KINGDOM OF CAMBODIA
NATION RELIGION KING
MINISTRY OF EDUCATION, YOUTH AND SPORT

PILOT OF CPD AND HRMIS SYSTEMS

Final evaluation report
August 2022

Contents

Abbreviations and Acronyms

CPD	Continuous Professional Development
CPDMO	Continuous Professional Development Management Office
DoPers	Department of Personnel
DOE	District Office of Education
DOF	Department of Finance
DP	Development Partner
EGR	Early Grade Reading
EGM	Early Grade Mathematics
ESP	Education Strategic Plan
HRMIS	Human Resource Management Information System
ICT	Information and Communications Technologies
INSET	In-Service Teacher Education and Training
iOS	iPhone OS (Operating System)
M&E	Monitoring and Evaluation
MEF	Ministry of Economy and Finance
MoEYS	Ministry of Education, Youth and Sport
PISA	Programme for International Student Assessment
POE	Provincial Office of Education
PLC	Professional Learning Community
PLP	Professional Learning Plan
PTEC	Phnom Penh Teacher Education College
QA	Quality Assurance
SBM	School-Based Management
SOF	School Operating Fund
STEPCam	Strengthening Teacher Education Programmes in Cambodia
TA	Technical Advisor / Technical Assistance
TCP	Teacher Career Pathways
ToC	Theory of Change
TPAP	Teacher Policy and Action Plan
TQU	Teacher Qualifications Upgrade
TTD	Teacher Training Department
UNESCO	United Nations Educational, Scientific and Cultural Organisation

Introduction

The Continuous Professional Development (CPD) system for Cambodian educators has been developed and piloted by the Ministry of Education, Youth and Sport (MoEYS), in particular the Teacher Training Department (TTD) and Department of Personnel (DoPers), with support from UNESCO through GPE3 STEPCam (Strengthening Teacher Education Programmes in Cambodia). The CPD Framework and Action Plan (2019) and CPD Handbook (2021) set out a practical, reflective, school based CPD system for teachers and school directors, whereby individual educators would be offered CPD based on identified needs and interests. The CPD system aims to support improvements in the professional practice of teachers : as such, professional learning takes place in the school or cluster, rather than the traditional workshop or campus-based in-service teacher education and training (INSET), in line with international best practice and an extensive body of research evidence. This allows the professional learning to be based on the requirements of the workplace and allows learners to reflect on the relationship between theory and practice and apply the learning in their classroom practice, as "reflective practitioners" and "lifelong learners".

The CPD system has been piloted in 100 Cambodian primary schools between October 2021 and July 2022. Five of these schools have undertaken a "micro-pilot", in which teachers engaged in a full cycle (approximately two semesters) of CPD, based on their professional learning needs. These were identified by an online CPD needs assessment, following which each teacher was supported to develop a professional learning plan (PLP) and to use a specially developed mobile phone application or "app" to apply to undertake relevant CPD offerings. Upon successful completion of these CPD offerings, teachers were awarded CPD credits, which were recorded in the CPD module of the Human Resource Management Information System (HRMIS), where they can be checked by teachers using the mobile app. Teachers and staff in the other 95 "pilot" schools received training in the CPD system and revised HRMIS, including use of the mobile app, in preparation to undertake a full cycle of CPD. Teachers in all the 100 pilot schools used the app to verify their profile data, request updates where needed, and consult their CPD credits as captured in the HRMIS following their earlier participation in Early Grade Reading (EGR) and Mathematics (EGM) interventions.

Phase 1 of the pilot (October 2021 to February 2022) was assessed through a mid-term evaluation in March 2022, the results of which were captured in a report entitled "Mid-term evaluation of CPD and HRMIS systems pilot", which was printed and distributed at the 2022 Education Congress, at the request of the MoEYS. A slightly more comprehensive version of that report, which included lessons learned from phase 1 of the pilot and recommendations for the second phase was also produced. Phase 2 lasted from March to July 2022, during which teachers in the 5 micro pilot schools engaged in a further series of CPD offerings, developed by teacher educators at the Phnom Penh Teacher Education College (PTEC) and selected by participants based on their needs and interests, allowing them to earn an additional 2 CPD credits, on top of 1 credit they earned in Phase 1. During phase 2, teachers in the 95 pilot schools received refresher training in the CPD and HRMIS systems, and have updated their HRMIS records. This report assesses the second phase of the pilot and reports on the overall success of the pilot, documenting lessons learned and recommendations for the roll out of the CPD system. Although this report addresses the pilot of the HRMIS and mobile app in so far as these relate to and

support the CPD system, a separate report on the pilot of the HRMIS will be compiled in the fourth quarter of 2022 by the team implementing the HRMIS system.

This final evaluation report of the pilot of CPD system follows the structure of the mid-term report, to facilitate comparisons of the two documents. It is based on the Theory of Change (ToC) underlying the design and institutionalisation of the CPD system for educators. The evaluation questions on which the evaluation was based reflect the ToC, beginning with questions about Policy and System, before moving on to Interventions undertaken and the Outputs generated by these. The evaluation questions then address how these changes are expected to translate into Outcomes which, over time, are designed to contribute to Goals (Ultimate Outcomes). The report follows this structure in presenting the evaluation findings: 1. Policy and system; 2. Interventions; 3. Outputs; 4. Outcomes; 5. Ultimate Outcomes (Goals). It then reports on progress towards success criteria, before considering lessons learned and making recommendations for the roll out of the CPD system. The table (Table 1) of expected outcomes (see "Progress toward success criteria" section below, page 34) summarises the changes expected to occur in the short, medium, and long terms as a result of the CPD system implementation, some of which are expected to go beyond the scope of the present pilot. This table was used to present the mid-term results and has been updated since the mid-term evaluation to reflect the end-line results. These show that almost all of the expected medium-term success criteria, except for one, have been met, as of the end-line evaluation, along with a considerable number of the long-term criteria.

Methodology and data sources

The final evaluation was conducted to mirror as closely as possible the mid-term evaluation, to allow comparison between the two time points.

The data on which this report is based are drawn from:

- An online survey relating to the CPD pilot undertaken by 120 teachers and education staff in the 5 micro-pilot schools
- Group interviews with the teachers of the micro-pilot schools
- Interviews with the school directors of the 5 micro-pilot schools
- Interviews with leaders and technical staff from Siem Reap Provincial Office of Education (POE) and Pouk District Office of Education (DOE)
- Interviews with key MoEYS leaders and staff and development partners (DPs)

As was done at mid-term, the teacher survey data was cleaned according to coherency. Where a 'No' or 'Don't know' answer indicated that the respondent should move to another question, but they had answered any intervening questions, these intervening answers were taken to be incoherent and were discounted. The exception to this rule was section 4: questions relating to the HRMIS app. This is because it was confirmed that some respondents, for example, those who use iPhones and did not download this app due to the fact the app was only available for Android phones, still interacted with the HRMIS, either on a computer or on a colleague's mobile phone.

As at mid-term and end-term, for the purposes of analysis and presentation, "completely agree" and "somewhat agree" responses have been combined to obtain a total of "agree" responses. Similarly, "completely disagree" and "somewhat disagree" responses have been combined to obtain a total of "disagree" responses. This has allowed mid-term and end-line responses to be

compared: these are presented and discussed throughout the report and are used to compile the table in the section on "Progress toward success criteria" (page 34).

Qualitative data from digital recordings of interviews with teachers, directors, and education staff of the 5 pilot schools, Pouk DOE, and Siem Reap POE were transcribed into Khmer and then translated into English. Sections of the transcriptions were then coded using Template Analysis, to build up a template based on a combination of pre-selected and emergent themes (see annex 2)[1].

Quantitative data concerning the indictors identified in the Monitoring and Evaluation system for pilot of CPD and HRMIS systems were gathered from the HRMIS and from STEPCam reports.

This report combines the presentation of findings from the different data sets, in order to answer the research questions using all the information available and to allow triangulation of this. It follows the structure used in the mid-term report, to allow comparison, with each section drawing on a combination of data sources.

Characteristics of the teacher survey respondents

At mid-term, the survey of teachers asked respondents to provide their age, allowing disaggregation of responses by age group. This yielded interesting data on variations in the use of the HRMIS mobile app between the different age groups, a finding which was repeated at the endpoint evaluation (see section 3.1 below). At endpoint, teachers were asked to indicate their gender as well as their age and whether they were contract or civil service teachers, providing a clearer demographic picture of the respondents and allowing further disaggregation of responses.

Female teachers constitute the majority (77%) of the teaching force. Approximately the same percentage of teachers (78%) are members of the civil service, as opposed to contract teachers.

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[1] Template analysis is a method to thematically analyze qualitative data, such as interview transcripts, through the development of a coding 'template', which summarizes themes identified by the researcher(s) as important in a data set, organizing them in a meaningful and useful manner. The emerging coding template is hierarchical, with broad themes encompassing successively narrower, more specific sub-themes. Template analysis begins with some a priori codes, which identify themes strongly expected to be relevant to the analysis (which may be modified or dispensed with if they do not prove to be useful or appropriate to the actual data examined). Once these a priori themes are defined, the analyst marks any data segments that appear to donate something of relevance to the research question(s). Where such segments correspond to a priori themes, they are coded as such. Otherwise, new themes and sub-themes are defined to include the relevant material and organized into an initial template. The initial template is applied to the whole data set and modified in the light of careful consideration of each transcript. Once a final version is defined, and all transcripts have been coded to it, the template serves as the basis for the researcher's interpretation or illumination of the data set and the writing up of findings (for further information, please see "What is template Analysis?" University of Huddersfield: research.hud.ac.uk/research-subjects/human-health/template-analysis/what-is-template-analysis/)

Total Percent of Teachers by Gender

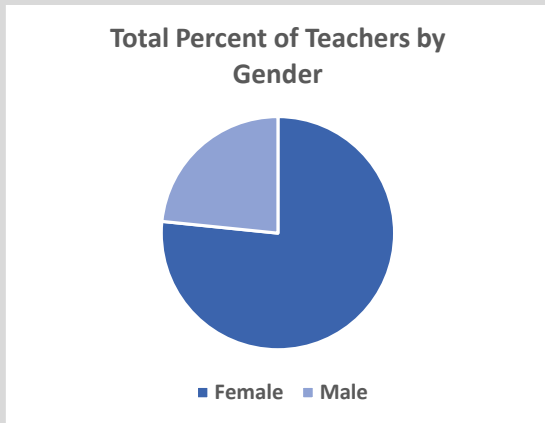- Female
- Male

Civil Service vs Contract Teachers

- Civil Service
- Contract
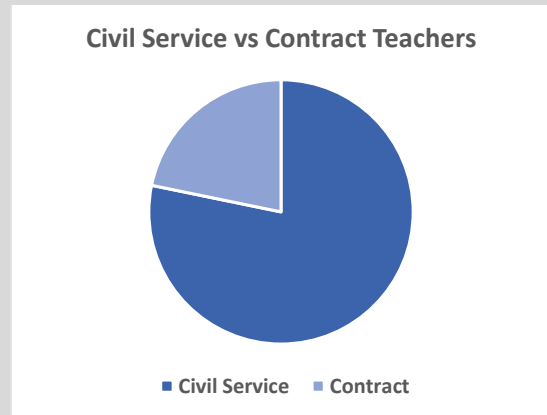
However, there is not a proportionate overlap between these two groups. 93% of male teachers are members of the civil service, compared with only 74% of female teachers.

Figure 3: Civil service vs contract teachers by gender

Civil Service vs Contract by Gender
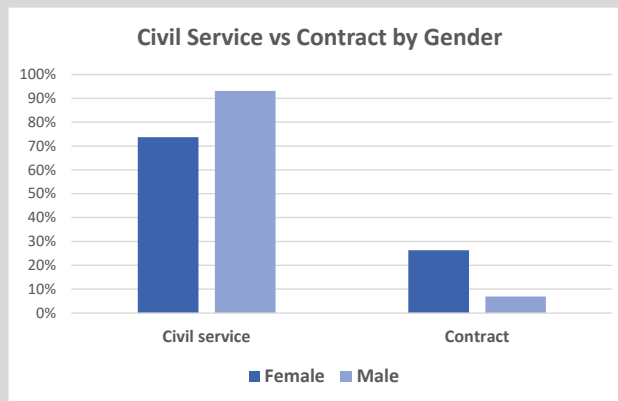
- Female
- Male

When age distribution is taken into account, female teachers tend to be younger on average than their male counterparts, with the majority of female teachers (41%) falling into the 20-28 age bracket. Just over half of the male teachers fall into the slightly older group, aged 29-38.

Figure 4: Age distribution by gender

Age Distribution of each Gender

- 20-28
- 29-38
- 39-58

4
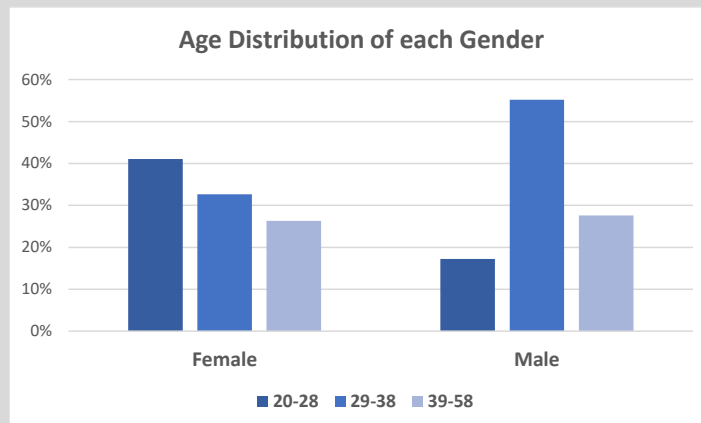
When experience is taken into account, however, less experienced male teachers are more likely to be members of the civil service. Figure 5 below shows the number of teachers with eight years or less of experience. Around half of the less experienced female teachers (with 8 years or less of teaching experience) are contract teachers, whereas all but two of the less experienced male teachers are full members of the civil service.

Figure 5: Teachers with 8 years or less of teaching experience
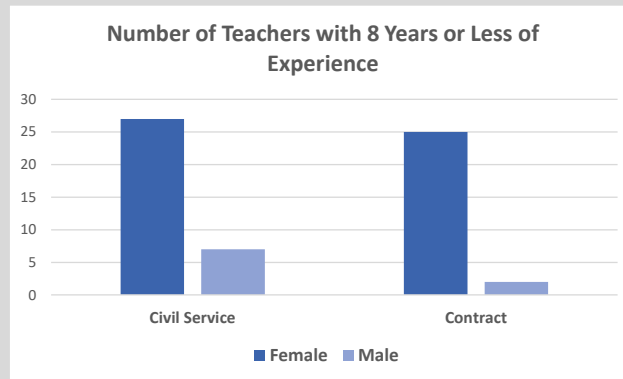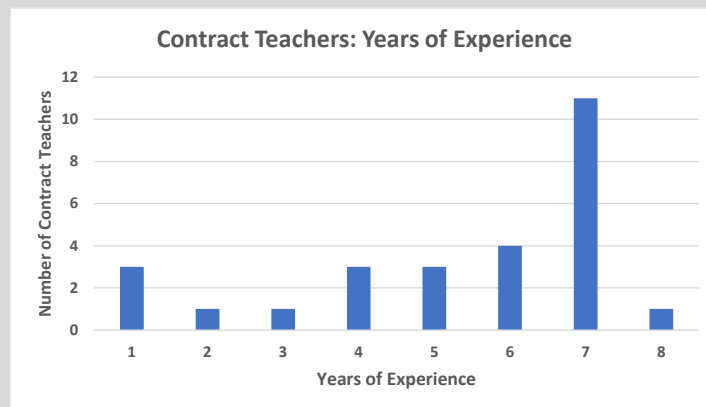
Number of Teachers with 8 Years or Less of Experience

Overall, contract teachers reported having between one and as many as eight years of teaching experience, with the majority having taught for seven years.

Figure 6: Contract teachers report their years of experience

Contract Teachers: Years of Experience

In summary, although there are far fewer male than female teachers, male teachers are more likely than female teachers to be members of the civil service, even where they have fewer years' teaching experience than female teachers. Male teachers also tend to be older than female teachers. Field visits to the five micro-pilot schools revealed that the school directors and senior management teams were disproportionately male.

Aside from the question of whether they are contract teachers or members of the civil service, both male and female teachers reported very similar attitudes, perceptions, and sense of improvement in their confidence and motivation as a result of engaging in the CPD pilot.

Summary of Key Findings

The final evaluation of the CPD and HRMIS system pilot in July 2022 yielded overwhelmingly positive results, affirming and building on the encouraging trends first identified at mid-term.

- Teachers show an increased positive attitude towards CPD in general. At endpoint, 90% of teachers in micro-pilot schools agree that teachers need the opportunity to engage regularly with appropriate, needs-based CPD, and 97% believe that teachers should be life-long learners.

- A majority of teachers in micro-pilot schools continue to benefit from CPD activities. Between 88% and 95% report having benefited from activities which constitute a fundamental dimension of a CPD system, including CPD activities and needs assessments, Professional Learning Plans, and appraisals.

- Teachers feel positively about the CPD offered through the programme. Of the teachers who engaged in CPD activities, 93% felt that their CPD needs assessments were useful in helping them to address their professional learning needs. 96% felt that their Professional Learning Plans were compatible with their real CPD needs and real jobs as teachers.

- Teachers considered the CPD they engaged in to be useful and personally relevant. Over 80% said that the CPD was appropriately tailored to help them address their individual needs. Over 90% reported that engaging in the CPD pilot had been a very positive experience.

- Program communications materials and training have been effective and informative for educators. 70% of survey respondents reported seeing communications materials, such as videos and posters, frequently in several different settings, and 86% found them engaging and informative. Nearly all reported having received training in the CPD and HRMIS systems, with over 90% saying that the training was clear and helpful.

- The HRMIS mobile app has been successfully downloaded and used by a majority of teachers in micro-pilot schools. Over 80% of teachers report having downloaded the HRMIS mobile app, using it to perform tasks such as checking their HRMIS data, viewing CPD credits, and/or enrolling in CPD offerings.

- Positive changes in teachers' attitudes have continued to grow since mid-term. Over 90% of teachers who responded to the survey reported that engaging in the CPD pilot was beginning to improve their knowledge, skills, motivation, and professionalism, and leading to increased effectiveness and confidence in the classroom. Teachers are supporting one another, learning collaboratively and sharing new knowledge and skills with colleagues.

- Reports from teachers and school directors reveal that the CPD pilot is contributing to positive changes in teaching and learning. Respondents believe applying professional learning to teaching methodology and classroom management is leading to increased student engagement and improved learning. 85% of teachers agreed that since they began engaging in the CPD pilot their students appear to be more engaged and are learning better, and close to 80% thought that their students were achieving improved scores on their assessments. These findings were confirmed by observation during field visits to schools.

- Data from the endpoint survey has underlined the importance of contract teachers benefiting from CPD and of incorporating experienced contract teachers into the civil service. 27 contract teachers were included in the final survey, of whom 23 had three or more years of classroom experience, and some as many as seven- or eight-years' experience. The survey also revealed a gender gap between civil service and contract teachers, with less-experienced male teachers being more likely to be members of the civil service compared to their female counterparts of comparable experience.

- While the CPD system pilot has managed to reduce the operation cost by conducting the CPD activity at the school cluster level, it was still relatively costly and is likely to require modification before roll out. In particular, the practice of paying expenses to participants and trainers traveling a significant distance is likely to require amendment to make the system more affordable and sustainable.

Final Evaluation Findings

1. Policy and System

This section of the endpoint evaluation report addresses the following evaluation questions:

1.1 *To what extent are key stakeholders (MoEYS central staff, DPs, POE staff, DOE staff, school leaders, teachers, parents, and students) aware of a need for improvement in teaching standards?*

1.2 *To what extent are key stakeholders aware of a need for culture change with regard to educator CPD?*

1.3 *To what extent are key stakeholders aware of the MoEYS policies regarding CPD and HRMIS and policy documents such as the CPD framework and action plan, CPD system, CPD pilot and its objectives?*

> At endpoint, the survey of teachers revealed that the majority of teachers in micro-pilot schools agree (completely or somewhat) that:
> - They are satisfied with the overall standard of teaching in their school and with the standard of teaching they are able to provide to their students (83%, compared with 70% at mid-term)
> - Teachers need to be able to engage in appropriate CPD based on their own needs and interests on a regular basis (90%, compared with 70% at mid-term)
> - It is important for teachers to be life-long learners who continuously improve their skills and knowledge (97%, compared with 78% at mid-term)
> - They believe that, in Cambodia, CPD for teachers is a priority for the MoEYS. (89%, compared with 75% at mid-term)

The distribution of responses is shown below, based on a five-point scale: "completely agree", "somewhat agree", "neither agree nor disagree", "somewhat disagree" and "completely disagree". When "completely agree" and "somewhat agree" responses are combined to obtain a total of "agree" responses, there is an overwhelming predominance of agreement, with the clear majority of respondents selecting "somewhat agree". Where evaluation questions are formulated negatively (in order to triangulate the responses and safeguard against bias due to responder fatigue), and "completely disagree" and "somewhat disagree" responses are combined to obtain a total of "disagree" responses, the polarity is reversed.

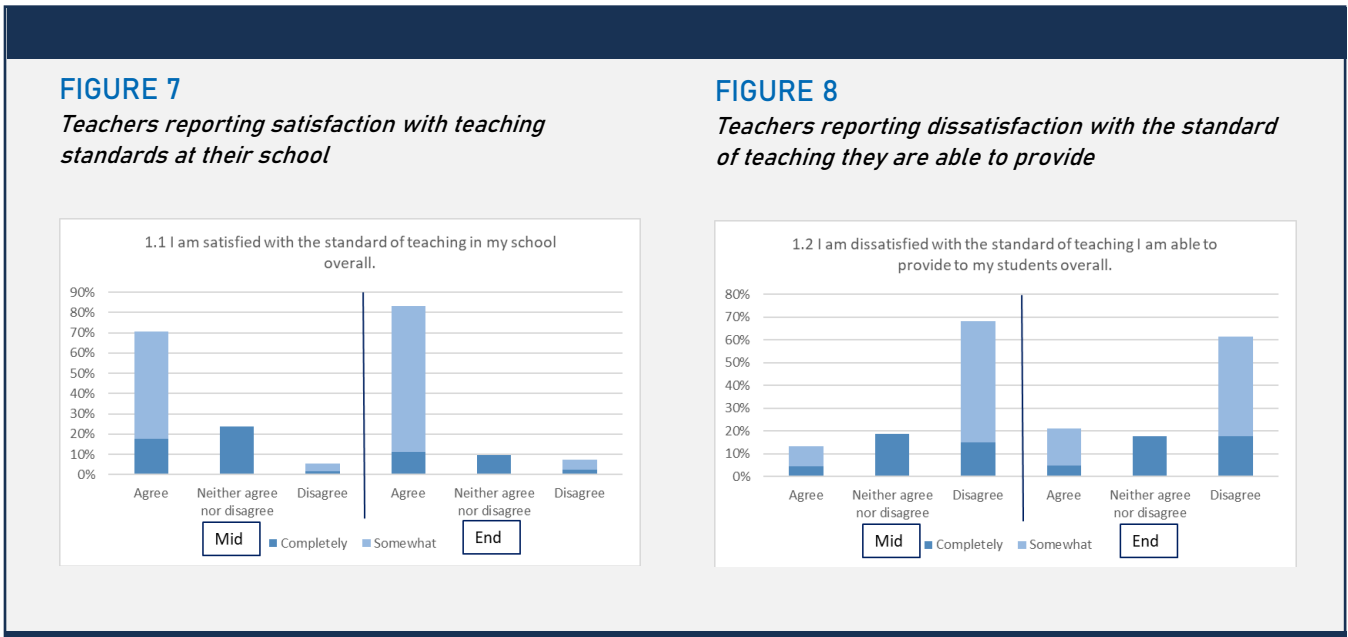The figures below present teacher survey results at endpoint, compared with those from mid-term.

FIGURE 7
Teachers reporting satisfaction with teaching standards at their school

FIGURE 8
Teachers reporting dissatisfaction with the standard of teaching they are able to provide

FIGURE 9

FIGURE 9

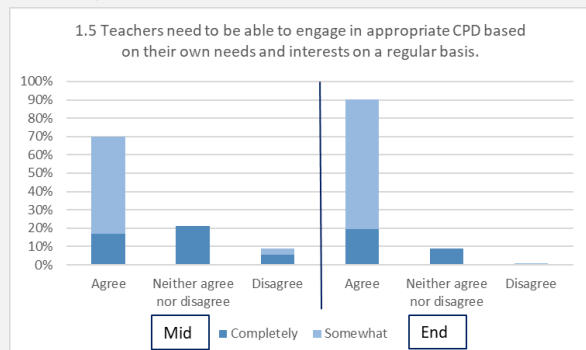*Teachers reporting a belief that all teachers need to be able to engage in appropriate, needs-based CPD regularly*

1.5 Teachers need to be able to engage in appropriate CPD based on their own needs and interests on a regular basis.

FIGURE 10

Teachers reporting a belief that it is important for all teachers to be lifelong learners

1.6 It is important for teachers to be lifelong learners, who continuously improve their skills and knowledge.
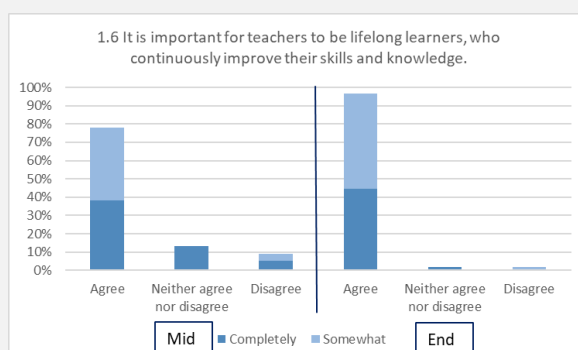
FIGURE 11

Teachers reporting a belief that teachers are not professionals

1.7 Teachers are not professionals; therefore, it does not matter whether or not they keep their skills and knowledge up to date.
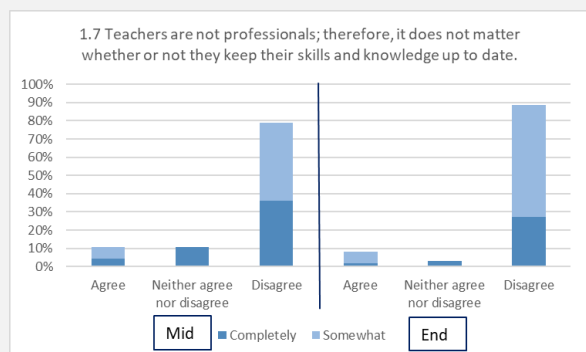
FIGURE 12

Teachers reporting a belief that CPD is a priority for the MoEYS in Cambodia

1.8 In Cambodia, CPD for teachers is a priority for the MoEYS.
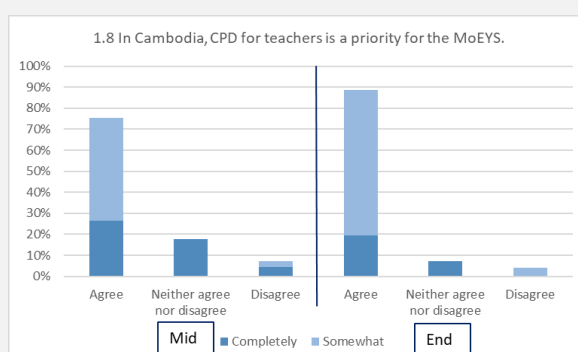
The increased awareness of the importance of regular, relevant CPD for teachers and of the need for educators to be lifelong learners captured in the survey responses was echoed in interviews with teachers and school directors. One school director told us:

> *This is something we have wanted for a long time, since there are some teachers who have been teaching for many years but have not done any CPD. What they learned at the PTTC was never updated.*

Another informant claimed:

> *We encourage education staff to continuously develop their skills as part of a lifelong learning policy.*

Professional development is a fundamental dimension of professionalism and a prerequisite to the overall improvement in teacher quality: this awareness is an important dimension of the overall strategy to upskill and professionalise the teaching force.

2.   Interventions

This section of the endpoint evaluation report addresses a number of evaluation questions relating to the interventions delivered under the pilot CPD system implementation:

- How successful has the implementation of the CPD system been overall (as of the end of the pilot)?
- What has been the uptake of CPD needs assessments, Professional Learning Plans (PLP), appraisals, and participation in Professional Learning Communities (PLCs)?

Experience of CPD committees varied, with some school directors unsure of the committee's roles and responsibilities. Others took the role of the committee seriously. One school director explained:

The CPD committee helps teachers as I only included staff who are competent, good. For example, I did not include the deputy director, as this is not his area of expertise. Instead, I included my secretary.

This school director reported that the CPD committee meets whenever needed:

It's done according to actual needs. For example, we observe the teachers' progress. When they are slow, we inform the committee to conduct a meeting to help them…/… If there is a problem, we meet.

CPD needs assessments are used to prepare PLPs which address both teachers' individual professional development needs and the wider capacity development needs of the school and the education system as a whole. It should be noted that CPD needs assessments were conducted for all teachers participating in the CPD pilot at the beginning of phase 1 of the pilot, but have not been conducted since at the project level, although individual schools may have conducted needs assessments as part of updating the PLPs.

Participation in PLCs is an important dimension of school- and cluster-based CPD, promoting a culture of collaborative professional learning. Appraisals are an important mechanism for defining professional learning objectives and how to achieve these, then for reviewing the objectives and evaluating their success.

The survey of teachers revealed that the overwhelming majority (between 88% to 95%) of teachers in micro-pilot schools report having benefited from activities which constitute a fundamental dimension of the CPD system:

- 92% (compared with 78% at mid-term) have benefitted from two or more CPD activities in the past months (as of the time of the survey)
- 88% (compared with 73% at mid-term) report having benefited from a CPD needs assessment in the past months
- 95% (compared with 79% at mid-term) report having developed a professional learning plan since the beginning of the pilot

Furthermore, 69% of teachers surveyed have undergone a staff appraisal in the past 6 months (compared with 57% at mid-term), and 55% report being members of professional learning communities (a drop from mid-term, when 68% of teachers reported PLC membership). These findings echo the interview data.

Question	"Yes" responses (Mid-term in brackets)	"No" responses (Mid-term in brackets)	"Don't know" responses (Mid-term in brackets)
2.2 I have benefitted from two or more CPD activities in the past month.	92% (78%)	6% (16%)	2% (6%)
2.3 I have benefitted from a CPD needs assessment in the past month.	88% (73%)	5% (19%)	7% (7%)
2.5 I have developed a Professional Learning Plan (PLP) since the beginning of the pilot.	95% (79%)	5% (21%)	0% (0%)
2.8 I am a member of a professional learning community.	55% (68%)	14% (14%)	31% (18%)
2.11 I have undergone a staff appraisal in the past six months.	69% (57%)	10% (21%)	20% (22%)

<u>Success of CPD needs assessments, PLPs, appraisals, and PLCs</u>

Survey questions designed to assess the success of the interventions referred to above show that, where respondents had effectively engaged in them, a strong majority of respondents agreed (completely or somewhat) that:

- their CPD needs assessment is helping them to address their professional learning needs (93%, compared with 87% at mid-term)
- their PLP reflects and is compatible with their real CPD needs and real job as a teacher (96%, compared with 88% at mid-term)
- they are engaged in the activities laid out in their PLP (88%, compared with 84% at mid-term)
- they regularly engage with other members of the PLC or undertake CPD activities with them (85%, compared with 64% at mid-term)
- they find their PLC beneficial in supporting their CPD (96%, compared with 95% at mid-term)
- they find appraisals beneficial in determining their professional learning needs (95%, compared with 86% at mid-term)

These results were reflected in the interview data. Teachers overwhelmingly reported having developed PLPs:

The teachers had a PLP and discussed it with the CPD committee; the committee then approved their selection of offerings.

The interview data revealed widespread understanding that the PLP should be based on identified needs:

Before when we wanted new knowledge, we would wait until the MoEYS starts a training and then we would be sent to join the training. Sometimes it was the right training, sometimes it did not match our needs. And sometimes we never practiced what we learned because it did not meet our needs. It is different from CPD because before teachers participate in a CPD activity they enrol first according to their needs.

They [the teachers] questioned why some of their students were unable to spell. We discovered that the students were not sure about phonics in early grades, so we encouraged the teachers to take a course in teaching phonics and helping students to learn phonics.

However, Interview data revealed it was not always the case that the CPD offered met the participants' identified needs, due to scheduling issues and the limited range of CPD offerings available:

> *I registered in the Khmer studies course, but it is for teaching of grade 4,5 and 6 students, and I teach pre-school classes.*

In certain cases, teachers were told that for the second phase they were required to continue with the offering they had begun during the first phase, despite wishing to participate in a different offering.

Teachers demonstrated that they understood the need to update their PLPs to reflect their evolving learning needs:

> *We have already changed the plan. We learned about Classroom Management, but we want to learn about ICT in the next round.*

However, several informants stated that, due to the limited range of CPD offerings available during the pilot, it was not always possible to develop a PLP which met the identified needs; furthermore, the timing of these activities required improvement. One school director explained:

> *It was hard to do a proper PLP: courses available are still limited. PLPs are finalised after teachers have enrolled in a CPD offering.*

It is interesting to note that 68% of teachers who responded at mid-point reported being members of PLCs; at endpoint this number had dropped to 55%. Although PLCs, like appraisals, were not implemented as part of the pilot activities, they constitute important links in the wider CPD system. The end-line responses, which saw an increase in "don't knows", suggest that teachers may be beginning to question what it means to be a member of a PLC. Nevertheless, of the teachers who reported membership in PLCs, a large majority, even greater than that at mid-point, reported that they engaged regularly with the group and found this beneficial.

Many teachers demonstrated behaviour indicating they are part of a PLC: although they may not use this term, they give clear descriptions of collaborative professional learning. For example, there were many reports of teachers sharing their experiences of engaging in CPD activities with their colleagues. School directors reported:

> *Teachers know how to share their experiences with one another. Those who are training in students management, for example, have demonstrated the techniques to teachers who participated in other offerings. For the ICT course, they have also shared their knowledge with other teachers.*

> *First, they observed other classes and compared the observation results with what they had learned…/… they spent about two hours every Thursday sharing knowledge and skills with others, with my facilitation. I set up the LCD projector for them to present. I encourage every teacher to do this, so that they can learn together. Some struggle quite a lot, but I encourage them to continue.*

> *They also observe their colleagues. They do it without informing their colleagues in advance, for example, for the classroom management group, they observed each other without prior notice, so some of them were rather nervous at times [laughs]; however, the main purpose is for them to observe and help each other. This is great because in the past we were not able to do that.*

FIGURE 13

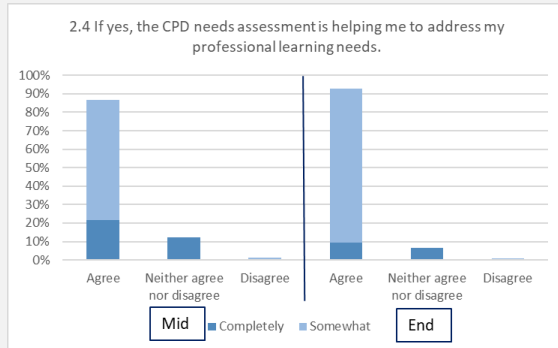*Teachers reporting that their CPD needs assessment is helping them to address their learning needs*

2.4 If yes, the CPD needs assessment is helping me to address my professional learning needs.

FIGURE 14

Teachers reporting that their PLP reflects their real CPD needs and real job as a teacher

2.6 My Professional Learning Plan (PLP) reflects and is compatible with my real CPD needs and real job as a teacher.
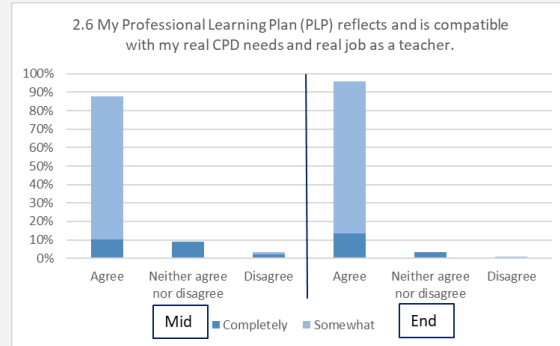
FIGURE 15

Teachers reporting that they are engaging in their PLP activities

2.7 I am engaging in the activities laid out in my professional learning plan.
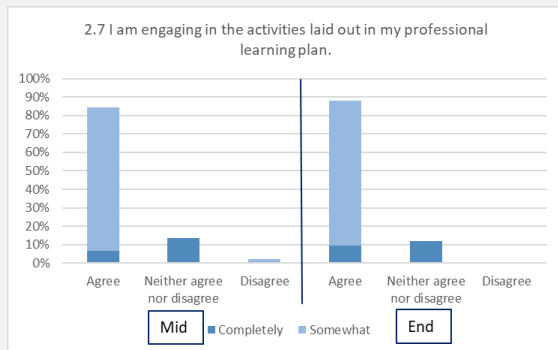
FIGURE 16

Teachers reporting that they regularly engage with members of their PLC

2.9 If yes, I regularly engage with other members of the professional learning community or undertake CPD activities with them.
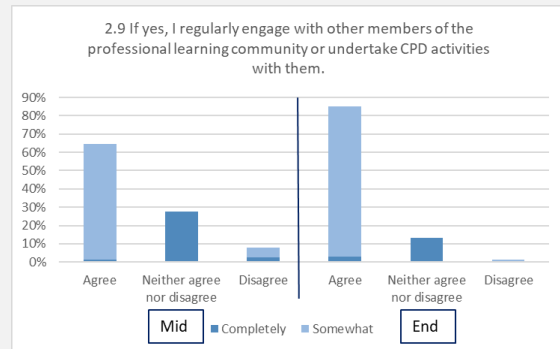
FIGURE 17

Teachers reporting that the PLC is beneficial in supporting their CPD

2.10 If yes, I find the professional learning community beneficial in supporting my CPD.
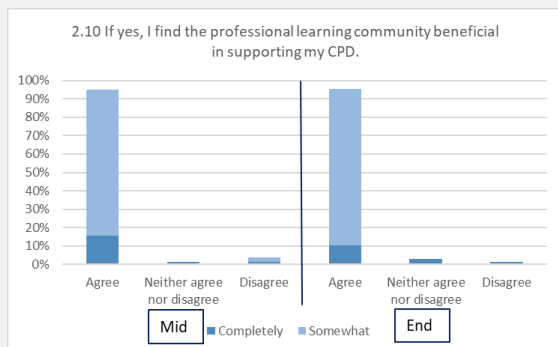
FIGURE 18

Teachers reporting that their appraisal was useful in determining their professional learning needs

2.12 If yes, I found the appraisal useful in determining my professional learning needs.
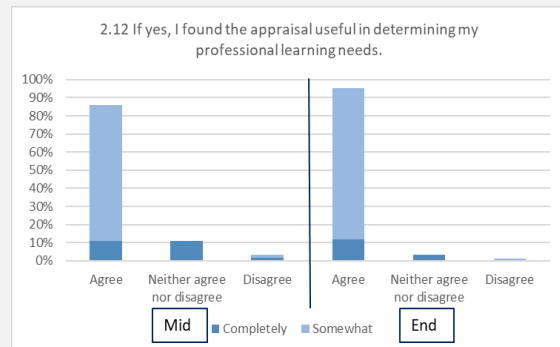
83% of respondents agreed that "As part of the CPD system pilot, I have been offered CPD which corresponds to my individual needs" (compared with 70% at mid-term). Asking the question using a negative formulation produced similar results.
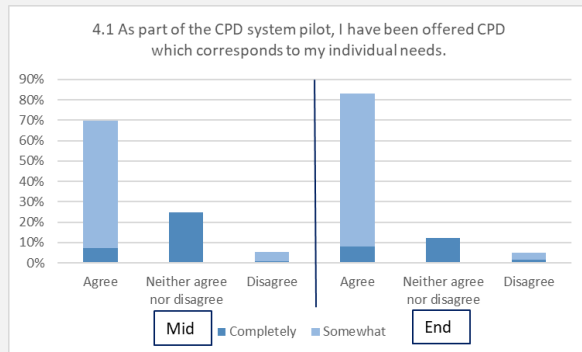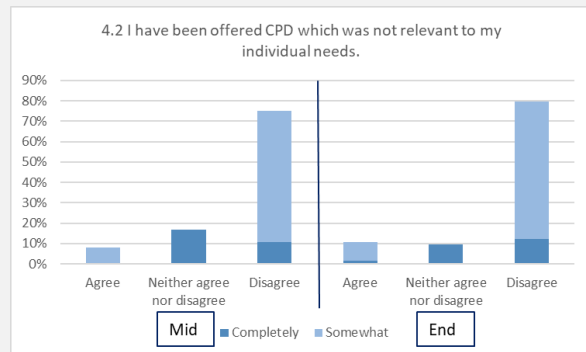
Programme records and HRMIS reports confirm that 1,053 teachers have undergone CPD needs assessments online, including 120 teachers in micro-pilot schools (see annex 1. These numbers have not changed since the mid-term report, since the needs assessments were conducted at the beginning of phase 1).

During the second phase of the pilot, 5 additional CPD offerings, each worth 2 CPD credits, and building on the offerings offered during phase 1 were scheduled in the HRMIS; these were developed by PTEC with STEPCam support, based on the online CPD needs assessment, and in line with the CPD credit system and accreditation system. Whereas, during phase 2, most teachers followed the continuation of the same offering they had begun during phase 1, some teachers opted to follow a different offering.

Details of the CPD offerings delivered by teacher educators from PTEC are presented on the next page.

CPD OFFERINGS MADE AVAILABLE TO TEACHERS IN MICRO-PILOT SCHOOLS

Phase 1 CPD Offerings

Use of ICT in Teaching and Learning provides an overview of the use of information and communication technology (ICT) in teaching and learning by (1) focusing on knowledge and understanding of information technology (2) learning how to use ICT in the preparation of lesson plans for teaching (3) preparing online teaching and learning materials and (4) collaborating online without infringing copyright (intellectual property rights).

Linguistics for Language Teaching at Primary School aims to make participants become familiar with some terminology and techniques of linguistic analysis, understand the nature of language learning of children aged of 0 to 12 years old, which is significant for primary school teachers in teaching languages to young students effectively, and apply this knowledge to describe Khmer language, as well as other languages.

Pedagogy in Teaching Primary Science focuses on pedagogy in teaching science to help students acquire knowledge and understanding of key concepts before starting science lessons, through the use of the Inquiry-Based Learning (IBL) method.

Classroom Management provides an overview of concepts and best practices of teaching and managing learners at the primary level. Key topics and skills that the course focuses on include (1) main principles and strategies for creating and supporting classrooms to achieve academic outcomes (2) differentiation (developing positive teacher-student relations, knowing students and their needs, and differentiation in teaching and learning).

Education for Sustainable Development aims to enable attendees to promote Education for Sustainable Development (ESD) in primary education. It provides the attendees with opportunities to investigate, and reflect efficiently and effectively on the issues of ESD, based on different situational contexts, including those within their school settings.

Phase 2 CPD Offerings

Use of ICT in Teaching and Learning II builds on the first course (in Phase 1) and trains participants in practical functions of Microsoft Office for administration, teaching/learning tasks and collaboration, and basic computer troubleshooting skills.

Khmer Grammar enhances primary school teachers' ability in using Khmer language in writing, reading, speaking, and syntactic analysis, and builds knowledge in teaching Khmer effectively to primary school students.

Pedagogy in Teaching Primary Science II focuses on the use of schema, constructivist approach, cartoon map, and concept map to promote science literacy, through problem-based and STEM approaches, allowing the participants to train in practical steps they can follow in teaching and developing materials for primary science education.

Classroom Management II continues from the previous (phase 1) course in classroom management and focuses on (1) time management, (2) space management, and (3) positive discipline for learning management according to students' individual needs and various teaching strategies.

21st century education aims to train participants in 21st century educational themes such as global citizenship, child-friendly school, drug abuse solutions, and inclusive education, and strategies to integrate these in primary school curriculums.
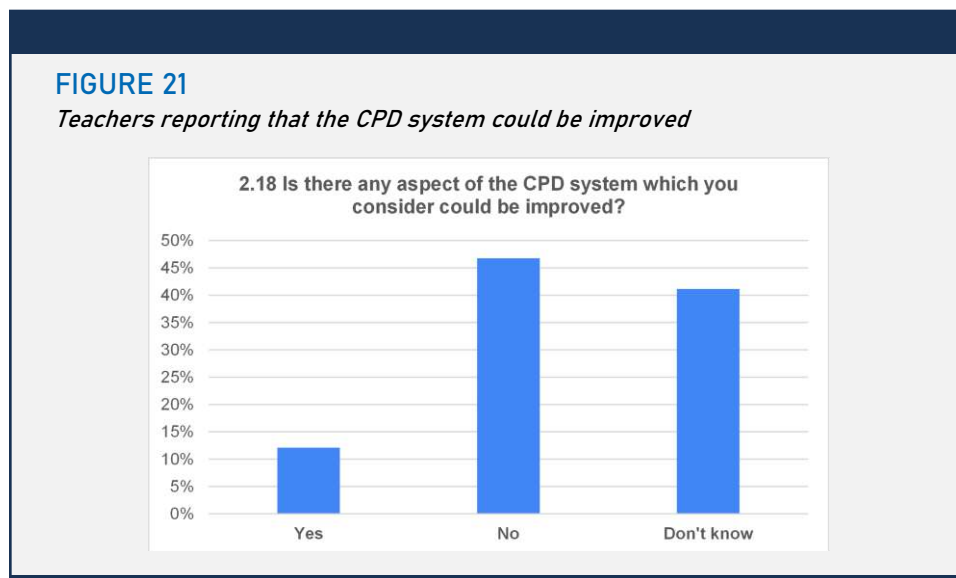
<u>Modifications or fine-tuning needed, in order to make the CPD system more successful prior to roll out</u>

When asked whether aspects of the CPD system could be improved (see figure 21 below), 12% of respondents replied affirmatively. Modifications or fine-tuning suggested include:

- Improvements in the phone app, including allowing iOS users to download the app, which has since been made available on the platform countrywide.
- Allowing "save" and "print" functions directly from the app
- Allowing contract teachers to access the app and use the HRMIS system
- Expanding the variety of CPD offerings
- Giving teachers access to appropriate teaching and learning materials, to ensure they can apply new methods learned during CPD in their own classrooms.

Requests for new CPD offerings included:
- Further training in classroom management
- Advanced ICT, Excel and PowerPoint,
- ICT for teaching, including methods for calculating students' scores, creating teaching videos, video editing, and photo editing
- Inclusive education, teaching children with disabilities and vulnerable children
- Teaching children with special educational needs
- Teaching methods, strategies, and techniques for different learners, including those in kindergarten and pre-school
- English language and English for teaching
- Action research
- Educational games
- Creating teaching materials
- Library management
- School management and administration

FIGURE 21

Teachers reporting that the CPD system could be improved

2.18 Is there any aspect of the CPD system which you consider could be improved?

<u>Success of the CPD credit system: Recording of CPD credits in the CPD module of HRMIS</u>

73% of respondents claimed to have earned CPD credits, with a large majority of these (85%) saying they had earned one credit (which was all that was possible during phase 1 of the pilot). 86% of these respondents claimed their credits were recorded in the HRMIS. They were not asked about the recording of CPD credits in career passports, as these have not yet been introduced.

The reason for the relatively low proportion of respondents who said they had earned CPD credits is likely to be due to the timing of the end-line survey: this was conducted during the week of 11 July 2022, just after the second phase of CPD offerings had been completed, but before the teachers had submitted their assignments and therefore before they had received the corresponding CPD credits. Their responses are therefore likely to refer to the awarding of credits for phase 1 CPD offerings. PTEC, as the CPD provider, has updated the CPD credits for phase 2 in the HRMIS, which has been confirmed by CPDMO. The participating teachers are now able to view their phase 2 credits in the mobile app.
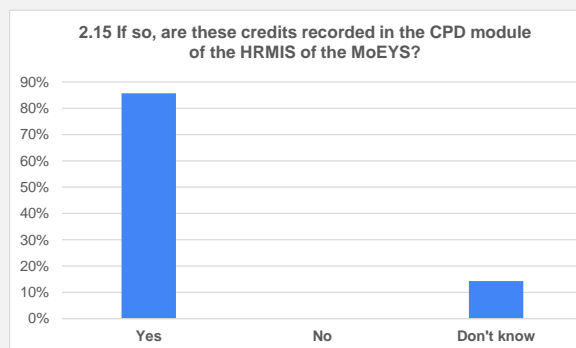
FIGURE 22
Teachers reporting that they have earned CPD credits

2.13 Have you earned any CPD credits?

FIGURE 23
Teachers reporting whether their credits are recorded in the HRMIS

2.15 If so, are these credits recorded in the CPD module of the HRMIS of the MoEYS?

The summary of programme indicators based on programme records and HRMIS reports can be seen in Annex 1 and shows that, as of August 2022:

- 119 teachers (92 civil service and 27 contract teachers) have CPD credits registered in HRMIS, that is 99.2% of teachers who took part in the micro-pilot.
- 3,353 teachers have CPD credits from EGR and EGM registered in HRMIS by PED, with 3,557 expected to have CPD credits from EGR and EGM CPD captured as of the end of the pilot.

No additional CPD credits earned through participating in EGR or EGM training have been captured since the mid-term report, meaning that these figures have not evolved since April 2022. An update is expected in October 2022 when PED provides the requested evidence of professional learning application of EGR/M training participants.

Experiences of participating in the CPD pilot

Teachers were asked about their experiences of undertaking CPD and to what extent these had been positive. This is aimed at evaluating the experience of taking part in the pilot, engaging in activities such as: receiving the training in the CPD and HRMIS systems, undergoing a CPD needs assessment, developing a PLP, being part of a PLC, using the HRMIS mobile app, etc. A large majority of respondents (91%) agreed (completely or somewhat) that their experience had been very positive, with a similar proportion disagreeing with the proposition that the experience had been "very disappointing.[2]" Once again, this represents an increase from mid-term, when 85% of respondents reported a positive experience with the CPD pilot.

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[2] The confirmation of these findings through the use of questions using negative formulations increases the validity of the findings here and elsewhere.

2.16 Overall, my recent experience of engaging in the CPD pilot has been very positive.
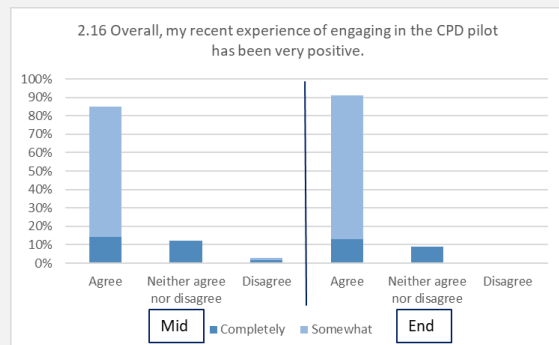
2.17 Overall, my recent experience of engaging in the CPD pilot has been very disappointing.
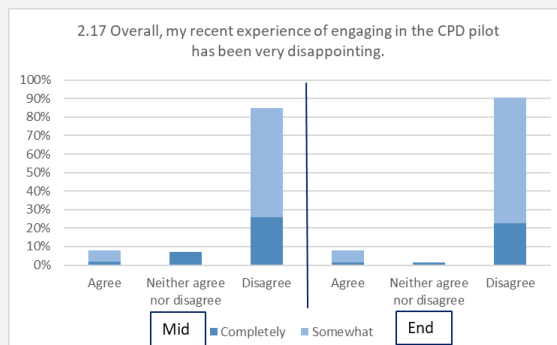
Teachers' experience in CPD pilot

The interview data confirmed this positive overall assessment of the experience:

When we studied with the teacher educator, we understood more clearly what we lacked before.

One teacher reported that:

What I used to do in complicated ways, the teacher educators trained us to do in a simple way.

And that:

They explained lessons clearly, not fast. They particularly adopted a practical training approach by leading trainees in practicing a lot.

Another teacher explained:

The contents are good. We acquire so much knowledge and the course includes real practice… /… [The teacher educators] adopted Inquiry-based learning, STEM and Problem-based learning.

Several teachers reported that they had a more positive experience during the second phase than during the first:

The content in the second phase is even better than the first one. The students engaged more and have fun playing games in learning.

Sometimes they didn't understand very well, they asked others. In the first phase, they were confused. But by the second phase, they understood clearly.

Notwithstanding, some teachers struggled to meet the requirements of the assessment elements of the CPD offerings; one school director reported that:

Regarding science teaching methodology for grade 5 and 6, the teachers said they had to revise 3 or 4 times before the teacher educator accepted their works.

3. Output

This section of the endpoint evaluation report addresses several evaluation questions relating to the outputs achieved under Component 1 of the STEPCam programme. In addition to the CPD credit system (see section 2 above), outputs include the accreditation system, communications materials, training in the CPD and HRMIS systems, documents such as the CPD Handbook and CPD credit system and the HRMIS portal and mobile application.

<u>Accreditation system</u>

An accreditation system to provide quality assurance for CPD providers and CPD offerings, along with the requisite instruments and procedures, has been developed, and is administered by the CPDMO with STEPCam support. The evaluation sought to ascertain the success of the accreditation system, asking the following questions:

- How successful has the accreditation system been?
- How many CPD providers have been accredited (full vs provisional accreditation)?
- How many CPD offerings have been accredited (full vs provisional accreditation)?
- Has the accreditation process run smoothly and been user-friendly?
- What modifications or fine-tuning are needed, in order to make the accreditation system more successful?

Discussions with CPD providers over the course of the pilot and observation of the accreditation process reveal that:

- The accreditation process is welcomed as a quality assurance mechanism and perceived to be fair and not excessively onerous; CPD providers have been generous and patient in cooperating with and supporting the emerging system, taking the trouble to test the application process and instruments and providing feedback to allow these to be finetuned
- As indicated in the mid-term report, there is a need to set out criteria for assessing the proficiency of teacher educators in English language and in ICT skills for education: two dimensions of the process for accreditation of CPD providers which so far lack clearly defined criteria, in the absence of an easily available existing metric
- The introduction of the accreditation system has been successful overall; the procedure and instruments require some finetuning before the system is expanded further. In particular, the functioning of the accreditation committee, the interaction between the CPDMO and TTD and the procedures for recruiting experts to review the subject contents and technical aspects of applications require clarification, including how to motivate qualified specialists to take on this task (this review is planned for September–October 2022; the ACC will be invited to share their experience in this area)
- The accreditation function of the CPDMO will require reinforcement, with recruitment of additional staff and reinforced training. It is recommended that a sustainability plan should be developed in consultation with the CPDMO staff, who should continue to benefit from technical assistance in the coming months.

Programme records and HRMIS reports confirm (see annex 1):
- 3 CPD providers have applied for accreditation and been awarded provisional accreditation; they are expected to qualify for full accreditation within three years. Two more institutions have expressed an interest in applying for accreditation as CPD providers.
- Applications for accreditation have been submitted for 9 CPD offerings, in addition to the 7 applications submitted by the mid term, totalling 16 applications.
- 10 CPD offerings have received provisional accreditation (including the 6 recorded at mid term) and one offering has received full accreditation.

These are very encouraging results for the new accreditation system.

Communications strategy and materials

The evaluation sought to answer the questions:
- How effective has the communications strategy been?
- To what extent have the communication materials' (video, social media posts, posters, bookmarks, etc.) been used?
- What has been the response of educators, school leaders and other stakeholders?

The survey of teachers revealed that:
- The communications materials most seen were the video story of teacher Sokha (83%), followed by the poster (50%) and bookmark (34%). No respondents claimed to have seen the social media posts (since these have not yet been released, this response offers some assurance as to the integrity of the data).
- 70% of respondents agreed with the statement that they had seen the communications materials frequently in several different settings.
- 86% agreed they were "engaging and informative".

73% disagreed with the proposition that the communications materials "did not seem relevant to me".

FIGURE 26
Teachers reporting which communications materials they have viewed

3.1 Which, if any, have you seen of the communications materials produced by the MoEYS to support the CPD system?

FIGURE 27
Teachers reporting that they have seen the communications materials frequently in several settings

3.2 I have seen the communications materials frequently in several different settings.

FIGURE 28
Teachers reporting that they found the materials engaging and effective

3.3 I found the communications materials engaging and informative.
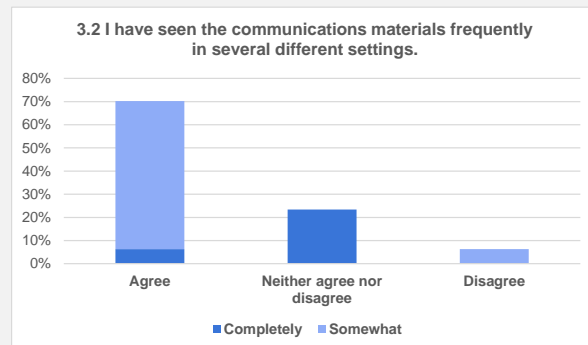
FIGURE 29
Teachers reporting that they did not find the communications materials relevant

3.4 The communications materials did not seem relevant to me.
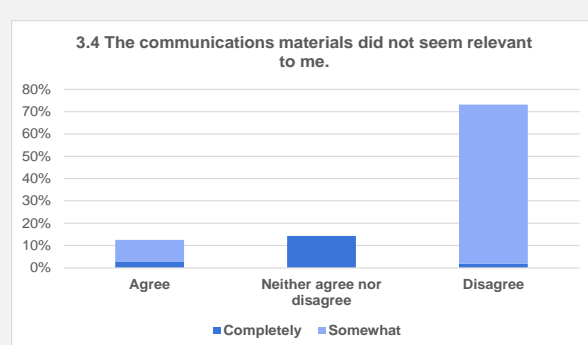
Visits to micro-pilot schools revealed the posters prominently displayed in all of these (in contrast to the mid-term visits, where posters were not in evidence). Furthermore, posters and roller banners were prominently displayed at the workshops organised by TTD as part of the CPD system pilot. The posters and other materials appear to be well recognised by participants and administrators and to be reinforcing awareness of the CPD system. It is unfortunate that the social media posts have not yet been disseminated, due to a technical-administrative delay regarding the security reinforcement of the CPD website.

Training in CPD and HRMIS systems

The evaluation sought to ascertain to what extent the training in the CPD and HRMIS systems had been effective in preparing users (MoEYS central staff, POE staff, DOE staff, school directors, teachers, etc.) to implement the system. It found that:

- 98% of respondents claimed to have received the training in the past 6 months, compared with 92% at mid-term
- The majority of these (86%, up from 74% at mid-term) claimed the training helped them to understand the CPD and HRMIS systems and 91% felt it was clear and informative
- A similar proportion (83%, compared with 75% at mid-term) disagreed with the inverse proposition, that "the training was confusing and did not help me to understand the CPD and HRMIS systems"

The initial training of micro-pilot teachers and school directors in the CPD and HRMIS systems had taken place more than 6 months previously, in October 2021. However, online refresher training in the CPD and HRMIS systems had been provided on 11 June 2022 for those from the 95 schools and for micro-pilot teachers who had missed the previous training sessions or wished to repeat it, meaning this would have been fresh in the minds of teachers responding to the survey (although the question referred to training in the CPD and HRMIS systems, it is also possible that respondents may have understood "training" in this question to refer to the CPD offerings they were currently undergoing and responded accordingly).

FIGURE 30

Teachers reporting whether they have received training in the CPD and HRMIS systems in the preceding 6 months

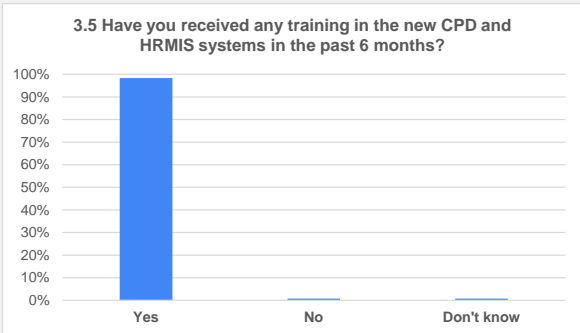3.5 Have you received any training in the new CPD and HRMIS systems in the past 6 months?

FIGURE 31

Teachers reporting that the training helped them to understand the CPD system and was clear and informative
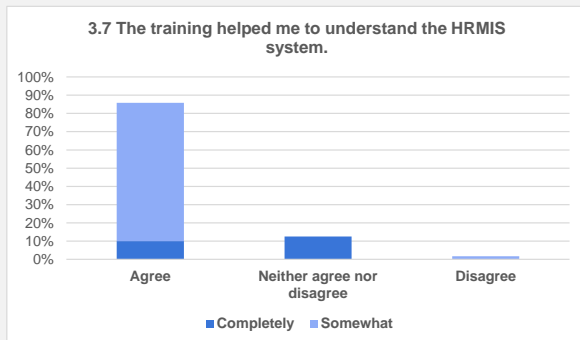
3.6 The training helped me to understand the CPD system and was clear and informative.

3.7 The training helped me to understand the HRMIS system.

3.8 The training was confusing and did not help me to understand the CPD and HRMIS systems.
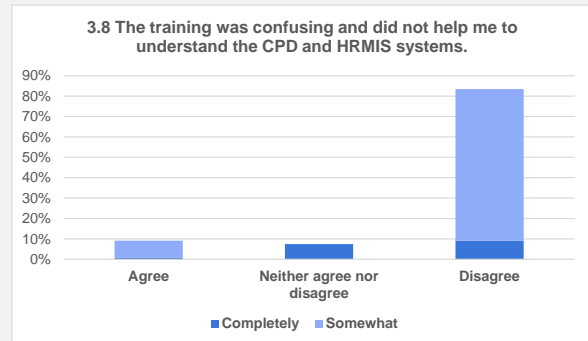
4% of respondents considered the training could be improved. The main modifications or fine-tuning of the training suggested include:

- Supplying documents/training materials
- Including all teachers from the target schools, rather than only a select few
- Ensuring that the training venue has a stable Internet connection

3.1 HRMIS

The evaluation focused only on the user experience of the HRMIS and mobile app, since a full final evaluation of the rollout of the improved HRMIS will be conducted by the HRMIS team in September–October of the current year. The present evaluation set out to determine:

- To what extent can the upgraded HRMIS (supported by STEPCam) be used?
- To what extent are MoEYS staff utilising the upgraded HRMIS (supported by STEPCam)?

Teachers were asked the following questions:

- Have you downloaded the HRCPD mobile app?
- Have you used the mobile app to check your data within the HRMIS?
- Did you use the app to communicate any aspects of your data which required amendment?
- If so, was the data amended accordingly in the HRMIS system?
- Have you used the mobile app to view your CPD credits?
- Have you used the mobile app to consult the list of available CPD offerings?
- Have you used the mobile app to enrol in a CPD offering?
- Is there any aspect of the mobile app which you consider could be improved?

At the mid-term evaluation, the evaluation team were informed that older teachers had struggled to use the HRMIS mobile app. In order to verify this, the survey responses relating to the HRMIS mobile app were disaggregated according to age, with teachers divided into three groups i) those aged 19 -28; ii) those aged 29–38 and iii) those aged 39–58, in order to triangulate the qualitative data. It was noted that, counter to expectations set by interviews with school directors, in all cases, the older teachers

appeared to have been more active in using the HRMIS, followed by the middle group, with the youngest group appearing least active.

For the endpoint evaluation, responses to these questions were once again disaggregated by age. The endpoint data, presented in the tables below, confirms the findings first noted at mid-term, showing that teachers in the 39-58 age group appear to have been most active in downloading the mobile app and using it to conduct functions such as checking their personal data, requesting amendments to this, enrolling for CPD offerings and viewing their CPD credits. The results to these questions are therefore disaggregated by age in figures 34 to 41 below.

Reasons for this may include the fact that younger teachers are more likely to have and use iPhones (the iOS version of the mobile app was only made available to users in August 2022, one month after the end-line survey). Furthermore, contract teachers are disproportionately represented in the younger age groups: 18 contract teachers aged 28 and under (14.5% of the endpoint respondents) still do not have access to the mobile app as of the final evaluation.

24
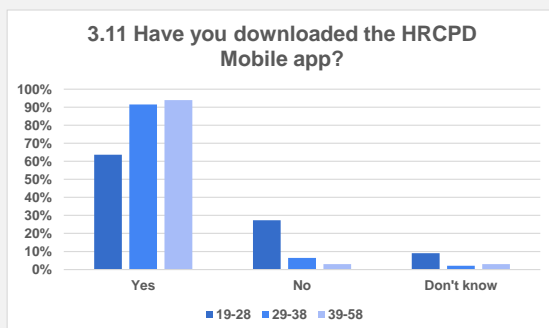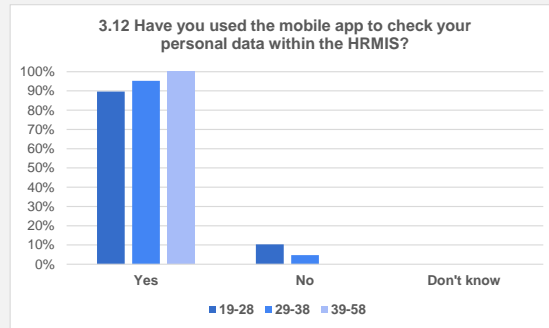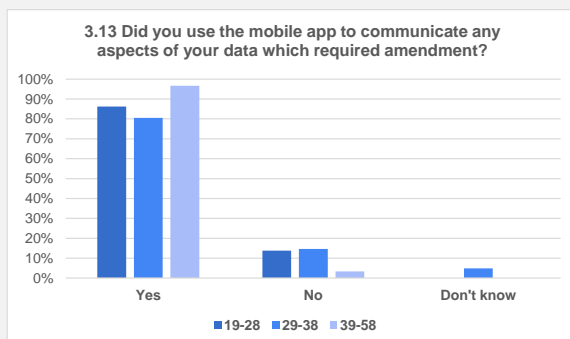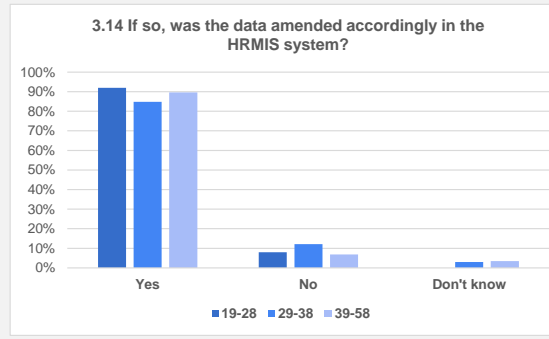
FIGURE 38

Teachers reporting whether they used the app to view their CPD credits

3.15 Have you used the mobile app to view your CPD credits?

Legend: 19-28, 29-38, 39-58
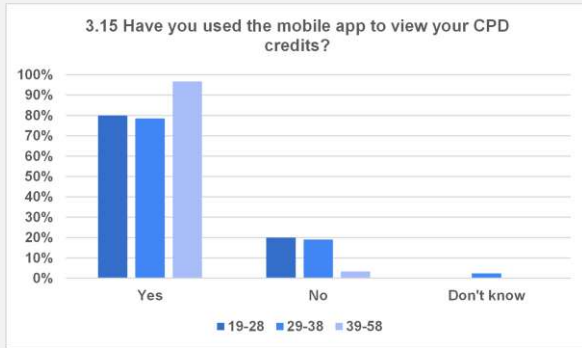
FIGURE 39

Teachers reporting whether they used the app to view CPD offerings

3.16 Have you used the mobile app to consult the list of available CPD offerings?

Legend: 19-28, 29-38, 39-58
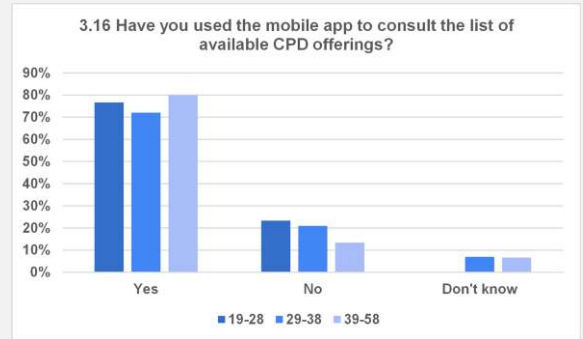
FIGURE 40

Teachers reporting whether they used the app to enrol in a CPD offering

3.17 Have you used the mobile app to enrol in a CPD offering?

Legend: 19-28, 29-38, 39-58
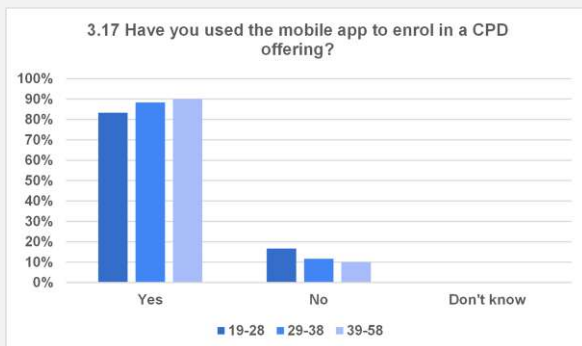
FIGURE 41

Teachers reporting whether they think the app could be improved

3.18 Is there any aspect of the mobile app which you consider could be improved?

Legend: 19-28, 29-38, 39-58
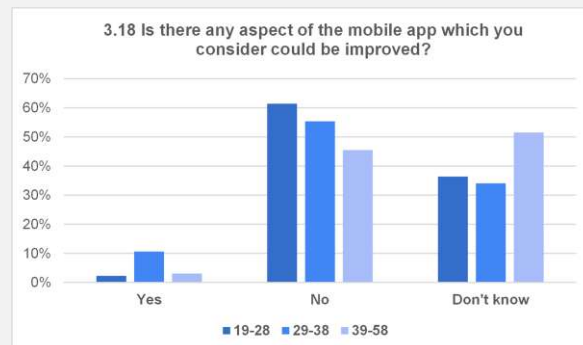
The interview data also revealed a high level of satisfaction with the mobile app, with teachers appreciating the access and control it gave them over their personal data and administrators and school directors praising the speed and ease with which it allowed them to consult and use HR information, including checking their CPD credits.

Feedback on HRCPD mobile app

Teachers reported:

> *When I first registered, I was not sure how to. But now, whenever I need information I just check it: it's quick and easy.*

> *It's easy. We don't need to find printed documents. We just check in the app.*

> *It is convenient and smooth.*

One school director told us:

> *We approved many requests for change due to inaccurate information in the system, such as information about [a teacher's] husband, wife or children.*

DOE staff confirmed that:

> *[Teachers] can use it effectively and they know exactly how to fill in their personal information... /... using the mobile app makes it easier to see the information in the system and makes them want to learn more.*

They also report benefits of using the HRMIS themselves:

> *Before, we had to contact the POE, for now, we just select the school, we see the total number of teachers and personal information of teachers .../...For example, yesterday, I needed to look up information on a teacher who had recently transferred in; I simple logged onto the system and saw it right away.*

and suggested expanding the number of staff members who are able to use the HRMIS, as, currently, if one staff member is ill or absent, there is no one else in the DOE able to use it.

The small number of suggestions for modifications or fine-tuning of the mobile app made by respondents include adding functions to print staff profiles and other documents directly from the app, allowing documents to be saved into devices, and allowing contract teachers to access the app. Suggestions for improvement have been addressed or are being addressed. The iOS version of the app is now available for download. A help function is under development. As noted elsewhere, contract teachers will be given access to the HRMIS and able to view their CPD credits by September 2022.

4. Outcomes

The survey of teachers sought to question teachers about changes to their attitudes, perceptions and behaviours since the onset of the pilot.

<u>Extent to which teachers consider the CPD undertaken has begun to improve their knowledge, skills, motivation, professionalism</u>

Overwhelmingly, the teachers who responded to the survey agreed that:

- Engaging in the CPD pilot has begun to improve their knowledge, skills, motivation and professionalism (93%, compared with 83% at midterm)
- They feel engaging in the CPD pilot is starting to make them more motivated teachers (91%, compared with 79% at mid-term)
- They feel engaging in the CPD pilot is starting to make them more confident teachers (90%, compared with 81% at mid-term)
- They disagreed with the proposition that "I do not feel engaging in the pilot has made any difference to my teaching" (94%, compared with 83% at mid-term)

FIGURE 42

Teachers claiming that engaging in the CPD pilot has begun to improve their knowledge, skills, motivation and professionalism
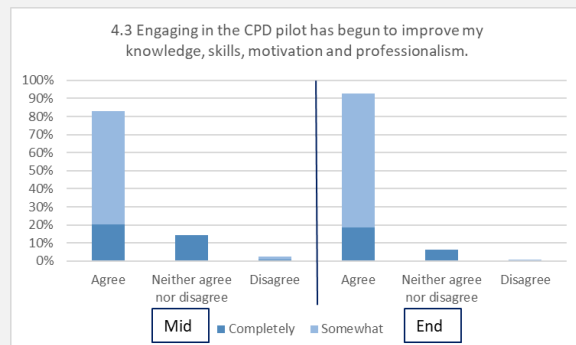
FIGURE 43

Teachers claiming that engaging in the CPD pilot has begun to make them a more motivated teacher
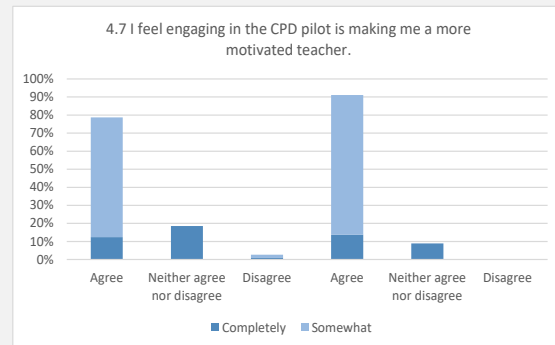
FIGURE 44

Teachers claiming that engaging in the CPD pilot is making them a more confident teacher
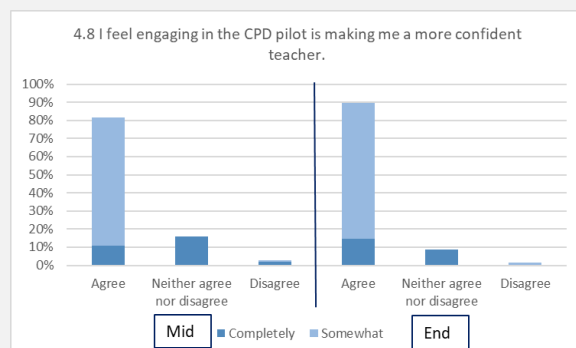
FIGURE 45

Teachers claiming that engaging in the CPD pilot has made no difference to their teaching
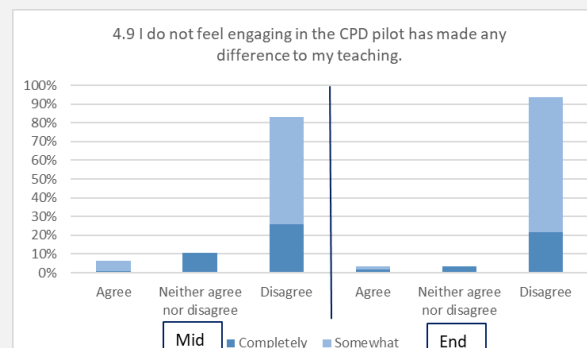
Interview data confirmed these findings:

I have learned how to divide students to work in groups and check class attendance without looking at the list [register]. .../... Moreover, I have given papers in three different colours to each table: green means that the students fully understand, yellow means that they are not sure. And red means that they do not understand the lesson at all. It is easy to identify the students who don't understand the lesson.

One teacher told us:

We learned how to divide the groups in flexible ways and manage groups of learners with or without materials. ../... We learned how to use positive discipline in teaching students.../... We don't hurt or use strong words with them in front of other students. It means we use positive words even when they make a mistake in doing an exercise. We motivate them to try even harder.

to which their colleague teacher added:

I would like to add: physical punishment or dragging students out to beat them is a punishment. It is not to be used as it violates children's rights

indicating important learning with regard to teachers' safeguarding responsibilities. This may be a widespread need: a teacher in another school, who had taken part in the same CPD offering stated:

I apply the content and do not hit the children.

<u>Extent to which teachers are beginning to apply knowledge and learning from CPD in their professional practice</u>

Teachers who responded to the survey agreed that:

- I have been able to begin to apply knowledge and learning from engaging in the CPD pilot in my classroom teaching (92%, compared with 76% at mid-term)
- I feel engaging in the CPD pilot is making me a more effective teacher (90%, compared with 79% at mid-term)

They overwhelmingly disagreed with the proposition that "I do not feel that engaging in the CPD pilot has made any difference to my teaching".

FIGURE 46

Figure 46
Teachers reporting that they have been able to apply knowledge from their learning from the CPD pilot in their teaching

4.5 I have been able to begin to apply knowledge and learning from engaging in the CPD pilot in my classroom teaching.
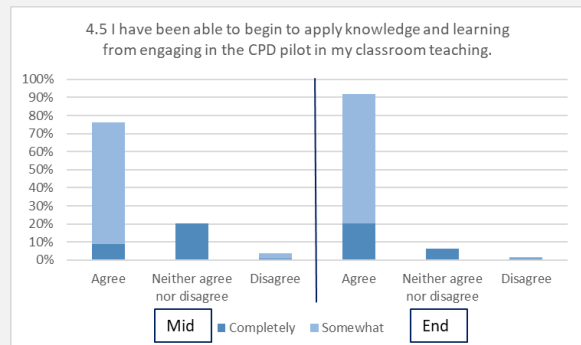
Figure 47
Teachers claiming that engaging in the CPD pilot has begun to make them a more effective teacher

4.6 I feel engaging in the CPD pilot is starting to make me a more effective teacher.
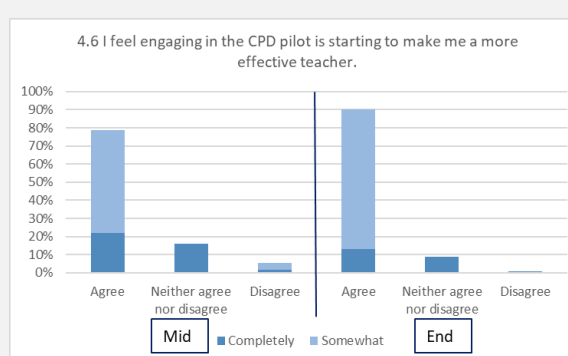
Interview data confirmed these findings. One school director told us:

They participate in [the CPD offering on] classroom management, then they have new and different techniques to manage classes, like there is a new style of seating arrangement.../... The techniques they learned and applied were effective.

Teachers who had participated in the CPD offerings on ICT for teaching reported:

I learned content related to administrative tasks like calculating students' score and finding an average in Microsoft Excel.

Therefore, I have been using what I learned from the course at the school…/… Overall it improves our work effectiveness and efficiency.

One contract teacher, who had taken the CPD offering on methodology for teaching science to primary students told us:

We got even more understanding, especially in actual practice and production. We did not know how to make a toy car with a battery, but we do now. I'm teaching it to the students and it's a lot of fun. Then we used that lesson to build boats for the students to race.

During the visit to that school, the evaluation team observed the teacher in question supervising her students as they raced the toy cars they had built, with evident enjoyment and enthusiasm.

Another teacher reported that, since teachers had been engaging in the Education for Sustainable Development (ESD) course, the school environment was tidier than before, which was also observed by the evaluation team during the end-line data collection.

5.   Ultimate Outcomes

<u>Possibility of early evidence of improved quality of teaching and learning as a result of the CPD pilot</u>

As noted in the mid-term report, the process whereby interventions aimed at teachers may result in changes in teaching and learning is a complex one which is subject to a multitude of extraneous variables, meaning it is very difficult to attribute these with certainty to any one factor. Although it is too early for the CPD pilot to have had any sustained impact on the quality of teaching and learning, the final evaluation survey, like the mid-term survey, asked teachers whether they had noticed any change in their students since their engagement in the CPD pilot, to attempt to ascertain whether might be any discernible early evidence of improved quality of teaching and learning as a result of engaging in the CPD pilot.

At the endpoint survey, the majority of teachers agreed (completely or somewhat) with the statements:

- Since I began engaging in the CPD pilot, my students appear more engaged (85%, compared with 70% at mid-term)
- Since I began engaging in the pilot, my students are learning better (85%, compared with 69% at mid-term)

whilst disagreeing that "Since I began engaging in the CPD pilot, my students have been bored and disruptive during my lessons" (89%, compared with 81% of teachers at mid-term).

FIGURE 48

Teachers reporting that since engaging in the CPD pilot their students seem more engaged

FIGURE 49

Teachers reporting that since engaging in the CPD pilot their students have been bored and disruptive

FIGURE 50

Teachers claiming that since engaging in the CPD pilot their students are learning better
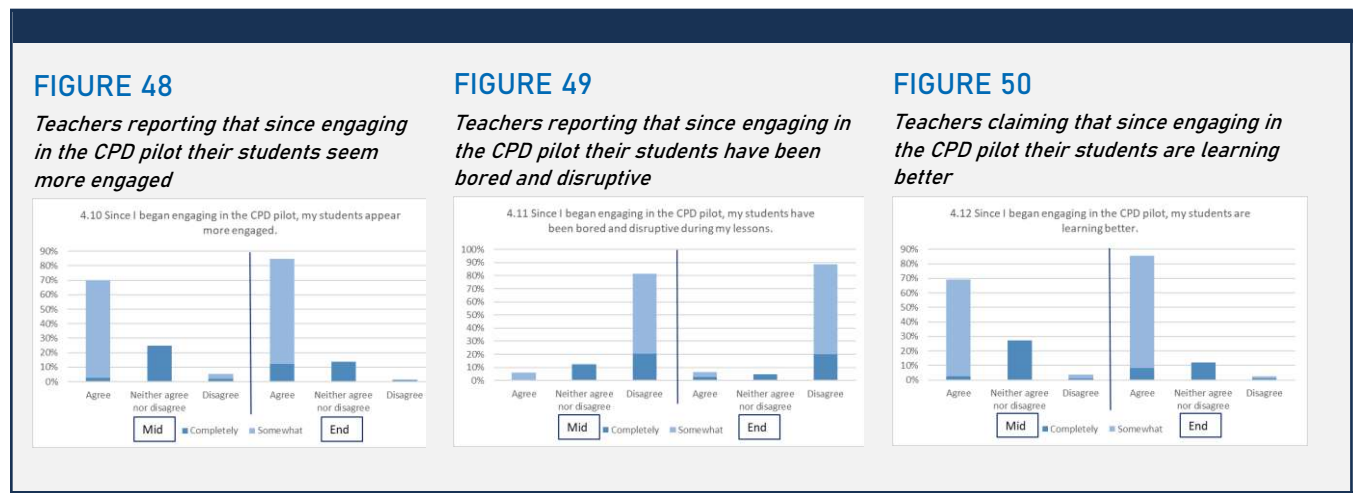
The interview data offered confirmation of these findings. One teacher told us:

We find that what we learn is effective, that we can apply it with students. It makes the students like to study and they participate in all the activities. They are happy because there are a lot of educational games.

Other teachers shared their experience:

After participating in the CPD course, we changed our teaching method from a teacher-centred to a student-centred approach. Students are more active and they enjoy playing games for learning purposes. They are happy.

Once we participated in CPD activities we implemented new teaching techniques we obtained from the training. I observed a significant improvement in my fourth-grade class, since I implemented it myself.

Students listen more when we use good words.

Early evidence of professionalisation of the teaching force

These findings offer support for the notion that engaging in the CPD pilot (in particular in the micro-pilot) is leading to more professional attitudes towards their profession and more professional behaviour. Teachers reported changes in their professional behaviour since engaging in the CPD, such as arriving on time for classes, heightened commitment to their teaching and refraining from corporal punishment of students.

Early evidence of development of a culture of lifelong learning and recognition of the importance of CPD

The findings reported above, along with data from school visits provide preliminary evidence of the development of a culture of lifelong learning and recognition of the importance of CPD. Interviews with teachers and school directors revealed a high level of engagement in and motivation for CPD, with some respondents demonstrating a high level of knowledge and understanding of the CPD system and how it might benefit them. When invited to ask questions about the system, certain respondents asked about the potential for self-directed CPD and when this would become available to them, mentioning self-directed professional development activities which go far beyond the scope of the current pilot.

We have some needs that cannot be met by the CPD system, so we find opportunities by ourselves. We can discuss in our cluster schools and find out who has the knowledge and expertise to share about the topics…/… For example, a teacher sitting in the front row wanted to teach students using a new teaching method, so we contacted a teacher who knows how to apply concept-based teaching. Our teacher has been learning with that teacher three days a week from 6.30 to 8.00 pm for six months.

Respondents also asked about the uses to which CPD credits could be put, when the TCP would be in operation, and when the appraisal system would allow them to progress in their careers by earning CPD credits, demonstrating their motivation to harness the CPD system to progress in their careers.

Some of us are learning a lot on our own. We want to implement the self-study CPD quickly so that we have the opportunity to learn on our own and get credits as soon as possible.

Overall, the reported experiences of the CPD pilot of these micro-pilot teachers and school directors, in addition to the attitudes to CPD and lifelong learning reported in section 1 above, provide substantial confirmation of the proposition that having access to relevant, needs-based professional development would enhance motivation and commitment and lead to more autonomy and self-motivation, all features of professionalisation considered as prerequisites to improvements in the quality of teaching and learning.

Possibility of early evidence of improved student outcomes

At endpoint, 79% of teachers agreed, completely or somewhat, with the proposition that "Since I began engaging in the CPD pilot, my students are achieving better scores in their monthly tests/assessment tasks." Again, this is a marked increase from the 62% of teachers who agreed with this statement at mid-term.

FIGURE 51
Teachers reporting that since engaging in the CPD pilot their students are achieving better scores in their monthly tests/ assessments
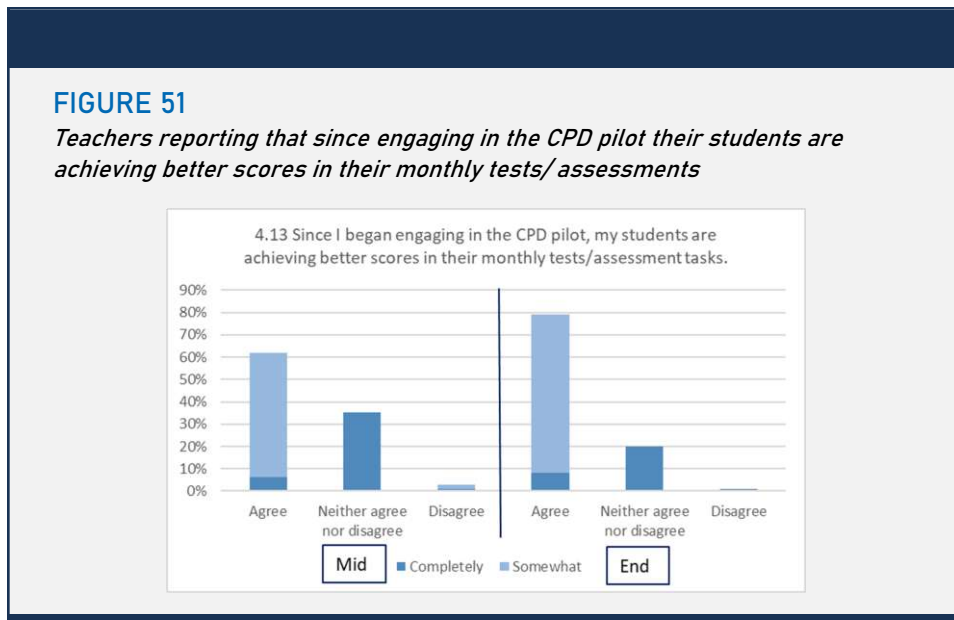
Although the impact on students' educational outcomes of their teachers undergoing CPD involves a long-term and complex process, and it is not realistic to expect to see conclusive results over such a short timeframe as the current CPD pilot, the findings of the evaluation point to the beginnings of improved teaching and learning and offer some support for the notion of improved educational outcomes. It is of interest that claims in the teacher survey about improved student learning increased between the mid-term and final evaluations, as one would expect. Interviews with teachers and school directors confirmed this view:

Students were disinterested in learning when we did not manage the class well, so the expected outcomes were not achieved. However, they are currently achieving good outcomes, and kids are eager to study.

<u>Relevance of the CPD system as piloted to the context of Cambodia</u>

The CPD system as piloted addresses the strategic priority of the MoEYS to improve teacher quality and teachers' knowledge and skills, as laid out by policy documents such as the ESP, the CPD policy, the CPD Framework and Action Plan, and the TPAP, within the wider context of the Royal Government of Cambodia's commitment to becoming a knowledge economy and rapid transformation to an upper-middle then higher-income country. The pilot revealed a high level of success in beginning to improve teacher quality, motivation and commitment through engaging in targeted, needs-based CPD delivered at the school and cluster level. Teachers were aware of the need to upgrade their skills and knowledge and were eager to engage in professional learning, often at some sacrifice and inconvenience to themselves. They greatly preferred the face-to-face modality over online learning.

However, the cost of the model used to deliver the CPD pilot, using a cluster-based approach and paying travel costs to participants and trainers traveling a long distance, was considerable, meaning that this approach is unlikely to be affordable for national roll out of the CPD system using government funds. The face-to-face participation of 1 teacher in a 2 ½ day 1-credit CPD offering at a cluster school cost approximately $ 80 per teacher (including materials, venue, refreshments, trainer fees, travel and accommodation), with the development of a 3-credit CPD offering by an accredited CPD provider costing approximately $ 5,000. The total cost of 2,000 teachers engaging in two 3-credit offerings at cluster-level per year and of ten 3-credit CPD offerings being developed by an accredited CPD provider would total $ 1,010,000 (or approximately $ 505 per teacher).

While the system as piloted is highly relevant to the needs of the education system in Cambodia, the costs involved suggest that the model would need some modification. The more extensive the roll out of the system, the more potential there is for economies of scale, as CPD offerings once developed may be delivered an almost unlimited number of times. However, it is not feasible to pay the current level of travel expenses for participants to engage in face-to-face professional learning, without identifying a significant source of funding. Economies may be realised by using a combination of face-to-face and online delivery (or online only, although this would run the risk of reduced quality and engagement, given the challenges of connectivity and access to ICT equipment) and by delivering CPD at the school-level, rather than in clusters. This model would have to be adapted accordingly for the full roll out of the CPD system.

<u>Impact of the CPD system as piloted and how this can be sustained</u>

Overall, the CPD pilot produced a discernible increase in teachers' levels of engagement and motivation, and in their self-reported skills, knowledge and application of professional learning in the classroom. The enthusiasm of teachers for this opportunity to develop their professional skills was striking, as was their level of engagement in pursuing a professional development plan corresponding to their own interests and needs. These early positive changes occurred despite the fact that the process whereby teachers engaging in professional development activities leads to improved teaching and learning is inevitably a complex one, occurring over significant time and affected by a large number of other variables (see Progress Towards Success Criteria below for more details).

Progress Towards Success Criteria

It is a complex and delicate undertaking to measure the success of a pilot CPD system. The process by which teacher preparation translates into improved teaching and learning, leading in turn to improved student learning outcomes, is a long and complex one: it takes time, experience, sustained exposure to talented, experienced colleagues and significant investment in one's professional learning to become a truly skilled and effective teacher. The process is further complicated by the impact on teaching and learning of numerous other extraneous variables and environmental factors, such as the socioeconomic background and home environment of the learners, the quality of the school environment, including access to teaching and learning equipment and materials, and interruptions to learning, such as that due to the recent Covid-19 epidemic.

Positive impacts likely to result from teachers successfully engaging in good quality, targeted CPD include short-term, medium-term and long-term changes. The success criteria for the CPD system's current pilot are therefore also classified as short-term, medium-term and long-term; this classification was used to summarise the impact of the pilot at mid-term and is used again at end-line.

In order to assess the extent to which the success criteria have been met, for each survey question the percentage of responses indicating success ("Completely agree" + "Somewhat agree" or "Yes" – inverted for negative questions) was calculated. The survey questions as used at end-line can be found in Annex 3. The success criteria are considered to be met where the percentage was equal to or greater than 65% for the short-term success criteria, 75% for the medium-term criteria and 85% for the long-term criteria. It was anticipated that the current pilot would lead to the short-term and some of the medium-term success criteria being observed.

In Table 1 below, which presents the status of the short-, medium- and long-term success criteria as of the final evaluation (with the mid-term evaluation results in the preceding column), success criteria judged to have been met for a given survey question are coloured in green. This reveals that, according to the survey of teachers, the short-term success criteria have been met at the time of the final evaluation, along with all except one of the medium-term criteria[3]. The long-term criteria are also well on the way to being met. This, along with the other data assessed for the end-line evaluation provides strong evidence of the success of the pilot in improving teachers' engagement and confidence and beginning to impact the quality of their teaching.

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[3] The only mid-term criterion not met at end-line relates to question 2.13 where respondents were asked whether they had earned CPD credits, to which 73% responded affirmatively at the final evaluation survey. This result, which is lower than the 76% recorded at mid-term, is due to the fact that teachers completed the survey before having received the final results of their second phase CPD and therefore having seen the CPD credits for this in the mobile app. HRMIS records show that, as of August 2022, 119 (99.2%) of the teachers who took part in the micro-pilot teachers have CPD credits registered in HRMIS. All but one of the teachers who participated in the phase 2 CPD activities earned 2 CPD credits for these, so that the vast majority now have 3 CPD credits: two from phase 2 and one from phase one. If the teachers had completed the survey a month later, this criteria would also have been met (and the whole column would have appeared in green).

Table 1 Success criteria as met at the time of the final evaluation (compared with mid-term)

Legend:	Success Criteria S: ≥65% = met	(green) = met
A/D = Agree or Disagree	Success Criteria M: ≥75% = met	(yellow) = met for previous Success Critera; not yet met
Y/N = Yes or No	Success Criteria L: ≥85% = met	(red) = not yet met

Short-term success criteria (0-3 months)

Short-term success criteria (0-3 months)	Criteria number (Short-term)	Survey questions	Mid-point +ve %	End-point +ve %
Teachers successfully completing one CPD offering and earning one CPD credit	S1	1.3 (A/D)	89%	82%
		2.1 (Y/N)	90%	99%
		2.3 (Y/N)	73%	88%
		2.4 (A/D)	87%	93%
		2.13 (Y/N)	76%	73%
		4.1 (A/D)	70%	83%
Teachers' improved sense of engagement in their work and professional development	S2	1.1 (A/D)	71%	83%
		1.5 (A/D)	70%	90%
		1.6 (A/D)	78%	97%
		1.7 (A/D)	79%	89%
		2.6 (A/D)	88%	96%
		4.3 (A/D)	83%	93%
Teachers' awareness of the existence and potential of HRMIS and the mobile app	S3	2.15 (Y/N)	80%	88%
		3.2 (A/D)	69%	70%
		3.5 (Y/N)	92%	88%
		3.11 (Y/N)	78%	82%
Teachers' improved sense of commitment to teaching and to student learning	S4	1.1 (A/D)	71%	83%
		1.5 (A/D)	70%	90%
		1.6 (A/D)	78%	97%
		1.7 (A/D)	79%	89%
		4.3 (A/D)	83%	93%
		4.7 (A/D)	79%	91%

Medium-term success criteria (3 months to 2 years)

Medium-term success criteria (3 months to 2 years)	Criteria number (Medium-term)	Survey questions	Mid-point +ve %	End-point +ve %
Teachers' ability to identify their CPD needs effectively and develop and execute an appropriate professional learning plan, successfully completing between 2 and 6 CPD offerings each year and earning corresponding CPD credits	M1	1.3 (A/D)	69%	82%
		2.2 (Y/N)	78%	92%
		2.3 (Y/N)	73%	88%
		2.4 (A/D)	87%	93%
		2.5 (Y/N)	79%	95%
		2.6 (A/D)	88%	96%
		2.7 (A/D)	84%	88%
		2.13 (Y/N)	76%	73%
		4.2 (A/D)	75%	80%
Teachers' improved competence and confidence in their professional performance in the classroom	M2	1.1 (A/D)	71%	83%
		2.6 (A/D)	88%	96%
		2.7 (A/D)	84%	88%
		4.3 (A/D)	83%	93%
		4.4 (A/D)	88%	94%
		4.5 (A/D)	76%	92%
		4.6 (A/D)	79%	90%
		4.7 (A/D)	79%	91%
		4.8 (A/D)	81%	90%
		4.9 (A/D)	83%	94%
		4.11 (A/D)	81%	89%
		4.12 (A/D)	69%	85%
Teachers' ability to check their own data and search and enrol in CPD activities using the mobile app, based on their needs and interests	M3	2.15 (Y/N)	80%	88%
		3.5 (Y/N)	92%	98%
		3.12 (Y/N)	79%	95%
		3.13 (Y/N)	73%	87%
		3.14 (Y/N)	86%	89%
		3.15 (Y/N)	71%	84%
		3.16 (Y/N)	65%	78%
		3.17 (Y/N)	79%	87%
Teachers' judgement that their students' learning is improving	M4	1.1 (A/D)	71%	83%
		4.5 (A/D)	76%	92%
		4.6 (A/D)	79%	90%
		4.10 (A/D)	70%	85%
		4.11 (A/D)	81%	89%
		4.12 (A/D)	69%	85%
		4.13 (A/D)	62%	79%

Long-term success criteria (more than 2 years)

Long-term success criteria (more than 2 years)	Criteria number (Long-term)	Survey questions	Mid-point +ve %	End-Point +ve %
Teachers developing and executing an annual professional learning plan, successfully completing between 3 and 6 CPD offerings each year and earning multiple CPD credits, leading to qualifications upgrade in certain cases	L1	1.3 (A/D)	89%	82%
		2.4 (A/D)	87%	93%
		2.5 (Y/N)	79%	95%
		2.6 (A/D)	88%	96%
		2.13 (Y/N)	76%	73%
Recruitment and retention of better qualified candidates into teaching	L2	n/a	n/a	n/a
Teachers competently using all features of the mobile app and demonstrating autonomy in using the app to plan and manage their CPD	L3	2.15 (Y/N)	80%	88%
		3.13 (Y/N)	73%	87%
		3.15 (Y/N)	71%	84%
		3.16 (Y/N)	65%	76%
		3.17 (Y/N)	79%	87%
Observable improvements in the quality of teaching and learning (measured by international metrics such as PISA and by success rates in national examinations)	L4	1.1 (A/D)	71%	83%
		4.5 (A/D)	76%	92%
		4.6 (A/D)	79%	92%
		4.13 (A/D)	82%	79%

S group

Indicator	Code			
Teachers' appreciation of having access to targeted professional development	S5	1.3 (A/D)	69%	82%
		1.4 (A/D)	73%	90%
		1.6 (A/D)	78%	97%
		1.7 (A/D)	79%	88%
		2.3 (Y/N)	73%	88%
		2.4 (A/D)	87%	93%
		4.1 (A/D)	70%	83%
		4.3 (A/D)	83%	93%
		4.4 (A/D)	86%	94%
Teachers' appreciation of taking part in the CPD and HRMIS pilot	S6	2.16 (A/D)	85%	91%
		2.17 (A/D)	85%	90%
		3.6 (A/D)	72%	91%
		3.7 (A/D)	74%	86%
		3.8 (A/D)	75%	83%
		4.1 (A/D)	70%	83%
		4.2 (A/D)	75%	85%
		4.3 (A/D)	83%	93%
		4.4 (A/D)	86%	94%
		4.9 (A/D)	83%	94%
Judgement of stakeholders (such as school directors and education staff) that teachers are more engaged and committed to teaching and student learning	S7	n/a	n/a	n/a
HRMIS is up to date with accurate staff data. Staff confirm their staff proforma's online.	S8	3.14 (Y/N)	86%	89%

M group

Indicator	Code			
Teachers' improved engagement with a professional learning plan and undertaking regular CPD	M5	1.3 (A/D)	69%	82%
		1.4 (A/D)	73%	90%
		2.3 (Y/N)	73%	88%
		2.4 (A/D)	87%	93%
		2.5 (Y/N)	79%	95%
		2.6 (A/D)	88%	96%
		2.7 (A/D)	84%	88%
Teachers' improved motivation and ambition around teaching as a career	M6	4.7 (A/D)	79%	91%
Judgement of stakeholders (such as school directors and education staff) that teachers are more confident, competent and motivated.	M7	n/a	n/a	n/a
HRMIS is used for staff transfers, upgradations, demotions, recruitment and other core functions and complements the hardcopy records used in these processes.	M8	n/a	n/a	n/a

L group

Indicator	Code			
Emergence of a culture of lifelong learning in the teaching profession	L5	1.3 (A/D)	69%	82%
		1.4 (A/D)	73%	90%
		1.8 (A/D)	75%	89%
Teachers achieving career progression (in the form of promotion on the TCP)	L6	n/a	n/a	n/a
Perception by teachers and the public that teaching is an attractive, credible profession	L7	n/a	n/a	n/a
The HRMIS is used in place of hardcopy file transfers to process staff transactions.	L8	n/a	n/a	n/a

Lessons Learned

The final and mid-term evaluation of the pilot revealed several lessons learned and areas where fine-tuning to the CPD and HRMIS systems is desirable before rolling out the system further. Several of the mid-term findings have already led to changes in the system, although many require further developments. These are briefly presented below, followed by other lessons learned which are still to be acted on:

Lessons documented at mid-term which have led to changes being enacted

- Contract teachers interviewed at mid-term regretted not having access to the HRMIS mobile app and feared they would not be eligible to receive CPD credits. Recognising the importance of contract teachers engaging in CPD and remaining motivated, CPDMO under DoPers and TTD responded swiftly to this finding, taking the measures expected to allow contract teachers to open accounts in the mobile app from September 2022 onwards and to keep their CPD credits on hold pending their integration as civil service teachers. Furthermore, it was decided to store data from civil service, contract and trainee teachers in a single database within the HRMIS, a bold break with tradition which will lead to substantial efficiencies in managing teachers' profiles and data.
- School directors have a critical role to play in the success of the CPD system: where they demonstrated strong leadership, encouragement, support and guidance to the teachers in their schools, engagement in CPD and outcomes were better. Some school directors were found to need more support. Following this finding, a Telegram group was set up for all school directors and POE and DOE staff, to allow professional networking and sharing of experiences.

The end-line evaluation revealed that the school directors who had been less confident and knowledgeable at mid-term had greatly gained in knowledge at end-line and were able to support their teachers better.

- Limited access and skill in using mobile technology and limited connectivity meant some teachers and school directors struggled to use the HRMIS mobile app, as of the mid-term field work. Ongoing support from the CPDMO, the HRMIS team, POE and DOE staff has led to improved effectiveness and confidence in using the app, although the connectivity challenges remain.
- iOS version of the HRMIS mobile application, was not available at mid-term or again at end-line, meaning that teachers who use iPhones were not able to use the mobile app on their own phones, but had to either use it on a laptop or on an Android phone. The HRMIS team has worked hard to ensure the iOS version is now available for download from the Apple Store.
- Assignments set during phase 1 offered limited options for application of learning in the classroom and reflection on this, as per the requirements for assessment set out in the CPD credit system and accreditation system, due to the limited time available. The final evaluation revealed that during phase 2, there had been more time for application of and reflection on learning, which was reflected in the phase 2 assignments, confirmed by PTEC and the evaluation team, having rigorously reviewed the submitted assignments.
- CPD committees in schools were found not to be working as intended at mid-term, due to limited communications and training around their roles and responsibilities. This situation was addressed by refresher training in June 2022, which led to greater understanding of the roles of CPD committees. These will have additional roles once the CPD system is rolled out, with more responsibility being placed at the school level.
- Professional learning plan (PLP) and professional portfolio development was found to be not yet consolidated at mid-term: the process whereby PLPs are derived from CPD needs assessments needed to be better understood, along with the role and nature of the professional portfolio. The CPDMO, with support from STEPCam TAs, has provided support in these areas to the micro-pilot schools. The final evaluation revealed heightened understanding and use of PLPs and professional portfolios by teachers, along with improved support from school directors.
- Communications materials developed to support the CPD pilot were not being used in all schools at mid-term; end-line evaluation visits revealed the posters and rollup banners were in wide use, although the social media posts had still not been disseminated.
- The English section of the CPDMO website contained some errors and unidiomatic phrases, as of mid-term, which have since been corrected by the CPDMO, with support from STEPCam TAs. However, the website still requires a security certificate. The issue is being resolved by the relevant technical departments.
- TCP: the mid-term evaluation revealed that there was still a need to agree a plan and budget to promote teachers regularly using the TCP, impacting the potential of the CPD system to fully engage, motivate and retain teachers, despite the TCP having been adopted by the MoEYS. Since mid-term, the TCP module of HRMIS has been developed by the STEPCam HRMIS team; consultations will take place between the MoEYS and the Ministry of Civil Service to allow the TCP to be implemented.

Further lessons learned requiring finetuning or substantial amendment

- The DOE staff were found at mid-term to have limited knowledge of and engagement in the CPD system. The end-line evaluation showed more understanding and engagement by the DOE staff. They are also using the HRMIS regularly and appreciating the ease it offers in their regular administrative activities. The mid-term evaluation had revealed that lines of reporting between the DOE and the POE were unclear, due to ambiguity about their roles respectively in relation to the District and Provincial Governor's offices, since the recent decentralisation. This was confirmed at end-line, revealing the need to formally engage the Provincial Governors' Office, creating awareness of the CPD system and preparing them to support the DOE(s) to implement this in the province. Likewise, District Governors' Offices need to be informed of the CPD system and be prepared to allow DOEs to provide the necessary support to schools.
- Modality and timing of CPD activities: many teachers expressed a firm preference for face-to-face learning over remote learning (in part due to the challenges related to connectivity issues, lack of suitable equipment and lack of familiarity with IT). Many regretted the timing of certain CPD sessions. Given that many teachers are engaged in studying or other qualifications upgrading at the weekends, others teach double shifts and that it is not desirable to disrupt lessons, it is hard to identify a time which suits all concerned. Offering CPD for teachers during the school holidays and on certain Thursdays when there are no classes may be the best solution. In the future, it would be advantageous to offer the same CPD offering at several different times to allow more flexibility.
- The limited range of CPD activities available during the pilot meant not all teachers were able to enrol in activities which they believed would meet their identified needs; due to a high demand and the need to balance groups, some teachers were not able to enrol in their first choice of activity. Once the CPD system is rolled out, the supply and range of CPD offerings available will increase, allowing more teachers' CPD needs to be met over time. It is important that the CPDMO should continue to conduct CPD needs analyses and commission CPD offerings which correspond to identified needs, preferences and areas of interest. Furthermore, as the CPD system develops further, offerings will be developed which cater for teachers at different stages in their career and professional development.
- The accreditation of CPD providers is hampered by the absence of objective measures of ability in English and ICT; some providers which meet all other criteria have only received provisional accreditation, due to their inability to demonstrate their trainers' skills in these areas. The CPDMO staff require further professional development in administering the accreditation process. The accreditation system, which has been introduced with considerable success and support from applicants, requires some finetuning, both in terms of the procedures and of the instruments used. The CPDMO staff participated in an international training course at the Asian Institute of Technology in Thailand in July 2022 and have made some recommendations to amend the application and assessment tools. It has also become clear that the procedure for technical assessment of the content of CPD offerings needs to be improved, so that accreditation of content is based on appropriate expertise. The stages of the accreditation process require some revision, to avoid mobilising too many individuals unnecessarily. There is a limited pool of experts available to perform the role of technical assessment of content. The accreditation system will be revised in September-October 2022, with support from STEPCam TAs to address these issues identified during piloting, including developing criteria to measure teacher educators' proficiency in English and ICT.

- Clusters and Professional Learning Communities (PLC), both of which are MoEYS priorities, are ideal fora for CPD planning and activities, for both teachers and school directors. PLC activities were initiated by some of the schools visited and can be further expanded. PED is planning to introduce a system of improved support to clusters and mentoring, while DoPO is engaged in promoting action research and PLCs in collaboration with TTD. These areas offer opportunities for expansion and development during the roll out of the CPD system, to promote the synergies between PLCs, clusters and CPD and allow more professional learning to take place in these fora.
- Funding for the CPD system roll out will need to be committed. Proposals for a national roll out plan and for a school-based funding mechanism have been developed with extensive participation and consultation; these are presented in the CPD Implementation Guidelines. Progress has been made on the development and support of a mechanism for funding CPD, including revision by the DOF of the MoEYS' School Operating Fund (SOF) Management Guideline to include a budget line for CPD, allowing funds earmarked for CPD to be sent directly to schools. A plan for progressive roll out of the CPD system, initially on an opt-in basis, has been developed, and includes using the CPD credit system and accreditation mechanisms to incorporate existing CPD and INSET activities, such as EGR and EGM trainings, mentoring and SBM, into the CPD system.

Recommendations for Roll Out of the CPD System

On the basis of the "lessons learned" during the mid-term and end-line evaluations, as presented in the previous section, which show the CPD and HRMIS pilot to have been hugely successful, it is recommended that a number of additional actions should be taken for further strengthening of the CPD and HRMIS systems, prior to or during roll out.

In order to sustain these results, it is important that the teachers and school directors concerned should have the opportunity to sustain and develop the professional learning plans and activities they have begun, so as not to lose the benefits achieved and the engagement and enthusiasm created by the pilot. To sustain the momentum created, teachers in the five micro-pilot schools should continue to undertake CPD based on their identified needs and accumulate CPD credits, whilst teachers from the 95 other schools involved in the pilot should begin to engage in a full cycle of needs-based CPD. The CPD system should be progressively expanded and rolled out, with additional CPD offerings based on identified needs (see section 2 above) being developed and accredited and schools gradually incorporated into the system on an opt-in basis. Sources of support should continue to be expanded, including training of teachers, school directors, DOE and POE staff, along with sensitisation of the provincial and district governors' staff, to allow them to promote and encourage the CPD system, and expansion of the online support resources, such as the CPDMO website, including video clips, a searchable online "help" resource and communication materials made available in electronic form.

It is important to commit resources for the progressive development and roll out of the CPD system, and to continue to advocate for the implementation of the TCP and TQU activities, so that CPD credits may be used to benefit the career progression of the teachers who have earned them. Self-directed CPD should be introduced, along with CPD for school directors, education specialists and teacher educators; there should be further support for PLCs and for school clusters to encourage a culture of collaborative professional learning.

A more detailed progressive roll out plan, adopting a phased approach and a hybrid system for school-based CPD funding, is included in the CPD implementation guidelines soon to be finalised and adopted by the MoEYS.

Conclusion

The end-line evaluation of the CPD and HRMIS systems pilot, which follows on from the mid-term evaluation, provides unequivocal evidence that the pilot has been extremely successful. The mixed methods evaluations collected, analysed and compared information from project records, data from a survey of all teachers engaged in the micro-pilot, data from the HRMIS and qualitative data from key informant interviews, allowing triangulation of the various data sources. The evaluations demonstrate that the CPD pilot, in particular the micro-pilot of a full CPD system in 5 schools, shows clear positive impacts of participating in the CPD system pilot on a variety of factors, including teachers' motivation, sense of engagement and professional commitment. It provides evidence that teachers consider their students' learning is beginning to benefit from their own participation in the CPD system and application of professional learning in the classroom. These findings were confirmed during the field visits to participating schools, where the evaluation team was able to observe first-hand the impact of participating in the CPD offerings on teacher's professional practice and the resulting enthusiasm and engagement of their students, as well as regular sharing in Telegram groups of recorded videos of learning activities implemented by the teachers engaged in the CPD offerings. Participating teachers express real commitment to their own professional development and the desire to continue to develop professionally and advance in their careers, including by engaging in self-directed CPD. The evaluations reveal the importance of strong leadership and support at the school, district, provincial and national levels and of clear and accessible support systems being available, including online technical support.

The end-line evaluation confirms that the CPD system as piloted is able to make a vital contribution towards the teacher professionalisation agenda and the ongoing policy to enhance education quality through teacher development in Cambodia. The opportunity is right for the MoEYS to now roll out the system incorporating learning from the pilot, in order to ensure teachers and school leaders throughout the nation have access to needs-based CPD, which is affordable and therefore sustainable. The tested system is ready to scale up, as detailed in the CPD system Implementation Guidelines. In order to ensure a coherent roll out, the CPD system will be made a priority of the forthcoming ESP for 2024-28, with sources of funding and technical support identified for the roll out. While the full-scale roll out is being determined, it is important to continue to allow the 100 pilot schools to engage in the CPD system and to support existing CPD/INSET providers to ensure their provisions support the CPD system by aligning with its requirements and benchmarks (in particular offering CPD credits to the participants in line with the credit system and applying for accreditation of providers and offerings).

Annex 1: Data from HRMIS/STEPCam reports

Indicator	Target	Outcome at mid-term	Outcome at end-point
1(A): % of trained primary school teachers (five target provinces) have registered CPD credits contributing to TCP progression, including credit for outcome post-CPD	60% or **3,372 numerical target for EGR/M**	111 (in micro-pilot schools) +1,231 (for EGM) +401 (for EGR) = 1,632 total	3,353 entered by PED (CPDMO to validate them once evidence of application is provided)
CPD framework approved	Approved	Achieved	Achieved
# of teachers in 5 target provinces have CPD credit registered on the revised database	3,372	1,632	3,353 entered by PED (CPDMO to validate them once evidence of application is provided)
Number of CPD offerings scheduled in HRMIS	10	5	10
Percentage staff using the HR mobile application to register for CPD opportunities online	75% (micro-pilot schools only)	100% achieved (87 civil servant teachers; 26 contract; 113 in total)	100% achieved (93 civil service teachers; 27 contract teachers; 120 in total)
Percentage of staff with CPD credits awarded correctly in the HRMIS by end of the pilot	Target: 70% (pilot and micropilot schools)	98.2% achieved (87 civil service teachers; 24 contract teachers; 111 in total)	99.2% (92 civil service teachers; 27 contract teachers; 119 in total)
CPD database online	Database online	Achieved	Achieved

Indicator	Target	Outcome at mid-term	Outcome at end-point
1(B): # of districts able to access the upgraded HRMIS and its CPD and TCP module on-line (CPD database).	37	37	37[4]
# of CPD needs assessments conducted	1,053	1,053	1,053
# of teachers who undergo at least one CPD needs assessment	113 (micropilot) /1,053 (pilot)	113 (micropilot) /1,053 (pilot)	113 (micropilot) /1,053 (pilot)
# of schools where CPD needs assessments are conducted	5 (micropilot) / 95 pilot	5 (micropilot) / 95 pilot	5 (micropilot) / 95 pilot
List of CPD offerings compiled by CPDMO and available via HRMIS portal and app	List available	Achieved	Achieved
# of teachers who have a professional learning plan	96 (80% of micropilot teachers)	89 out of 113 or 79% (teacher survey)	118
# of schools where teachers are supported to develop a professional learning plan	5 (micropilot only)	5	5
1(B).6: # of MoEYS sub-national staff (including POE, DOE, and school staff) trained on CPD and HRMIS	2,874	3,243 achieved (1,014 female)	3,243[5]

[4] A number of focal DOE officers have also been trained in the CPD and HRMIS under the CDPF budgetary support.
[5] A number of teachers from the Secondary Resource Schools have also been trained in the CPD and HRMIS under the USESDP-II budgetary support.

Indicator	Target	Outcome at mid-term	Outcome at end-point
C. # of CPD providers and offering accredited by CPDMO	10	9	13
# of CPD providers who apply to CPDMO for accreditation	3	3	3 (2 more have expressed an interest)
# of CPD providers applying who receive full accreditation	0	0	0
# of CPD providers applying who receive provisional accreditation	3	3	3
# of CPD providers applying who are refused accreditation	0	0	0
# of CPD offerings for which accreditation is applied	7	9	16
# of CPD offerings which receive full accreditation	0	0	1
# of CPD offerings which receive provisional accreditation	6	6	10
# of CPD offerings which are refused accreditation	0	0	0

Annex 2: Template for qualitative data analysis – CPD and HRMIS systems pilot endline

A Experience of CPD / pilot
A1 Quality of CPD and teacher educators delivering the CPD
A2 Delivery and material conditions / logistics / enrolment / balanced groups / scheduling
A3 Technology and connectivity   A3.1 mobile app   A3.2 HRMIS
A4 New systems/structures   A4.1 Needs assessment   A4.2 PLPs / portfolios   A4.3 CPD committee
A5 Relevance to needs/ professional activity / getting first choice of CPD activity
A6 Challenges
A7 Suggestions for improvement
A8 Phase 1 vs phase 2

B Teacher professionalism
B1 Attitudes towards CPD and credits earned / lifelong learning
B2 Career development/ ambitions
B3 Motivation / engagement in teaching and professional development
B4 Attitudes towards quality/importance of T&L

C Impact of CPD pilot
C1 Impact on knowledge and skills
C2 Impact on effectiveness and confidence in the classroom
C3 Application of professional learning in classroom / perceived impact on T&L
C4 Student engagement and student learning activities
C5 Student learning outcomes
C6 Sustainability (including sharing learning with others)
C7 Feedback from parents/families

D Equity
D1 Contract teachers
D2 Gender
D3 Age

E Leadership and support
E1 School leadership
E2 Support from POE, DOE   E2.1 Communication POE/DOE
E3 Support from CPDMO / STEPCam (including training)
E4 Support between teachers
E5 Support between schools / directors
E6 Support from documents
E7 Support from IT / electronic sources
E8 Support from DPs/ NGOs

F Future continuation and scale up
F1 Expansion to new schools
F2 Desire for CPD system to continue
F3 Future CPD funding
F4 Expansion to self-directed CPD
F5 Requests for future CPD offerings
F6 Use of CPD credits

Annex 3: Teacher CPD survey

Teachers in the five micro-pilot schools were asked to respond to an online survey at mid-term and end point. The survey is based on the evaluation questions in the M&E system and was transformed into an online survey in the Khmer language.

Introduction

The MoEYS with support from UNESCO through the STEPCam programme is in the process of introducing a new Continuous Professional Development (CPD) system for educators, supported by an Human Resource Management Information System (HRMIS), which are being piloted in your school. This survey is part of the mid-term evaluation of the CPD and HRMIS system pilot. You are asked to take part in this survey because you are participating in the pilot. Your responses will help the CPD and HRMIS systems to be improved. Your participation is therefore greatly appreciated. However, if you would prefer not to take part, you may decline. If you go ahead with the survey, your responses will be used in the evaluation report but will be anonymous. Your name will not be used, and nobody will know how you responded. The information you provide will only be used for the purposes of the evaluation.

I agree to take part in the mid-term evaluation survey and give permission for my responses to be used in the evaluation report. I understand these responses will be anonymous and will not be attributed to me.

At which school are you teaching? Dropdown menu to select one of the five schools

Specify your age by writing a number, e.g., 50.

Specify a duration (years) of your teaching experience by writing a number, e.g., 10.

Are you a civil servant or a contract staff member? Civil servant □   Contract □

Gender: Male □   Female □   Rather not specify □

Did you take part in the previous online survey, in March this year for the mid-term evaluation of the CPD pilot?   Yes □   No □   Don't know □

Yes, I consent □   No, I do not consent □ (end of survey)

1. Policy and system

To what extent do you agree with the following statements? Please choose the response which fits best, ranging from "completely disagree" to "completely agree"

1.1 I am satisfied with the standard of teaching in my school overall.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

1.2 I am dissatisfied with the standard of teaching I am able to provide to my students overall.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

1.3 I am satisfied with the amount of continuous professional development I am able to access.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

1.4 I am satisfied with the quality of continuous professional development I am able to access.

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Completely disagree ☐   Somewhat disagree ☐ Neither agree nor disagree ☐ Somewhat agree ☐   Completely agree ☐

1.5 Teachers need to be able to engage in appropriate CPD based on their own needs and interests on a regular basis.

Completely disagree ☐   Somewhat disagree ☐ Neither agree nor disagree ☐ Somewhat agree ☐   Completely agree ☐

1.6 It is important for teachers to be lifelong learners, who continuously improve their skills and knowledge.

Completely disagree ☐   Somewhat disagree ☐ Neither agree nor disagree ☐ Somewhat agree ☐   Completely agree ☐

1.7 Teachers are not professionals; therefore, it does not matter whether or not they keep their skills and knowledge up to date.

Completely disagree ☐   Somewhat disagree ☐ Neither agree nor disagree ☐ Somewhat agree ☐   Completely agree ☐

1.8 In Cambodia, CPD for teachers is a priority for the MoEYS.

Completely disagree ☐   Somewhat disagree ☐ Neither agree nor disagree ☐ Somewhat agree ☐   Completely agree ☐

2. Interventions

2.1 I have benefited from at least one CPD activity in the past month.   Yes ☐   No ☐   Don't know ☐

2.2 I have benefited from two or more CPD activities in the past month.   Yes ☐   No ☐   Don't know ☐

2.3 I have benefited from a CPD needs assessment in the past month.   Yes ☐   No ☐   Don't know ☐   If "no" or "don't know" go to 2.5

2.4 If yes, the CPD needs assessment is helping me to address my professional learning needs.

Completely disagree ☐   Somewhat disagree ☐ Neither agree nor disagree ☐ Somewhat agree ☐   Completely agree ☐

2.5 I have developed a Professional Learning Plan (PLP) since the beginning of the pilot. Yes ☐   No ☐   Don't know ☐

2.6 My Professional Learning Plan (PLP) reflects and is compatible with my real CPD needs and real job as a teacher

Completely disagree ☐   Somewhat disagree ☐ Neither agree nor disagree ☐ Somewhat agree ☐   Completely agree ☐

2.7 I am engaging in the activities laid out in my professional learning plan.

Completely disagree ☐   Somewhat disagree ☐ Neither agree nor disagree ☐ Somewhat agree ☐   Completely agree ☐

2.8 I am a member of a professional learning community. Yes ☐   No ☐   Don't know ☐   If "no" or "don't know" go to 2.11

2.9 If yes, I regularly engage with other members of the professional learning community or undertake CPD activities with them.

Completely disagree ☐   Somewhat disagree ☐ Neither agree nor disagree ☐ Somewhat agree ☐   Completely agree ☐

2.10 If yes, I find the professional learning community beneficial in supporting my CPD.

Completely disagree ☐   Somewhat disagree ☐ Neither agree nor disagree ☐ Somewhat agree ☐   Completely agree ☐

2.11 I have undergone a staff appraisal in the past six months. Yes ☐   No ☐   Don't know ☐   If "no" or "don't know" go to 2.13

2.12 If yes, I found the appraisal useful in determining my professional learning needs.

Completely disagree ☐   Somewhat disagree ☐ Neither agree nor disagree ☐ Somewhat agree ☐   Completely agree ☐

2.13 Have you earned any CPD credits?   Yes ☐   No ☐   Don't know ☐   If "no" or "don't know" go to 2.16

2.14 If so, how many credits? Drop down menu: 0, 1, 2 3, 4, 5

2.15 If so, are these credits recorded in the CPD module of the HRMIS of the MoEYS?   Yes ☐   No ☐   Don't know ☐

2.16 Overall, my recent experience of engaging in the CPD pilot has been very positive.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

2.17 Overall, my recent experience of engaging in the CPD pilot has been very disappointing.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

2.18 Is there any aspect of the CPD system (including the CPD offerings, CPD needs assessment, professional learning plans, professional learning community, CPD credit system, or other aspects) which you consider could be improved?   Yes □   No □   Don't know □   If "no" or "don't know" go to 3.1

2.19 If so, please give details. Open ended response (100 characters max).

3. Outputs

3.1 Which, if any, have you seen of the following communications materials produced by the MoEYS to support the CPD system? Dropdown menu allowing multi responses: video, social media posts, posters, bookmarks, other. If none selected go to 3.5

If so, to what extent do you agree with the following statement?

3.2 I have seen the communications materials frequently in several different settings.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

3.3 I found the communications materials engaging and informative.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

3.4 The communications materials did not seem relevant to me.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

3.5 Have you received any training in the new CPD and HRMIS systems in the past 6 months?   Yes □   No □   Don't know □

If so, to what extent do you agree with the following statements? If "no" or "don't know", go to 3.11.

3.6 The training helped me to understand the CPD system and was clear and informative.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

3.7 The training helped me to understand the HRMIS system.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

3.8 The training was confusing and did not help me to understand the CPD and HRMIS systems.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

3.9 Is there any aspect of the training which you consider could be improved?   Yes □   No □   Don't know □

3.10 If so, please give details. Open ended response (100 characters max).

3.11 Have you downloaded the HRMIS mobile app?   Yes □   No □   Don't know □   If "no" or "don't know" go to 3.11a

3.11a Although you have not downloaded the app, have you used it?   Yes □   No □   Don't know □   If "no" or "don't know" go to 4.1.

3.12 Have you used the mobile app to check your personal data within the HRMIS?   Yes □   No □   Don't know □   If "no" or "don't know", go to 3.15.

3.13 Did you use the mobile app to communicate any aspects of your data which required amendment? Yes □   No □   Don't know □   If "no" or "don't know", go to 3.15.

3.14 If so, was the data amended accordingly in the HRMIS system?   Yes □   No □   Don't know □

3.15 Have you used the mobile app to view your CPD credits?   Yes □   No □   Don't know □

3.16 Have you used the mobile app to consult the list of available CPD offerings? Yes □   No □   Don't know □

3.17 Have you used the mobile app to enrol in a CPD offering?   Yes □   No □   Don't know □

3.18 Is there any aspect of the mobile app which you consider could be improved?   Yes □   No □   Don't know □ If "no" or "don't know", go to 4.1

3.19 If yes, please give details. Open ended response (100 characters max).

Outcomes

To what extent do you agree with the following statement?

4.1 As part of the CPD system pilot, I have been offered CPD which corresponds to my individual needs.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

4.2 I have been offered CPD which was not relevant to my individual needs.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

4.3 Engaging in the CPD pilot has begun to improve my knowledge, skills, motivation and professionalism.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

4.4 Engaging in the CPD pilot was a waste of my time and did not help me at all.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

4.5 I have been able to begin to apply knowledge and learning from engaging in the CPD pilot in my classroom teaching.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

4.6 I feel engaging in the CPD pilot is starting to make me a more effective teacher.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

4.7 I feel engaging in the CPD pilot is making me a more motivated teacher.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

4.8 I feel engaging in the CPD pilot is making me a more confident teacher.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

4.9 I do not feel engaging in the CPD pilot has made any difference to my teaching.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

4.10 Since I began engaging in the CPD pilot, my students appear more engaged.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

4.11 Since I began engaging in the CPD pilot, my students have been bored and disruptive during my lessons.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

4.12 Since I began engaging in the CPD pilot, my students are learning better.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

4.13 Since I began engaging in the CPD pilot, my students are achieving better scores in their monthly tests/assessment tasks.

Completely disagree □   Somewhat disagree □Neither agree nor disagree □Somewhat agree □   Completely agree □

Thanks and data use

Thank you very much for taking part in this survey. Your responses will be used anonymously and only for the purposes of the mid-term evaluation. Your responses are extremely valuable and will help to improve the quality of the CPD and HRMIS systems. You may be contacted again in July and asked to take part in the final evaluation of the CPD and HRMIS pilot. You will once again be free to accept or decline.

Annex 4: End-term data collection

Annex 5: Learning activities led by the participating teachers, applying professional learning during and after the CPD system pilot