		Classroom Observations	44	Random	Grades 2, 4 & 6 in 15 Schools
3	PTTC Students (Year 2) <i>(Selected from 3 Institutions)</i>	FGD	60	Random	6 FGD (2 per college)
		Questionnaire	303	Random	48%
		General Knowledge Test	310	Random	50%
4	Grade 12 Graduates	Focus Group Discussion	20	Purposive	4 FGDs (1 per school)
5	Government Officials	Interview Schedule	15	Purposive	POE: 1 per province DOE: 2 per province PTTC: 2 per college
6	NGO/IO Representatives	Interview Schedule	15	Purposive	1 representative per NGO/IO
Number of Informants		--	649		

All data collection activities in state institutions occurred with the approval of each respective Provincial Office of Education. Data collection activities occurred during the period March-May 2016 while all institutions were still in session. All survey instruments had very clear administration protocols that were explained to respondents prior to the each survey administration. In the case of questionnaires, respondents could return their surveys at anytime, however, they were encouraged to return the survey as soon as they had completed. Year 2 PTTC trainees were allowed 45 minutes to do the standardized test of general knowledge.

For classroom observations in Grades 2, 4, and 6, in order to get the most accurate data possible, teachers were not informed beforehand about the classroom observation. After getting the

school directors' approval, researchers were allowed to sit unobtrusively at the back of classrooms in order to record observed activities. Classroom observations occurred across multiple subjects in order to acquire balanced data sets that were reflective of teachers' strengths and weaknesses.

The purpose of FGDs was to give respondents a voice regarding their view of contemporary issues relating to both pre-service and in-service education. The fact that researchers could meet stakeholders only once during the research obviously imposes a methodological shortcoming regarding the reliability of the qualitative data that was generated. Ideally, such encounters should span a period of several meetings in order to build trust with respondents. The current time frame, however, did not permit multiple encounters. Nevertheless, FGD leaders and interviewers were careful to explain the goals of the research and the confidentiality of all those participating in the survey.

Finally, it should be noted that no incentives or inducements were provided to respondents. All respondents consented to participating in the survey and were allowed to withdraw at any time. The identities of respondents have been kept confidential in order to preserve the anonymity of those participating.

Data Analysis

All quantitative data was analyzed in SPSS. Frequency and Descriptive statistics were used to analyze teacher trainee and teacher surveys, as well as correlations between ascribed characteristics and classroom observation/GKT scores. Bivariate Correlations were determined to analyze the correlation between teachers' various background characteristics and classroom observation scores. One-Sample and Independent-Sample TTests were used to analyze the mean scores of General Knowledge Testing and any correlations by gender. Finally, *Tukey Post Hoc ANOVA* was used to compare the GKT mean scores by province.

With respect to qualitative data, data entry was conducted by creating folders organized by stakeholder grouping: PTTC A – Administrator 1; PTTC A – FGD 2; Primary school 3 – interview director, etc. By the end of the survey over 40 folders had been generated in this way (not including the interviews conducted with NGO/IO representatives), which translated into approximately 120 pages of data entry. The data analysis was conducted manually, by cross-checking the data by informant type (e.g., school directors, PTTC trainees, etc.), which led to a final data entry document retaining the main data written in order. The present document summarizes these findings with appropriate triangulation with quantitative data findings.

3. Views of Teaching as a Profession

Teacher Education in Cambodia: A Short Recap: The Khmer term “kru” for teacher is derived from the Sanskrit term “guru” and traditionally means “master of knowledge”. Among other “vernacular masters” (doctor, magician, fortune teller, monk), the figure of the laic teacher emerged during the French Protectorate. When Cambodia became once again a sovereign nation, teachers had become an emblematic figure of the State, the nation, and modernity, thereby dispossessing monks of their monopoly on formal education. Teachers in one school shared a nostalgic and idealistic vision of the *Sangkum Reastr Niyum* regime (1954-1970), when teachers were highly respected and could support the whole family easily with their salary. Traditionally, the status of Cambodian teachers can be described as that of a hierarchical superior to whom pupils have to pay respect, reverence and submission. As was the case in monasteries for centuries, school pedagogy has mainly consisted of repeating after the teacher who is generally considered by pupils as a model. This is to a certain extent the cultural legacy that makes Cambodian teachers resistant to this day to adopt more student-centered pedagogies. Although many older educators often refer to the *Sangkum Reastr Niyum* period as a ‘golden age’ for Cambodia’s education system because of the high esteem in which teachers were held, the education system at that time has nevertheless been criticized as being highly inequitable with very low penetration of the countryside.

It is generally accepted that the civil war of 1970-75 and the *Democratic Kampuchea* (DK) period (1975-79) were a catastrophe for the school system that wiped out the teaching class either through executions or emigration (e.g., UNDP, 1989; ADB, 1994). The reconstruction period that started in 1980 under the *People’s Republic of Kampuchea* (PRK) sought to put the system back together again in what is sometimes known as a new ‘iron age’ in which educational access was much greater while quality was much lower. This was mainly due to the need to appoint teachers to work in quickly re-established schools where the main criterion for selection was simply being literate oneself. Teachers appointed in this way were known as ‘*kru jat-tang*’ or ‘appointed teachers.’ After a period of significant investment in teacher

Table 3.1: Education and Training Level of All State Teachers (National & Sample), 2015

Education Level of Teachers	Number (National)	% (National)	% (Sample)
Primary	1,550	2%	2%
Lower Secondary	22,910	26%	19%
Upper Secondary	49,717	56%	69%
Graduate (BA/BS)	14,212	16%	5%
Post Graduate	757	1%	3%
Total	89,146	≈100%	≈100%
Teachers with No Pedagogical Training	705	1%	0%

Source: EMIS, 2015

training colleges during the 1980s and 1990s, the MoEYS has been able to gradually replace nearly all *kru jat-tang* with trained teachers, albeit the quality of training in these new teacher training facilities has often been very weak (World Bank, 2015). The most recent data reported by EMIS indicates that of the 89,146 teachers currently employed by MoEYS at primary and secondary school level, 72% have an upper secondary school diploma and 99% are pedagogically certified (EMIS, 2015). By and large, the sample of teachers studied as part of this research demonstrated similar breakdowns as reported for national level (see Table 3.1).

3.1 The « only choice » during the 1990s

Key informant interviews indicated that in rural areas during the 1990s, there were not many opportunities for salaried employment. At the time, the teaching profession was considered to be attractive with low time requirements (four hours per day) and cash payments on a (somewhat) regular basis. A teacher appointment constituted lifetime employment, which also allowed many to work their farms

(in the countryside) or second jobs (in urban and semi-urban areas). The idea of having a guaranteed source of income, even after retirement, was both desirable and attractive (see Box 3.1). This led to the emergence of what we now know as Cambodia's 'farmer-teachers' in the countryside. According to one teacher in School 15, *"There were not many high-knowledge people during that time. Teachers just got some rice and salary amounting to 120.000 riels. There were not many choices, and becoming a teacher was better than farming"*.

Parents and grandparents often recommended strongly to their child who had reached secondary school level to enter the teaching profession. It was not hard to pass the entrance exam at the PTTC at that time. In addition, becoming a teacher was compatible with building a family in one's own homeland. This opportunity also allowed young men to avoid recruitment into the army. Several primary school directors and teachers mentioned that many who decided to become a teacher had parents or grandparents who already worked as teachers themselves.

Box 3.1: Describing Teaching Career Choices in the early 1990s: A Personal Account

"When my friends and I finished high school, doing the entrance exam at the PTTC was the first choice and the last choice as well because there was not much information related to other careers. If one could not pass the entrance exam to study in PTTC, there were few good alternative jobs to do so that one might have to work as a construction worker [beside farming activities]. Some people including me were interested in a medical career too but we didn't have enough money to study this profession. Most students who struggled to finish high school and continued to PTTC were the ones whose parents were teachers, and there was a small number of students who could finish high school. They wanted to be teachers like their parents. My father was a teacher".

-Director, School 10

3.2 Devaluation of teaching profession perceptions in the 2000s

As Cambodia entered an era of unfettered private enterprise in the mid-1990s, there were many more employment opportunities in the private sector than before, which diminished the attractiveness of teaching. In addition, the cost of living began to skyrocket so that one's state salary became increasingly inadequate to support a family. According to one POE official, during the 1990s and 2000s the teacher profession became less valued for two reasons. First, after the Khmer Rouge regime and the war, it was widely acknowledged that the *kru jat-tang* were highly 'unqualified' to teach. They had merely been appointed because there were no other literate individuals in the village to do the job. Secondly, the government did not make the quality of education a priority with the most visible sign of this situation being the low salary of teachers. A 2014 World Bank study found that on average, teachers earn only 60 percent of what other professionals earn, and that a typical teacher, married, with a two-person family, finds himself below the poverty line (Tandon and Fukao, 2014). This is why in the 2000s, the proliferation of jobs in the new plantation economy and in construction has made the teaching profession much less attractive. As one school director observed, "*[Since the 2000s], there are a lot of organizations and companies from which to choose so that Grade 12 students have many more choices for good employment than was previously the case.*"

Overall, key informant responses among POE and DOE officials described a teaching force that was deeply 'demoralized' both in terms self-perceptions due to low salary levels but also due to the extent to which many teachers are held in low repute by society. There appears to have been a break down in discipline in many schools with teachers demonstrating shoddy performance, poor motivation, excessive focus on their secondary jobs (especially private tutoring), and even alco-

Box 3.2 : Anecdotes about the Plummeting Status of Teaching :

"[In the 2000s], parents did not put much value on teacher profession. People in my village prefer to work in [South-]Korea and Malaysia. That's why my region is lacking in teachers because students don't want to become teachers. They think that they can build a house or buy modern things by working abroad or doing their own business".

Director, School 6

"In the past a teaching career was respected. If you were a teacher, everyone in your village wanted you to become their son-in-law. But the value of teachers has decreased because most people who are not teachers have better living standards than teachers. Although they work in garment factory, they can earn more money than teachers [...]. Another factor that makes the teachers' value decrease is that teachers' knowledge is still low and teachers in primary schools don't have a bachelor degree".

Director, School 10

"Sometimes, during a wedding, I do not want to join the table I'm assigned to because I feel that I have a lower social class than the other people sitting around".

Teacher, School 4

holism. As a result of this situation and the perception that teachers are ‘poor,’ teachers are often looked down upon in Cambodian society.

The above narrative was partly supported by responding patterns from the study’s sample of 184 teachers although there are also areas of divergence. For example, about a third of teachers described themselves as poor while only 3% described themselves as wealthy with the majority someplace in the middle (see Box 3.3). Most teachers described their

Box 3.3: Survey Responses from Teachers regarding their Economic Status (N=184)

- Teachers describing themselves as **poor**: 33%
- Teachers describing their income as **adequate** but not rich: 64%
- Teachers describing themselves as **wealthy**: 3%
- Teachers whose father is/was a farmer: 66%
- Teachers whose father was a teacher: 11%
- Teachers with **other sources of income**: 20%
- Teachers that **disagree** with the statement that teachers are **respected** in Cambodian society: 29%

backgrounds as fairly humble with about two-thirds citing their father’s occupation as a farmer while only 11% indicated that their father had been a teacher and that they were following a family tradition. Surprisingly only 20% indicated that they had a second job so that the majority were relying on their state salaries as their primary source of income. It is important to remember in this context that the present sample was primarily rural in composition. In addition, it was not clear from the survey whether there had been some diminution in the frequency of second jobs among teachers since recent Ministry reforms in 2013 significantly increased teacher salaries.

Nevertheless, the self-description of about one-third of the teaching force in sampled schools as ‘poor’ tends to corroborate much of the earlier narrative about teachers’ lower social status in society. Of some significance in this regard, about the same number of teachers disagreed with the statement that ‘teachers are respected in Cambodian society’ (29%) and there is a statistically significant correlation between these two response patterns ($r = -.23, p=.002$). However, the relationship was found to be counter-intuitive because it is the wealthier teachers who are more prone to believe that they are ‘not’ respected in society. In addition, researchers also found that older teachers were more likely to believe that teachers are not respected in society

Box 3.4 : Common Sentiments from Grade 12 Graduates about Teaching

“I love to share what I know to other people and I feel happy when I do that. However, I will not choose a career as a teacher. I think that working as a teacher is tiring. One of my teacher can earn a lot of money thanks to extra-class, but he teaches a lot of hours for extra class. He looks so tired”.

“For me, I don’t want to become a teacher because I think that it will be difficult to explain to students. And if I can’t teach well, people will look down at me and I will lose my value. I can see that some teachers who teach in high school on social studies, history and so on are not valued by students because they teach the subjects that are not so important”.

while younger teachers have a more positive view ($r = -.25, p=.001$). These findings may suggest that those teachers who feel that the profession is not respected do so because of a ‘materialistic’ interpretation of social respect in which ‘money’ is the key determiner. This interpretation does not take account of the fact that teachers may be held in low esteem because of the many unethical behaviors that characterize the profession (e.g., high absenteeism, extortionary fees, etc.).

Focus Group Discussions with Grade 12 Graduates echoed many of the above sentiments adding that some parents blame teachers when their child does not demonstrate academic success. They felt that teachers are looked down upon by many people of the community and that it is a hard for them to manage bad students and to get their respect. In general, top Grade 12 graduates interviewed during FGDs were not really interested in the teaching profession, especially at the primary school level. They consider many other professional options first and would only enter the teaching profession as a ‘default’ option.

3.3 Extra class for extra salary

Many key informants reported that because of teachers’ low salary, many provide private extra-classes to their students, especially at the secondary school level. Though parents understand that teachers need more income to support their family, they are also starting to be annoyed by these regular informal fees they have to pay monthly (examination fees, extra-class fees, etc.). This is particularly true when parents see that their child, after one year of private tutoring, does not improve. A survey conducted with PTTC trainees showed that 37.6% of these future teachers consider that urban teachers are less respected than rural teachers as their private classes cost too much for parents (see Annex 2). This informal system of payments damages the “value” of teachers, often perceived as lazy, incompetent, and abusive.

According to Grade 12 students, private tutoring helps teachers to complement their low salary, and it is a good thing because it allows students to practice more and to improve, while the public hours provide too many subjects in a short period of time. With private classes, students have more time to practice, to get better prepared for exams; in addition, their teachers pay more attention to them. Some students also said that private class was better than public class because students can study what they are most interested in. In private

Box 3.5 : Anecdotal Views of Private Tutoring

“For me, I think that private class has good effects and bad effects. Students who are rich can study more and get more knowledge. It is bad for poor students who don’t have ability to study part time and they know nothing from studying in public classes”.

-Grade 12 Graduate

class, “unnecessary subjects” have been removed (e.g., geography, history, social sciences, etc.). Indeed, the most lucrative private classes are math, physics, chemistry, biology and Khmer. Secondary school subject teachers (e.g., history, geography, social sciences teachers, etc.) who cannot practice private class have to find another source of income besides the teaching profession.

On the other hand, private classes are also considered unfair by high performing Grade 12 students, because poor students cannot afford the cost. Through this lucrative system, poor students are more likely to be excluded from the educational system, to drop out sooner, or to get a lower score on the Bac II Examination. Some Grade 12 students said that there should not be private tutoring in Cambodia and that the quality of teaching in public class should be like the quality of education in private class.

3.4 A profession for Grade 12 Graduates with few options

A recent World Bank research study (2014) found that most of the students who enter PTTCs and RTTCs scored D and E on the Bac II, while high scoring graduates turn to better paid and more valued careers. Primary school directors fully validated these findings and confirmed that students who score A, B and C on the Bac II Exam can expect to opt for much more interesting and valued positions.

High performing Grade 12 graduates prefer to enroll in universities rather than TTCs; to migrate to Phnom Penh; and/or to work in the private sector (e.g., companies, organizations). It should be noted that in the context of the informal economy of the education system, many top graduates also come from rich families who have strong social and economic networks in provincial towns and Phnom Penh. So it would probably be a mistake to believe that these opportunities only come from their high performance on the exit examination; rather, their high performance is more likely a function of a more fortunate socio-economic background to begin with.

Perceptions of Teaching from Grade 12 students’ point of view

When asked about their career wishes, high performing Grade 12 graduates mentioned professions such as medicine, business, engineering, law, architecture, software programming, and banking. These professions were considered to be highly prestigious and rewarding, fitting with

Box 3.6 : Anecdotal Views of Career Options for Grade 12 Graduates

“Students who score D and E have no choice. They cannot compete with those who get A, B and C to study medical or engineering. For me, I got grade E too, so I could not compete with them because my ability was low”.

-Director, School 10

market demands. They also thought that students who can speak French have more chance to become a doctor or architect, and that the latter is particularly attractive because of increasing investment in construction. Most respondents also said that choosing a career was based on the subjects they most excelled in (e.g., social science or science) and according to their gender. Female students tended to gravitate to professions like medicine and health while boys preferred engineering and architecture.

Grade 12 respondents expressed the view that most students who decided to become teachers did so because they were good at explaining things and that their parents and relatives encouraged them to be teachers. They believed that many PTTC/RTTC applicants have relatives who work as teachers though in the study's teacher survey only 11% indicated that a member of their immediate family was a teacher. They further stated that it is easy to pass the PTTC/RTTC Entrance Exam. The course is only two years long and it provides a salary for lifetime employment, which is now also increasing. Some respondents felt that this might make teaching more attractive, returning the profession to a previous era when it was a good career choice. They added that girls want to become teachers while boys prefer to become policemen. This observation is borne out by the study's finding that 80% of PTTC students in the three institutions surveyed are indeed female. But according to these Grade 12 students, most Bac II graduates who study in PTTCs are poor and from rural areas. And they only scored D and E on the Bac II Examination. Some perceptions of the teaching profession related by high performing Grade 12 graduates are related in Box 3.7.

Box 3.7: Perceptions of Career Choice among Grade 12 Graduates

"Students who got A, B or C were supported by their parents so that they could go to Phnom Penh to study in universities on majors they liked".

"Most students who study in PTTC are far away from the central province. They could see that schools in their villages were lacking of teachers so that they had ideas to become teachers to educate children in their villages".

"According to my point of view, I think that students who got D and E didn't know much about English and computers so that they decided to study to become teachers".

-High Performing Grade 12 Graduates

Perceptions of Teaching from PTTC students' point of view

PTTC trainees explained that they wanted to become teachers because of the stability of working with government and that it provides a lifetime salary. Their parents had often encouraged them to choose this career. A teaching career is also desirable because the PTTC Entrance Examination is easy and studying at the college is not so expensive. Teaching is a particularly good choice for girls because it allows them to stay close to their family and community where they can raise their own family at the same time. This career is notably attractive for students

who are from rural areas where there is a teacher shortage because permanent employment as a teacher is nearly assured. The teaching profession also allows a great deal of free-time, so it is possible to raise children and do other lucrative jobs. Students also mentioned they want to be part of Cambodia’s development process by transmitting knowledge to children and improving their morality. Here again, many PTTC respondents related that they have parents or relatives already working as teachers. Government scholarships for PTTC/RTTC students and the availability of free dorms are also attractions, especially for poor students.

In spite of these attractions, however, many respondents still felt that taking the P/RTTC Entrance Examination is always a last choice for those with high grades. During one FGD, one student said that in his PTTC, “we can see that 60% of each class in PTTC say that they didn’t want to become teachers”. Even for students who scored D and E, it was their last career choice. Students who pass the entrance examination to other institutions never give up their chance to study there over the PTTC/RTTC and several individuals in the group indicated that they had themselves failed entrance examinations to other institutions.

Statements on Motivation & Perceptions N=303	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
	%	%	%	%	%
1. Becoming a teacher was my first choice after I completed my secondary education.	25.4	60.4	2.6	9.9	.7
2. Teaching is a profitable career.	2.3	29.7	18.5	44.6	4.0
3. I want to become a teacher because I think it is an exciting career.	35.6	57.8	2.6	3.6	0
4. After I become a teacher, I have no intention of changing my career for at least 20 years.	5.9	41.3	12.5	34.7	5.6
5. Teachers are highly respected in Cambodian society.	10.2	54.5	12.9	20.8	0.7
6. There is a high degree of professionalism among Cambodian teachers.	7.9	56.4	18.5	16.2	0.7
7. There are very high standards of professionalism at the PTTC both among my classmates and my instructors.	15.2	66.7	10.6	7.6	0
8. Teachers in urban areas are less well respected by parents than rural teachers because they take a lot of money from their students.	6.9	30.7	19.1	39.3	3.6
9. In general, younger teachers tend to have higher professional standards than older teachers.	3.0	27.1	15.2	50.5	3.6

Nevertheless, formal responses to written questionnaires among a much bigger population of PTTC students indicated a more sanguine view of the teaching profession as a career (see Table

3.2). This could be either a reflection of a more representative sampling of students than FGDs or could represent social desirability bias. According to survey responses, 86% of PTTC students indicated that becoming a teacher was indeed their ‘first’ career choice. This responding pattern, however, must be considered in the context that most Year 2 PTTC students were not high performers on the Bac II Examination and so such a choice is reasonable. In addition, vast majorities of respondents saw teaching as an exciting career (93%), a respectable career (65%), and a professional career (64%). On the other hand, a significant minority of respondents (38%) voiced the view that urban teachers are less respected because of their practice of extorting money from students and that younger teachers have higher standards of professionalism than older teachers, many of whom are seen as corrupt (30%). This generational and urban-rural cleavage in perceptions of teaching could become more significant if teaching should regain increased attractiveness through MoEYS efforts to not only raise salaries but upgrade teacher training colleges to four-year institutions and root out corrupt teacher practices in urban areas through the New Generation School initiative and other measures.

3.5 The 2010s: Improving perceptions of the teaching profession?

Stakeholder discussions indicate that perceptions of the teaching profession may be entering a period of transition. This change stems from many sources including the destabilizing election of 2013, which convinced the government of the need to radically reform the education system to recapture the youth vote. Pressure from ASEAN integration requirements is also moving educational reform efforts along quickly. Recent reforms have included massive increases in teacher salaries; plans to upgrade PTTC/RTTCs into four-year institutions; stricter entrance exams for these institutions; the introduction of teacher career paths as part of a new *Teacher Policy Action Plan* framework; and incentives to

Box 3.8 : Education Reform and the End of the ‘Me Ka’ System

Recent education reforms have sought to end the practice of what is known as ‘me ka.’ It is well known that some students pay bribes to brokers (me ka), of around \$800 to pass the PTTC Entrance Exam. These brokers facilitate their client’s access or success on the PTTC entrance examination (by negotiating with POE or PTTC staff). In some cases, if the student fails, the broker guarantees that he/she will repay the bribe (this practice is called “sila”). The brokers ensure that the client student sits next to another top graduate student who will do the exam with no intention to succeed. The two students will exchange their names and the “ghost candidate” will do the examination instead of the “real” one. A school director remembered a case where two students who failed the entrance exam were still able to gain entry to the PTTC. Recent reforms have undermined the ‘me ka’ system and automatic admission to A, B, and C Bac II graduates has made it totally unnecessary.

high Bac II Exam performers to enter the PTTC/RTTC without the need of an examination. According to one school director, “During these last few years, the value of teachers has increased because they got higher salary and now it is harder to take the exam to become a

teacher. So students start to think that it is no longer easy to become a teacher. They need to study harder”.

Most Grade 12 students were aware of the new policy that allows students who score A, B, or C to enter the PTTC with no examination. According to one Grade 12 student, *“I think that it is a good idea because it helps Cambodia to have more qualified teachers. Students who want to become teachers need to study harder because they are afraid that other students who score A, B or C will take over the places in the annual intake quotas if they got only D or E. Students who get A, B or C have strong ability so that they can have more creative ideas and catch up new teaching methods and use it in their classes, more than older teachers. I think that most old teachers are now retiring so that if the MoEYS continues to do this, schools will be filled with more highly qualified teachers to teach students of the next-generation.”*

Not everyone, however, is happy with the new reforms. Several FGD discussants among PTTC students felt that exempting A, B, and C graduates from the entrance examination will greatly reduce the number of available seats for those candidates scoring D and E on the Bac II Examination. Reducing the number of available seats will make the entrance examination even more fiercely competitive than it currently is. This reform, therefore, seems unfair especially for the poorer students who cannot afford to pay their teachers the exorbitant fees they charge for private classes. While requiring everyone to take the entrance examination does seem like a fairer solution, the MoEYS does need a way to incentivize highly qualified candidates to apply to take the PTTC Entrance Examination and this seems like the most expedient means to do so.

3.6 Where do perceptions of the teaching profession go from here?

Perceptions of the teaching profession have gone through numerous changes from the time of the *Sangkum Reastr Niyum* when it was a highly respected career to a time in the late 1980s and 1990s when it was less respected but financially advantageous. Since the 1990s, the profession has fallen on hard times where it is neither financially rewarding nor respected. To some extent, this change is due to external factors like changes in the national economy, which have created more job opportunities, thereby undermining the financial attractiveness of teaching. In addition, salaries have not kept pace with the cost of living, undermining teachers’ sense of self-respect and self-worth. In addition, the financial insecurity associated with teaching has created a situation where many of the most talented students completing Grade 12 opt to enter

other professions, diminishing the quality of intakes to the PTTCs and RTTCs. The under qualified stature of many teachers along with corrupt practices and second jobs that enable teachers to make a decent living further undermines perceptions of teachers among parents and society at large. However, those teachers who agree that the profession is looked down upon appear to posit a very materialistic interpretation for this opinion that is strongly linked to low salary levels. That is, they do not appear to focus on the many unprofessional behaviors that teachers engage in such as extortionary fees, tardiness, poor preparation, and other behaviors that are more likely to account for the low esteem in which teachers are held by the public.

Recent reforms initiated by MoEYS may be changing the calculus again to increase the status of teaching. This includes increases in salaries, upgrading the PTTCs/RTTCs, incentivizing high performing Grade 12 students to apply for PTTC/RTTC entry, institutionalizing more formalized career path options, and rooting out corrupt practices among teachers, particularly in urban areas. It is too early to determine whether these reforms will actually improve teachers' perceptions of themselves or by society at large, but most stakeholders have voiced strong support for these reforms and they certainly appear to be an important step in the right direction.

4. Pre-service teacher education

4.1 Pre-service Education Recap

In the 1980s, many teachers did not receive long and strong pre-service education before being assigned to schools. MoEYS sought to address such deficiencies in 1993-4 by instituting short-term certification courses of three months for under qualified teachers. These courses, known as *bom-penh-ruba-mon*, were intended to bring the entire teaching force up to a single standard. To be sure, these short certification courses were of questionable quality and were considered by many at the time to be merely *pro-forma* exercises (e.g., Geeves & Bredenberg, 2005). Over the years, entry levels and the duration of pre-service teacher education at PTTCs was gradually upgraded from 7+1 to 8+2, then to 11+2 in 1994 before arriving at 12+2 in 1998, which is the current standard. Since the end of the 1990s, teacher education now requires two years of training in one of the 18 PTTCs (primary level) or the five RTTCs (lower secondary level). The only exception is in remote provinces where the lack of upper secondary schools requires a continuation of a 9+2 regime. PTTC entry formerly required only completion of Grade 12 (but not passing the Bac II Exam) while RTTC admission requires passing the Bac II Examination. This has now changed dramatically with new reforms described earlier. Teachers graduating from TTCs are known as *kru bondoh-bondal* or *kru krop khan*, ('certified' teachers). In spite of criticisms of the PTTCs, graduates from these institutions tend to be the best-educated primary school teachers and the most familiar with the child-centered and activity-based approaches endorsed by the MoEYS since 1996.

4.2 PTTC Trainees' living conditions

One of the factors identified for study relates to PTTC living conditions, as these might affect the effectiveness of pre-service training. During key informant interviews and discussions, many primary school directors and teachers in the fifteen schools participating in the survey said that they remembered a nice and friendly environment when they studied at PTTC. Relationships among students and between students and trainers were good. Poor and rich students were both treated equally. After the practicums or the exams, instructors were invited by their trainees to join a party. One informant said, "*We were like one family. We had good morality and respected each other. When we finished studying at PTTC, many of us cried because we thought that we were going to miss each other*". Nevertheless, informants agreed that many students were also afraid of their instructors in several cases. Teachers were highly respected and "*some students did not dare to look at their face directly*". Based on FGD en-

counters, things appear more or less the same today. PTTC students consider that they share a happy and friendly social life during their two years of study, while paying respect and reverence to their trainers.

A survey conducted in the three PTTCs during this study found that, on average, PTTC trainees are about 21 years' old, predominantly single (95%) and overwhelmingly female (80%) (See Table 4.1). Using a technique of self-classification, about 40% of trainees described themselves as academically 'above average' while only 23% described themselves as financially 'poor' though 78% seemed to come from farming backgrounds. Another survey, based on a wider methodological sample, indicated

Table 4.1: Demographic Profile of PTTC Students in Three Provinces		N=303
Gender Breakdown		
Male		20%
Female		80%
Age		
Mean Age		21
Age Range (Minimum to Maximum)		18 to 26
Self-description of Living Standard		
Describe themselves as poor		23%
Describe themselves as neither rich nor poor		74%
Describe themselves as wealthy		3%
Self-description as a Student		
Outstanding		1%
Not outstanding but better than average		39%
Average		58%
Below Average		2%
Father's Occupation		
Farmer		78%
Teacher		10%
Other		12%
Marital Status		
Married		5%
Single		95%

that 77% of students in RTTCs and PTTCs came from farming backgrounds, which is corroborated by the present survey (Williams et al, 2015). However, the study by Williams indicated that the majority of trainees were 'poor' and many had to work part-time so that they could not use their free time to study or do research. The richest ones use their free time to join other training courses to get a bachelor degree³. Due to divergent findings between this study and others, there is, therefore, some degree of doubt about how 'poor' PTTC students really are but it is probably safe to say that at least a quarter or more are of very limited means and that the majority appear to come from rural backgrounds.

On average, and with no significant disparities between the three provinces, it was found that about 22% of PTTC trainees stay in dormitories⁴. In terms of access to dormitories, a priority is given to women (64% of dormitory residents are women), and to poor students coming from

³ Another survey showed that 47% of PTTC students were enrolled in higher education institutions aside from their teacher education programs (Williams et al, 2025).

⁴ In PTTC A, there are 142 students staying in dormitories (87 women), PTTC B hosts 35 students (23 women), PTTC C 42 students (28 women).

far-away districts; others have to stay in rented rooms or with relatives. It should also be noted that Year 2 students are more numerous in dormitories than Year 1 students, simply because they arrived the previous year and were allowed to keep their access to a dormitory. Therefore, dormitory access is particularly problematic for Year 1 students, especially men. The living conditions in dormitories are not easy. For example, in PTTC B, students are 14 to a room, with no fans, and limited access to water and electricity. The dormitories are crowded and it is hot even at nighttime.

Some of the poor students receive scholarships but these remain low at only \$10 per month. This is obviously not enough to support oneself and it is often lately disbursed. During FGDs, several students explained that scholarship students sometimes did not get the full scholarship amount and that the administration sometimes ‘skims’ a part of the scholarship as an ‘administrative fee.’ Some students have difficulty visiting their homes and families because the PTTC is too distant and road conditions are poor. Some poor students have nothing for transportation. A PTTC trainee suggested that the school should let students have Saturday off so that they could study on the weekend or visit their homes. Security conditions at the visited institutions are also reported to be very poor with students reporting theft of motorcycles and phones.

4.3 Academic Standing of PTTC Students

MoEYS instituted a new policy in 2015 to increase the quality of PTTC intakes by exempting individuals with Bac II scores of C or higher from the National PTTC Entrance Examination. A cursory examination of academic backgrounds among Year 1 students this year (which is also the first year that the policy has become effective) indicates a high success rate. In this respect, each of the three PTTCs reported a dramatic improvement in the quality of intakes, which was particularly true of the centers in Province B and C. Overall, students with a score of B or C comprised 48% of the new intake in 2015 (see Table 4.2). In some centers, this figure was as high as 96% (PTTC B) and 74% (PTTC C). PTTC A, which is a larger urban center with many tertiary institutions from which to choose, had the lowest proportion of high scoring grads with just 25% of the entire intake. Although more research is needed, these findings might suggest that the new policy is having the most impact on smaller provincial towns where the local economy is less diversified in economic terms and where there are fewer tertiary institutions from which to choose, channeling qualified candidates into the PTTCs.

Some stakeholders have raised concerns about social equity issues relating to these recruitment trends, since it is apparent that the higher scoring Grade 12 graduates are crowding out the

number of places available for lower scoring graduates, as in the case of PTTCs B and C. This is particularly true if those scoring more poorly are from the lower social classes and/or from communes with rural schools that lack teachers. However, an alternative view might argue that the highest priority should be placed on recruiting the highest quality candidates for national schools because doing so will greatly contribute to increased educational quality for children. However, if deployment practices continue to be subject to bribes as they are now, the new policy regarding PTTC admission could exacerbate teacher shortages in rural areas. This is clearly an issue that will require further discussion among policy makers. In addition, it should also be noted that D and E passes are still considered relatively high scores relative to the total number of students taking the examination and in 2014 were among the top 40% of all candidates (i.e., those that passed). Indeed, in 2016 students achieving a D or E pass comprised 84% of all passing candidates among the 62% of candidates who actually managed to pass the examination (MoEYS, 2014, 2016).

<i>Bac Double Rating</i>	<i>PTTC A</i>	<i>PTTC B</i>	<i>PTTC C</i>	<i>Total</i>	<i>%</i>
A	0	0	0	0	0%
B	3	7	15	25	6%
C	64	25	80	169	42%
D & E	196	11	4	211	52%
Total	263	43	99	405	100%

4.4 PTTC trainers and job satisfaction

The three PTTCs participating in this study employed between 22 and 33 instructors where the percentage breakdown between male and female was about 60/40 (see Table 4.3). However, this average masks some extremes between institutions studied where one had as few as 7% female instructors while another had 58%. Normally, PTTC trainers have to teach 12 hours per week if they hold one class, or 14 hours if they don't. However, because of the staff shortage in many PTTCs, instructors sometimes have to teach several subjects (e.g., pedagogy, psychology, etc.) that are outside of their specialization. Instructors can, however, apply for overtime pay if they teach over the standard quota⁵. PTR levels are generally low but vary dramatically between institutions from 21:1 to 5:1. Key informants also indicated that PTTCs lack qualified teachers for such subjects as Art, English, Agriculture and Handicrafts.

Table 4.3: Breakdown of PTTC Instructors by Gender and PTR

⁵ 5,200 riels/hour for NIE trainers; 2,900 riels/hour for PTTC trainers

Institution	Male	%	Female	%	Total	Enrollment	PTR
PTTC A	14	42%	19	58%	33	700	21:1
PTTC B	26	93%	2	7%	28	142	5:1
PTTC C	10	45%	12	55%	22	179	8:1
Total	50	60%	33	40%	83	1021	12:1

Although PTTC trainers are officially required to have a Bachelor’s Degree (usually from the Royal University of Phnom Penh) plus one year of training at the National Institute of Education (NIE), the realities of staffing availability often means that PTTCs need to lower their standards with less qualified instructors to fill available posts. Indeed, in the three PTTCs visited, many instructors were engaged in multiple career paths including studying at the RTTC, teaching at a lower secondary school, and other parallel activities. The lack of NIE qualified trainers is due to the fact that being a PTTC instructor is much less attractive than lecturers’ positions at Universities and Colleges, and obviously less attractive than positions at upper secondary schools where teachers have many lucrative opportunities to extort money from students, particularly for those teaching science and mathematics.

Key informant interviews at participating institutions registered a great deal of job dissatisfaction. For example, the Academic Office Director at one PTTC stated that he actually wanted to teach at a secondary school but could not do so because he had majored in psychology, which is not a part of the secondary school curriculum. He had also hoped that getting a BA in Psychology at RUPP might increase his job opportunities for working with an NGO but in the end he got ‘stuck’ at the PTTC. In another case, one of the institutions just reported receiving three new NIE graduates to fill instructor positions but that they had little hope that they would stay long because they were looking for a ‘better job’ elsewhere. As is true among many trainees, most PTTC instructors chose this job as a ‘default’ option, with the only advantage being that they could remain based in the provincial town, near their homes and other business. Like PTTC trainees, PTTC instructors leave as soon as they have the opportunity to move to a more lucrative position (e.g., high school, university, private school, etc.).

Most PTTC trainers teach an average of 12 hours per week, which provides many opportunities to engage in a more lucrative second job. According to the deputy director of one PTTC, PTTCs are greatly crippled by the low salaries that instructors receive leading to numerous vacancies, high turnover, and low commitment. He estimates that his PTTC lacks about 10 instructors. Another PTTC director stated that he had tried to advocate for professional development op-

portunities for his staff using MoEYS scholarships for matriculation into an MA program. Although the PTTC would provide support of \$50/week for travel (to Phnom Penh) and accommodation, he said that few of his staff expressed any interest in this opportunity. This anecdotal information paints a picture of a deeply demoralized institutional culture among the teacher training institutions that researchers visited.

4.5 The PTTC Curriculum

PTTC students study six days per week from Monday to Saturday,

from 7 to 11 AM and from 2 to 5 PM. One of the more remote institutions visited as part of this study, however, reported that there were no classes on Saturday to enable their students to return home to visit their parents. Overall, trainees officially study about 37-39 hours per week. The first semester starts in November and ends in April while the second semester starts at the end of April and continues until the end of August.

Year 1 and 2 students have to study over 20 subjects during the year though this sometimes varies from province to province (see Table 4.4). For example, Province A reported having 26 subjects in its curricular program while Province B reported having 28 subjects, and Province C 23 subjects. In 2011, TTD, along with bilateral agencies such as VVOB and JICA, published a new booklet that updates and summarizes the curriculum (including recent subjects such as environment, agriculture, lesson study, and Inquiry Based Learning or IBL) and specific subjects developed by subject specialists.

The present survey conducted with PTTC trainees (Year 2) found that the five subjects they study the most include Teaching Methods, Making Teaching Aids, Subject Knowledge Upgrading (e.g., Mathematics, Khmer) Human & Children’s Rights and Protection. The subjects

Year 1 Program	Year 2 Program
1. Agriculture	1. Agriculture (1 st semester)
2. Arts & Drawing	2. Arts
3. Child Friendly Schools	3. Child Friendly School
4. Child Rights	4. Child Rights
5. Civics (1 st semester)	5. Civics & Morality
6. Code of Conduct	6. Computer
7. Computer	7. Education Administration
8. Domestic Work & School Maintenance	8. English
9. Educational Administration	9. Environment
10. English	10. Gender (2 nd semester)
11. Gender (1st semester)	11. Labor Work
12. General Knowledge	12. General Knowledge
13. Geography	13. Geography
14. Handicraft (wood handicraft and material creation),	14. Health (1 st semester)
15. Health education	15. History
16. History	16. Inclusive Education (included recently)
17. Khmer	17. Khmer
18. Library	18. Library (1 st semester)
19. Math	19. Math
20. Morality	20. Multi-Grade Teaching
21. Physical Education	21. Physical Education
22. Psychology & Pedagogy	22. Psychology & Pedagogy (1 st semester)
23. Science	23. Science

Source: PTTC Administrative Documents, 2016

they study the least are Textbook Orientation, General Background about Education, Communication Skills, Teacher Supervision and School Management (see Annex 2). Knowledge Upgrading of subjects such as Mathematics and Khmer lead the pack with 4 to 7 hours required per week. Not all of the subjects that trainees study are necessarily academic. In the case of *polokam* or ‘labor,’ trainees must engage in manual labor to clean the PTTC campus, imitating a similar arrangement that they will encounter at most state schools. This usually occurs for two hours per week on a Thursday or Saturday.

New trainers at the PTTC arriving from NIE or RUPP are often invited to share new ideas and theories that they may have encountered at much larger institutions. Trainers returning from in-service courses provided by TTD, JICA, or VVOB are similarly invited to share new things they may have learned. It is not

entirely clear through what channel this sharing occurs but regular technical meetings among trainers were mentioned as one of the most likely avenues for such information dissemination. Whether this information is actually integrated into the curriculum is not at all clear and if it should occur most likely does so on an *ad hoc* basis.

The pre-service curriculum has been an object of controversy and disputation for many years. One of the key criticisms voiced by numerous assessments relates to the problem of ‘incrementalism’ in which the curriculum is continually tweaked and modified in bits and pieces rather than in a comprehensive manner (e.g., World Bank, 2014). Over the past twenty years, Development Partners have supported the development of new curricular programs in science (JICA), life skills (VVOB), etc. but not always in concert. The lack of coordination combined with the mantra that “money has to be spent” (both from DP and Government points of view) has created duplication, oversaturation, fragmentation, and disparities between provinces.

The lack of coordination between departments has sometimes led to curricular gaps resulting from reforms led by one department that did not wind up in the PTTC curriculum until many years later. The Child Friendly School reform is a good example of this. As a result, PTTC trainers were not always aware of new teaching programs applied in schools. Recent reforms in early grade literacy appear to be taking a similar trajectory with little uptake of new reading benchmarks into the PTTC curriculum. A seminal World Bank Report on teacher education

Box 4.1: Curricular Perceptions among PTTC Students

“We need to run [from one class to the next] to understand the lessons. The break time is so short. It is about only 5 minutes and we need to study another subject again. Some classes don’t have LCD projectors so that it takes much time for teachers to write lessons on the whiteboard. There are also not many materials for science class”.

-PTTC Student

(2014) echoed the problems caused by a lack of coordination between the various departments and PTTCs. This is why a foreign consultant is currently working at the TTD to build a standardized and effective teacher education curriculum, and this is notably why the TPAP task force is working on

Subject	<i>M</i>	<i>M%</i>	<i>SD</i>	<i>P</i>
History				.000*
PTTC A	7.95	53%	2.53	
PTTC B	8.94	60%	2.47	
PTTC C	9.82	65%	2.00	
Geography				.000*
PTTC A	8.87	59%	1.94	
PTTC B	9.87	66%	1.98	
PTTC C	9.07	60%	1.84	
Science				.019
PTTC A	10.22	68%	1.72	
PTTC B	10.93	73%	2.31	
PTTC C	10.70	71%	2.12	
Total Score				.000*
PTTC A	27.03	60%	4.44	
PTTC B	29.73	66%	5.08	
PTTC C	29.60	66%	3.93	
Percentage Scoring less than 50%			9%	

building a national teacher career pathway, where every teacher can be regularly updated and upgraded on new educational programs.

(*) indicates mean scores are significantly different at $p=.0001$ or less

During discussions organized by the survey team, many PTTC students felt that there were too many subjects in the curriculum, many of which are “too general.” Furthermore, there is not enough time in the week to attend to all of these subjects (23 subjects per week). The class time is too short and students feel like they don’t have enough time to ask questions of their teachers. Thus, the curriculum is a mile wide but only an inch deep.

Primary school teachers who studied at PTTC during the 2000s also voiced similar concerns that PTTCs provide too many subjects over an abbreviated period of time punctuated by many interruptions. Trainers are frequently called off to workshops so that other trainers who lack a particular subject specialization are asked to substitute. Staffing shortages similarly lead to non-specialists teaching subjects that they know little about causing poor preparation and delivery of topics. Indeed, many trainers teach three or four subjects a week some of which they have little understanding themselves.

In order to get a better understanding of the extent of trainees’ understanding of some basic subject matter, the survey team administered a short General Knowledge Test (GKT) that was originally designed for students at lower secondary school level. The test covered some basic historical, geographical, and scientific facts that are common knowledge in most countries. The test was administered to all Year 2 students across the three provinces. All test items were objective in format (see test item sample provided below) and yielded high reliability coefficients on *Cronbach’s alpha* during pre-testing. Although the composite mean score for all test sections ranged between 60% and 66% across the three provinces, a moderately good result, one would have expected teacher trainees to score much better than this on a test designed for lower secondary school students (see Table 4.5). Furthermore, 9% of the trainees scored less than 50% on the composite test result, meaning that they could only answer half the questions or less. Using an ANOVA, researchers also found statistically significant differences in mean scores between the different PTTCs on the composite test score and between History and Geography mean scores, once again suggesting major differences in the quality of student intakes between provinces.

Sample Test Question

The list below indicates 4 major world religions. Write the letter of the religion that each picture shows in the line provided.

- a. Islam b. Buddhism c. Judaism d. Christianity

 _____	 _____	 _____	 _____
--	--	---	--

4.6 Trainers' methods and pedagogical practices

Trainers' Approachability and Preparation

During survey interviews, PTTC students generally described a good relationship between themselves and their trainers. Most of the time, trainers are close to students and sometimes join student's parties or contribute financially for its organization. They rarely punish students or if they do, the main punishment is to clean the toilets or collect litter in the campus. But this good relationship between students and trainers is not universal and some trainees reported that some trainers abuse their authority, are moody, and use authoritarian classroom management practices when teaching.

PTTC students indicated that most of their instructors are well-prepared and use lesson plans when teaching. However, for other PTTC trainees, many trainers do not make lesson plans or have them but do not use them when teaching - "they just have one copy of a lesson plan for the inspector to check if he should come." Trainers are also sometimes inconsistent when explaining the format to use in developing a lesson plan, which confuses students because different trainers are giving conflicting instructions. On the other hand, some trainers put teaching materials on the tables before starting the class (e.g., flip charts, banners, pictures, etc.) to help students 'establish set' before the lesson begins. This is a very helpful practice.

The Continuing Struggle for Student-centered Methods

Many discussants indicated that *Inquiry-based Learning* seems to be a well-known and frequently applied teaching methodology that most respondents could describe in its main essentials. Although facilities vary greatly from place to place, the PTTCs visited appear to have laboratory rooms, vegetable gardens, fish ponds, chicken cages and sport fields where IBL can be done outside of the classroom.

However, research online remains rare and PTTCs do not yet provide enough ICT materials. The majority of students said they neither know how to do searches on Google nor do they have their own computer or smart phone through which to do it, harking back to the observation that many students are of limited means. Libraries do not provide a great variety of books that would allow students to diversify their reading and research activities, though researchers found conflicting accounts of the availability of documents in libraries and elsewhere (see Box 4.2). Students would like to do study visits or study exchanges between provinces, but in fact instructors rarely invite them to undertake such activities.

Although many students claimed that student-centered methods are well-understood, the internalization of key concepts still seems limited. As an example, one PTTC administrator said it was difficult to use student-centered pedagogy in handicraft classes while another said it was difficult to use in Physical education – two subjects where students are necessarily participating actively. Some PTTC students said that student-centered methods were not usable in Sports and Music while others indicated that although student-centered methods help students learn more, it may cause slow learners to get left behind. Such responses suggest that both trainers and trainees are still not yet conversant in some basic methodological concepts relating to student-centered learning though they may ‘think’ they understand it.

Teaching Aid Production

Box 4.2: Anecdotal Description of Course Study in a PTTC

“We have a lot of assignments in Khmer Language. We do research in the library. We also ask other students to help and share their ideas. Sometimes we use internet to do research by going to Google (but only a small number of students can use internet to do research on their assignment). We also go to the library in local Universities”.

“For example, for administration class, we need to go to research in the library, to ask other teachers to get some information, use our own documents, ask people who work in administration at schools to write the assignment. I also use internet to search but it is hard for me to get documents relating to the assignment. Sometimes we also ask teachers in secondary schools to help”.

-PTTC Student

Many PTTC trainees also indicated that they particularly enjoyed lessons related to teaching material production. They find such activities very concrete and useful and lead to the creation of some useful tools for teaching difficult concepts. However, PTTC students said that such opportunities remain limited and that they often have to learn through reading their textbooks and writing notes. One PTTC administrator honestly admitted that trainers don't really use didactic materials as much as they should and mainly resort to books and the blackboard. Despite student-centered and IBL methods, trainers still place a strong value on narrative and descriptive lecture methods. Sometimes, they just read the lessons out for students to write down. According to PTTC students, "some teachers are boring". For history, geography, morality, agriculture, social studies, and health class, trainers use LCD projectors to facilitate droning lectures. Some students said that they often feel sleepy during these classes. For agriculture class, *"we learn only theories but we don't have any practice"*.

Teacher-centered Methods: The More Things Change, the More They Remain the Same

In many cases, learning activity remains teacher-centered, which means, from student's point of view, a boring and passive activity. According to an informant who used to be a PTTC trainer and who now works in an NGO, *"trainers just use their books to copy the lesson to the board. Then they let students copy lessons into their notebooks. Trainees don't get much knowledge through this style of teaching"*. Trainees often just learn their lessons by heart but they don't practice. Although PTTC trainers stress the importance of student-centered pedagogies (mainly through group work), they still place a strong value on more traditional teacher-centered methodologies and spend many lessons just lecturing their students. FGDs and interviews both supported the observation that many PTTC instructors demand rote learning and give poor marks if students do not exactly recite answers as they were dictated during a lecture.

Trainers' Legitimacy

According to several IO informants, many trainers do not have classroom teaching experience. They simply applied directly to a Provincial Office of Education for their post and eventually got posted to a PTTC. In such cases, trainers have even less knowledge than their trainees. A recent study found that mathematics knowledge among teacher trainers was similar to that for

Box 4.3: Anecdotal Dissatisfaction with PTTC Trainers

"During teaching time, our instructors are very communistic [sic] and students need to do what they tell students to do. Sometimes when we greet some teachers, they just ignore us. They never come to visit students, and they love students unequally. Students who give them gifts or call them to have a party, they love those students".

-PTTC Trainee

Grade 9 students, and lower than that of their trainees (Tandon and Fukao, 2015). The test results presented earlier (Table 4.5) echo such findings. For PTTC students, some of their trainers are not really legitimate both in terms of pedagogical skill and subject knowledge. This situation is made even worse by the staffing shortage in which poorly qualified trainers are asked to teach subjects about which they know absolutely nothing. According to PTTC trainees, their trainers should teach subjects they are specialized in.

Finally, many students reported feeling afraid of their instructors because they mostly employ authoritarian classroom management techniques when teaching and put pressure on students to take ‘exact’ notes. Many students also complained about a ‘bribery’ system whereby students pay moral reverence (*krang jit*) to their trainers to get good marks by inviting them for eating and drinking, and so on. Some students claim that they can get the answers to exams before the examination are even administered. In one PTTC, students said that about 3 or 4 teachers take students’ money as a bribe to give them good marks. They also sell documents to students at high cost. Such unprofessional behaviors undermine the legitimacy of the teaching profession and the institutions where the country’s future teachers are being prepared.

Triangulation with Quantitative Data

Focus group discussions and key informant interviews generated a very diverse picture of the quality of pre-service education at the three PTTCs under study, focusing on both strong areas of practice as well as points of dysfunction. Although quantitative data painted a much more sanguine picture of the quality of pre-service training, there are also threads of dissatisfaction that come through, which helps to validate much of the more critical narrative generated by the qualitative data collection activities described above (see Table 4.6). For example, 14% of respondents indicated that poor punctuality and preparedness among instructors are major problems at training institutions (Statement 2) while 10% indicated that many instructors lack professional standards (Statement 3). Similarly, about a quarter of respondents felt that the relationship between students and instructors was ‘hierarchical’ (Statement 4). And although most PTTC students expressed the view that the availability of documentation and textbooks is not a big problem (Statements 5, 8, and 9), about a third agreed with the statement that PTTC facilities tend to be ‘old and rudimentary’ while 17% ventured no opinion (Statement 6). Of great significance, 89% of PTTC respondents agreed with the statement that instructors exhort the use of student-centered methods while they themselves do not practice what they preach (Statement 7). In addition, only about a third of respondents agreed with the statement that

technology is used extensively in pre-service training while 48% said that it was not (Statement 10). These responses paint a very mixed picture of instruction in pre-service institutions and a high variability in the level of professionalism among instructors.

Statement on PTTC Training Quality N=303	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
1. During instruction, there is usually a good balance between theory and practice.	16%	71%	8%	4%	0%
2. Many of my instructors do not come to work punctually and are poorly prepared.	2%	12%	6%	66%	14%
3. Most of my instructors demonstrate very high standards of professionalism and knowledge of teaching.	14%	69%	8%	9%	1%
4. I would describe the relationship between students and instructors at the PTTC as rather hierarchical in nature.	3%	20%	14%	56%	6%
5. There is very little available for PTTC students in terms of textbooks and relevant documentation.	1%	16%	7%	67%	9%
6. The educational facilities at the PTTC are rather old and rudimentary.	2%	31%	17%	47%	2%
7. Many of my instructors say that it is important to use child-centered teaching methods though they themselves mostly lecture during class.	14%	75%	5%	6%	0%
8. All of my subjects have a very clear syllabus of topics and objectives.	16%	74%	5%	4%	0%
9. The library at the PTTC is truly excellent and filled with useful documentation.	22%	69%	5%	4%	0%
10. There is extensive use of technology during instruction at the PTTC (e.g., LCD projectors, tablets, etc.).	2%	32%	17%	46%	2%

4.7 Test development and a “Cambodian-style Bloom’s Taxonomy”

Although both instructors and students were familiar with Bloom’s Taxonomy as an important tool for student assessment, it was learned that PTTC students learn a much more abbreviated form of the taxonomy that includes only the bottom three levels of Bloom’s system (remembering, understanding, and applying). This Cambodian version of the taxonomy reflects the content of the *Effective Teaching & Learning* (ETL) booklet that was developed by MoEYS and UNICEF during the last decade as part of the development of the Child Friendly School Toolkit. Key informants indicated that the rationale for this abbreviation relates to concerns that teacher trainees do not possess the educational pre-requisites to handle the taxonomy in its entirety. While this was certainly an expedient way to streamline instruction about Bloom’s Taxonomy at the time, it fails to address more recent concerns that the education system does not adequately promote critical thinking skills, found mainly at the higher levels of the taxonomy.

Despite recent programs provided to PTTCs by donors such as VVOB, college administrators informed researchers that PTTC instructors do not often emphasize training on test development. Thus, students do not receive specific training on test development as part of the teacher preparation process. They do, however, learn about making questions (both closed and open) and short tests as part of their regular lessons on Khmer, Math, Social Sciences and Natural Science. And although students were aware of Bloom’s Taxonomy and its content, there appeared to be low understanding of principles of validity and their use in the development of good tests.

Box 4.4 : Anecdotal Views about Student Evaluation at PTTCs

“The ways of making tests are different depending on different subjects. For instance, when we study Khmer subject, the teacher tells us about making monthly test or semester test for Khmer subject. For math, the teacher tells us different methods. It is the way of using different levels of questions to ask questions to students. The questions can measure their knowledge whether they can remember the lessons, understand the lessons or apply the lessons critically”.

-PTTC Student

Box 4.5: How the PTTC Practicum Works

Year 1 students now have a 6-week practicum during the period May to June that involves two weeks of classroom observations and four weeks of semi-practice in Grades 1 to 6. Year 2 students have an 8-week practicum during the period February to March that involves four weeks of teaching lower primary grades and four weeks of the higher primary grades. The practicum occurs under the supervision of a committee, composed of the PTTC, the Primary Education Office, the Inspection Office and staff representatives from District Offices of Education and local schools. The practicum program is prepared by the PTTC Academic Office, which organizes two different shifts of students (morning and afternoon). The PTTC usually organizes the practicum in three or four local schools with different instructors taking responsibility for different schools.

4.8 Teaching Practicum

PTTCs have experienced an increased focus on the use of teaching practicums as part of the teacher preparation process between 2007 and 2012. Whereas only Year 2 students formerly participated in a teacher practicum in 2007, the system has been improved to include a practicum for Year 1 students as well. This has proven to be a major reform that greatly improves the practical aspects of teacher preparation in Cambodia (see Box 4.5).

Before the practicum, a formal meeting is held with PTTC trainees, instructors, classroom teachers in the host school, and school directors. The PTTC director advises students on professional ethics (e.g., no corporal punishment, respecting school rules, etc), and asks them to complete some documents/forms before starting their practical activities in schools. These forms include a self-evaluation process and other evaluation forms based on Teacher Professional Standards. Students also receive a general introduction to school regulations, activities, the use of uniforms, lesson planning, classroom management, and how to score well on the practicum.

PTTC students are divided into groups and assigned to different primary schools in the town. One group includes around 12 trainees, and there are around two groups assigned to each school. Four PTTC instructors supervise one school (two groups). At the school level, the school principal holds a welcoming meeting with all trainees to update them on the schools' background, how to manage children, school regulations/rules, school location, classroom environment, etc. PTTC supervisors then introduce their supervisees to the classroom teachers. Classroom teachers introduce general information about teaching methodology, classroom management, student management, etc. In theory, PTTC trainees are free to ask questions at any time. Each group of trainees is divided into sub-groups that include two or three individuals. There are usually three trainees in a sub-group. One trainee teaches from 7 to 11 AM and the two other trainees help to control pupils and to correct pupils' exercises. The trainees then take turns in teaching, receiving assistance from the host teacher as they implement their lesson plans.

During the practicum, trainees are helped by PTTC instructors, supervising teachers and classroom teachers. **PTTC Instructors** supervise several groups of trainees and provide advice on teaching methods before the trainees start their practicum. However, the trainees report that they do not see their PTTC instructors often during their practicum; in general, they focus on their regular teaching and outside jobs that they do to supplement their income. Trainees can

contact their instructors in case they have problems or questions, but the expectation is that they will rely primarily on their supervising teacher or immediate classroom teacher.

For their part, **Supervising Teachers** control two groups of trainees (i.e., about six trainees in all) who will conduct their practicum in the six grades - in other words one trainee per grade. Supervising Teachers provide more direct help and monitoring. They mediate the relationship between trainees and the classroom teachers. According to PTTC students, supervising teachers give advice on classroom management and students' discipline; they guide trainees on proper teaching behaviors such as being polite to classroom teachers, not flaunting one's knowledge, and remembering the goals of the practicum. During the teaching practicum period, students meet their supervisors about 2-3 times. But sometimes, supervisors are also very busy and rarely monitor or schedule meetings with the trainees.

A large part of managing the actual practicum experience falls on the host teachers of the schools where the practicum has been organized. This is partly because classroom teachers actually work at the site of the practicum, unlike the PTTC instructors. Some of the assistance offered by host **Classroom Teachers** is summarized in Box 4.6. The trainees can meet their classroom teachers every day, both in the morning and afternoon. Classroom teachers, thus, work closely with PTTC trainees. They monitor and provide recommendations immediately during the practicum. Classroom teachers have a form with which to score the trainees.

Box 4.6 : Assistance Provided by Hosting Classroom Teachers

- Classroom management and decoration
- Communicating effectively with children
- Using various teaching methods
- Using textbooks effectively
- Calculating student scores and making score lists
- how to stand during teaching
- Using teaching aids effectively
- Helping to identify and assist slow learners
- Developing lesson plans

Most survey respondents reported very good working relationships with their host teachers but there were notable exceptions as well. One group of trainees reported that they experienced working with a host teacher who was often thoughtless and blamed them severely when they made mistakes during the practicum. They also felt that they could not report this situation to their supervisors or PTTC instructors.

At the end of the practicum, trainees have to write a report that summarizes their experience. The final practicum is evaluated by classroom teachers while supervisors from the PTTC also do their own evaluation. As the practicum comes to an end, PTTC supervisors have a meeting with classroom teachers and they give a final score for the practicum using a standardized checklist that consists of several forms. Form 1 has to be completed when they visit the school

to observe their trainees in the classroom; Form 2 has to be completed at the end of the practicum. Form 2 was later updated by VVOB and notably includes some provisions for recommendations. Supervisors eventually provide feedback to trainees but they do not have to write up an achievement report.

The majority of PTTC students indicated that they really enjoyed the practicum and felt that it made a major difference in their preparation as teachers. They reported that the practicum gives them immediate feedback on their teaching and builds their self-confidence. However, certain cultural rules also intrude into the practicum experience known as *krang jit* or deferring to one's superiors. In this respect, it is a common rule of politeness and reverence for the trainees to pay respect to their instructor by offering him/her a gift at the end of the practicum. In the framework of the "informal economy of patronage" or "vernacular solidarity" system, one can suppose that this has implications for the overall assessment of one's practicum by supervisors.

4.9 The end of the course

Pass rates at teacher training institutions are notoriously high and generally average about 99% according to key informant interviews. It takes truly egregious behavior to fail the course. It is, therefore, not surprising that students at the PTTC report that they do not have many problems in terms of passing their courses during their first year, since everyone always passes. Performance in Year 2 is, however, significantly more important because it is linked closely with the posting process. In this respect, students with the highest scores get to choose the teaching post that they want and those with the lowest marks are left with the least desirable posts (often in remote districts with difficult living conditions). At the end of Year 2, the final exam assesses students in 6 major subjects: Khmer, Math, Practical Science, Geography-History, Psychology-Pedagogy, and General Knowledge. The final score aggregates the final exam score, semester examinations, and the practicum score. Lower secondary school trainees for their part are also required to pass an exam in each of the two subjects of their specialization, and in general culture and pedagogy. Upper secondary school teachers are required to pass the same four subjects and one or more foreign languages.

When PTTC graduates take up their teaching posts, they generally do not receive any teaching aids or materials at the end of their two-year course. Most of the time, they simply borrow and copy documents they find useful before leaving for their new posts. They also share documents with each other. Some NGOs sometimes provide teaching aids and materials to PTTC students, though this usually happens on an *ad hoc* basis. Some students reported that PTTC instructors

sometimes hide useful documents from their students so that it is easier for them to sell them later in the market place.

Several survey respondents reported that the PTTC assessment process is sometimes marred by unethical practices in which instructors accept bribes for giving high marks to their students. Such bribes can be particularly lucrative during Year 2 when students are jockeying for the best teaching posts. Bribes can take several forms including cash, parties, and gifts. POEs usually do not post urban teaching positions, because these areas report teacher surpluses, unlike rural and remote areas. The teacher deployment process at the POE and DOE level is reportedly riddled with significant opportunities for bribes given that PTTC/RTTC graduates are competing for favorable posts. Thus, PTTC/RTTC graduates are often tempted to pay bribes not only to their instructors but also to POE and DOE officials who are responsible for teacher appointments.

The current deployment process with its unofficial links between posting decisions and bribes has contributed to the large teacher surpluses that one sees in urban areas, which have the most comfortable (and lucrative) teaching positions; at the same time, it exacerbates teacher shortages in the countryside as scarce human resources are posted to places where they are least needed. Needless to say, this inefficient deployment system also contributes to high PTR levels in rural areas and, indeed, Cambodia has the highest PTR in the ASEAN region (46:1)⁶.

To mitigate the inefficiency of the deployment system to address teacher shortages in rural areas, some NGO programs have worked with MoEYS to introduce local recruitment procedures so that PTTC candidates can be recruited from those communes with the most severe teacher shortages. After completing a two-year course at the PTTC, they can then be posted back to their commune of origin without having to go through the normal posting process described above. Because locally recruited candidates are native to these communes, they do not seek to pay bribes to transfer to another post as so often happens under the current deployment system. Due to the lack of upper secondary schools in areas with teacher shortages, locally recruited candidates have also been allowed to enter the PTTC at Grade 9, a system known as 9+2.

⁶ Vietnam: 20:1; Laos: 27:1; Burma: 26:1 (CDRI, 2014). In 2008, the pupil-teacher ratio in primary schools was even worse: 51:1 (Benveniste et al., 2008: 39).

Although the above provisions have been successful in addressing short-term teacher shortages (World Education, 2014), the Ministry has now opted for a longer-term strategy of addressing the problem of low-grade human resource availability in rural areas by increasing the quality of PTTC intakes by exempting A, B, and C Bac II holders from taking the PTTC Entrance Examination, as described earlier. Critics of this policy change, however, fear that since such individuals are most often from urban areas, it could change the composition of PTTC intakes to a decidedly more urban and middle class complexion. This change may in turn exacerbate the ability of the system to effectively deploy graduates to rural schools. These candidates may also be more ambitious and inclined to leave the teaching profession after only a few years in order to seek better paying professions. Nevertheless, key informants from TTD explained that a difficult policy choice had to be made and the priority was to make the teacher profession ‘more attractive and with more quality.’

4.10 Prospects for a four-year pre-service education program

Under the *Teacher Policy Action Plan*, there is currently a proposal to increase the quality of pre-service education by upgrading current PTTCs into four-year institutions. Proponents of this policy change believe that it is necessary for Cambodia to move in this direction in order to meet regional educational standards as part of ASEAN integration. In most ASEAN member countries, teachers possess four-year college degrees, not two-year certificates as in Cambodia. On the face of it, such a change seems desirable and finds support from many stakeholders interviewed as part of this survey. For example, POE informants believed that moving in this direction will improve the quality of teacher education, including teaching methods and practicum. PTTC administrators were also very positive about such upgrading efforts, believing that they will put Cambodia on an equal footing with other neighboring countries. Overall, most stakeholders believed that extending the preparation period of teachers would improve their breadth of knowledge and provide more time for practical experience. If teachers have four-year degrees, it will further raise their social status in society and address the perception that teachers are not generally well-respected.

Nevertheless, there was not universal support for this change. One POE official expressed the fear that upgrading PTTCs into four-year institutions would greatly exacerbate the teacher shortage, which is already intolerable. This official pointed out that over 800 of his teachers are currently teaching double shifts due to the lack of teachers; by doubling the time needed to prepare teachers, this situation could only get worse. There is also the issue of cost. Resources to increase PTTC intakes are already constrained even though there is a desperate need for

more teachers. Doubling the amount of time to prepare a single teacher means doubling the cost as well. Thus, upgrading teachers to a four-year degree program could actually reduce PTTC intakes, which would have a disastrous effect not only on the teacher shortage but also PTR levels, especially in rural areas. The added costs to become a teacher might also demotivate high school graduates from applying to become teachers, especially for poorer candidates who could not afford an extra two years for food and housing. Thus, if MoEYS does move forward with this proposal, there would need to be a huge increase in resourcing of the teacher education system (for more highly qualified instructors, improved library and classroom facilities, etc.) as well as an extensive system of scholarship support for poor candidates.

5. Twenty years of in-service education

In-service Teacher Education Recap: During the early 1990s, massive in-service training programs were initiated in all provinces that would eventually lead to wide scale certification of many of the *kru jat-tang*. This move was partly technical, designed to improve standards in classrooms, but most of the content of these up-grading courses was aimed at lifting teachers' own general educational level rather than on developing pedagogical skills. The campaign also had a significant political motive as the former communist party moved to win favor with teachers by facilitating their formal absorption into the civil service through their certification as teachers. These efforts became particularly intense in the run-up to the first democratic elections brokered by the international community in mid-1993. As noted earlier, teachers who completed this in-servicing became known as *kru bompenh-rubamon*, or equivalency certified teachers.

Since the 1990s, in-service teacher education interventions have become a familiar feature of the development scene in most schools. Such trainings have been mainly provided to compensate for the weak teacher education offered by training institutions following the war so that teachers could be upgraded in order to meet the standards of a 12+2 qualification. Over the past twenty years a huge amount of resources have also been invested in in-service teacher education for other purposes, many of which tend to be project-specific. Such in-service programs have included Textbook Orientation Programs (TOP), subject-specific training programs (e.g., Science, Life Skills, Health, Hygiene, etc.), and policy dissemination (e.g., Child Friendly Schools, Cluster Schools, Education for All, etc.). All of this in-service training has led to a well-entrenched culture of entitlement focused on per diem payments for both trainers and trainees that has required significant investment by government and donors.

5.1 The importance of understanding the teacher audience

Knowing one's audience is probably a key starting point for the design of in-service teacher education programs. Within the last ten to twenty years, educators have seen a major movement forward in the evolution of the teacher workforce in Cambodia with the retirement of many of the *kru jat-tang* who used to be a key feature of the education system as recently as the 1990s. Training programs that have traditionally focused on the 'lowest common denominator' need to raise the bar to adjust to the reality of better-educated teachers in the workforce. For example, researchers mentioned in Section 4 of this report the earlier decision to eliminate discussion of

the higher thinking skills in training on Bloom’s Taxonomy due to the lack of certain educational pre-requisites among many teachers at that time. Thus, the ETL booklet, a key CFS document for in-service teacher education that deals with Bloom’s Taxonomy, may no longer be relevant to today’s teaching workforce, which is better educated.

The teacher sample used in this study may be evidence of this evolution in qualifications in the teaching workforce. For example, one can see from Table 5.1 that a sizable number of teachers are quite young (40%) and more highly educated with over 70% reporting that they have an upper secondary education certificate or better. Similarly, almost 40% have 12+2 pre-service qualifications even though this is a relatively recent reform. These statistics concur with a 2015 UNESCO report showing that 80% of the current teaching force in primary and lower secondary schools is in the middle age group of 45 years of age or younger and that nearly 70% have completed Grade 12 before taking pedagogical training in a PTTC or RTTC. These findings suggest that today’s teaching workforce may be more ready for more advanced training than was true ten years ago.

Table 5.1: Demographic Profile of Primary School Teachers in Two Provinces (Sample)		N=184
Gender Breakdown		
Male		47%
Female		53%
Age		
<30		40%
30-49		49%
>49		11%
Highest Level of Education Completed		
Primary School Certificate		2%
Lower Secondary School Certificate		19%
Upper Secondary School Certificate		70%
Bachelor Degree		6%
Post-Graduate		3%
Pre-service Qualifications		
Number with 12+2 Qualifications		37%
Number with less than 12+2 Qualifications		63%
Number of In-service Workshops Attended Last 5 Years		
None/Can’t Remember		22%
1 or 2		23%
3 or 4		27%
More than 4		48%
Self-description of Living Standard		
Describe themselves as poor		33%
Describe themselves as neither rich nor poor		64%
Describe themselves as wealthy		3%
Teachers with Other Sources of Income		
Yes		20%
No		80%
Father’s Occupation		
Farmer		66%
Teacher		11%
Other		24%
Marital Status		
Married		67%
Single		33%

5.2 The cascade model

When the MoEYS or an International Organization wants to provide an in-service training program, they look for core trainers at the national level (i.e., NCTs – National Core Trainers),

or they contact the POE when they want to implement their program in only one province⁷. Depending on the thematic content of the training, the donor generally resorts to one or more of the three main departments who do in-service training as follows: Teacher Training Department, Primary Education Department, or Secondary Education Department. These departments then gather the required number of co-trainers among the NCTs, as available. The relevant department will potentially invite co-trainers from the NIE at the national level or PTTCs, RTTCs, POEs and DOEs at the provincial level. Each department resorts to its own network suggesting some degree of territoriality in the work that needs to be done (see Box 5.1). For instance, the TTD “owns” the Teacher training centers, while PED owns the DOEs (notably the DTMTs). At the provincial level, the Primary Education Office generally holds a much more important package of human resources than the Teacher Training Office.

In-service education in Cambodia is most often executed through what is commonly known as the ‘cascade system.’ Under this system or approach, master trainers who are employed either by government or a donor articulate core concepts of a workshop to a group of junior trainers through a Training of Trainers workshop (ToT). The next step in the process could be executed through a number of channels that involve province and district-level actors who are embedded in teacher training institutions, as well as provincial and district offices. These individuals implement ‘echo’ workshops down to school level through a process of one or more steps, depending on the number of trainees that need to be reached.

A relatively new structure that now plays a key role in the delivery of in-service training is known as District Training & Monitoring Teams (DTMT). MoEYS introduced the DTMT system in 2006 as a means to promote the implementation of Child Friendly School programming, which eventually became a policy in 2008. There was initially significant resistance to the DTMT system because many felt that it unreasonably supplanted the cluster school system,

Box 5.1: Mapping Out the Administrative Territory of Different Provincial Offices

According to an official in the Primary Education Office in one POE, “*The Primary Education Office has skills and techniques on trainings, while the Teacher Training Office manages training staff, does administrative work and statistics – they don’t have basic skills in training. For instance, trainings on school mapping (disabled children...) and school improvement planning are the responsibility of the Primary Office*”. One Teacher Training Office official in another POE confirms: “*TTD is only specialized in administration work such as schools’ statistics, teacher’ assignment, and TTC student assignments. It is not involved in teacher trainings.*”

-Primary Education Office Official

⁷ The NCT team is composed of around 40 education specialists who work at the MoEYS, but this group is regularly re-staffed as many NCTs often resign or take a leave of absence to work with NGOs or other organizations in the non-government sector.

which had been designed ten years earlier for the same purpose. Eventually, however, the proponents of the DTMT system finally prevailed. In general, there are around six DTMT members per district office (according to the size of the district). In the past, DTMTs could be comprised of a village chief, school director, school technical team representative, or a good teacher, but currently DTMTs must be comprised of District Office of Education or school staff. There are two kinds of DTMT: *DTMT 1* is responsible for administration work, school environment, and school management; they train and monitor the school directors; *DTMT 2* is responsible for providing technical support relating to teaching techniques and methodologies. Soon, the MoEYS plans to create *DTMT 3*, which will be responsible for technical support to the secondary school level. DTMTs are responsible for relaying training content and conducting monitoring in the schools of their district. The provincial level coordinates the trainings while DTMT members actually deliver the training. The DTMT can also be trained by NCT members.

In spite of the evolving capacity building network that builds on the DTMT structure described above, DTMTs are not always preferred by the Ministry officials who still regularly involve trainers from the POE and/or the P/RTTCs (to the exclusion of DTMT members). In addition, there have been many concerns raised about the effectiveness of DTMT members that Ministry seeks to better address (e.g., Shaeffer, 2016, in press). These concerns relate to duplication, low qualifications, and poor motivation among DTMT members. One can conclude from this unclear picture of how INSET programs are delivered that there is still a lot to do to build a clear team of professional trainers who can systematically deliver in-service education. The per diem system set up by government and donors overlays this framework and also introduces an element of patronage in the manner that decisions are made about who should be responsible for in-service education delivery.

After the completion of a ToT, the second step of the training process can unfold in several ways. Depending on budget availability, the training program could be provided only to technical grade leaders (TGLs) (*prothean krom pachaekute*) who would relay the content to the teachers of their own school; alternatively, all teachers could be invited to participate in the workshop directly, eliminating one step of the cascade process. In schools, the Thursday technical meetings and Cluster school meetings are notably dedicated to this sharing of knowledge acquired through in-service trainings, while TGLs relay what they may have learned during the training to the teachers of their cluster.

This “cascade model” also implies a cascade of per diem, and it is well known that this raises some issues that can affect the effectiveness of an in-service training workshop (e.g., ‘ghost trainers’, biased financial incentives, etc.). Although per diems were first instituted as a means to facilitate the gathering of trainees, they have now become a ‘sine qua non’ and an end in and of themselves for any training workshop. According to several key informants, this evolution in the view of per diem payments has greatly corrupted the in-service education system because it has created an entitlement regime among teachers that supplants the purpose of having capacity-building workshops in the first place. That is, many in the system feel that we have workshops in order to pay per diems rather than paying per diems to facilitate workshops (PEPY, 2012). There is now the possibility, however, that TPAP could eliminate the per diem system by creating new, more effective incentives for teachers to attend workshops as a means to improve their credentials, which will in turn be linked to increased salary remuneration.

Although the cascade model is a means through which to address the lack of competent trainers in the education system, its implementation is not without problems. Mainly this refers to the loss of information conveyed with each step that the workshop program is repeated. According to an informant who works at MoEYS, some teachers at the secondary school level do not want to take time to relay what they have learned to their colleagues, as they have not been properly remunerated; in other cases, they may only share information with teachers with whom they have good relations. Under the cascade model, school directors and DTMT members play a key role in ensuring that as much information is relayed as possible by monitoring the implementation of training content. Chhin and Tabata (2003) argue that intermediaries involved in the cascade model can affect the effectiveness of in-service teacher education, making it either highly efficient or not, depending on the reliability of the individuals involved.

5.3 In-service teacher training methodology

According to stakeholders interviewed as part of this survey, most in-service training workshops tend to be highly ‘formulaic’ in their delivery and follow a fixed, predictable pattern. Generally, the workshop activities start with a presenter blasting out the objectives and content of the training on a microphone; alternatively, they may also use an LCD projector at the same time. Then, participants are invited to work in groups to discuss a specific topic or theme. Recording their responses on big pieces of poster paper, they discuss questions in groups that are related to the training topic. Participants then present their thoughts on the topic, possibly

have a short discussion in plenary, and then move on to the next activity, which often repeats the same format.

Most informants explained that because workshops usually involve group work, the workshop's methodology may be classified as 'participant-centered.' Sometimes, facilitators also invite participants to play games known as 'energizers' to make them relax and to create a friendly environment. At the end of the workshop, the trainers summarize the main results of the work groups; they ask participants to evaluate the training workshop, and then provide their own comments about strengths and weaknesses of the workshop. In some cases, the trainers administer pre and post-tests to evaluate the trainees' knowledge before and after attending the training. At the end of the training, participants may receive handouts and course materials to be used in their classrooms. They are required to experiment and to apply what they have learned.

Key informants offered different views of this highly formulaic approach to workshop delivery. One POE official explained, *"Using a lot of theories to train participants in trainings is not so effective because they are easy to forget. Practicing (group work) is more effective because they do activities on their own and they understand by doing [Do teachers ever get confused during the workshops?]. No, teachers and directors don't get confused although they receive a lot of trainings year after year because all these trainings are based on the Child-Friendly School framework, as a standard for all organizations to base their programming on"*. However, some teachers said they were a bit bored with this repetitive structure of the in-service trainings: *"I think that using this method again and again for every time makes teachers get bored. They should find new techniques to train teachers by not asking them to work in groups again and again"*.

In terms of facilitators' presentation skills, some informants said that trainers were not always good at presenting and leading the workshop. There was a tendency to pass over group work products without much critical analysis and to stick to a lecture format. In order to address such issues, some organizations have tried to train teachers who are excellent practitioners to be trainers. Using such practitioners provides a 'career path' for the best teachers and also provides for more credible presentations since the trainers are themselves teachers who also stand in front of a classroom when they are not training. This is seen as a much better approach than using Ministry officials to deliver training workshops, many of whom have never taught in a classroom. However, some informants objected to this approach and suggested that having

trainings delivered by PTTC trainers would be better. Furthermore, they believe that participants don't appreciate when an organization always hires the same teachers from the same school to train their colleagues. These teachers are perceived as unfairly fortunate who just because they work hard and do a good job get additional benefits. There is, therefore, evidence of a strong sentiment among many teachers that superior performance should not be rewarded because it will create feelings of jealousy and resentment. These informants perceived trainers from POE/DOE and PTTCs to be more legitimate than other school teachers. Clearly, the perceptions of workshop organizers within education agencies are quite different from those of some stakeholders at school level when it comes to the delivery of in-service education workshops.

5.4 The effectiveness and relevance of in-service trainings

National Level Perspectives on the Effectiveness of In-service

The effectiveness of in-service teacher education has been an overriding focus of the present study. It was already mentioned earlier that there is growing doubt among some international researchers that in-service teacher education can improve the quality of education (e.g., Fennessy, 1998). In Cambodia, Chhin and Tabata have argued that many of the trainings provided to primary school teachers do not create an impact on pupils' achievement (2003)⁸. According to these researchers, the cause for low impact on student achievement was the cascade model, through which there is a significant diminution of information at each step of the cascade process. According to this view, the entire basis for the delivery of in-service teacher education in Cambodia is, therefore, highly flawed. Such a conclusion, if validated, would have significant implications for the millions of dollars that government and donors spend each year for in-service education workshops using a cascade model.

Several informants who work at IO, NGO or at Ministry level have also asserted that to a large extent, many teachers do not really apply what they learn during in-service training workshops. For instance, one retired Cambodian informant, who used to work both at the POE level and with an IO, suggested that the decision to abandon Whole Language reading methods in 2010 was not due to supposedly intrinsic deficiencies in this approach to reading, but rather to the lack of effectiveness of the in-service trainings that had been provided to teachers to master this method of learning language. The problem was not the textbooks, he said, but rather the

⁸ Their study failed to find a relationship between pupil achievement and the numbers of in-service training programs that teachers had attended since the introduction of the new curriculum in 1996.

teachers – or possibly even the trainers. Indeed, many stakeholders at national level assert that teachers do not really make the effort to internalize and apply what they learn. According to one PTTC administrator, teachers who work in schools supported by NGO projects are busier than teachers from non-supported schools. For this reason, some schools do not want to work with NGOs because it increases their working hours. In such schools, in-service training workshops are not as effective as in schools that receive NGO support.

Local Stakeholders' Point of View on Training Effectiveness

Nevertheless, stakeholders at school, district, and provincial level in the three provinces generally have a more positive view of in-service teacher education and its effectiveness (see Boxes 5.2 and 5.3). For POE and DOE staff in Province C, the view was expressed that most in-service trainings have been useful for teachers: some teachers could not study at PTTC (contract teachers) and some others forgot what they learnt at PTTC, so such trainings could remind them of what they had learnt previously and add new features to methods they already understood.

Primary School Directors and teachers generally echoed the sentiments of POE and DOE officials with respect to the usefulness of in-service education. Such workshops provide opportunities for sharing, learning ideas, and refreshing old ideas (see Box 5.2). However, an important constraint mentioned by school directors is that it is difficult for them to push teachers to apply what they learned from in-servicing after returning to the school while at the same time maintaining good relations with them. School directors and teachers often already have a bad relationship due to the opaque use of money within many schools and so school directors want to avoid any other possible conflicts with teachers; if school directors

Box 5.2: Reasons School-level Stakeholders Support In-service Education Opportunities

- Provides an opportunity to refresh things they learned earlier
- Provides learning about new ideas in teaching
- Provides staff development opportunities to contract and community teachers who never had any pre-service training
- Provides professional opportunities for sharing with other teachers from other schools

...ing, to be a good example for teachers, to be close to teachers and students, to have a good relationship with students' parents and I know how to do inspection in classes".

-Director of School 13

"Before being trained, I used to work alone. Now I know how to work with others such as with local authorities and the community".

-Director of School 6

"The trainings were useful for me, especially those concerning management and leadership. It taught me how to communicate with the community and generous sponsors to build things in the school. It changed my attitude in leading. Now I can show a good example to my colleagues by coming to school punctually"

- Director of School 7.

challenge teachers about their teaching, the latter might make accusations against them about the manner in which the school is managed. Thus, School Directors often prefer not to bother their teachers about applying workshop principles.

Primary school directors, however, did indicate that in-service training workshops helped their teachers with new specific tasks, such as making teaching aids, promoting good health and hygiene behaviors, improving library management, implementing drop-out and re-entry programs, reading benchmark tools, and helping slow learners. In summary, directors placed a high value on in-service training workshops related to school leadership and management, and to methodological support based on the ETL booklet (see Box 5.3).

For primary school teachers, the most important in-service trainings that they received were related to teaching methodologies in Khmer and Math. Such trainings helped them to improve the way they taught these key subjects, which improved students' learning outcomes (e.g., Box 5.4). Teachers place a high emphasis on such subject-specific training because Khmer and Math are core subjects requiring the most preparation and teaching time each day.

During key informant interviews, researchers attempted to play the devil's advocate by taking the view that in-service teacher education is *not* useful and that teachers are rarely able to apply what they learn to the classroom when they return to their schools. Nearly all respondents took strong exception to this assertion though they acknowledged that some teachers, especially the older ones, are resistant to the idea of changing the way that they teach. Some of the responses to this line of questioning are presented in Box 5.5.

Box 5.4: Teacher Anecdotal Assessment of In-service Education

"I think that most useful ones were teaching methods on teaching materials, study games, reading benchmark and classroom management (ETL). When we used study games for students to play in class, they can catch up lessons quickly and I can make a happy environment for students when they got bored. For me, teaching materials help my students to see real objects and it is easy for them to understand. I can manage my class by asking slow learners to sit with fast learners and let them help slow learners".

"We know this because the scores of students' monthly tests increased. The reasons why the students improved their learning outcomes were because of trainings on ETL reading

Box 5.5: Stakeholder Responses to the Assertion that In-service Teacher Education is 'not' Effective

"We cannot just continue to do what we learned 20 years ago to apply in present times. Everything changes and teaching methods also have to change!."

-Director, School 12

"I don't agree with this idea at all. The trainings really teach teachers more than what they have learnt in PTTC and it also strengthens their ability in teaching."

-Director, School 4

"Old teachers are lazy and they are not motivated to teach or use new teaching methods they have learnt from the trainings. Young teachers are more active in teaching".

-Director, School 5

An examination of these responses demonstrates a strong support for the effectiveness and relevance of in-service teacher education, at least for the majority of teachers.

During FGDs, teachers estimated that they used about 70% of what they learned from workshops in their daily teaching. This included materials development, teaching methods, and the use of games. One teacher related, “*We could not apply 100% because the school still lacks teaching aids and we do not have time to produce teaching materials for ourselves*”. In teachers’ perception, long-experienced teachers are less inclined to apply the new things they learned. They “are lazy to change”. But despite these cases of teachers who do not really want to change their habits, most directors and teachers felt that in-service teacher education was beneficial to teachers and well worth the cost and effort. Such views are consistent with the findings of a recent study conducted by Sitha et al. and funded by UNESCO, showing that most Cambodian teachers have enthusiasm to develop their qualifications and about 94% of the respondents of the research expressed an interest in pursuing their studies for a Bachelor’s Degree⁹ (Sitha et al., 2015).

Teachers’ Expressed Knowledge of Teaching Methods

Teacher responses to questionnaires suggested that many teachers have a wide breadth of knowledge of multiple teaching methodologies (see Table 5.2). Although these are self-assessments, which probably overestimate teachers’ knowledge of pedagogy, the responding patterns do nevertheless highlight areas where teachers have the most and least knowledge when it comes to teaching methodology. The methodological approach that teachers expressed the most knowledge of was *Cooperative Learning* where 62.5% indicated they both understood it and could apply it while less than 5% indicated that they had never heard of it. *Inquiry-based Learning* came next with 35.9% expressing proficiency and only 10.9% having never heard of it. For most other teaching methods, however (e.g., Project Method, Constructivist Learning, etc.), less than a third of surveyed teachers indicated any degree of proficiency in using these methods in their classrooms.

Table 5.2: Teachers’ Self-assessment of Their Knowledge of Various Teaching Methods (N=184)		N	%
Cooperative Learning			
	Both understand and can apply it in my teaching	115	62.5

⁹ This study reports that in primary schools, 15% of the respondents had a bachelor degree and 85% do not have a bachelor degree. At lower secondary schools, 29% hold a bachelor degree and 71% do not have a bachelor degree.

Understand key concepts but unable to apply well	27	14.7
Have heard of it but don't understand it	19	10.3
Never heard of it before	9	4.9
Inquiry-based Learning		
Both understand and can apply it in my teaching	66	35.9
Understand key concepts but unable to apply well	60	32.6
Have heard of it but don't understand it	19	10.3
Never heard of it before	20	10.9
Project Method		
Both understand and can apply it in my teaching	56	30.4
Understand key concepts but unable to apply well	39	21.2
Have heard of it but don't understand it	43	23.4
Never heard of it before	28	15.2
Constructivist Learning		
Both understand and can apply it in my teaching	54	29.3
Understand key concepts but unable to apply well	43	23.4
Have heard of it but don't understand it	32	17.4
Never heard of it before	35	19.0
Mastery Learning		
Both understand and can apply it in my teaching	44	23.9
Understand key concepts but unable to apply well	29	15.8
Have heard of it but don't understand it	23	12.5
Never heard of it before	64	34.8
Bloom's Taxonomy		
Both understand and can apply it in my teaching	23	12.5
Understand key concepts but unable to apply well	21	11.4
Have heard of it but don't understand it	42	22.8
Never heard of it before	75	40.8

Surprisingly, the least well-known theories of learning and teaching related to Bloom's Taxonomy and Mastery Learning in which 40.8% and 34.8% of teachers expressed total ignorance, respectively.

Most Frequently Encountered and Relevant In-service Training Workshop Topics

The current sample of teachers also indicated that the most frequently encountered topics they had experienced during in-service teacher education workshops over the last five years had been Teaching Methods (73% of respondents), Subject Specific Upgrading, mainly Reading and Writing (53%), and Making Teaching Aids (40%) (see Table 5.3). The remaining topics, although numerous, registered frequencies in the low 30% range or less. Surprisingly, these topics coincided almost perfectly with the topics that teachers were most interested in learning about (e.g., Teaching Methods, Reading & Writing) with the possible exception of Teacher Professional Standards (see Table 5.4). Areas where teachers have the least interest in receiving

training include subject-specific training in the Social and Natural Sciences as well as Child Protection and Human Rights.

Table 5.3: Most Frequently Encountered In-service Training Workshop Topics (N=184)	N	%
1. Teaching Methods	135	73.4
2. Subject Knowledge Upgrading (Reading & Writing)	97	52.7
3. Making Teaching Aids	74	40.2
4. Student Assessment	57	31.0
5. Human Rights/Children's Rights/Child Protection	50	27.2
6. Textbook Orientation	46	25.0
7. Subject Knowledge Upgrading (Math)	35	19.0
8. School Management	29	15.8
9. Teacher Professional Standards	22	12.0
10. Subject Knowledge Upgrading (Social Studies)	17	9.2
11. Communication Skills	12	6.5
12. Subject Knowledge Upgrading (Science)	11	6.0
13. Child Development	9	4.9
14. Teacher Supervision	9	4.9
15. General Background About Education	7	3.8
16. Others:	2	1.1

Table 5.4: Topics Most Sought in the Next In-service Training Workshop (N=184)	N	%
1. Teaching Methods	139	75.5
2. Teacher Professional Standards	68	37.0
3. Subject Knowledge Upgrading (Reading & Writing)	64	34.8
4. Student Assessment	59	32.1
5. Textbook Orientation	55	29.9
6. Subject Knowledge Upgrading (Math)	37	20.1
7. Making Teaching Aids	34	18.5
8. School Management	30	16.3
9. Communication Skills	24	13.0
10. General Background About Education	20	10.9
11. Child Development	19	10.3
12. Teacher Supervision	13	7.1
13. Subject Knowledge Upgrading (Social Studies)	12	6.5
14. Subject Knowledge Upgrading (Science)	8	4.3
15. Human Rights/Children's Rights/Child Protection	8	4.3
16. Others:	7	3.8

Triangulation with Quantitative Data

Efforts to validate qualitative assessments of in-service training experiences provided during FGDs and interviews were mainly successful when triangulated with more readily quantifiable response patterns (see Table 5.5). In this respect, the vast majority of teachers agreed that they

have been able to effectively understand and apply what they had learned in workshops (Statements 1 and 5) and that they found such workshops clearly defined objectives (Statement 2) and had a balance of practice and theory (Statement 3). Only about 17% of teachers agreed with the idea that most of the in-service workshops they had attended over the years had been of low quality (Statement 4) or were largely irrelevant to their needs (Statement 8). Similarly, only about 12% agreed with the statement that in-service teacher education had had little effect on improving the quality of education in Cambodia while another 9% had no opinion on the matter (Statement 9). Interestingly, teachers were somewhat split on the view whether NGO-delivered workshops were better than government-delivered ones (28% versus 42%) (Statement 10) although 50% expressed their loathing for the use massive microphone systems for the delivery of workshops for which government workshops are often notorious (Statement 11).

Statement on In-service Education Content, Quality of Delivery, & Relevance N=184	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
1. In most cases, I have been able to apply the concepts I learned in in-service workshops to my classroom teaching.	25%	72%	2%	0%	0%
2. Most of the training workshops that I have attended clearly defined and presented the objective of the training.	19%	75%	1%	3%	0%
3. In general, most of the training workshops I have attended have not demonstrated a good balance between lecturing and group work activities.	1%	19%	2%	72%	3%
4. Overall, I would have to say that most of the in-service workshops that I have attended have not been of very high quality.	2%	15%	3%	70%	9%
5. In general, training activities organized during workshops that I have attended were helpful to me in understanding concepts.	19%	77%	2%	0.5%	0%
6. In general, most of the training workshops that I have attended demonstrated good interaction between participants and with the trainer.	15%	78%	3%	1%	0%
7. In general most of the training workshops I attended provided useful handouts and course materials.	13%	74%	3%	7%	0%
8. In general, most of the training workshops I attended were not so relevant to my classroom needs.	1%	16%	3%	73%	3%
9. In my view, in-service training for teachers has not done a great deal to improve the quality of education in Cambodia.	3%	9%	9%	68%	9%

10. In-service training workshops provided by NGOs tend to be of higher quality than those provided by Government.	2%	26%	28%	40%	2%
11. I strongly dislike workshops where trainers are blasting their content through loud micro-phones.	5%	45%	8%	37%	3%

Validating Positive Assessments of In-service Training through Classroom Observations

The above discussions demonstrate that stakeholders at many levels including provincial, district, and school level feel that the in-service training workshops that they have encountered are mostly beneficial and have impact both on improving teaching practice and student learning outcomes. Researchers sought to validate these findings by determining whether good classroom practice during unscheduled observations correlated with either ascribed or achieved teacher characteristics, but particularly the latter as these relate to general education levels, pedagogical training, and years of teaching experience. The results of this analysis are presented in Table 5.6 below.

Table 5.6: Correlations between Classroom Observations and Ascribed/Achieved Teacher Characteristics (N=44)

<i>Teacher Trait</i>	Teaching Skills		Teacher Motivation		Classroom Discipline		Instruc-tional Materials		Total Observa-tion Score	
	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>
Gender	-.011	.944	-.229	.135	-.131	.395	-.106	.495	-.091	.558
Age	.265	.082*	.042	.785	-.196	.202	.245	.109	.239	.118
General Education	.115	.456	-.102	.509	-.176	.253	.157	.310	.078	.616
Pedagogical Training Level	.254	.210	.113	.581	.018	.931	.202	.321	.275	.173
Years of Experience	-.010	.948	.124	.423	.272	.074*	.007	.965	.051	.743

*Indicates that r values are significant at $p < .1$

With few exceptions, the analysis presented in Table 5.6 could not demonstrate any robust links between observed classroom teaching effectiveness and either ascribed or achieved teacher characteristics. In this respect, total classroom observation scores demonstrated no statistically significant relationships with such characteristics. However, it was found that ‘age’ correlated positively with scores for ‘teaching skill’ ($p < .1$) while ‘years of experience’ in teaching correlated positively with ‘classroom discipline’ ($p < .1$). In this analysis, researchers posited that high levels of pedagogical training and years of teaching experience (and by extension, extensive exposure to in-service teacher education) could be construed as surrogate values for in-

service teacher education, but with the exception of the two cases noted, no significant relationship could be found between observed practice and such achieved characteristics.

5.5 Follow-up and monitoring

According to POE and DOE staff as well as school directors, the way the MoEYS follows up or monitors schools is weaker than the way NGOs do it. NGOs work more closely and directly with schools and they seem to know more about schools' needs and challenges. When designing workshops, NGO facilitators often include task work that needs to be completed by trainees at their school, which provides a clear framework for follow-up activities. According to key informants, organizations also appear to have better techniques and methods for supporting teachers to improve their classroom practice though as noted earlier, only about 28% of teachers agreed with the proposition that NGO provided workshops were better than those delivered by Ministry (see Table 5.5). Following the increasing implementation of decentralization and community-based decision-making policies, DTMTs now have more autonomy to manage the financial resources provided to train teachers in their district. In theory at least, they are supposed to have been emancipated from the administrative supervision of bureaucrats at provincial level. Some POE officials were also aware that MoEYS is currently training 400 specialized inspectors in Phnom Penh to monitor schools in 25 cities and provinces with the support of the Swedish International Development Agency (Sida). These inspectors may be ready to work in 2017 or 2018.

6. Conclusions and Recommendations

6.1 Overview: Opportunities offered by an educational system in flux

The recent introduction of a major education reform program by MoEYS in 2014 has created many opportunities to foster radical change in an educational system that has been moribund since the previous educational reform initiative (2000-2005) ran out of steam around the middle of the last decade. These reforms have great breadth and take in many proposed changes ranging from establishing Charter Schools (known as New Generation Schools), reforming the corrupt examination system, increasing financial efficiency, and even funding NGOs directly by government, among many others.

Because improving the quality of learning in classrooms necessarily means focusing on teachers, recent reform initiatives have brought renewed attention to working intensively with teachers and the institutions that train them as a frontline strategy to improve student learning. A confluence of factors has amplified the need for radical and urgent action in this regard including socio-political changes that are implied by ASEAN integration, intensifying competition with neighboring countries to succeed in a new information-driven economy, and new government commitment to dramatically increase funding of the education sector. This speaks especially to major increases in the salary of teachers over the last several years and a recent proposal to raise the minimum teacher salary to \$250/month.

As a result of these factors, MoEYS has initiated a major overhaul of teacher development approaches by initiating the *Teacher Policy Action Plan*, which will take full effect in 2018. All of these changes when considered together have greatly increased the critical mass needed to bring about systemic change that may actually improve the education system. Thus, the opportunities for meaningful investment in teacher upgrading are greater now than they have been for a long time.

6.2 How effective is in-service teacher education in Cambodia today?

One of the key research questions in this study was to determine the effectiveness of in-service teacher education practices in Cambodia, given that upcoming investments in the sector will use in-service training efforts as a frontline strategy. In answering this question, the present survey identified a ‘paradox’ in which many stakeholders, particularly at the local level, generally tend to support the idea that in-service teacher education is clearly helpful for the purpose of improving teaching practice and improving learning outcomes, even though there is little

empirical evidence to support this belief system. Even if one acknowledges the self-serving motivation of school-level stakeholders to support a system that provides significant benefits for the per diem payments that it generates, researchers have no doubt that stakeholders' beliefs in this regard are sincerely felt. Such views are consistent with the findings of other research studies that validate genuine teacher interest in upgrading their teaching skills. Nevertheless, many studies (including this one) have found little evidence to corroborate stakeholders' views that in-service teacher training can actually improve the quality of education at the school level. In the current study, researchers could not establish a robust relationship between good classroom practice and 'achieved' teacher characteristics relating to years of teaching experience or pedagogical training. This lack of empirical evidence creates important doubts about the wisdom of continued government and donor investment in in-service training, at least in its present form.

To be sure, it should not be surprising that there are many concerns regarding the quality of in-service teacher education programs in Cambodia given the inefficiencies of the cascade model that is used so widely to deliver workshop content, the formulaic presentation format of most in-service workshops, and the failure of trainers to demonstrate that they can fully internalize many of the concepts related to participant-centered learning. The latter point is particularly important because educators at all levels seem unable to articulate clearly 'why' they should adopt student-centered methods although they can explain well enough 'what' form this takes. This finding has major implications for policy implementation because if most educational administrators and teachers have no idea why they are doing things, it is unlikely that such efforts will succeed.

In spite of the above shortcomings, it is likely that in-service teacher education will continue to be an important feature of the arsenal to improve educational quality in Cambodia. There are ways, however, that its efficiency can be increased including linking workshop participation to improved teacher credentials and by extension better pay (rather than per diem), staffing DTMTs with the most competent individuals, limiting the number of steps in the cascade model, including task work as a part of the follow-up process, and improving the format and relevance of training programs (e.g., teaching methods, teaching aid production, and subject-specific content). The role of the school director is also crucial in ensuring improved efficiency so that they create expectations that teachers 'must' use what they have learned in workshops in their classrooms.

6.3 Pre-service education: Current status and future directions

A second research question complementing the one examined above relates to the status and future direction of pre-service teacher education. The present study recounts the change in the quality of pre-service education nationally and at three PTTC institutions that participated in this study. Over the last 36 years, PTTCs have seen significant upgrading from 7+1 institutions in the 1980s to the current standard of 12+2. Although there seems to be a lack of consensus about the demographic characteristics of PTTC trainees relating to their socio-economic background, it would seem that most come from rural backgrounds though not all are necessarily poor. Indeed, according to this study, only about a quarter of trainees classified themselves as such. Surprisingly, about 40% of those surveyed also believed that they were ‘above average’ academically suggesting a much higher quality of candidates in recent years. However, a *General Knowledge Test* designed for lower secondary school students that was administered to Year 2 students found only moderate mean scores while 9%, a significant minority, were unable to get even 50% or more of the questions correct.

This study is among the first to report on the impact of a major policy shift that exempts A, B, and C-level Bac II graduates from taking the PTTC Entrance Examination. This policy shift seeks to upgrade the quality of PTTC intakes but may have unintended consequences on individuals from poor and rural backgrounds. While the largest of the three institutions studied reported that only 25% of its first intake under the new policy conditions comprised A, B, and C graduates, the other two smaller institutions reported intake rates of 75% or more of such individuals, which crowded out the number of available places for D and E graduates. While this information vindicates the intention of policy makers to upgrade the human capital studying at PTTCs, it may also disproportionately affect individuals from poorer classes who seek entry to the PTTCs. Because better performing Bac II graduates tend to come from urban and middle class backgrounds, this could also have implications for the deployment of teachers to rural areas, thereby making it more difficult to do so. That is, students from these urban areas will be very reluctant to accept long-term postings in rural areas, where they are most needed. Furthermore, it is likely that A, B, and C level grads may be more ambitious than D and E grads and may not remain in the teaching profession for very long. This could, therefore, exacerbate the teacher shortage in rural primary schools. It might, therefore, be prudent to consider keeping

a fixed quota for D and E graduates in PTTCs/RTTCs given that they are still in the top-performing tier of those candidates sitting for the exam and may be relied upon to stay in a teaching career for life.¹⁰

Survey respondents painted a highly variable picture of training conditions at PTTCs. The curriculum appears to be highly fragmented and overloaded with 23 or more discrete subjects. Curricular reform over the years has been incremental rather than comprehensive leading to a syllabic structure of great breadth but little depth. Poor coordination between government departments and donors also contributes to the confusion so that the pre-service training program takes many years to incorporate educational reforms occurring in schools, thereby creating an information gap between schools and PTTCs. Child Friendly Schools and recent changes in early grade reading are the best examples of such gaps. Although instructors' teaching methodology still tends to be teacher-centered, most trainees seemed to express a high level of satisfaction with the education that they receive at PTTCs. This is especially true of the practicum course, which now occurs in both Years 1 and 2 and which trainees assessed very positively though there are still shortcomings to be overcome. Important areas in need of improvement in the quality of pre-service training that were highlighted by this study include the need to move to more student-centered training formats, greater use of technology in instruction, more focus on student assessment theory, and improvements in facilities that many students see as rudimentary and out of date. Teacher deployment procedures also need to be reviewed, because they lead to opportunities for abuse and bribery.

In spite of the general satisfaction expressed by most trainees with their instructors, the teaching force assigned to PTTCs appears to be deeply demoralized. Many feel that they would prefer to work at other educational institutions where there are more opportunities for private tutoring (e.g., secondary schools). Although PTR levels at the three institutions that were studied tend to be very low, most administrators complained of shortages of qualified instructors and the need to assign some instructors to teach subjects where they had no specialization. In addition, many instructors have no teaching experience and do not meet the official criteria required to be assigned to a PTTC (e.g., Bachelor's Degree, NIE certification, etc.).

PTTCs face an uncertain future with proposed plans under the *Teacher Policy Action Plan* to possibly upgrade one or more facilities into four-year institutions. To a large extent, such

¹⁰ For example, in 2014, D and E grads were still in the top 42% of candidates sitting for the exam, given that 58% of candidates failed the examination that year.

changes are partly motivated by the perceived need to come up to the standard found in other ASEAN countries, rather than whether such changes are a good fit for the Cambodian context or not. While upgrading PTTCs into four-year institutions would certainly have a positive effect on the quality of graduates, there are fears that it would dramatically increase the costs of training teachers and could exacerbate teacher shortages, which are already intolerable in some provinces. Doubling the time required to become a teacher will also make entering the teaching profession prohibitively expensive for poorer students from rural areas, thereby discouraging them from applying to PTTCs. This will cause the same problem described earlier in relation to reducing D and E Bac II graduates, namely shifting the composition of PTTC intakes to a more urban complexion and making it more difficult to post such individuals to rural areas. The only way for such a proposal to work would be to dramatically increase financial resourcing of the pre-service network so that intakes would not need to decrease while at the same time upgrading physical facilities and the human capital assigned to staff PTTCs.

6.4 Improving the attractiveness of the teaching profession

There are several factors that are particularly important to consider in the effort to upgrade human capital in the teaching force through both in- and pre-service education. One of these relates to *salary remuneration* while another concerns *perceptions* of the teaching profession in Cambodian society. In the long-term vision expressed by Ministry and DP planners, a key strategy to upgrade teachers requires increasing the educational credentials of individuals who are inducted into the teaching service. But historically, only the most poorly performing students from the nation's secondary schools appear to want to apply for enrolment in provincial and regional teacher training centers. Part of the reason for this appears to be financial but another part relates to the low esteem in which teachers are held in society.

Although more than half of the teachers and PTTC trainees surveyed indicated that teachers are indeed respected in society, a sizable minority of one third or more felt that teachers are 'not' respected. Teachers themselves gave a very materialistic interpretation of their 'low social standing' that focuses mainly on low salaries and the need to work a second job. Yet salaries have improved dramatically in recent years and 80% of teachers reported that they did 'not' work a second job, which very much contradicts the conventional wisdom on sources of teachers' income. Indeed, for the vast majority of teachers (at least in rural areas studied by researchers), their state salaries appear to be their main source of income.

The more materialistic interpretation of the low respect dynamic in society may to some extent underline how fixated the teaching profession is on ‘money;’ very few informants focused on a more behavioral explanation of low respect such as weak levels of professionalism, endemic tardiness, and extortionary levies on students to learn. Because this study did not examine perceptions of non-educators, this is merely speculation but there is an argument to be made that if teachers did a good job with their students and were paid poorly, they would be even more highly admired by communities, not less so. Thus, though it is certainly true that salary levels are an important part of the reason that teachers are not respected in Cambodian society, this may not be the whole story. Raising salaries will certainly enable more qualified entrants from middle class families who are entering the P/RTTCs to more easily survive in their new postings, thereby removing an important disincentive for better-educated individuals from the upper social classes to want to become a teacher. But it will also help administrators to enforce a prohibition on private classes (during working hours) and better enforcement of professional standards (e.g., coming to work on time), assuming that there is the political will to do so. This is certainly a heroic assumption given how deeply entrenched dysfunctional behaviors are in the education system, especially in urban areas. But changing such behaviors by raising salaries and empowering administrators to change teacher behaviors may be the key to increasing positive perceptions of Cambodian teachers, thereby making the profession more attractive to potential applicants with high levels of education.

6.5 Concrete Recommendations

The remaining research questions addressed by this study focus on the identification of recommendations for improved practice that will increase the efficiency of in-service and pre-service education in comparison to current levels. In spite of earlier stated conclusions that there is little concrete evidence to show that in-service teacher education actually impacts teacher practice or learning outcomes, it is unlikely that either government or donors are going to stop using such interventions as a major strategy to improve educational quality. Pre-service institutions are also likely here to stay and indeed may be upgraded to four-year institutions. Given this context, researchers have formulated the following recommendations for improving the effectiveness of teacher education.

1. ***Reconfigure the Role of Per Diem Payments in In-service Teacher Education:*** The current per diem regime in most teacher in-service programs does not reward the application of learned concepts to classroom practice. MoEYS and DPs should link at least part of these payments with changes in actual classroom practice. Alternatively, TPAP

reforms may consider the creation of credentialing (as part of teacher career path options) and higher pay as a new incentive to attend in-service workshops, replacing per diem payments as the primary incentive.

2. ***Ensure Links between Post-workshop Task Work and Follow-up Activities:*** Monitoring and follow-up are essential measures to ensure the impact of in-service education workshops. Such measures can be made more explicit if they are focused on concrete tasks that trainees need to complete as part of the in-service workshop program. Implementing this best practice could have the effect of dramatically increasing accountability during in-service workshop programs.
3. ***Move Away from Overly Formulaic Presentations of Workshop Programs:*** The current format of most in-service programs is remarkably standardized from project to project. Although the format does ensure participant engagement, it is increasingly perceived as too predictable and formulaic. A range of different presentation formats should be identified and shared with National Core Training Teams.
4. ***Create Incentives for School Managers to Ensure the Implementation of Workshop Content:*** Accountability continues to be one of the key missing pieces in teacher education programming. Recent MoEYS measures to raise teacher salaries should help to empower school administrators to enforce standards and changes in classroom practice. However, this can only happen if school directors receive incentives to take action. Such incentives may take many forms including financial ones but also opportunities for professional development, study trips, and equipment if compliance can be established.
5. ***Limit the Number of Steps in the Cascade Model:*** Along with in-service teacher education, the cascade model used for delivery is also likely here to stay. However, efficiencies in this model can be increased by limiting the number of steps between an initial ToT and the terminal training to be delivered to participants. In addition, more extensive efforts should be made to involve master trainers at the lower levels of the implementation chain to strengthen quality control.
6. ***Vetting NCT and DTMT Members to Ensure Competence to Fulfill Their Role Effectively:*** Both NCTs and DTMTs play a crucial role in the execution of the cascade-training model for in-service teacher education. However, it has been shown that there are many members of these teams who are not competent to adequately carry out their functions, even when provided with ToTs by master trainers and consultants. This creates a weak link in the effective implementation of in-service training programs. All

NCTs and DTMTs should, therefore, be vetted for competence and replaced if they cannot make the grade.

7. ***Maintaining Multiple Tracks for Teacher Development:*** The research literature reviewed as part of this study found that there is increasing skepticism among some educators as to the effectiveness of more conventional approaches to teacher education, namely INSET. There is now an increasing interest in *peer support models* in self-managed schools as a more effective means through which to change teaching practice in classrooms. Cambodia should, therefore, consider engaging in multiple strategies or tracks through which to improve teachers' capacity that include both nationwide INSET programming as well as peer support models in more autonomous public schools.
8. ***PTTC Curriculum Reform:*** The current curriculum has been critiqued as having too much breadth and not enough depth. In addition, certain key subjects such as test theory, Bloom's Taxonomy, and other key topical areas need to be better integrated into the current curriculum. If PTTCs are indeed upgraded into four-year institutions, the reform of the curriculum should be done in a way that is 'comprehensive' rather than piecemeal as has been done in the past.
9. ***Accommodating Social Equity Concerns Arising from PTTC Entrance Examination Exemptions for High-Performing Bac II Graduates:*** Recent efforts by MoEYS to upgrade the intake to PTTCs have been increasingly successful. However, there may be unintended side-effects to these efforts, mainly crowding out D and E level graduates who tend to come from the lower social classes and from rural areas. MoEYS should consider keeping some number of places for rural candidates when doing PTTC intakes and monitoring whether the changing composition of PTTC intakes is exacerbating the teacher shortage in rural areas or undermining the length of time that new teachers stay in the teaching service.
10. ***Increasing the Attractiveness of Instructor Posts at P/RTTCs:*** Demoralization and high turnover of P/RTTC staff is an important constraint that undermines attracting highly qualified instructors to these institutions. Shortages of qualified subject specialists have required lowering standards to receive less suitable candidates. Measures relating to both financial remuneration and status within the education system should be taken to improve motivation levels and raise the standing of individuals assigned to P/RTTCs. Such measures may include enforcing educational credentials to teach at a training institution, instituting 360-degree assessments of P/RTTC instructors to improve accountability, and raising salaries.

11. ***Observe Caution When Upgrading PTTCs into Four-Year Institutions:*** Current proposals to upgrade P/RTTCs into four-year institutions are probably too far advanced to stop at this time. However, such measures will slow the training of teachers, double training costs, exclude poorer students, and possibly exacerbate already intolerable teacher shortages. MoEYS should observe an incremental approach to upgrading P/RTTCs as is currently proposed under the TPAP, limiting such investments in infrastructure and personnel to only a few institutions and studying the impact fully before proceeding with an expansion. Scholarships should also be provided to poorer students who are unable to afford the higher costs of study that result from doubling the time frame for a certificate.

12. Bibliography

1. ASIAN DEVELOPMENT BANK, *Cambodia: Education Sector Strategy Study*, (1996)
2. BREDENBERG, K. *Discussion Paper: Poor Governance Issues within the Formal Education Sector in Cambodia*, (2008) (http://www.kapekh.org/files/report_file/51-en.pdf)
3. CDRI, *Cambodia education 2015. Employment and Empowerment*, (2015)
4. CDRI, *Cambodia's skills gap: an Anatomy of issues and policy options*, (2014)
5. CHHIN, Sitha, “Factors Influencing Teaching Skills of Urban Primary School Teachers in Cambodia”, *Journal of International Development and Cooperation*, Vol.9, No.1, (2002), pp. 61–71.
6. CHHIN, Sitha and TABATA, Yoshinori, “Teacher Factors and Mathematics Achievement of Cambodian Urban Primary School Pupils”, *Journal of International Development and Cooperation*, Vol.9, No.2, (2003), pp. 29–41
7. EMIS, *Education Statistics & Indicators* (2015).
8. FENNESSY, D., *Teachers' Perceptions of the effects of in-service education and school-based support of their teaching* (1998) (<http://www.leeds.ac.uk/educol/documents/000000837.htm>)
9. FULLAN, M. *Change forces: Probing the depths of educational reform* (1993)
10. GEEVES, R. & BREDENBERG, K., *Contract Teachers in Cambodia* (2005)
11. JOYCE, B. & SHOWERS, B. *Student achievement through staff development: Fundamentals of school renewal* (1995)
12. KAPE, *School Readiness Program Evaluation Report* (2005)
13. KAPE, *Discussion Note: Achieving Greater Efficiencies in Educational Development through a High and Low Cost Development Strategy*, http://kapekh.org/files/report_file/74-en.pdf (2016)
14. MC NAMARA, Vincent, “From dependency to sovereignty – emerging national leadership”, in *Education in South-east Asia* (Pe Symaco, L), Bloomsbury, (2013), pp 23-44.
15. MoEYS, *Bac II test results*, (2014, 2016)
16. MoEYS, *Teacher Policy Action Plan* (2016)
17. NEP, *Teaching Matters: A Policy Report on the Motivation and Morale of Teachers in Cambodia* (2012)
18. NEP, *Assessing the Impact of Incentives on Teacher Motivation* (2012)
19. NEP, *Teaching hours in primary schools in Cambodia* (2015)
20. KELSALL, T. & AL., *The political economy of primary education reform in Cambodia*, ESID Working Paper No. 58. Manchester, UK: The University of Manchester, (2016)
21. PEPY, *Lessons I Learned: Teacher Training in Cambodia* ([http://lesson-
silearned.org/2012/07/teacher-training/](http://lesson-
silearned.org/2012/07/teacher-training/)) (2012)

22. PHIN, Chankea, “Teacher competence and teacher quality in Cambodia’s educational context linked to in-service teacher trainings: an examination based on a questionnaire survey”, *International Journal of Educational Administration and Policy Studies*, Vol 6 (4), Avril 2014, pp 62-69.
23. SCHAEFER, S. Effectiveness of DTMTs, (2016) (in press)
24. SONG Sopheak, “Cambodian teachers' responses to child-centered instructional policies: A mismatch between beliefs and practices”, *Teaching and Teacher Education* n° 50 (2015) 36-45
25. SPRINTHALL, N.A. & REIMAN, A.J. *Teacher Professional Development* (1996)
26. UNDP, *Curbing Private Tutoring and Informal Fees in Cambodia’s Basic Education* (2014)
27. UNESCO, *Opportunities and Challenges to upgrade the qualification of basic education teachers through in-service teacher education modalities*, (2015)
28. UNDP, *Kampuchea Needs Assessment for UNDP*, (1989)
29. WHEELER, C., *Re-Rebuilding Technical Capacity in Cambodia* (1998)
30. WILLIAMS, J. & AL., “Who wants to teach in Cambodia?”, in *The political economy of schooling in Cambodia. Issues of quality and equity* (Kitamura, Edwards, Sitha and Williams), Palgrave Macmillan, New York, (2015).
31. WORLD BANK, *Educating the Next Generation: Improving Teacher Quality in Cambodia* (2014)
32. WORLD BANK, *Cambodia Teacher Policies: Saber Country Report* (2011)
33. WORLD BANK, *Teaching in Cambodia*, 2008
34. WORLD EDUCATION-KAPE, *Improved Basic Education in Cambodia Final Project Report* (2014)
35. WORLD EDUCATION-KAPE, *Total Reading Approach for Children Final Project Report* (2014)

13. Annexes

Annex 1. General Knowledge Test for Year 2 PTTC Trainees

Table A.1.1: The numbers and percentages of demographics (n=310)

Demographic	Responses	
	N	%
Province		
Province A	156	50.3
Province B	97	31.3
Province C	57	18.4
Gender		
Male	58	18.7
Female	252	81.3

The above table shows that 156 (50.3%) teacher trainees are in Province A, 97 (31.3%) are in Province B, and 57 (18.4%) are in Province C. Of the 310 teacher trainees, 58 (18.7%) are male and 252 (81.3%) are female.

Table A.1.2: Respondents' age

Age	
Mean	21.38
Minimum	18
Maximum	28

The teacher trainee's age ranges from 18 to 28 years while the average age is 21.38 years.

Table A.1.3: The result of General Knowledge

Variable	<i>M</i>	<i>SD</i>
History	8.60	2.52
Geography	9.22	1.99
Science	10.53	2.01
Total Score	28.35	4.74

The above table shows the mean scores of General Knowledge Test, disaggregated by subjects (History, Geography, and Science) and its total score. The total score of History, Geology, and Science are 15, 15, and 15 respectively. The total score is 45.

It suggests that teacher trainees score highest in Science ($M=10.53$, $SD=2.01$); lower in Geography ($M=9.22$, $SD=1.99$); and lowest in History ($M=8.60$, $SD=2.52$). However, the mean scores of all subjects are above the average.

The total mean score of General Knowledge is a bit above the average of 22.5 ($M=28.35$, $SD=4.74$). This simply means that their knowledge understanding of general knowledge is MODERATE.

Table A.1.4: The comparison of general knowledge score by province

Variable	<i>M</i>	<i>SD</i>	<i>P</i>
History			.000***
Province A	7.95	2.53	
Province B	8.94	2.47	
Province C	9.82	2.00	
Geography			.000***
Province A	8.87	1.94	
Province B	9.87	1.98	
Province C	9.07	1.84	
Science			.019*
Province A	10.22	1.72	
Province B	10.93	2.31	
Province C	10.70	2.12	
Total Score			.000***
Province A	27.03	4.44	
Province B	29.73	5.08	
Province C	29.60	3.93	

* $p < .05$, ** $p < .01$, *** $p < .001$

The above table presents the comparison of General Knowledge Test score, disaggregated by subjects and total scores. First, it should be noted that all the mean scores of all subjects and total scores are above the average.

In the History subject, the group of teacher trainees in Province C scores significantly higher than the other two groups ($M=9.82$, $SD=2.00$); followed by the group of teacher trainee in Province B ($M=8.94$, $SD=2.47$), and the group of teacher trainee in Province A ($M=7.95$, $SD=2.53$, $p=.000$).

In the Geography subject, the group of teacher trainees in Province B scores significantly higher than the other two groups ($M=9.87$, $SD=1.98$); followed by the group of teacher trainee in Province C ($M=9.07$, $SD=1.84$), and the group of teacher trainee in Province A ($M=8.87$, $SD=1.94$, $p=.000$).

In the Science subject, the group of teacher trainees in Province B scores significantly higher than the other two groups ($M=10.93$, $SD=2.31$); followed by the group of teacher trainee in Province C ($M=10.70$, $SD=2.12$), and the group of teacher trainee in Province A ($M=10.22$, $SD=1.72$, $p=.019$). However, the mean difference in this group is very slight.

In the Total Score, the group of teacher trainees in Province B scores significantly higher than the other two groups ($M=27.73$, $SD=5.08$); followed by the group of teacher trainee in Province C ($M=26.60$, $SD=3.93$), and the group of teacher trainee in Province A ($M=27.03$, $SD=4.44$, $p=.000$). The group of Teacher Trainee in Province A scores lower than the other two groups about >2.5 scores.

Table A.1.5: The comparison of general knowledge score by gender

Variable	<i>M</i>	<i>SD</i>	<i>P</i>
History			.012*
Male	9.38	2.58	
Female	8.42	2.48	
Geography			.713
Male	9.31	2.20	
Female	9.19	1.93	
Science			.225
Male	10.83	2.07	
Female	10.46	2.00	
Total Score			.062
Male	29.52	5.34	
Female	28.08	4.56	

* $p<.05$, ** $p<.01$, *** $p<.001$

The above table presents the comparison of general knowledge test results by gender. It shows that there are not any significant difference in Geography, Science, and Total Score, except History while the male teacher trainee group score significantly higher than the female teacher trainee group ($M=9.38$, $SD=2.58$ for male; $M=8.42$, $SD=2.48$ for female, $p=.012$).

It should also be noted that there is a big gap between the percentages of female and male groups (see table 8 above). The lack of male sample might not yield any significant differences when compared by gender.

Annex 2. PTTC Trainee Survey

Table A.2.1: The numbers and percentages of demographics (N=303)

Demographic	Responses	
	N	%
Province		
Province A	148	48.8
Province B	98	32.3
Province C	57	18.8
Province of Birth Place		
Kampong Cham	149	49.2
Svay Rieng	57	18.8
Kratie	96	31.7
Prey Veng	1	.3
Province of Residence		
Province A	148	48.8
Province B	98	32.3
Province C	57	18.8
Gender		
Male	60	19.8
Female	243	80.2
Age		
Mean	21.09	
Minimum	18	
Maximum	26	
Living Standard		
Not enough	70	23.3
Not high but enough	221	73.7
Rich	9	3.0
Self-Description as A student		
Outstanding	4	1.3
Not outstanding but better than average	116	38.5
Average	174	57.8
Less than Average	7	2.3
Father's Occupation		
Farmer	236	77.9
Teacher	31	10.2

Demographic	Responses	
	N	%
Dead	20	6.6
Police	4	1.3
Others	12	4
Mother's Occupation		
Farmer	267	88.1
Teacher	10	3.3
Housewife	8	2.6
Dead	6	2
Grocery Seller	5	1.7
Others	7	2.3
Number of Brother		
Mean	2.43	
Minimum	0	
Maximum	10	
Number of Sister		
Mean	2.35	
Minimum	0	
Maximum	7	
Marital Status		
Single	288	95.0
Married	15	5.0
Divorced	0	0
Other Sources of Income		
No	290	95.7
Yes	13	4.3
Job they did 3 years before entering PTTC		
Student	267	88.1
Garment Factory Worker	4	1.3
Teacher	2	.7
Contract Teacher	2	.7
University Student	2	.7
Others	26	8.5
Goal After 10 Year of Teaching Experience		
Primary school teacher	43	11.3
Head teacher	62	16.4

Demographic	Responses	
	N	%
DoE staff	47	12.4
PoE staff	89	23.5
Researcher	16	4.2
Teacher trainer	69	18.2
Others	53	14.0

The above table presents the demographics of teacher trainees. It shows that 148 (48.8%) are in Province A, 98 (32.3%) are in Province B, and 57 (18.8%) are in Province C.

149 (49.2%) were born in Kampong Cham, 57 (18.8%) were born in Svay Rieng, 96 (31.7%) were born in Kratie, and 1 (0.3%) was born in Prey Veng. Currently, 148 (48.8%) reside in Province A, 98 (32.3%) reside in Province B, and 57 (18.8%) reside in Province C.

60 (19.8%) of them are male while 243 (80.2%) are female. Their average age is 21.09 while the minimum is 18 and the maximum is 26.

The majority of teacher trainees, 221 (73.7%) perceived that they had “Not high but enough”, 70 (23.3%) perceived that “Not enough”, while only 9 (3%) perceived that they are “rich”.

As a teacher trainee, 174 (57.8%) selected to describe themselves as “Average”, 116 (38.5%) selected “Not outstanding but better than average”, 7 (2.3%) selected “Less than average”, and only 4 (1.3%) selected “Outstanding”.

Most of their fathers, 236 (77.9%) are farmers, 31 (10.2%) are teachers, 4 (1.3%) are police officers. 20 (6.6%) of their fathers are “dead” while the rest are public service officers, soldier, and seller.

Similarly, 267 (88.1%) of their mothers are farmers, 10 (3.3%) are teachers, 8 (2.6%) are housewives, 5 (1.7%) are grocery sellers, 6 (2%) are “dead” while the others are police officer and tailor.

The average number of brother is 2.43, the minimum is 0 and the maximum is 10. The average number of sister is 2.35, the minimum is 0 and the maximum is 7.

The majority of teacher trainees, 288 (95%) are single while only 15 (5%) of them are married. Most of them do not have other sources of income while studying at PTTC, only 13 (4.3%) do. Their jobs include working as a part-time English teacher, teacher, farmers, and sellers.

The majority of them (88.1%) did not have a job 3 years before entering the PTTC. They were “students” while some of them were as contract teachers, teachers, garment factory workers, and university students.

When asked to select two goals after 10 years of teaching experience, 89 (23.5%) of them want to become “DoE staff”, 69 (18.2%) want to become “Teacher Trainer”, 62 (16.4%) want to become “Head Teacher”, 47 (12.4%) want to become “DoE Staff”, 43 (11.3%) want to be the same “Primary School Teacher”, and 16 (4.2%) want to become “Researcher”. Interestingly, 53 (14%) selected to become “Others”, those include 28 (9.2%) want to become “High School Teacher”, 7 (2.3%) want to “Have their own business”, and the rest of them want to be an accountant, communed developer, farmers, university lecturer, and company staff.

Table A.2.2: Numbers and Percentages of Teacher Trainees' Perceptions of Pre-Service Education

No	Survey Items	Strongly Agree		Agree		No Opinion		Disagree		Strongly Disagree	
		N	%	N	%	N	%	N	%	N	%
A	MOTIVATION & PERCEPTIONS OF TEACHING AS A CAREER										
1	Becoming a teacher was my first choice after I completed my secondary education.	77	25.4	183	60.4	8	2.6	30	9.9	2	.7
2	Teaching is a profitable career.	7	2.3	90	29.7	56	18.5	135	44.6	12	4.0
3	I want to become a teacher because I think it is an exciting career.	108	35.6	175	57.8	8	2.6	11	3.6	0	0
4	After I become a teacher, I have no intention of changing my career for at least 20 years.	18	5.9	125	41.3	38	12.5	105	34.7	17	5.6
5	Teachers are highly respected in Cambodian society.	31	10.2	165	54.5	39	12.9	63	20.8	2	.7
6	There is a high degree of professionalism among Cambodian teachers.	24	7.9	171	56.4	56	18.5	49	16.2	2	.7
7	There are very high standards of professionalism at the PTTC both among my classmates and my instructors.	46	15.2	202	66.7	32	10.6	23	7.6	0	0
8	Teachers in urban areas are less well respected by parents than rural teachers because they take a lot of money from their students.	21	6.9	93	30.7	58	19.1	119	39.3	11	3.6
9	In general, younger teachers tend to have higher professional standards than older teachers.	9	3.0	82	27.1	46	15.2	153	50.5	11	3.6
B	PEDAGOGIC & GENERAL KNOWLEDGE										
10	I feel very well prepared to start teaching as a result of my studies at the PTTC.	75	24.8	214	70.6	6	2.0	7	2.3	1	.3

11	What I studied at secondary school level prepared me very well for the general knowledge requirements of being a teacher.	44	14.5	184	60.7	27	8.9	45	14.9	1	.3
12	My training at PTTC should really focus mostly on pedagogy and methodology because I don't really need any general knowledge strengthening any more.	14	4.6	47	15.5	15	5.0	201	66.3	24	7.9
C TRAINING QUALITY											
13	In general, I am very satisfied with the quality of the training that I receive at the PTTC.	59	19.5	216	71.3	18	5.9	10	3.3	0	0
14	During instruction, there is usually a good balance between theory and practice.	47	15.5	215	71.0	25	8.3	11	3.6	0	0
15	Most of my instructors demonstrate very high standards of professionalism and knowledge of teaching.	41	13.5	210	69.3	24	7.9	26	8.6	2	.7
16	Many of my instructors do not come to work punctually and are poorly prepared.	6	2.0	37	12.2	17	5.6	199	65.7	43	14.2
17	Most of my instructors are very approachable and helpful to my studies.	37	12.2	208	68.6	20	6.6	35	11.6	2	.7
18	I would describe the relationship between students and instructors at the PTTC as rather hierarchical in nature.	10	3.3	60	19.8	43	14.2	170	56.1	20	6.6
19	Most of my instructors do not show much enthusiasm when they teach.	0	0	35	11.6	25	8.3	217	71.6	25	8.3
20	There is very little available for PTTC students in terms of textbooks and relevant documentation.	3	1.0	49	16.2	21	6.9	204	67.3	26	8.6
21	The educational facilities at the PTTC are rather old and rudimentary.	6	2.0	95	31.4	52	17.2	142	46.9	6	2.0
22	Many of my instructors say that it is important to use child-centered teaching methods though they themselves mostly lecture during class.	43	14.2	226	74.6	15	5.0	17	5.6	0	0
23	All of my subjects have a very clear syllabus of topics and objectives.	47	15.5	223	73.6	16	5.3	12	4.0	1	.3

24	The library at the PTTC is truly excellent and filled with useful documentation.	66	21.8	209	69.0	15	5.0	12	4.0	0	0
25	There is extensive use of technology during instruction at the PTTC (e.g., LCD projectors, tablets, etc.).	6	2.0	96	31.7	51	16.8	140	46.2	5	1.7
D PRACTICE TEACHING EXPERIENCE											
26	When I do my teaching practice, there is very good supervision and support from the classroom teacher.	29	9.6	229	75.6	25	8.3	17	5.6	1	.3
27	When I do my teaching practice, there is very good supervision and support from my PTTC Instructors.	23	7.6	199	65.7	37	12.2	37	12.2	5	1.7
28	Overall, I would describe my 'stage' experience as poorly organized and not so useful.	6	2.0	21	6.9	17	5.6	207	68.3	51	16.8
29	The school director of the school where I did my practice teaching was very involved in the process of organization and monitoring.	44	14.5	223	73.6	10	3.3	23	7.6	1	.3
E MANAGEMENT CONSIDERATIONS											
30	Meetings with PTTC Administrators are open and very democratic.	18	5.9	214	70.6	42	13.9	19	6.3	3	1.0
31	PTTC administrators are generally very friendly and approachable.	23	7.6	227	74.9	26	8.6	22	7.3	4	1.3
32	I would describe the overall management of the PTTC as rather weak.	2	.7	35	11.6	38	12.5	195	64.4	29	9.6
33	I would describe the overall management of the PTTC as neither weak nor strong but some place in the middle.	19	6.3	213	70.3	37	12.2	26	8.6	2	.7

A. MOTIVATION & PERCEPTIONS OF TEACHING AS A CAREER

Most of teacher trainees at PTTC “Agree” and “Strongly Agree” that becoming a teacher was their first choice after completed secondary education (60.4% and 25.4%). However, 44% of them “Disagree” that teaching is a profitable career; only 29.7% of them “Agree” while other 18.5% had “No Opinion”.

57.8% of them “Agree” and 35.6% “Strongly Agree” that becoming a teacher is an exciting career. 41.3% of them “Agree” that they have no intention of changing their career for at least 20 years. However, 34.7% of them “Disagree” with this statement. 54.5% “Agree” that teachers are highly respected in Cambodian society, only 20.8% “Disagree”.

Most of them “Agree” that there is a high degree of professionalism among Cambodian teachers and there are very high standards of professionalism at the PTTC, both among their classmates and their instructors (56.4%.66.7%).

39.3% “Disagree” that teachers in urban areas are less well respected by parents than rural teachers because they take a lot of money from their students. However, 30.7% of them “Agree” with this statement.

Regarding the differences of professional standards by ages, half of them, 50.5% “Disagree” that, in general, younger teachers tend to have higher professional standards than older teachers. Only 27.1% of them “Agree”.

B. PEDAGOGIC & GENERAL KNOWLEDGE

Most of teacher trainees “Agree” and “Strongly Agree” that they feel very well prepared to start teaching as a result of studies at the PTTC (70.6% and 24.8%) and 60.7% “Agree” that what they studied at secondary school level prepared them very well for the general requirements of being a teacher.

However, 66.3% of them “Disagree” that their training at PTTC should really focus mostly on pedagogy and methodology because they don’t really need any general knowledge strengthening any more. Only 15.5% of them “Agree”.

C. TRAINING QUALITY

Most of them “Agree” and “Strongly Agree” that, in general, they are very satisfied with the quality of training that they received at the PTTC (71.3% and 19.5%), during the instruction, there is usually a good balance between theory and practice (71% and 15.5%). In addition, they “Agree”, and “Strongly Agree” that most of their instructors demonstrate very high standards

of professionalism and knowledge of teaching (69.3% and 13.5%). However, they “Disagree” and “Strongly Disagree” that many of their instructors do not come to work punctually and are poorly prepared (65.7% and 14.2%).

They still feel positive by having 68.6% “Agree” and 12.2% “Strongly Agree” that most of their instructors are very approachable and helpful to their studies.

However, 56.1% of them “Disagree” that the relationship between students and instructors at the PTTC was rather hierarchical in nature. Only 19.8% of them “Agree” with this. They also “Disagree” that most of their instructors do not show much enthusiasm when they teach (71.6%); and there is very little available for PTTC students in terms of textbooks and relevant documents (67.3%). 46.9% of them “Disagree” that the education facilities at the PTTC are rather old and rudimentary; however, 31.4% of them “Agree”.

Most of them “Agree” and “Strongly Agree” that many of their instructors say that it is important to use child-centered teaching methods though they themselves mostly lecture during class; all of their subjects have a very clear syllabus of topics and objectives; and the library at the PTTC is truly excellent and filled with useful documentation (74.6%, 14.2%; 73.6%, 15.5%; and 69%, 21.8% respectively).

However, almost half of them (46.2%) “Disagree” that there is extensive use of technology during instruction at the PTTC (e.g., LCD projector, tablets, etc.). Only 31.7% of them “Agree”.

D. PRACTICE TEACHING EXPERIENCE

Most of them “Agree” that when they do their teaching practice, there is very good supervision and support from the classroom teacher; and they do their teaching practices, there is very good supervision and support from their PTTC instructors (75.6% and 65.7% respectively).

Yet, most of them “Disagree” and “Strongly Disagree” (68.3% and 16.8%) that, overall, their ‘stage’ experience was poorly organized and not so useful. But most of them “Agree” and “Strongly Agree” (73.6% and 14.5%) that the school director of the school where they did practice teaching was very involved in the process of organizing and monitoring.

E. MANAGEMENT CONSIDERATIONS

Most of them “Agree” that meeting with PTTC administrators are open and very democratic; PTTC administrators are generally very friendly and approachable; and the overall management of the PTTC was neither weak nor strong but some place in the middle (70.6%, 74.9%,

and 70.3% respectively). 64.4% of them “Disagree” that the overall management of the PTTC was rather week.

Table A.2.3: 5 subjects studied the most at PTTC

Description	N	%
Student Assessment	109	6.9
Textbook Orientation	43	2.7
Teacher Professional Standards	81	5.1
Child Development	77	4.9
Teaching Methods	281	17.8
Subject Knowledge Upgrading (Math)	191	12.1
Subject Knowledge Upgrading (Reading & Writing)	152	9.6
Subject Knowledge Upgrading (Social Studies)	64	4.0
Subject Knowledge Upgrading (Science)	107	6.8
General Background About Education	21	1.3
School Management	80	5.1
Teacher Supervision	12	.8
Communication Skills	46	2.9
Making Teaching Aids	206	13.0
Human Rights/Children’s Rights/Child Protection	111	7.0
Others:	2	.1

5 subjects they studied the most at PTTC are: Teaching Methods (17.8%), Making Teaching Aids (13%), Subject Knowledge Upgrading (Math) (12.1), Subject Knowledge Upgrading (reading and writing) (9.6%), and Human rights/Children’s Rights/Child Protection (7%).

Table A.2.4: 5 subjects studied the least at PTTC

Description	N	%
Student Assessment	89	6.1
Textbook Orientation	185	12.7
Teacher Professional Standards	126	8.6
Child Development	111	7.6
Teaching Methods	41	2.8
Subject Knowledge Upgrading (Math)	37	2.5
Subject Knowledge Upgrading (Reading & Writing)	46	3.2
Subject Knowledge Upgrading (Social Studies)	74	5.1

Subject Knowledge Upgrading (Science)	48	3.3
General Background About Education	176	12.1
School Management	132	9.0
Teacher Supervision	140	9.6
Communication Skills	141	9.7
Making Teaching Aids	50	3.4
Human Rights/Children's Rights/Child Protection	60	4.1
Others:	4	.3

5 subjects they studied the least at PTTC are: Textbook Orientation (12.7%), General Background about Education (12.1%), Communication Skills (9.7%), Teacher Supervision (9.6%), and School Management (9%).

Table A.2.5: Knowledge of Teaching Methods

Description	N	%
Cooperative Learning		
Both understand and can apply it in my teaching	201	66.3
Understand key concepts but unable to apply well	72	23.8
Have heard of it but don't understand it	17	5.6
Never heard of it before	5	1.7
Inquiry-based Learning		
Both understand and can apply it in my teaching	192	63.4
Understand key concepts but unable to apply well	87	28.7
Have heard of it but don't understand it	15	5.0
Never heard of it before	1	.3
Project Method		
Both understand and can apply it in my teaching	83	27.4
Understand key concepts but unable to apply well	73	24.1
Have heard of it but don't understand it	79	26.1
Never heard of it before	55	18.2
Constructivist Learning		
Both understand and can apply it in my teaching	63	20.8
Understand key concepts but unable to apply well	68	22.4
Have heard of it but don't understand it	56	18.5
Never heard of it before	103	34.0
Mastery Learning		

Both understand and can apply it in my teaching	37	12.2
Understand key concepts but unable to apply well	48	15.8
Have heard of it but don't understand it	89	29.4
Never heard of it before	113	37.3
<hr/>		
Bloom's Taxonomy		
Both understand and can apply it in my teaching	58	19.1
Understand key concepts but unable to apply well	36	11.9
Have heard of it but don't understand it	55	18.2
Never heard of it before	138	45.5
<hr/>		

Knowledge of Teaching Methods

Most of them (66.3%) both understand and can apply “Cooperative Learning” in their teaching while 23.8% understand the key concepts but unable to apply well.

63.4% of them both understand and can apply “Inquiry-Based Learning” in their teaching while 28.7% understand key concepts but unable to apply well.

There seems to be equal percentages of “Project Method”. 26.1% of them have heard of it but don't understand, 18.2% never heard of it before. Yet, 27.4% both understand and can apply it in their teaching and 24.1% understand key concepts but unable to apply well.

34% of them never heard of “Constructivist Learning”, 18.5% have heard of it but don't understand it. 22.4% understand key concepts but unable to apply well while 20.8% both understand and can apply it in their teaching.

Regarding to the “Mastery Learning” most of them never heard of it before, and have heard of it but don't understand it (37.3% and 29.4%).

Similarly, for “Bloom's Taxonomy”, most of them never heard of it before, and have heard of it but don't understand it (45.5% and 18.2%).

Annex 3. Primary School Teacher Survey

Table A.3.1: The numbers and percentages of demographics (N=184)

Demographic	Responses	
	N	%
Province		
Province A	80	43.5
Province C	104	56.5
School		
School 1	12	6.5
School 2	13	7.1
School 3	11	6.0
School 4	9	4.9
School 5	15	8.2
School 6	7	3.8
School 7	6	3.3
School 8	7	3.8
School 9	13	7.1
School 10	23	12.5
School 11	12	6.5
School 12	15	8.2
School 13	19	10.3
School 14	11	6.0
School 15	11	6.0
Gender		
Male	85	46.2
Female	96	52.2
Age		
<30	69	37.5
30-39	39	21.2
40-49	44	23.9
>49	19	10.3
Qualification		
Primary School Certificate	4	2.2
Lower Secondary School Certificate	34	18.5
Upper Secondary School Certificate	126	68.5
Bachelor Degree	10	5.4

Demographic	Responses	
	N	%
Master Degree	3	1.6
Doctor Degree	2	1.1
Pre-Service Education		
7+1	23	12.5
7+3	4	2.2
8+2	17	9.2
9+2	12	6.5
10+2	3	1.6
12+2	68	37.0
In-Service		
Certificatory	25	13.6
Short-Term	65	35.3
Years of Experiences		
<6	65	35.3
6-10	27	14.7
11-15	11	6.0
16-20	13	7.1
>20	59	32.1
Number of In-Service Workshop Attended		
1	23	12.5
2	19	10.3
3	29	15.8
4	20	10.9
>4	53	28.8
Highest Grade Taught		
1	5	2.7
2	22	12.0
3	27	14.7
4	25	13.6
5	32	17.4
6	63	34.2
Living Standard		
Not enough	59	32.1
Not high but enough	114	62.0
Rich	5	2.7

Demographic	Responses	
	N	%
Father's Occupation		
Farmer	122	66.3
Dead	30	16.3
Teacher	20	10.9
Police	2	1.1
Others	10	5
Mother's Occupation		
Farmer	138	75.0
Dead	18	9.8
Housewife	13	7.1
Seller	2	1.1
Others	13	7
Number of Brother		
Mean	2.87	
Minimum	0	
Maximum	10	
Number of Sister		
Mean	2.62	
Minimum	0	
Maximum	8	
Marital Status		
Single	55	29.9
Married	124	67.4
Divorced	0	0
Widowed	5	2.7
Others		
Number of Children		
Mean	1.85	
Minimum	0	
Maximum	7	
Teachers With Other Sources of Income		
No	144	78.3
Yes	37	20.1
Other Sources of Income		
Farmer	16	8.7

Demographic	Responses	
	N	%
Grocery seller	7	3.8
Seller	2	1.1
Others	12	4.4

The above table presents the demographics of teachers. It shows that 80 (43.5%) are in Province A and 104 (56.5%) are in Province C. All data were collected from 15 schools while 12 teachers (6.5%) are in school 1, 13 (7.1%) are in school 2, 11 (6%) are in school 3, 9 (4.9%) are in school 4, 15 (8.2%) are in school 5, 7 (3.8%) are in school 6, 6 (3.3%) are in school 7, 7 (3.8%) are in school 8, 13 (7.1%) are in school 9, 23 (12.5%) are in school 10, 12 (6.5%) are in school 11, 15 (8.2%) are in school 12, 19 (10.3%) are in school 13, 11 (6%) are in school 14, and 11 (6%) are in school 15.

85 of teachers (46.2%) are male while 96 (52.2%) are female. 69 of them (37.5%) aged below 30 years old, 39 (21.2%) aged between 30-39, 44 (23.9%) aged between 40-49, and 19 (10.3%) aged over 49.

Regarding to their qualification, 4 teachers (2.2%) have Primary School Certificate, 33 (17.9%) have Lower Secondary School Certificate, 126 (68%) have Upper Secondary School Certificate, 10 (5.4%) have Bachelor Degree, 3 (1.6%) have Master Degree, 2 (1.1%) have Doctor Degree.

For the pre-service education, 23 teachers (12.5%) have 7+1, 4 (2.2%) have 7+3, 17 (9.2%) have 8+2, 12 (6.5%) have 9+2, 3 (1.6%) have 10+2, and 68 (37%) have 12+2. Regarding to In-Service, 25 (13.6%) have Certificatory and 65 (35.3%) have completed Short-Term.

65 teachers (35.3%) have less than 6 years of teaching experience, 27 (14.7%) have 6-10 years, 11 (6%) have 11-15 years, 13 (7.1%) have 16-20 years, and 59 (32.1%) have more than 20 years of teaching experience.

During the last 5 years, 23 (12.5%) attended one in-service workshop, 19 (10.3%) attended two, 29 (15.8%) attended three, 20 (10.9%) attended four, and 53 (28.8%) attended more than four in-service workshops.

Regarding their experience of highest grade taught in primary school, 5 teachers (2.7%) taught grade 1, 22 (12%) taught grade 2, 27 (14.7%) taught grade 3, 25 (13.6%) taught grade 4, 32 (17.4%) taught grade 5, and 63 (34.2%) taught grade 6.

Most of teachers, 114 (62%) perceived that they had “Not high but enough”, 59 (32.1%) perceived that “Not enough”, while only 5 (2.7%) perceived that they are “rich”.

Most of their fathers, 122 (66.3%) are farmers, 20 (10.9%) are teachers, 2 (1.1%) are police officers. 30 (6.6%) of their fathers are “dead” while the rest are “others”.

Similarly, 138 (75%) of their mothers are farmers, 13 (7.1%) are housewives, 2 (1.1%) are sellers, 18 (9.8%) are “dead” while rest are “others”.

The average number of brother is 2.87, the minimum is 0 and the maximum is 10. The average number of sister is 2.62, the minimum is 0 and the maximum is 8.

Most of teachers, 134 (67.4%) are married, 55 (29.9%) are single, and 5 (2.7%) are widowed. The average number of children they have is 1.85, the minimum is 0 and the maximum is 7.

144 (78.3%) of teachers do not have other sources of income while 37 (20.1%) have other sources of income, this includes: 16 (8.7%) are farmers, 7 (3.8%) are grocery sellers, 2 (1.1%) are sellers, and 12 (4.4%) are “others”.

Table A.3.2: Numbers and Percentages of Teachers' Perceptions of In-Service Education

No	Survey Items	Strongly Agree		Agree		No Opinion		Disagree		Strongly Disagree	
		N	%	N	%	N	%	N	%	N	%
A	CONTENT, QUALITY OF DELIVERY, & RELEVANCE										
1	Many of the training workshops that I have attended mostly focused on improving my knowledge of pedagogy.	38	20.7	116	63.0	13	7.1	1	.5	1	.5
2	Many of the training workshops that I have attended mostly focused on improving my knowledge of academic subject matter.	43	23.4	132	71.7	3	1.6	2	1.1	0	0
3	In most cases, I have been able to apply the concepts I learned in in-service workshops to my classroom teaching.	45	24.5	132	71.7	3	1.6	0	0	0	0
4	Most of the training workshops that I have attended clearly defined and presented the objective of the training.	35	19.0	137	74.5	2	1.1	5	2.7	0	0
5	Overall, I would have to say that most of the in-service workshops that I have attended have not been of very high quality.	3	1.6	27	14.7	5	2.7	128	69.6	16	8.7
6	In general, most of the training workshops I have attended have not demonstrated a good balance between lecturing and group work activities.	2	1.1	35	19.0	4	2.2	133	72.3	5	2.7
7	In general, training activities organized during workshops that I have attended were helpful to me in understanding concepts.	35	19.0	141	76.6	3	1.6	1	.5	0	0
8	In general, most of the training workshops that I have attended demonstrated good interaction between participants and with the trainer.	28	15.2	144	78.3	6	3.3	2	1.1	0	0
9	In general most of the training workshops I attended provided useful handouts and course materials.	24	13.0	136	73.9	6	3.3	13	7.1	0	0
10	In general, most of the training workshops I attended were not so relevant to my classroom needs.	2	1.1	30	16.3	6	3.3	135	73.4	5	2.7

11	The training workshops that I have attended have led to increased academic performance among my students.	22	12.0	150	81.5	4	2.2	4	2.2	0	0
12	I often use many of the training documents I receive during in-service workshops as reference documents to improve my teaching.	33	17.9	142	77.2	4	2.2	4	2.2	0	0
13	In my view, in-service training for teachers has not done a great deal to improve the quality of education in Cambodia.	6	3.3	16	8.7	16	8.7	125	67.9	17	9.2
14	In-service training workshops provided by NGOs tend to be of higher quality than those provided by Government.	4	2.2	47	25.5	51	27.7	73	39.7	3	1.6
15	I strongly dislike workshops where trainers are blasting their content through loud microphones.	9	4.9	82	44.6	15	8.2	68	37.0	6	3.3
<hr/>											
B	MOTIVATION AND PERCEPTIONS OF TEACHING										
16	If per diem were not provided for an in-service training workshop, it is doubtful that I would attend even if it occurred in my own school.	2	1.1	30	16.3	15	8.2	119	64.7	14	7.6
17	Most teachers only attend in-service workshops because their superiors make them do so.	6	3.3	90	48.9	10	5.4	70	38.0	5	2.7
18	The main reason most teachers attend in-service training workshops is to get per diem.	6	3.3	59	32.1	18	9.8	94	51.1	5	2.7
19	Teachers are highly respected in Cambodian society.	12	6.5	85	46.2	28	15.2	52	28.3	2	1.1
<hr/>											
C	CONDITIONS AND ORGANIZATION OF WORKSHOPS										
20	Too many of the in-service workshops that I have attended were too crowded to be effective.	7	3.8	94	51.1	14	7.6	62	33.7	4	2.2
21	In-service training workshops generally happen at some distance from my school making attendance problematic.	9	4.9	93	50.5	21	11.4	56	30.4	2	1.1
22	Most of the in-service training workshops I have attended were just of the right length, not too long, not too short.	15	8.2	156	84.8	6	3.3	3	1.6	1	.5

23	Many of the in-service training workshops that I have attended involved some kind of task work that I had to do after returning to my school.	10	5.4	146	79.3	10	5.4	16	8.7	0	0
24	Most of the in-service training workshops that I have attended always provided some kind of follow-up by trainers after I returned to my school.	3	1.6	139	75.5	17	9.2	22	12.0	0	0
25	Most of the in-service training workshops that I have attended always provided some kind of assessment of the trainers so that participants could give feedback on the strengths and weaknesses of the training.	6	3.3	149	81.0	11	6.0	16	8.7	0	0
26	Many teachers prefer that in-service teacher training workshops could be voluntary so that they could choose the workshops that are most relevant to their teaching.	18	9.8	122	66.3	16	8.7	27	14.7	0	0
27	When teachers are forced to attend in-service training workshops, it weakens their motivation to participate fully in the workshop.	7	3.8	96	52.2	14	7.6	58	31.5	7	3.8

A. CONTENT, QUALITY OF DELIVERY, AND RELEVANCE

Most of teachers “Agree” and “Strongly Agree” that many of the training workshops they have attended mostly focused on improving their knowledge of pedagogy (63% and 20.7%); and on improving their knowledge of academic subject matter (71.7% and 23.4%). They also “Agree” and “Strongly Agree” that in most cases, they are able to apply the concepts they learned in in-service workshops to their classroom teaching (71.7% and 23.4%); and most of the training workshops that they have attended clearly defined and presented the objective of the training (74.5% and 19%).

However, they “Disagree” that, overall, most of the in-service workshops that they have attended have not been of very high quality (69.6%), and have not demonstrated a good balance between lecturing and group work activities (72.3%).

Most of them “Agree” and “Strongly Agree” that, in general, training activities organized during the workshops they have attended were helpful to them in understanding the concepts (76.6% and 19%), demonstrated good interaction between participants and with trainer (78.3% and 15.2%), and provided useful handouts and course materials (73.9% and 13%). They “Disagree” that, in general, most of the training workshops they attended were not so relevant to their classroom needs (73.4%).

They “Agree” and “Strongly Agree” that the workshops have led to increased academic performance among their students (81.5% and 12%), and they often use many of the trainings documents they receive during the in-service workshops as reference documents to improve their teaching (77.2% and 17.9%).

However, they “Disagree” and “Strongly Disagree” that in-service training for teachers has not done a great deal to improve the quality of education in Cambodia (67.9% and 9.2%). In addition, they “Disagree” that in-service training provided by NGOs tends to be of higher quality than those provided by the government (39.7%). Only 25.5% of them “Agree” while 27.7% of them had “No Opinion”.

44.6% of them “Agree” that they strongly dislike workshops where trainers are blasting their content through loud microphones. On the other hands, 37% of them still “Disagree” with this statement.

B. MOTIVATION AND PERCEPTIONS OF TEACHING

64.7% of teachers “Disagree” that if per diem were not provided for an in-service training workshop, it would be doubtful that they would attend even if it occurred in their own school. Only 16.3% of them “Agree”. Almost half of them (48.9%) “Agree” that most teachers only attend in-service workshop because their superiors make them to do so while 38% of them “Disagree”.

Half of them (51.1%) “Disagree” that the main reason most teachers attend in-service training workshop is to get per diem but 32.1% of them “Agree”. Almost half (46.2%) of them “Agree” that teachers are highly respected in the Cambodian society, however, 28.3% of them “Disagree” with this statement.

C. CONDITIONS AND ORGANIZATION OF WORKSHOPS

Half of the teachers “Agree” that too many of the in-service workshops that they have attended were too crowded to be effective and generally happened at some distance from their school making attendance problematic (51.1% and 50.5%). However, 33.7% and 30.4% of them “Disagree” respectively.

The majority of teachers also “Agree” that most of the in-service workshops they have attended were just of the right length, not too long, not too short (84.8%); and involved some kinds of task work that they had to do after returning to their school and (79.3%).

They also “Agree” that the in-service workshops always provided some kinds of follow-up by trainers after returning to their school (75.5%), provided some kinds of assessment of the trainers so that participants could give feedback on the strengths and weaknesses of training (81%).

66.3% and 9.8% “Agree” and “Strongly Agree” that many teachers prefer that in-service teacher training workshops could be voluntary so that they could choose the workshops that are most relevant to their teaching. Half of them (52.2%) also “Agree” that when teachers are forced to attend in-service training workshops, it weakens their motivation to participate fully in the workshop. However, 31.5% of them “Disagree”.

Table A.3.3: Three topics studied the most during the last 5 years of in-service training

Topic	N	%
1. Teaching Methods	135	73.4
2. Subject Knowledge Upgrading (Reading & Writing)	97	52.7
3. Making Teaching Aids	74	40.2
4. Student Assessment	57	31.0

Topic	N	%
5. Human Rights/Children's Rights/Child Protection	50	27.2
6. Textbook Orientation	46	25.0
7. Subject Knowledge Upgrading (Math)	35	19.0
8. School Management	29	15.8
9. Teacher Professional Standards	22	12.0
10. Subject Knowledge Upgrading (Social Studies)	17	9.2
11. Communication Skills	12	6.5
12. Subject Knowledge Upgrading (Science)	11	6.0
13. Child Development	9	4.9
14. Teacher Supervision	9	4.9
15. General Background About Education	7	3.8
16. Others:	2	1.1

The 5 subjects teachers studied the most during the last 5 years of in-service training are: Teaching Methods (73%), Subject Knowledge Upgrading (reading and writing) (53%), Making Teaching Aids (40%), Student Assessment (31%), and Human rights/Children's Rights/Child Protection (27%).

Table A.3.4: 3 Most relevant topic of next in-service training

Topic	N	%
1. Teaching Methods	139	75.5
2. Teacher Professional Standards	68	37.0
3. Subject Knowledge Upgrading (Reading & Writing)	64	34.8
4. Student Assessment	59	32.1
5. Textbook Orientation	55	29.9
6. Subject Knowledge Upgrading (Math)	37	20.1
7. Making Teaching Aids	34	18.5
8. School Management	30	16.3
9. Communication Skills	24	13.0
10. General Background About Education	20	10.9
11. Child Development	19	10.3
12. Teacher Supervision	13	7.1
13. Subject Knowledge Upgrading (Social Studies)	12	6.5
14. Subject Knowledge Upgrading (Science)	8	4.3
15. Human Rights/Children's Rights/Child Protection	8	4.3
16. Others:	7	3.8

Teachers' perceptions of the 3 most relevant subjects of the next in-service training are: Teaching Methods (76%), Teacher Professional Standards (37%), and Subject Knowledge Upgrading (Reading & Writing) (35%).

Table A.3.5: Knowledge of Teaching Methods

Description	N	%
Cooperative Learning		
Both understand and can apply it in my teaching	115	62.5
Understand key concepts but unable to apply well	27	14.7
Have heard of it but don't understand it	19	10.3
Never heard of it before	9	4.9
Inquiry-based Learning		
Both understand and can apply it in my teaching	66	35.9
Understand key concepts but unable to apply well	60	32.6
Have heard of it but don't understand it	19	10.3
Never heard of it before	20	10.9
Project Method		
Both understand and can apply it in my teaching	56	30.4
Understand key concepts but unable to apply well	39	21.2
Have heard of it but don't understand it	43	23.4
Never heard of it before	28	15.2
Constructivist Learning		
Both understand and can apply it in my teaching	54	29.3
Understand key concepts but unable to apply well	43	23.4
Have heard of it but don't understand it	32	17.4
Never heard of it before	35	19.0
Mastery Learning		
Both understand and can apply it in my teaching	44	23.9
Understand key concepts but unable to apply well	29	15.8
Have heard of it but don't understand it	23	12.5
Never heard of it before	64	34.8
Bloom's Taxonomy		
Both understand and can apply it in my teaching	23	12.5
Understand key concepts but unable to apply well	21	11.4
Have heard of it but don't understand it	42	22.8
Never heard of it before	75	40.8

Knowledge of Teaching Methods

Most of the teachers (62.5%) both understand and can apply “Cooperative Learning” in their teaching while 14.7% understand the key concepts but unable to apply well.

35.9% of teachers both understand and can apply “Inquiry-Based Learning” in their teaching, and 32.6% understand key concepts but unable to apply well.

For the “Project Method”, 30.4% of them both understand and can apply it in their teaching, 21.2% understand key concepts but unable to apply well, and 23.4% have heard of it but don’t understand it.

29.3% of them both understand and can apply “Constructivist Learning” in their teaching. 23.4% understand key concepts but unable to apply well.

Regarding to the “Mastery Learning” 23.9% of teachers both understand and can apply it in their teaching. However, 34.8% have never heard of it before.

For “Bloom’s Taxonomy”, most of them never heard of it before, and have heard of it but don’t understand it (40.8% and 22.8%).

Annex 4. Classroom Observations

Table A.4.1: The numbers and percentages of demographics (n=44)

Demographic	Responses	
	N	%
Province		
Kampong Cham	24	54.5
Svay Rieng	20	45.5
School		
School 1	3	6.8
School 2	3	6.8
School 3	3	6.8
School 4	3	6.8
School 5	3	6.8
School 6	3	6.8
School 7	3	6.8
School 8	3	6.8
School 9	3	6.8
School 10	3	6.8
School 11	2	4.5
School 12	3	6.8
School 13	3	6.8
School 14	3	6.8
School 15	3	6.8
Gender		
Male	18	40.9
Female	26	59.1
Age		
<30	26	59.1
30-39	11	25.0
40-49	5	11.4
>49	1	2.3
General Education		
Primary School Certificate	0	0
Lower Secondary School Certificate	10	22.7
Upper Secondary School Certificate	32	72.7
Bachelor's Degree	2	4.5
Master's Degree	0	0
Doctorate Degree	0	0
Pedagogical Training		
7+1	1	2.3
7+3	5	11.4
8+2	2	4.5
9+2	18	40.9
10+2	1	2.3
12+2	5	11.4
In-Service		

Certificatory	1	2.3
Short-Term	17	38.6
Year of Experience		
<6	22	50
6-10	11	25
11-15	2	4.5
16-20	2	4.5
>20	7	15.9
Grade		
1	3	6.8
2	11	25.0
3	2	4.5
4	11	25.0
5	4	9.1
6	13	29.5

The table above presents the details of classroom demographics. It shows that 24 (54.5%) of class observations were conducted in Kampong Cham while 20 (45.5%) of class observations were conducted in Svay Rieng. 3 (6.8%) classes were observed in each of the primary schools, except school 11 in which only 2 (4.5%) classes were observed.

Of the 44 teachers, 18 (40.9%) were male while 26 (59.1%) were female. 26 (59.1%) of teachers aged below 30 years, 11 (25%) aged between 30-39, 5 (11.4%) aged between 40-49, and only 1 (2.3%) teacher aged over 49 years.

Regarding to teachers' general education, 10 (22.7%) have Lower Secondary School Certificate, while the majority of them 32 (72.7%) have Upper Secondary School Certificate, and only 2 (4.5%) teachers have Bachelor's Degree. None of them have Master's Degree and Doctorate Degree.

1 (2.3%) teacher has 7+1 Pedagogical Training, 5 (11.4%) have 7+3, 2 (4.5%) have 8+2, the majority of teachers 18 (40.9%) have 9+2, 1 (2.3%) has 10+2, and 5 (11.4%) have 12+2. 18 teachers completed In-service while 1 (2.3%) has Certificatory and 17 (38.6%) have completed Short-Term course before becoming a teacher.

22 (50%) of teachers have less than 6 years of teaching experience, 11 (25%) have 6-10 years of teaching experience, 2 (4.5%) have 11-15 years of teaching experience, 2 (4.5%) have 16-20 years of teaching experience, while 7 (15.9%) have over 20 years of teaching experience.

Of the 44 classroom observations, 3 (6.8%) were grade 1, 11 (25%) were grade 2, 2 (4.5%) were grade 3, 11 (25%) were grade 4, 4 (9.1%) were grade 5, and 13 (29.5%) were grade 6.

Table A.4.2: Number of students

Number of Student	
Mean	33.77
Maximum	17
Minimum	55

The number of students per class ranges from 17 to 55 and the average number of students is 33.77.

Table A.4.3: The Correlation Between Teachers' demographics and Classroom Observation

Variable	Teaching Skills		Teacher Motivation		Classroom Discipline		Instructional Materials		Total Observation	
	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>	<i>r</i>	<i>P</i>
Gender	-.011	.944	-.229	.135	-.131	.395	-.106	.495	-.091	.558
Age	.265	.082*	.042	.785	-.196	.202	.245	.109	.239	.118
General Education	.115	.456	-.102	.509	-.176	.253	.157	.310	.078	.616
Pedagogical Training	.254	.210	.113	.581	.018	.931	.202	.321	.275	.173
Year of Experience	-.010	.948	.124	.423	.272	.074*	.007	.965	.051	.743

* $p < .1$

The table presents the results of the correlation between teachers' demographic factors of Gender, Age, General Education, Pedagogical Training, Year of Experience and the scores of Teaching Skills, Teacher Motivation, Classroom Discipline, Instructional Materials, and the Total Score of Observation.

In general, it shows that there are positive correlations. The negative correlations scores are found between gender, year of experience and teaching skills; between gender, general education and teacher motivation; between gender, age, general education and classroom discipline; between gender and instructional materials; and between gender and total observation score; nevertheless, the correlations are not significant. There are only two significant positive correlations between age and teaching skills, $r=.265$, $p=.082$, and years of experience and class room discipline $r=.272$, $p=.074$. This simply means older teachers have better teaching skills, and teachers who have more years of teaching experience have better skills in classroom discipline management. However, there are not any significant correlations between teachers' demographic factors and the total observation scores.

The analysis of classroom observation by different teaching competences shows that:

Teachers have moderate teaching skills. Teachers apply most of the teaching skill requirements such as reviewing the lesson, stating the objective of the lesson, clarity of the presentation, pupil participation, practice opportunity, question frequency, and providing feedback to students. However, using extra examples in addition to the lesson remains very poor.

Teachers have good motivation skills. They start lesson on time and feel enthusiasm in their teaching.

Teachers have very good classroom management skills (classroom discipline). Teachers are able to control students' behaviors, as well to manage students to get along nicely together.

However, teachers have moderate skills of using instructional materials. In this section, they are very good at using textbook, they are good at using lesson plan and flashcard; however, using supplementary exercise and using visual materials remain very poor in their teaching activities.