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Evaluation of the Common Core Technology Project

Interim Report

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1. Introduction

Under its Common Core Technology Project (CCTP), the Los Angeles Unified School District (LAUSD) plans to deliver technology devices to every teacher and student in the district. The effort began in August 2013, with the delivery of devices to the first wave of schools, and will continue through three stages that unfold over five years. The external evaluation of the project, conducted by American Institutes for Research (AIR), will address the implementation and outcomes of the program. This Interim Report is intended to provide formative feedback toward program improvement based on the evaluation of the program's first year of implementation. This introduction provides a description of CCTP and an overview of the evaluation approach that was employed in the first year.

1.A. Description of the CCTP

This section describes the CCTP's major goals, phases, participants, and activities.

Project Goals and Components

CCTP is LAUSD's signature investment in technology that is intended to provide every teacher and student with a computing device. The technology is intended to transform learning throughout the district in three primary ways, as expressed by the district's goals for the project:[1]

- *Provide educators with tools (devices) to advance student learning and create learning spaces that are designed to increase learner engagement.* Teachers will have access to curriculum content and digital activities that are interactive and engaging.
- *Support the Common Core State Standards implementation by providing all students with the opportunity to engage with digital curricula, interactive supports, and adaptive assessments.* Teachers will have access to standards-aligned assessments that provide ongoing formative feedback about individual students. Based on this feedback, teachers can provide tailored supports to students. Students will become prepared for the digital adaptive assessments that will be implemented in 2015 under the Smarter Balanced Assessment Consortium (SBAC).
- *Close the "digital divide" by ensuring that all students have access to 21st century technology.* Students in all schools, and from all populations, will have access to 21st century technology and learning environments. Students will use devices and applications to engage in learning activities involving collaboration and communication, research, synthesis/knowledge production, review of digital text, and use of adaptive tutorials for mathematics (along with other content areas).

The CCTP has several components, including the deployment of devices, Common Core-aligned curriculum, professional development, and technical support. Under contract to the district, Apple is providing iPads, and the district is using project funds to develop the wireless infrastructure that will enable the downloading of resources and tracking of devices. A unique Apple ID permits the users of each device to access an online store (iTunes) to download

[1] http://achieve.lausd.net/Page/627

applications (apps) for the device. AirWatch provides the mobile device management (MDM) software that allows district staff to monitor and control the apps loaded on devices.

Apart from the devices themselves, the major components of the program include curriculum, professional development, and technical support. The devices come loaded with curriculum content aligned to Common Core State Standards in mathematics and English language arts (ELA). These materials, referred to as the Common Core System of Courses, are being designed by Pearson Education. They are intended to include lessons, content, assignments, and assessments aligned with the Common Core. Internal district staff and the external vendors (Pearson and Apple) provide professional development. The vendors provided two- to three-day professional development sessions to teachers at the beginning of the 2013 school year, during the first phase of device deployment. LAUSD also hired 14 virtual learning complex facilitators (VLCFs) to provide a variety of types of support to staff as they learned how to use the devices and digital resources to support instruction. Finally, technical support is being provided by on-site microcomputer support assistants (MCSAs).

The district used public bond funds to pay for the devices bundled with the Pearson curriculum content, as well as for VLCFs and other CCTP staff to provide support to Phase 1 CCTP schools. The School Construction Bond Citizen's Oversight Committee (BOC) has been involved in the project the past year to ensure that funds are used appropriately according to established bond fund restrictions. Although the BOC affirmed the legality of using bond funds for funding the CCTP and procuring CCTP technology, they made clear that public bond funds cannot be used to purchase textbooks or professional services such as teacher professional development. Furthermore, the funds could be used to pay for VLCF efforts to deploy the devices because this constituted support for infrastructure. However, bond funds could not be used to pay for instructional support or professional development provided by VLCFs to all school staff. As of June 2014, the funding stream for CCTP changed to include both bond and general funds.

Program Phases and Modifications

LAUSD initially planned to roll out CCTP to all schools in the district in three phases. Phase 1 began in August 2013 with 47 schools. Phase 2 was scheduled to commence in January 2014, with an expanded number of schools and project support staff. During Phase 3, scheduled for fall 2014, the district planned to roll out the program to all of its remaining schools. For reasons discussed in the District Leadership section of this report, the rollout to most of the Phase 2 was delayed until fall 2014; this phase will include 38 schools. Phase 1L, which is intended to test laptops and Chromebooks, was added and is also scheduled to start in July 2014. This phase includes 20 high schools that will be able to select their mobile device and curriculum provider. Phase 3 has not yet been approved by the board.[2]

The 47 Phase 1 schools were drawn from three different types of schools. Of the 47, 13 were schools that had previously adopted technology-assisted learning programs as part of the Schools for the Future program. Twenty-nine schools were identified by the federal Office of Civil Rights as having inequitable instructional resources and therefore had the highest priority in

[2] In the November 5, 2013 board presentation, the district recommended a rollout of this phase ranging from August 2014 to December 2015.

receiving modernized instructional content. The remaining five were charter schools colocated with schools selected to be in Phase 1. Of the 47 schools selected to participate in Phase 1 of the CCTP, 40 percent were elementary schools, 19 percent were middle schools, 30 percent were high schools, and 9 percent were span schools (see Appendix A for a list of schools). These schools received their devices in three waves during Phase 1: 21 early adopting schools received devices mainly in September 2013, 22 mid-adopting schools received their devices mainly in October 2013, and four late adopting schools received their devices in January 2014.

To provide context for this report, Exhibit 1 provides a timeline of major events involving CCTP and district leadership.

Exhibit 1. Timeline of CCTP Milestones and Events

June 18, 2013: LAUSD Board of Education approves the vendor (Apple) contract for Phase 1 devices. Total cost of Phase 1 is $50 million.
July 2013: CCTP project director is hired.
August 20, 2013: LAUSD Board of Education establishes the CCTP Ad-Hoc Committee to support the facilitation of information flow on the CCTP via public forums where questions, concerns, information and recommendations are exchanged.
August–September 2013: CCTP professional development, including Apple and Pearson training, is provided to school-based staff.
August–September 2013: Devices are deployed to 21 early adopting Phase 1 schools
September 2013: LAUSD decides to restrict device usage to campus, based on a safety breach in three high schools where devices of 185 students were compromised by deletion of MDM software that allowed students to forgo web filtering. LAUSD provides option to secondary school principals to postpone the roll-out until a later phase; four middle schools decide to delay roll-out until January. Devices are collected from all students in the three high schools involved in the disabling of filtering software.
September–November 2013: LAUSD rolls out devices to 22 mid-adopting Phase 1 schools.
October 2013: LAUSD's superintendent announces a revision to the CCTP timeline for Phase 2, to ensure the district is able to address important questions and lessons learned from Phase 1. The revised plan includes the following main points: • Planned Phase 2 rollout of devices for up to 36 campuses between January 2014 and May 2014 • Provision of tablets and initial orientation to remaining principals and certificated staff at all LAUSD campuses by April 2014 • Provision of tablet carts to schools with inadequate technology to participate in Smarter Balanced (SBAC) field testing for spring 2014 • Phase 3 rollout of tablets at up to 200 campuses in fall 2014, up to 250 campuses in spring 2015, and the remaining campuses in fall 2015. This differed from the origin al Phase 3 implementation schedule that spanned from July 2014–December 2014.
November 2013: Board passes resolution brought forward by the ad-hoc committee chair, modifying the superintendent's proposal and stipulating that the district do the following:

• Bring protocols and practices related to the technology project to the Board for review prior to the conclusion of Phase 2. • Purchase a keyboard for every Phase 1 and 2 high school student, middle school student, and third, fourth, fifth, and sixth grader. • Establish a pilot program Phase 1L for up to seven non-Phase 1 and 2 high schools that will provide a laptop to every teacher and student for all Phase 1L high schools. (When options schools and colocated magnets and charters were added to Phase 1L, the total number of high schools participating increased to 27.) • Contract with an evaluator to evaluate the use of iPads at Phase 1 and 2 schools as well as the relative merits of the iPads loaded with CCSoC curriculum content and other forms of technology and curriculum materials.
January 2014: LAUSD rolls out devices to four late-adopting Phase 1 schools.
January 2014: Board adopts plan for rollout of Phase 1L (7 infrastructure-ready high schools and 13 colocated charter schools) and Phase 2 (38 schools). Estimated cost of these phases is **$114,858,983.**
April 2014: LAUSD rolls out devices to five Phase 2 schools; by end of year, district purchases devices for 11 of 38 Phase 2 schools.
June 2014: CCTP hosts an official vendor presentation of laptops available to Phase 1L schools, and the schools make their selection.
July 2014: Vendor contracts for Phases 1L and 2 are approved by the board. The Phase 1L vendors will provide schools with a choice of Chromebook devices and curriculum materials. Phase 2 continues to utilize the same vendor contract as Phase 1.
August 2014: District announces it will no longer use the contract with Apple to purchase devices; reopens request for proposal process for the purchase of devices for remaining 27 Phase 2 schools and for future phases.

1.B. Overview of the Evaluation

AIR's external evaluation of CCTP has main broad components: (1) a formative evaluation to support ongoing improvements to the CCTP and (2) a summative evaluation to provide accountability for the accomplishment of the project's intended goals and outcomes. The evaluation will address Phases 1, 1L, and 2 of the CCTP project as they unfold over five years. The evaluation of the project's first year (August 2013–July 2014) focused on project leadership at the district level and school-based implementation, with the latter focus including technology usage and educators' perception of the program and supports. The evaluation sought to answer a set of questions aligned to these topics, drawing upon both quantitative and qualitative data sources, as described in the Methods section of this report. The specific evaluation questions are summarized in Exhibit 2.

Exhibit 2. Evaluation Questions for Year 1

1. How is the technology being used by teachers and students in CCTP schools and other school-based technology-integration initiatives?

a. What are the most frequent applications?
b. What are the most common barriers to achieving early implementation goals?
c. What are the most promising practices for using technology in the CCTP and non-CCTP schools?
d. To what degree is the Pearson curriculum used in different grades in CCTP schools?
e. To what degree do students receive practice in computer-based assessments (Smarter Balanced Field Test and other applications)?
f. What are the relative advantages and disadvantages of tablets, laptops, and other technologies?

2. What is the nature of the district's planning and support of the CCTP and other school-based technology integration initiatives with regard to the following:
   a. Responsibilities of participating committees or departments with respect to planning and implementation?
   b. Interaction, communication, and decision making between or among the various departments regarding the CCTP and Common Core?
   c. What are early implementation goals?
   d. Communications and dynamics regarding the rollout?
   e. Training provided to the 14 VLCFs to perform their roles and responsibilities?
   f. Accomplishments and future plans?
   g. Strengths and weaknesses of strategies employed?
3. What are the early activities, experiences, and perceptions of principals and district staff regarding the technology applications?
   a. Have teachers received support to integrate technology in their classrooms?
   b. What technical support is available, and did teachers access it?
   c. What professional development are teachers accessing?
4. Based on a synthesis of the findings, what are recommendations to the district regarding the following:
   a. Strategies by central office, CCTP, and other district leaders for increasing overall program quality and sustainability in Phases 2 and 3?
   b. The most promising program designs for varied school contexts (e.g., elementary, middle, or high school) and diverse learners (e.g., English learners, students with disabilities, socioeconomically disadvantaged students, gifted)?
   c. Professional development and other types of support needs for teachers and principals?

1.C. Structure of the Report

The next section of this report describes the methods the evaluation team employed to gather and analyze data about the first year of CCTP implementation. Next, we examine findings for each of the first three evaluation questions in Sections 3, 4, and 5, respectively. Each of these sections is structured according to the subevaluation questions. We intersperse recommendations throughout each section, so they appear in proximity to the findings on which they are based. We conclude the report with a synthesis of the findings from three main sections, and a brief discussion of next steps for the evaluation.

2. Methods

2.A. District Leadership Data Sources

The CCTP district leadership evaluation component included 12 in-person interviews with a total of 14 district-level staff, seven phone interviews with VLCFs, an in-person focus group with eight MCSAs, and an in-person focus group with five Educational Service Center (ESC) area superintendents. The individuals interviewed were selected in conjunction with the LAUSD Office of Data and Accountability (which oversees this evaluation) and CCTP project team. The purpose was to identify individuals who could speak to a broad range of the project's components for the interviews. The interviewees included the superintendent and seven other senior district leaders with responsibilities tied to the rollout, along with the CCTP project director and six other project leaders. We selected VLCFs and MCSAs who had been assigned to the CCTP schools that we sampled for spring 2014 site visits.

Interview and Focus Group Data Collection and Analysis

The evaluation team conducted semistructured interviews or focus groups using tailored protocols for district leader interviews, VLCF interviews, and the MCSA and ESC area superintendent focus groups. The protocols were aligned to specific evaluation questions and covered topics related to communication of CCTP goals and timelines; organizational structures, roles, and responsibilities; professional development plans and management of staff; policies conducive to program success; and ways in which the initiative has shown or not shown success. Each interview or focus group was roughly 45 minutes in duration. Interviewers took notes during the interviews, and all but one session were recorded with permission and transcribed.

Evaluation interview and focus group notes were reviewed by one researcher and coded to a prespecified framework based on the evaluation questions. The researcher's coding was reviewed in its entirety by a second researcher to ensure accuracy.

District-Level Document Review

The evaluation team obtained and reviewed a variety of documents depicting the activities of the CCTP. These included both internal and public documents, During interviews and focus groups, the evaluation team requested internal documents providing evidence of the organizational structure of district leadership, support from district leaders, and CCTP planning and implementation. These documents included organizational charts for the project, planning documents related to technology and communication, the project timelines, and documentation of deployment procedures. These documents were used to corroborate interviewee statements about planning and execution of the project (e.g., to verify that plans were in place). In addition, the evaluation team reviewed public documents pertaining to the project, including LAUSD Board of Education documents (board reports, board resolutions, stamped orders of business, board presentations, and additional documents submitted as part of presentations), and CCTP news releases and memoranda archived on the LAUSD website. These documents were used to understand key milestones in the project.

2.B. School Data Sources

In addition to the district-level interviews and focus groups, the evaluation team visited 19 schools in May 2014 to address questions related to school-based implementation (EQs 2–3), focusing on how teachers and students use technology and on school staff's early experiences with and perceptions of the technology integration. The site visits had three goals:

1. To establish a baseline understanding of CCTP in Phase 1 schools and other technology use in non-CCTP schools with other technology-related initiatives in place.
2. To provide initial formative feedback to LAUSD about how the program is being implemented in Phase 1 schools and how it is perceived by program participants during the first year of implementation.
3. To test our instruments and finalize them for continued qualitative data collection in the coming years of the evaluation.

To meet these goals, we drew a case study sample of 20 schools that included 16 Phase 1 schools representing all levels (i.e., elementary, middle, and high school) and four non-CCTP schools. We stratified the CCTP school sample by usage level, based on percentage of student devices that were active (i.e., connected to the district's network) during a seven-day period in April 2014 (the only information that was available at the time of sampling). One of the sampled schools (a medium usage CCTP high school) was unable to participate, resulting in a total of 19 visited schools, summarized in Table 1.

By "non-CCTP" schools, we mean LAUSD schools that were not part of Phase 1 of the CCTP and are implementing other technology integration projects. We purposively sampled four non-CCTP schools from among a list of eight schools provided by district leaders.

Table 1. Sampling Block for School-Based Site Visits

Usage	Elementary	Middle	High	TOTAL
CCTP Schools				
High Usage	4	1		5
Moderate Usage	4		1	5
Low Usage		1	4	5
Non-CCTP Schools				
	2	1	1	4
TOTAL	**10**	**3**	**6**	**19**

Note: Low usage is defined as < 21 percent of devices active, moderate usage is 21–79 percent, and high usage is > 79 percent of devices active during seven days in April 2014.

We conducted site visits between May 12 and May 29. Site visit data collection included interviews, focus groups, classroom observations, and review of key documents. Specifically, we conducted an interview with one school administrator (usually the principal) and an individual or group interview with the person(s) who serve in some capacity as CCTP leaders for the school (e.g., technology coordinators, teacher leaders). The purpose of the interviews was to learn about

their experiences with the CCTP or other technology initiative implementation and their perceptions of the technology, including facilitators and barriers to school and classroom integration. We also conducted brief classroom observations to document the presence of technology for different grades, subjects, teachers, and schools and the ways in which the technology was used. Each of these methods is described in greater detail in the following sections, including data analysis and quality control methods.

School Administrator Interviews and Focus Groups

We conducted a total of 33 interviews or focus groups with staff at 19 schools, including 14 principals and two assistant principals. We also interviewed 30 technical coordinators, data coaches, Title III coordinators, and CCTP leads one-on-one or in groups of up to three people in 16 schools. The technical staff members were identified by the principals in each school. Note that results are primarily reported by school (i.e., statements by either the principal or technical staff are reported as a school result) in order to capture school-level experiences.

All interviews were conducted at school sites. Interviews were semistructured following a common protocol for all participants. Due to the semistructured nature of the interviews as well as interviewee time constraints, not all interviewees answered every question. However, an attempt was made to ask all interviewees questions about the major evaluation topics, including their expectations for technology use, how teachers use technology in classrooms, technical support, professional development, and barriers and promising practices. All interviews were recorded and transcribed with permission. The study team then coded and analyzed the interviews using an analysis program to identify cross-cutting themes and key details of technology use. The coding scheme aligned with the evaluation questions, protocols, and report outline.

Three researchers coded the interview data. To establish interrater reliability, the researchers each coded the same interview initially. Each researcher also double-coded a second interview with another researcher, so a total of four interviews were coded by at least two people (12 percent of all interviews). The percentage agreement between researchers for these interviews averaged greater than 98 percent, and the Cohen's kappa coefficient for these interviews averaged 0.47; all researchers met a minimum threshold of an average agreement of more than 90 percent, an average kappa of more than 0.4, and no more than 5 percent of themes less than 80 percent agreement for these interviews. The researchers also met to resolve any substantive differences in coding that arose during the checks for interrater reliability.

Classroom Observation Data

The evaluation team conducted classroom observations during the site visits to examine the degree to which technology was present and in use and typical uses of technology at any given time. While in schools, observers attempted to visit as many classrooms as possible, primarily in the subject areas of mathematics and ELA, spending 12–15 minutes observing each classroom. Observers did not visit classrooms in which achievement testing was occurring or where the regular teacher was absent. Observers attempted to distribute the observations across a range of grades and settings (i.e., general education, special education, and English language learners). Observations were typically conducted by a single observer. For training purposes, new

observers were paired with experienced observers (members of the evaluation leadership team) for their first three or four observations.

Data Collection. Observers visited 245 classrooms in the 19 visited schools. The number of observations per school ranged from six to 28, with a median and mode of 12 and an interquartile range of 4 (Q1 = 11, Q3 = 14). The distribution of observations by school type is summarized in Table 2. Number of Observations by School Level

Table 2. Number of Observations by School Level and Percentage of Observations by Subject Area

				Percent by Subject Area				
School Level	**No. Schools**	**No. Observations**	**Percent**	**Math**	**ELA**	**Science**	**Soc. Studies**	**Other**
Elementary School	10	134	54.7%	29%	61%	15%	10%	11%
Middle School	3	45	18.4%	29%	38%	16%	11%	9%
High School	6	66	26.9%	30%	29%	21%	14%	9%
Total	**19**	**245**	**100.0%**	29%	48%	17%	11%	10%

Note: Subject area percentages exceed 100 percent within rows because multiple subject areas could be observed within a single classroom observation.

Observation Instrument. The evaluation team developed an observation protocol to capture the technology available in the classroom and the ways in which the technology was being used. Observers noted whether the following types of technology were available and in use: iPads, other tablets, desktop and laptop computers, interactive whiteboards, document cameras or projectors, student response devices, and TVs. Observers also noted whether technology was being used for 10 different a priori categories of technology use; these categories were adapted from instructional strategies and student activities included on the School Observation Measure (Ross, Smith, Lowther, & Alberg, 2007) and augmented based on the evaluation team's understanding of prevalent instructional uses of technology. The following were the categories of technology use:

- **Whole-class instruction.** Technology is used to support or enhance instructional activity directed toward the entire class.
- **Individual instruction.** Instruction is primarily delivered through the computer or technology device, such as an online course or tutorial, and the teacher serves as a facilitator of the learning process.
- **Internet research.** Technology is used to access information.
- **Mathematics and ELA practice.** Technology is used to present problem sets for practicing specific skills and is often adapted to a student's present skill level (e.g., ST Math).
- **Student collaboration.** Technology permits access to platforms, such as Google Docs, to share documents and collaboratively work on class assignments.

- **Assessment of student learning.** Technology is used to conduct skill assessments, such as DIBELS, or check for understanding through online quizzes or polling.
- **Creation of products or projects.** Students use technology to organize text or images to demonstrate their learning of a topic.
- **Technology as a learning resource.** Students use productivity tools, such as word processing or spreadsheet software, to assist with taking notes, making calculations, or other such activities.
- **Content delivery.** Books or movies are presented on the computer.
- **Art or music composition.** Technology is used to create art or music as a focus of the assignment (as opposed to merely enhancing a presentation).

Observers noted if these categories were present, described the technology that was involved (i.e., type of device and name of app), and provided additional notes about the nature of the technology use. Uses of technology that did not fit into the above categories were coded "Other" and then further analyzed to identify additional categories of technology uses. These additional categories included nonacademic uses of technology and teacher administrative use (as described in Section 4.B.).

Observers took descriptive field notes on classroom activities, regardless of whether the activities involved technology. When a computer was in use (iPad, laptop, or desktop), observers attempted to identify the name of the app being used. If observers could not determine the name of the app, they would describe the way it was being used (e.g., for ELA or mathematics practice). A total of 125 apps were noted in 91 of the 245 observed classrooms. Coders sorted these apps into the following categories:

- **Content.** News, information, books, or other sources (e.g., TED, Storia, Reading Rainbow)
- **ELA.** ELA curriculum content and practice (e.g., Lexia Core)
- **Mathematics.** Mathematics curriculum content and practice (e.g., IXL Math)
- **Platform or sharing.** Manage class content and share resources; also for learning management (e.g., Edmodo, Dropbox, Nearpod)
- **Science and other.** Science and computer science–related curriculum content (e.g., BrainPOP Jr.)
- **Search and reference.** Assists in finding information (e.g., Google search, dictionary)
- **Social media.** Allows users to create social networks and share updates, pictures, video, and other information (e.g., Facebook)
- **Tools.** Productivity tools, such as calculators, word processing, presentation, movie editing, and music editing (e.g., Noteability, iPhoto, iMovie, QR Reader)

The following categories were used for apps that did not fit into the above categories:

- **Nonacademic.** Games, music, entertainment (e.g., Candy Crush, Netflix, Pandora)
- **Other.** Serves academic purpose not specified in other categories (e.g., ClassDojo)

- **Unsure.** Category could not be determined.

These app categories were determined through an emergent qualitative analysis of apps downloaded to student and teacher devices (based on extant data from the MDM system) in all Phase 1 CCTP schools. Thus, the categories are predicated on a much larger set of apps and devices than those we observed in classrooms. The MDM data files and their analysis are described later in this section.

All but 10 of the 125 apps observed during the site visits were identified by name. Of the remaining 10, six apps could be categorized into one of the above categories, and four apps were not described in sufficient detail to permit categorization.

Data Analysis. Prior to analysis, two senior members of the evaluation team reviewed the technology use codes from the observation protocol to determine areas of inconsistency across raters (using field notes as a basis to judge the appropriateness of codes). These reviewers conferred on category definitions and revised the codes where necessary. A researcher reviewed the field notes for each technology use to identify subtypes of uses where they were present. The researcher also compiled the name of the apps for each technology use and categorized these apps using the coding scheme described previously. A second researcher reviewed the coding of apps for accuracy. Observation data were aggregated by school grade level (elementary, middle, and high school) and by program participation (CCTP or non-CCTP) for analysis.

Limitations. It was necessary to conduct the site visits in May to avoid visiting schools during districtwide standardized testing earlier in the spring semester. Because our visits occurred during the final month of school, it is possible that our observations did not capture instruction that was representative of regular instruction during the school year. Although the number of observations per school was fairly consistent across schools (as indicated by the interquartile range of 4), the range in number of observations per school (22) was fairly large. The one school at the high end, which had 28 observations, may be overrepresented in the data, and the two schools at the low end (each with six observations) may be underrepresented.

2.C. Extant Data Sources

We requested and obtained extant data from a variety of sources. For each of these sources, this section summarizes basic information about data management, quality assurance, measures obtained, and data analysis.

School Information Table

We created a school information table that summarized information about each school pertinent to its participation in CCTP. This information included the school's geographic location, assigned VLCF, grade levels served, and the school's grade level (Level; Elementary, Middle, High, and Span), and timing of CCTP adoption (early, mid, and late). Table 3 shows the grade ranges and CCTP approximate start dates among early, mid-, and late-adopting Phase 1 schools.

Table 3. Grade Ranges and Adoption Date Ranges of Phase 1 CCTP Schools

School Level	Timing of Adoption

Elem	Middle	High	Span	Early	Mid	Late
1–6	6–8	9–12	6–11	August–September 20, 2013	September 24–November 12, 2013	After November 12, 2013
K–5	6–7		6–12			
K–6	6–8		K–8			

Help Desk Files

The help desk logs list all requests for technical support or help with an iPad. The logs we requested covered from August 2013 through May 2014. Each help desk request is uniquely identified and is time stamped to the hour the request was opened. The person submitting the request can fill in the location of the incident and selects from a menu of incident categories to route the request; there were 30 incident categories. There is also a field to write a full description of the incident and the help that is requested. The main measure drawn from the help desk files is the number of help desk requests submitted. We consolidated the 30 incident categories into seven broad categories as warranted by their similarity. The category definitions are provided in Table 4.

Table 4. Definitions of Each Help Desk Incident Category

Incident Category	Definition
Apple ID	Problem related to Apple ID, including inability to sign in to the app store
MDM Issues	Requests related to Mobile Device Management (e.g., enrolling students in AirWatch, adding or removing apps)
Application Issues	Requests related to the Pearson app (e.g., difficulty logging in) and other apps (e.g., functionality of the app)
Lost or Stolen iPad	Request for new iPad to replace a lost or stolen iPad
New iPad Requested	Request for iPad for new student
Problem With Cart or Storage	Issues with the cart that is used to store the iPad
iPad Is Broken	Problem with the hardware
iPad Is Disabled	iPad frozen or cannot be accessed (e.g., student forgot the passcode)

Our analysis of these data examined the prevalence of these incident categories, their prevalence over time, and prevalence as a function of school type (elementary, middle, high, and span) and timing of adoption (early, mid, or late).

VLCF Logs

The VLCFs kept logs of their activities using a spreadsheet-based template. The VLCFs revised this form in spring 2014. The evaluation team determined that the revised version of the form was amenable to quantitative analysis and used that version as the data source. These logs were available from all 11 VLCFs employed in this capacity at the time of data collection and covered the months of May and June 2014. The log categories are presented in Appendix B.

The logs included 12 activities. Each activity was labeled on the form (in parentheses after the activity name) as either an instructional or operations and technical assistance activity. Our primary measures from the VLCF logs are the number and duration of activities within each of these two superordinate categories. We therefore excluded log entries for which the activity was missing.

MDM Files

The MDM system allows district staff to track the network connection status of all devices deployed to Phase 1 students and teachers and to monitor the apps that have been downloaded to each device. The system's Device Inventory Summary files indicate, for each school, the total number of active devices (i.e., devices connected to the district's network) at the time of the data pull. For those devices not currently active, the files indicate the total number that had been active within the preceding seven, 30, and 90 days. To examine usage of iPads in Phase 1 schools for this report, we used the Device Inventory Summary data exported from the MDM system to calculate the proportion of student and staff devices (respectively) in each CCTP school that were active during three 30-day periods: December 20–January 18, March 7–April 5, May 7–June 5, 2014.

Corresponding to the second purpose of the MDM system, the student and teacher Device Application Summary files compile, for each school, each application that was downloaded to any device at that school, the number and proportion of devices to which that application was downloaded, and the total number of devices at the school. Prior to analysis, we categorized apps based on their primary purpose or function, as described previously for the classroom observations.

We used this scheme to categorize the 200 most downloaded apps for students and teachers, respectively. These apps accounted for more than 50 percent of downloads to student devices and more than 40 percent downloads to staff devices. This approach excluded applications downloaded relatively infrequently. It was necessary to determine this cutoff because categorizing more than 17,000 applications in the student files and more than 8,000 applications in the staff files was not feasible given the project's timeline.[3]

Our analysis of the Device Application Summary data identified the most frequently downloaded applications and the variation in the categories of applications downloaded in relation to school type (elementary, middle, high, span) and timing of adoption (early, mid, or late).

Professional Development Files

LAUSD provided online records from Learning Zone, the district's online professional development management system, for each CCTP professional development session offered. Each of the Learning Zone professional development rosters indicates the type of professional development offered along with the list of participants in the class (their employee number and name), the location of the professional development, the status of participants' professional development, the date they enrolled, the date they completed, and the report date. We received

[3] The evaluation team intends to undertake a more inclusive analysis of app downloads in future years.

sign-in sheets from 48 separate CCTP-related professional development event offerings and combined them into one file for analysis. We excluded records of 76 staff from non-Phase 1 CCTP schools. This left 727 records corresponding to staff from Phase 1 CCTP schools, with each record corresponding to the enrollment of an individual staff member in a particular class.[4] Our understanding is that all of the district-based CCTP professional development sessions were included in the Learning Zone system; therefore, these registration records represent all CCTP-related sessions offered by the district.

Our primary measures from the professional development files are the proportion of all staff registered for professional development courses who completed the course and the proportion of staff who received an iPad who completed a course.

Our analysis of these data examined the courses in which staff could enroll. We also looked to see if completion rates, calculated using both the enrolled staff and deployed iPads as the denominator, were a function of school type and timing of adoption.

Los Angeles School Police Department Logs

We received a Los Angeles School Police Department (LASPD) log file that indicated the number of delivered iPads, the number lost, and the number stolen between August 2013 and May 2014, along with a description of each incident where an iPad was lost or stolen, and the date of the incident. There were 35 reported incidents in this file, each of which involved the loss or theft one or more devices.

[4] According to district staff, enrollment of non-CCTP staff was unintended and may have reflected non-CCTP staff who enrolled in the professional development sessions on their own. Enrollment of staff to professional development happened through two routes: (1) CCTP staff obtained school rosters and enrolled certificated staff into appropriate professional development sessions as a function of grade and subject area (these staff subsequently received a notice they were enrolled); (2) CCTP staff requested that Phase 1 principals encouraged all their staff to attend one of the professional development sessions, even if they had not been enrolled through the first process.

3. Technology Use in CCTP and Other Initiatives

The purpose of this section is to describe the ways that Phase 1 schools employed the technology provided to them as part of the CCTP or other technology initiatives to address EQ 2, *How is the technology being used by teachers and students in CCTP schools and other school-based technology-integration initiatives?* Data sources analyzed include extant data from documents received from LAUSD; transcripts from interviews with district personnel, principals, and technology coordinators or lead teachers who have assumed responsibilities for implementing technology in the school and classroom observation data. We examine the following sub-questions:

2a. *What are the most frequent applications?*

2c. *What are the most promising practices for using technology in the CCTP and non-CCTP schools?*

2d. *To what degree is the Pearson curriculum used in different grades in CCTP schools?*

2e. *To what degree do students receive practice in computer-based assessments (Smarter Balanced Field Test and other applications)?*

First, we describe the level of technology use in Phase 1 schools, along with the observed presence of technology in these schools. Because the technology of the CCTP is the iPad and its different apps, we present findings on the type of apps that teachers and students downloaded and used. We also describe the different educational uses of the iPads and other technology. Related but more specific questions are whether and to what extent teachers and students used the Pearson curriculum that came preloaded on their devices and whether they used iPads for computer-based assessments. In this first interim report, the focus is on establishing baseline levels of use during the first year of implementation.

3.A. Level of Technology Usage

We first examined the level of technology usage in CCTP schools as the proportion of devices that were in use as opposed to being idle, based on MDM records for devices in Phase 1 CCTP schools. We also examined level of technology usage in the classroom observations conducted in spring 2014.

To provide an initial depiction of Phase 1 schools' use of iPads, we summarized the Device Inventory Summary data exported from the MDM system, calculating the proportion of student and staff devices (respectively) in each CCTP school that were active (i.e., connected to the district's network) during a month-long period from May 7 through June 5, 2014. As mentioned in Section 2, we assumed that schools from different adoption stages (early, mid, and late) would have had sufficient experience to make comparisons among them meaningful by May 2014. To set the context for the analysis of the MDM data, it is important to understand that several schools in Phase 1 had put away their devices as of late spring 2014 for different reasons. For example, no iPad usage was observed in three of the 15 CCTP schools we visited (two high schools and one elementary school). Therefore, the findings in this section might reflect lower levels of usage than at an earlier point in the school year when the devices were still in use.

Analyses of the MDM data indicate that across Phase 1 CCTP schools, 82 percent of student devices and 83 percent of staff devices were active between May 7 and June 5, 2014. To examine and describe variation in use for this period, we sorted schools into categories of low, middle, and high usage (corresponding to each tertile). Table 5 shows the mean, standard deviation (SD), and cutoff points for the proportion of devices that were active in each of the usage categories.

- Schools with *high* student usage had an average of 98 percent of all student devices active during this period.
- Schools with *medium* student usage had an average of 93 percent of student devices active.
- Schools with *low* student usage schools had an average of 56 percent of student devices active.

Table 5. Percentage Active Student and Staff Devices, by Tertile and Overall (*N* = 47)

	Percentage Active Student Devices				Percentage Active Staff Devices			
	Mean	**SD**	**Min.**	**Max.**	**Mean**	**SD**	**Min.**	**Max.**
Low usage (*n* = 16)	56%	31%	1%	86%	68%	11%	38%	78%
Medium usage (*n* = 16)	94%	3%	86%	97%	85%	4%	78%	92%
High usage (*n* = 15)	98%	1%	97%	99%	97%	3%	93%	100%
Overall (*n* = 47)	82%	26%	1%	99%	83%	14%	38%	100%

Student Usage by School Type

Next, we examined student device activity among schools serving different grade levels and among schools who adopted the CCTP at different times (see Section 2.C. for more information about these school types). Table 6 shows the number of high, middle, and low usage schools as a percentage of total schools in each school category; the percentages in each column sum to 100 percent.

Table 6. Proportion of Schools in Each Student Usage Tertile by School Level and Adoption Stage (*N* = 47)

	School Level				Timing of Adoption		
	Elementary	**Middle**	**High**	**Span**	**Early**	**Mid**	**Late**
Low usage (*n* = 16)	5%	33%	71%	50%	52%	23%	0%
Medium usage (*n* = 16)	30%	44%	29%	50%	24%	41%	50%
High usage (*n* = 15)	65%	22%	0%	0%	24%	36%	50%

School Level. Students' degree of device usage varied as a function of school level. Although 65 percent of elementary schools were high student usage schools, only 22 percent of middle schools and no high schools or span schools were in the high student usage category.

Timing of Adoption. Although less than a quarter of early adoption schools and about a third mid adoption schools had high student usage, half of late adopters were in this group.

Staff Usage by School Type

Table 7 shows the proportion of schools in each of the staff usage categories (low, medium, high) by school level and timing of adoption. We observed that elementary schools and span schools made up a greater proportion of the high users than schools serving other grades. Nearly half of the early adoption schools but less than one quarter of mid and late adoption schools were in the low staff usage category.

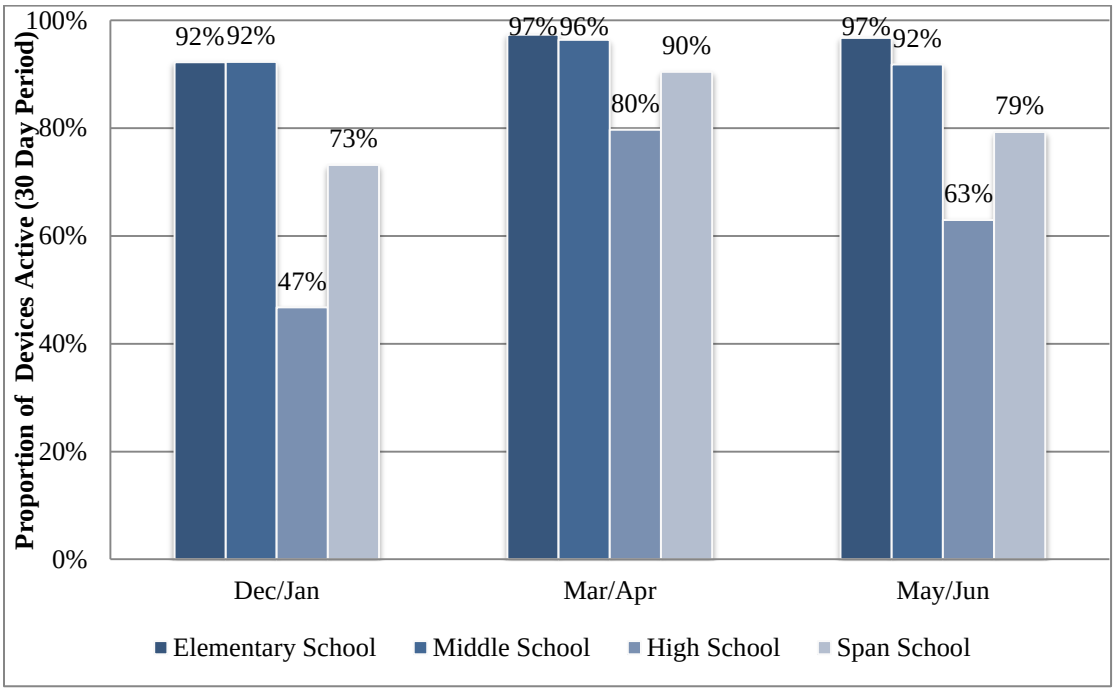
Table 7. Proportion of Schools in Each Staff Usage Tertile by School Level and Adoption Stage (*N* = 47)

	School Level				Timing of Adoption		
	Elementary	**Middle**	**High**	**Span**	**Early**	**Mid**	**Late**
Low usage (*n* = 16)	5%	44%	64%	50%	48%	23%	25%
Medium usage (*n* = 16)	40%	44%	29%	0%	19%	41%	75%
High usage (*n* = 15)	55%	11%	7%	50%	33%	36%	0%

Level of iPad Usage Over Time

We next examined iPad usage over time among students in Phase 1 schools, based on thirty-day periods sampled at three times during the 2013-14 school year: December 20–January 18, March 7–April 5, May 7–June 5, 2014. These usage rates are shown by school level in Figure 1. The proportion of active student devices was fairly consistent through the year. Elementary schools generally had the highest proportion of student devices in use, and high schools generally had the lowest proportion.

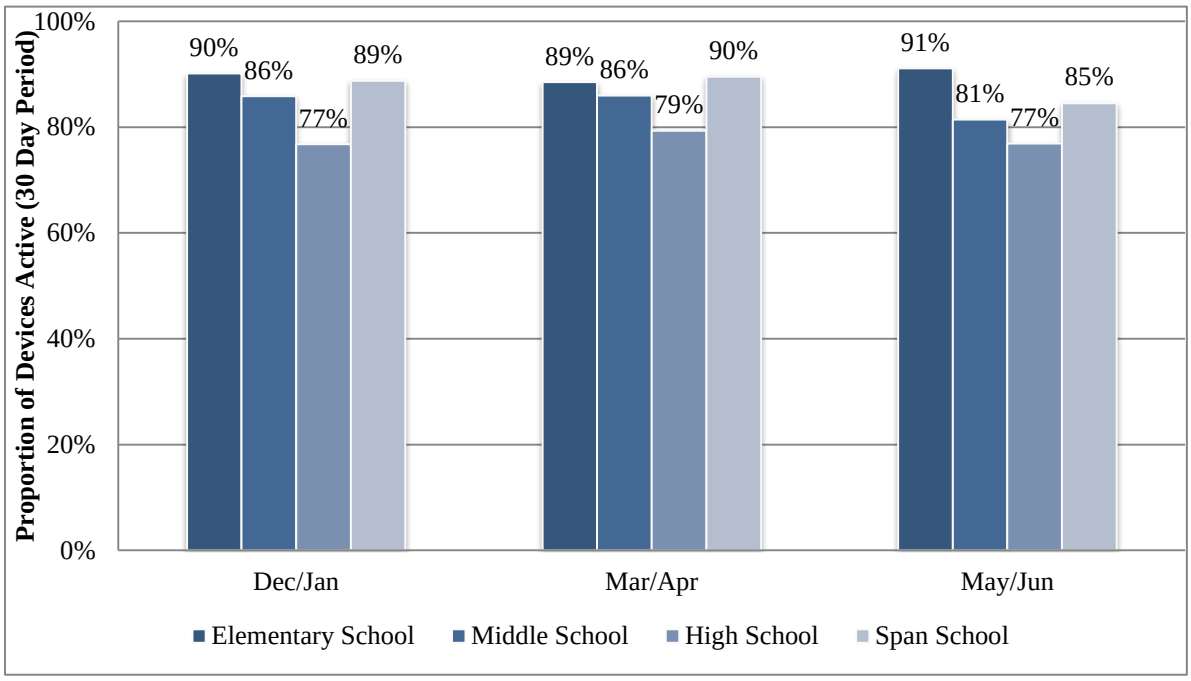
Figure 1. Proportion Student Devices Active in Phase 1 CCTP Schools (*N* = 47) during 30-Day Periods in December/January, March/April, and May/June 2014



Note: There are 20 elementary schools, 9 middle schools, 14 high schools, and 4 span schools.

The proportion of active staff devices was also consistent throughout the year, but with less variation among school level within time period than student device activity. These findings are displayed in Figure 2. Proportion of Active Staff Devices in Phase 1 CCTP Schools (*N* = 47) in January, April, and June 2014

Figure 2. Proportion of Active Staff Devices in Phase 1 CCTP Schools (*N* = 47) in January, April, and June 2014



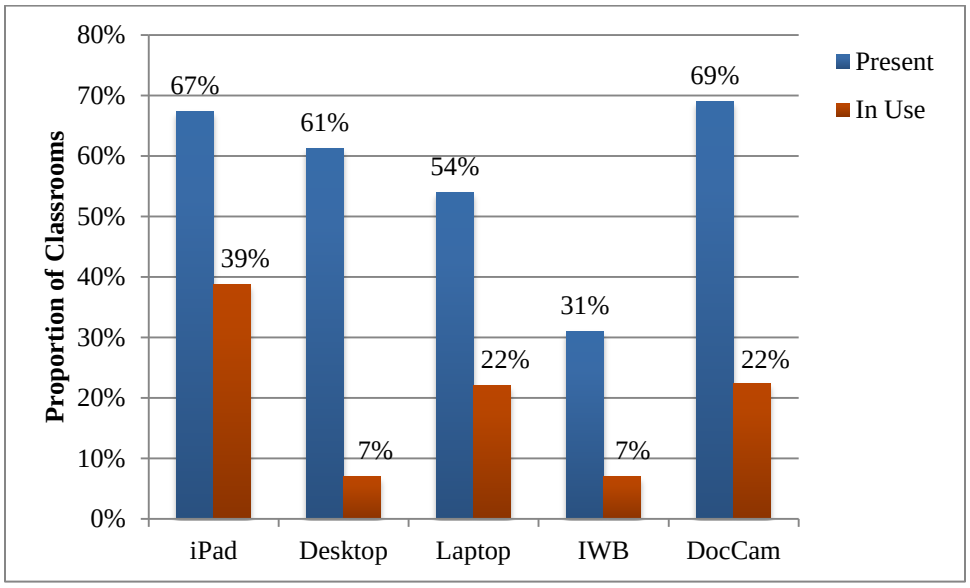
Note: There are 20 elementary schools, 9 middle schools, 14 high schools, and 4 span schools.

Level of Usage in Observed Classrooms

Another perspective on level of technology use is provided by classroom observation data, which differ in nature from the MDM data reported previously. Whereas the MDM data indicate usage of iPads in all Phase 1 CCTP schools, the observations were conducted to note the presence and use of iPads as well as other types of technology in a sample of 15 Phase 1 CCTP schools and four non-CCTP schools implementing other technology-related projects.

We observed the presence of several types of technology in a high proportion of classrooms visited, although in many cases these technologies were not in use during the observations. Figure 3 depicts the proportion of classrooms visited in which the following five types of technology were present or in use: iPads, desktops, laptops, interactive whiteboards (IWB in figure), and document cameras. iPads, desktop computers, and document cameras were among the most common technologies present in observed classrooms; they were all found to be present in more than 60 percent of 245 visited classrooms. Further, the iPads were observed "in use" in 39 percent of classrooms, by far the most commonly observed type of technology in use during the May 2014 site visits. By contrast, desktops were seldom observed to be in use (7 percent of classrooms). Document cameras and laptops were each observed to be in use in about a fifth of classrooms.

Figure 3. Proportion of Classrooms in Which Technology of Different Types Was Observed as Present or in Use, *N = 245*



The extent to which technology of different types was present varied considerably by CCTP participation, as shown in Figure 4. Among the 15 CCTP schools, iPads were present in 79 percent of classrooms, whereas they were present in 26 percent of non-CCTP schools. CCTP schools had a higher proportion of classrooms with desktop computers than non-CCTP schools (66% to 45%), although the non-CCTP schools had higher proportions of interactive whiteboards (45% to 27%). Thus, apart from the anticipated difference in presence of iPads, there is not a clear pattern with respect to presence of resources as a function of program participation.

Figure 4. Proportion of Classrooms in Which Technology of Different Types Was Observed to Be Present, in CCTP and Non-CCTP Schools, *N* = 245

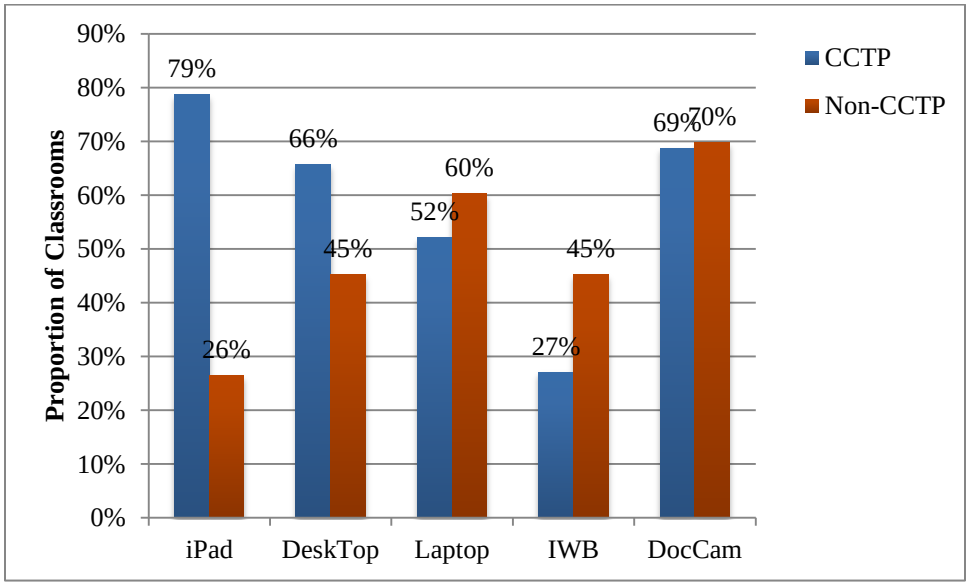


Table 8 indicates the median number of iPads, laptops, and desktops in observed classrooms, as well as the median number of students present in the classrooms in which those devices were observed. In classrooms where iPads were present, the devices were typically distributed in the one-to-one model envisioned by the CCTP program; that is, on average, every student in the classroom had access to their own iPad device. In contrast, when laptops or desktop computers were observed in the classroom, there was usually only one computer that was used by the teacher or occasionally an individual student. In a few cases, classroom observations were conducted in a computer lab environment in which each student had access to a desktop or laptop computer.

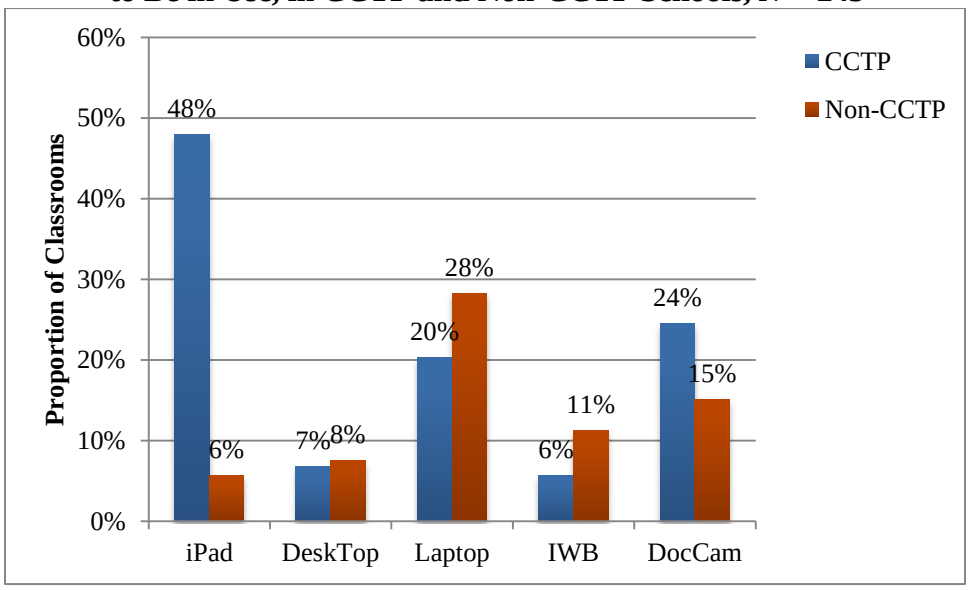
Table 8. Median Number of Devices of Different Types Present in Observed Classrooms

Devices	Median Number of Devices	Median Number of Students	Number of Classrooms
iPads	19	22	143
Other tablets (not iPad)	1	27	4
Laptops	1	21	125
Desktops	2	22	138

Note: Medians for each row are based on records in which the number of devices was one or greater.

CCTP classrooms have high levels of use of computing devices relative to non-CCTP schools with technology initiatives. Figure 5 shows the technology use of each type of technology, disaggregated by CCTP participation. We found that iPads were in use in nearly 50 percent of classrooms in CCTP schools, and in about 6 percent of classrooms in non-CCTP schools. There was also a greater prevalence of document cameras in CCTP than non-CCTP schools. Non-CCTP schools had a greater prevalence of interactive whiteboards and laptops that were in use.

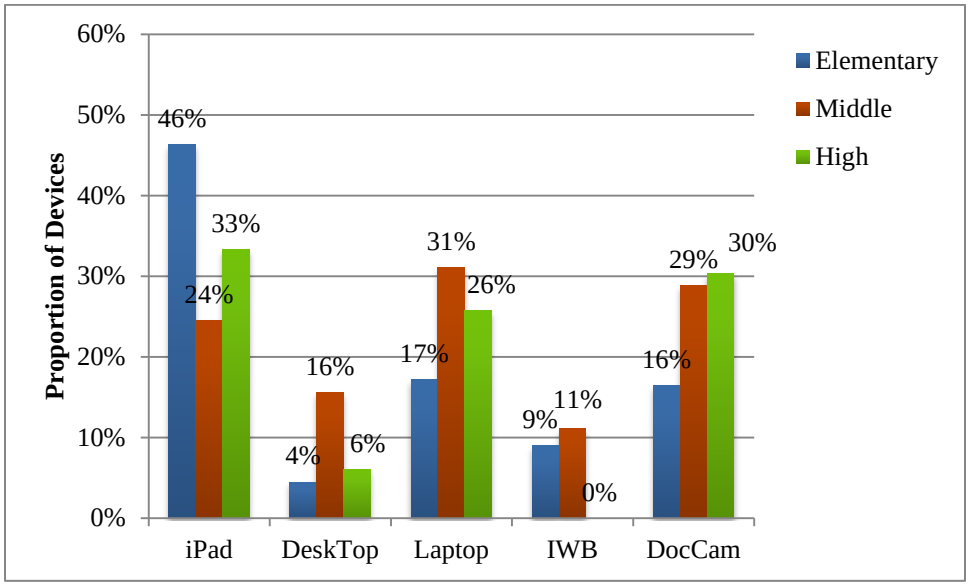
Figure 5. Proportion of Classrooms in Which Technology of Different Types Was Observed to Be in Use, in CCTP and Non-CCTP Schools, *N* = 245



Note. CCTP Classrooms *n* = 1922; Non-CCTP Classrooms *n* = 53

We also disaggregated the classroom observation technology use data by school level. As shown in Figure 6, iPad usage was observed in nearly half of elementary school classrooms, about one third of high school classrooms, and one quarter of middle school classrooms. Excluding the non-CCTP schools from this analysis, we observed iPad usage in 57 percent of CCTP elementary, 35 percent of CCTP middle, and 38 percent of CCTP high school classrooms.

Figure 6. Proportion of Classrooms in Which Technology of Different Types Was Observed to Be in Use, by School Level, *N* = 245



Note. Elementary *n* = 134; Middle School *n* = 45; High School *n* = 66

In summary, iPads were, as expected, the most prevalent technology present and used in CCTP classrooms. Data from both the MDM records and classroom observations indicate that proportionally more elementary schools were using their devices compared to other schools.

3.B. Uses of Technology

This section describes the purposes for which the visited schools appeared to be using iPads and other technology, and the extent to which students and teachers downloaded and used apps of different types. The section addresses EQ 2.a.: *What are the most frequent applications?* We first describe the types of technology uses observed in CCTP and non-CCTP schools visited in May 2014. We then focus on the types of apps being used across CCTP schools, in general, and the purposes for app use in the visited schools.

Type of Technology Use

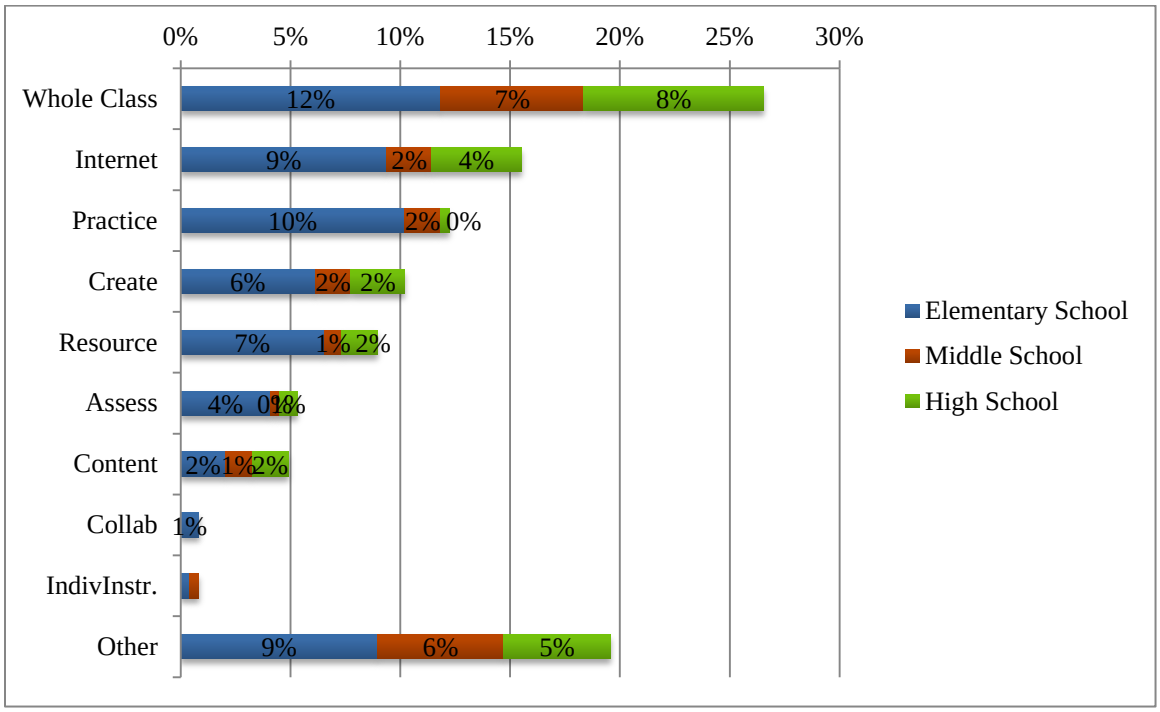
This section describes the ways in which technology was being used in 245 classrooms in the sample of 15 Phase 1 CCTP and four non-CCTP schools observed by the evaluation team in May 2014. First, we examine technology usage broadly and then focus on iPad usage specifically. To

conduct the classroom observations, we defined 10 a priori categories of technology use, each of which could involve one or more types of hardware. The categories, defined in the Section 2.B., were as follows:

- Whole-class instruction
- Individual instruction
- Internet search
- Mathematics or reading practice programs
- Collaboration
- Assessment
- Creation of products or projects
- Learning resource
- Content delivery
- Art or music composition

The findings in this section draw upon classroom observations. We describe the frequency with which each type was observed and the devices involved in their use. In the 19 schools and 245 classrooms we visited, we found that the most common uses of technology were for whole-class instruction (observed in 26 percent of classrooms), Internet research (16 percent of classrooms), and mathematics or reading practice (12 percent of classrooms). In 20 percent of classrooms, technology was used for other purposes not captured by the a priori categories of the observation protocol; these purposes are discussed in more detail later. Figure 7 shows the number of classrooms in which we observed technology used for the previously listed purposes or other purposes, by school level. One notable difference was that the use of technology for mathematics and reading practice was observed mainly in elementary schools (24 of the 29 classrooms in which this was observed).

Figure 7. Number of Classrooms in Which Each Technology Use Was Observed, by School Level, *N* = 245



Note: Elementary *n* = 134; Middle School *n* = 45; High School *n* = 66

For each of these types of technology uses, listed in the order of prevalence, we describe the different ways in which it was implemented using iPads and other technologies.

Whole-Class Instruction. The most typical use of technology was for whole-class instruction, which was observed in more than one quarter (27 percent) of all classrooms (65 of 245 classrooms). Whole-class instruction is defined as a classroom activity in which technology is used and the attention of students is focused in the same place, on the same activity, at the same pace. Key findings include the following:

- Teachers typically used technology to display a document, in a manner similar to the use of a conventional overhead projector.
- iPads were used in 22 percent (11 of 51) of the CCTP classrooms in which we observed technology-enabled whole-class instruction.
- Whole-class instruction did not noticeably differ by school level.
- Content coding indicated seven different categories of whole-class instruction using technology; these are summarized in Table 9.

Table 9. Uses of Technology for Whole-Class Instruction (*N* = 65)

Whole-Class Use	Proportion (*N* = 65)	Description of Technology Use
Replacement for overhead projector	58.5%	Teachers would display a writing prompt, problem set, or workbook page, most commonly using a document camera to project documents. At times, teachers also used laptops or desktops connected to interactive whiteboards or the Internet.
Personal device	24.6%	Students used personal devices to work on a single activity or problem simultaneously.
Video projection	13.8%	Teachers used technology to project a video of varying lengths to the class (e.g., brief clip, full movie, Khan Academy video).
Whiteboard replacement	12.3%	Technology was used as a replacement for a traditional whiteboard. Teachers used markers designed for an interactive whiteboard to write and erase information.
Interactive whiteboard app	7.7%	Teachers used interactive whiteboard applications and accessed the interactive features of apps.
Interactive lesson content	4.6%	Teachers used the lesson platform app (e.g., Nearpod) to deliver interactive lesson content with opportunities for student response.
Demonstration of app	3.1%	Teachers used a device to demonstrate to the class how a specific app or computer program worked.

Although interactive lesson content represented just 5 percent of observed instances of whole-class instruction, seven interviewees from five schools mentioned using the Nearpod app for this purpose. (Their comments on this and other apps are summarized in Section 3.C.)

Internet Research. The second most frequently observed use of technology was for Internet research, which was observed in about 16 percent of classrooms (38 of 245). Students used the Internet to look up information or pictures to support a class activity, project, or presentation or to add to an ongoing report.

- Among the CCTP classrooms where Internet research was observed, students typically used iPads for this purpose (in 23 of 28 or 82 percent of such classrooms).
- The proportion of classrooms using technology for Internet research did not noticeably differ by school level (17 percent elementary, 15 percent middle school, and 11 percent high school classrooms).

Mathematics and Reading Practice. In about 12 percent of classrooms (30 of 245), students used programs focused on ELA and mathematics to practice skills in a game-like computing environment; some of these programs were adaptive in nature, providing items and instructional pathways tailored to student responses to earlier items.

- Mathematics and ELA practice was mainly observed at the elementary level (in about 19 percent of elementary classrooms compared to 9 percent of middle school and 2 percent of high school classrooms).

- Of the 25 CCTP classrooms using practice technologies, 22 were using iPads (about 88 percent).
- The most commonly used app for practicing English skills was Lexia Core 5, and the most commonly used app for mathematics was ST Math.

Corroborating the observation findings, interviewees in several schools said that teachers used apps to provide opportunities for differentiated practice. They said these apps enabled students to learn at their own pace and thereby maximized class time. Among the apps they named for differentiated instruction in reading and writing were Achieve 3000, My Access, and Lexia Core 5. Other applications that facilitated differentiated learning were focused on mathematics, including ST Math, IXL, and Pick-a-Path.

Creating and Presenting Products or Projects. In about 10 percent of classrooms (or 25 of 245 observations), students used technology to create or present a product or project.

- In 10 of those observations, students used apps (mostly Keynote or PowerPoint) on individual devices to create or deliver presentations.
- In the remaining 15 observations, students used a variety of apps to put together a project, which included short films, portfolios, or final essays.
- In 14 of the 18 CCTP classrooms in which creating or presenting projects was observed, students used iPads to do so.

During interviews, school staff commonly mentioned that students use apps to build presentation skills and learn about product creation. Among the presentation applications they noted were Keynote, Prezi, and Haiku Deck. These platforms tended to function as interactive note-taking tools in elementary schools and for creating projects in middle and high schools.

Technology as a Learning Resource. In about 8 percent of classrooms (20 of out of 245), we observed technology being used as a learning resource, for activities such as note taking, drawing, making calculations, and other activities normally supported by conventional materials (e.g., pencil and paper, calculator, graph paper). In all CCTP classrooms where technology was used as a learning resource, the device being used was the iPad. There was no major difference in use by school level. Content coding for this use of technology fell into three categories, defined as following:

- **Word processing.** The most common use of technology as a learning resource was for word processing. In 15 of the 20 observations, students used iPads (or laptops, in non-CCTP schools) to take notes or complete writing assignments.
- **Calculations.** Students also used devices to perform mathematics-related functions in seven observations. In all of these observations, students used the calculator app on their iPads.
- **Create image.** In two of 20 observations, students used devices (in this case both iPads) to create an image or graphic.

During interviews, VLCFs also noted the frequent use of apps for note taking (Notability), making calculations (graphing calculator), creating music (Garage Band) and video (iMovie), and e-mailing (Gmail).

Assessment of Student Learning. We observed technology being used in 5 percent of classrooms (13 observations) to administer formal assessments.

- In eight of the observations, teachers used an iPad or a laptop for the DIBELS assessment.
- In six of the observations, students used various devices to complete individual quizzes.
- In two of the observations, teachers used apps on iPads to poll students during routine classroom instruction as a systematic way of reviewing student work.

In eight of 12 CCTP classrooms in which assessment of student learning with technology was observed, iPads were the technology used for this purpose. There were no significant differences in observed frequency of technology use for assessment by school level.

Content Delivery. In about 5 percent of classrooms (12 of 245 observations), devices were used to present a text or stream a movie to support instruction.

- In four of those observations, students used computing devices (iPads or laptops) to access textbooks online, stream audiobooks, read books using apps, or enter information from books into apps.
- In the remaining eight observations, teachers projected a video or played an audiobook (these were also coded as whole-class instruction).
- In three of the 12 CCTP classes in which content delivery was observed, iPads were the technology used to deliver content. There was no noticeable difference in technology use for content delivery by school level.

Although not mentioned during staff interviews or observed in May 2014, VLCFs reported that teachers frequently used content delivery apps, such as Razkids, to provide access to e-books.

Seldom Observed Technology Uses. The following three a priori categories of technology use were seldom observed:

- **Individual instructional delivery.** In two classrooms, technology was used for individual instructional delivery, where online lessons or programs introduce and explain concepts instead of the traditional teacher at the front of the classroom.
- **Student collaboration.** In two classrooms, teachers used technology to support collaborative learning efforts. Collaboration could be found either by working on a single document saved in a shared folder (e.g., Google Drive) or by sharing the search process on one device. In contrast to this finding, during interviews, staff in middle and high schools frequently noted the collaborative capabilities provided by the Google Suite applications and wireless clouds, including Google Drive, Airdrop, and Dropbox. VLCFs

provided additional examples of apps used for sharing content and collaborating, including apps for KidBlog (blogging) and Nearpod (presentations and research).[5]

- **Art or music composition.** In one classroom, high school students used laptops to create films through iMovie.

Other Instructional Uses. In 7 percent of classrooms (18 of 245), technology was used for instructional purposes that were not captured by any of the 10 a priori technology use categories.[6] We coded these purposes into three main categories, as follows:

- **Survey.** Four observations found students using individual devices to complete online surveys related to LAUSD.
- **Teacher administrative use.** In six observations, teachers used devices for administrative purposes (e.g., entering grades or taking attendance).
- **Teacher–student communication.** In three observations, teachers used iPads to facilitate teacher–student communication. In all three instances, teachers used devices to distribute assignments, or students used devices to turn in assignments. In interviews, school staff at all school levels noted that teachers work with platforms such as Edmodo and School Loop to facilitate communication among themselves, parents, and students about student progress. It is possible that this type of use is not as visible to an observer, if it takes place outside of classroom time.
- In addition, six miscellaneous uses of technology were mentioned only once.

Nonacademic Uses. In 11 percent of classrooms (26 of 245) technology was used for nonacademic purposes. In these cases observations, iPads and computers were used to watch noninstructional videos or play games. When looking just at the 107 classrooms in which students were using personal devices (laptops or iPads), the proportion of nonacademic use was 24 percent. However, this use of technology was not necessarily off-task; in some cases, teachers would allow students to use their devices for nonacademic purposes after the students had finished an assignment or test.

Most Frequently Observed and Downloaded Apps

Whereas the previous section described different uses of technology—across a number of different devices—this section examines the prevalence of specific apps on iPads issued as part of CCTP. This section discusses the prevalence of apps we observed in the classroom, as well as prevalence of apps downloaded to devices.

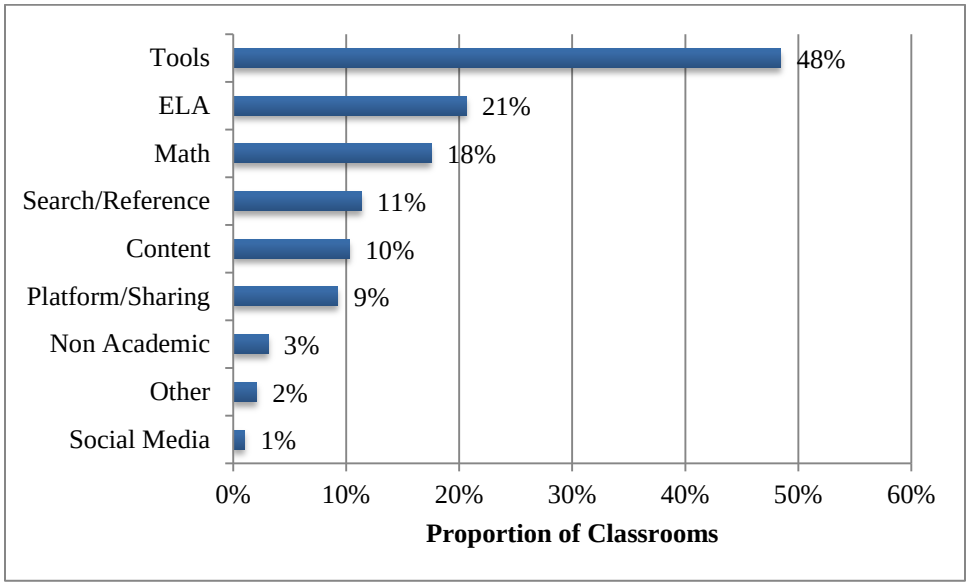
Observed Apps. During our observations, we noted if apps were in use, and if possible, which apps. We observed apps in use in 97 classes. For analysis, we categorized the observed apps into types shown in Figure 7. Overall, iPad tools apps were the most commonly observed apps; they

[5] As noted earlier, we observed technology-enabled presentation or creation of projects in 10 percent of the classrooms we visited. It is important to note that these were often collaborative projects, with students working in groups or pairs. These instances were coded in the former category, not as student collaboration, where the focus is on using technology to enable the collaboration.

[6] In one of these classrooms, we observed two different technology uses categorized as "other."

were observed in 52 percent of the 97 classrooms in which apps were in use. This category includes apps like calculator, PowerPoint, Word, iMovie, and Keynote. Apps related to ELA and mathematic practice were the next most frequent, as displayed in Figure 8. These categories included adaptive practice apps such as Lexia Core 5 and ST Math.

Figure 8. Proportion of Classrooms in Which Different Categories of Apps Were Observed in Use, *N* = 97



Note: Proportions are based on a denominator of 97 classrooms in which app use was observed.

We observed one notable difference in app use by school level. The proportion of observed classrooms in which ELA apps were observed in use was higher at the elementary level (28 percent) than the secondary level (9 percent combined for middle and high schools).

Table 10 summarizes the 20 most frequently observed apps, as measured by number of classrooms in which its use by at least one student was observed by a member of the study team. The iMovie app was found to be most commonly used overall (9 classrooms), followed by Keynote and ST Math (8 classrooms) and DIBELS (7 classrooms).

Table 10. Number of Classrooms in Which Specific Apps Were Observed, by School Type

Name of App	Frequency			Category
	Overall (*N* = 97)	Elementary (*N* = 64)	Secondary (*N* = 33)	
iMovie	9	5	4	Tools
Keynote	8	6	2	Tools
ST Math	8	6	2	Mathematics
DIBELS	7	6	1	ELA
Calculator	6	1	5	Tools
Google	5	4	1	Search or Reference

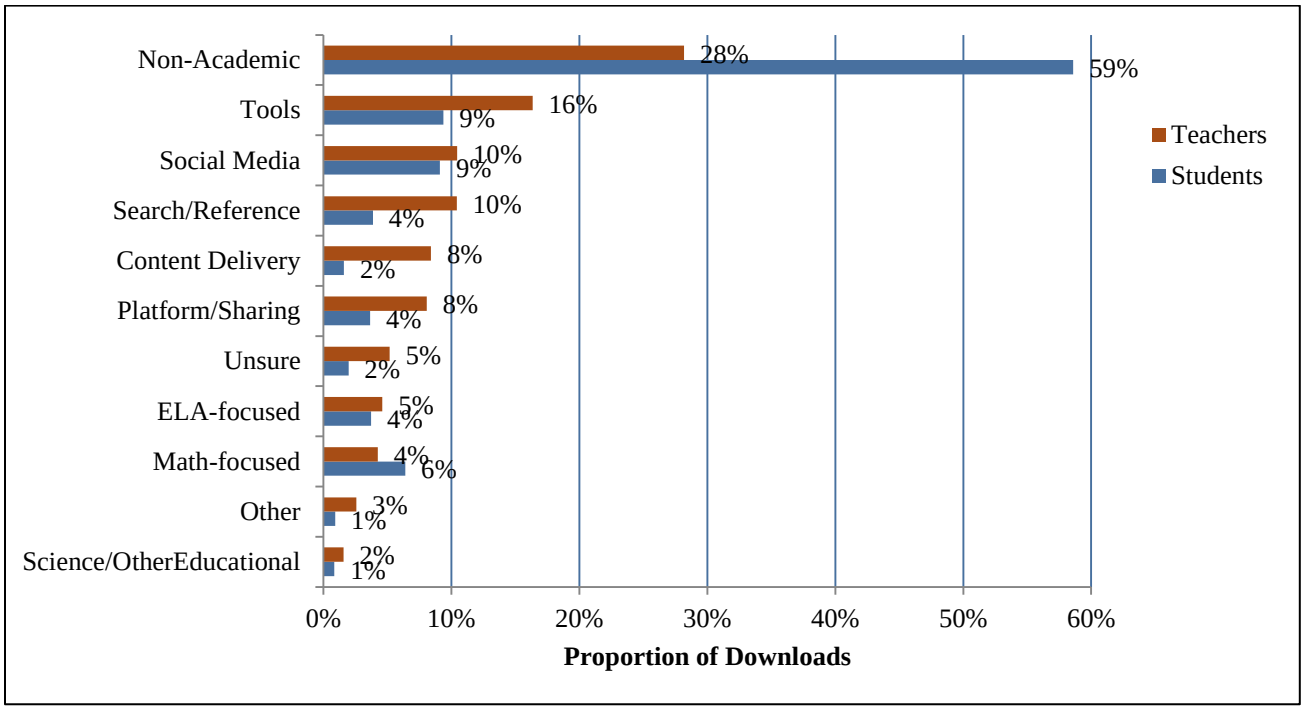
Name of App	Frequency			Category
	Overall (*N* = 97)	Elementary (*N* = 64)	Secondary (*N* = 33)	
Notability	5	5	0	Tools
PowerPoint	5	0	4	Tools
Mathematics app—name not recorded	4	0	4	Missing
Nearpod	4	3	1	Platform/Sharing
Lexia Core 5	3	3	0	ELA
ELA app— name not recorded	3	2	1	ELA
Notes	3	3	0	Tools
Safari	3	0	2	Search or Reference
Word	3	2	1	Tools
Edmodo	2	2	0	Platform or Sharing
Envision	2	2	0	Mathematics
Imagine Learning	2	2	0	ELA
Khan Academy	2	2	0	Content
Content Delivery app—name not recorded	2	0	1	Content
PBS Kids	2	2	0	Content

Note: There were five observations where an app was used but not identified by name and with no indication of category. "Content Delivery app– name not recorded," "ELA app—name not recorded," and "Mathematics app—name not recorded" were assigned when observations indicated the type of app that was used, but did not identify the app by name.

Frequency of App Downloads. Extant data drawn from the MDM system provide more information about app downloads (though not use) on all devices in Phase 1 CCTP schools. Specifically, the MDM data indicate the number of downloads of different apps from the time of deployment to early June 2014.[7] As described in Section 2.C. (MDM Files), our analysis excludes apps that were preloaded on deployed devices, in order to depict the apps that students and staff actively downloaded. Figure 9 shows the number of downloads per category and the percentage of total downloads in each category for both students and staff, the categories are ordered by prevalence of staff downloads. More than half (59 percent) of all categorized downloads to student devices were nonacademic applications. Overall, it appears that platform/sharing apps (e.g., Dropbox and Edmodo) were the most common academic-related category of download, accounting for 16 and 9 percent of downloads to student and staff devices, respectively. Tools, such as presentation apps, word processing, and calculators, were the next most commonly downloaded to staff devices.

[7] There are several ways that apps can be downloaded to a device. The district's MDM staff can push apps to devices on request, teachers can download apps for students (or request that their students download an app), or individual students can opt to download an app that interests them.

Figure 9. Proportion of Downloads by App Category for Students and Teachers in Phase 1 CCTP Schools



Note: Proportions are based on a denominator of 125,048 non-preloaded student downloads and 10,437 non-preloaded staff downloads, as explained in Section 2.C.

The 25 most downloaded applications are listed in Tables C-1 and C-2 of Appendix C. With respect to specific apps, the following are the most downloaded:

- Among students, YouTube (a social media app), and Pandora (a nonacademic app), were the most downloaded apps; they were downloaded on 15 and 14 percent of all student devices. Combined, these two apps accounted for nearly 3 percent of all downloads to student devices.
- Among staff, Edmodo, a platform/sharing app, was the most downloaded application; it was downloaded on almost one third (33 percent) of devices. Dropbox, Netflix, Pandora, and Common Core Standards (a search/reference app) were also among the most downloaded apps onto staff members' iPads, each downloaded to at least 27 percent of teacher devices. These five, combined, accounted for nearly 7 percent of all downloads to staff devices.

We also examined whether the types of the applications downloaded to students and staff devices varied by school level. These results are shown in Table 11. We found the following:

- Nonacademic downloads were less common in elementary schools than in other schools. For example, of all applications downloaded to student devices in elementary schools, just over one third (32 percent) of downloads were nonacademic, while in middle and high schools over 60 percent of downloads were nonacademic.
- Mathematics-related apps were more commonly downloaded in elementary schools (25 percent of downloads) than in the other school levels (at most 2 percent of downloads).

- Social media apps were more commonly downloaded to student devices in schools serving higher grades (14 percent in high schools and 13 percent in span schools) than in elementary schools (less than 1 percent).
- Compared to students, there was less variation in application content downloads as a function of school level for staff downloads (not shown in Table 11).
- There was little variation in category of app download as a function of adoption stage (not shown in Table 11).

Table 11. Proportion of Student App Downloads by App Category and School Level

	Elementary School	Middle School	High School	Span School
Content	3.6%	0.7%	1.8%	0.5%
ELA	14.2%	1.8%	0.1%	0.0%
Mathematics	25.1%	1.9%	0.7%	0.5%
Nonacademic	32.3%	64.8%	62.9%	75.2%
Other	1.1%	1.0%	1.1%	0.1%
Platform/Sharing	2.6%	3.7%	5.7%	0.6%
Science/Other Educational	3.4%	0.1%	0.0%	0.6%
Search/Reference	5.0%	4.5%	2.8%	2.5%
Social Media	0.5%	9.5%	13.5%	12.5%
Tools	8.4%	10.7%	10.3%	5.3%
Unsure	3.9%	1.3%	1.1%	2.4%

Note: Proportions are based on a denominator of 125,048 non-preloaded student downloads.

These findings indicate that downloading of nonacademic apps was common in Phase 1 schools, particularly in middle and high schools. The prevalence of nonacademic apps on secondary students' devices may be related to the fact that older students had greater opportunities to use their devices for nonacademic purposes (given that they carried their iPads with them throughout their school day). Of academic apps, mathematics curriculum and practice programs were most commonly downloaded, particularly to devices of elementary school students.

In summary, staff and students frequently downloaded apps that served both academic and nonacademic purposes. Academic apps fell into a number of different categories, including mathematics and ELA practice, sharing/collaboration, presentation, and tools. The majority of staff- or student-initiated downloads were for apps that do not appear to serve an academic purpose. However, it is important to note that this is not a reflection on the proportional usage of apps as academic versus nonacademic, because the iPads already come preloaded with a up to 27 apps intended to serve academic purposes (apps vary by grade level).

3.C. Promising Practices for Using Technology in the CCTP and Non-CCTP Schools

One of the goals of this evaluation is to identify, further study, and support the district's dissemination of information about promising practices for using technology in LAUSD schools. At this early stage of the evaluation, we address the question of promising practices through the perspectives of educators in schools that we visited. The purpose was to allow school staff to reflect on technology practices they tried and observed throughout the 2013–14 school year, in contrast to the one-day, end-of-year snapshot observations that we conducted. Our observations revealed interesting foundational information (reported previously) but may have missed at least some promising practices.

Specifically, the evaluation team asked interviewees in the schools we visited to provide examples of what they believed to be the most promising practices for using technology within their schools.

Table 12 summarizes promising practices of technology use reported by school respondents; these practices are related to student and teacher use. Overall, respondents reported that technology has helped teachers to differentiate instruction and personalize student learning and has led to an increase in student engagement and ownership in the learning process.

Table 12. Promising Practices of Technology Use Reported by Respondents

Student Use
Development of innovative products and construction of knowledge (e.g. using technology to support project-based learning through movies, animations, story writing, drawing)
Enhanced communication and collaboration (e.g. e-mail communication with teacher, publishing blogs, and collaborating with peers)
Adaptive learning programs (e.g., Lexia Core 5, ST Math)
Expanded learning beyond the classroom walls (Virtual field trips: students being able to see places and talk with people around the world)
Teacher Use
Submission of student work, grading, and immediate feedback
Enhanced communication with students (e.g., in-class chat functions for student questions, communication with students anytime/anywhere)
Interactive lesson content with digital tools (e.g., movies, problem sets) arranged by teachers and pushed to student devices, combined with formative assessments to check for understanding in real time
Record lessons to be viewed by students who were absent and for review

Student Use

School interview respondents shared promising practices related to how students were using technology in classrooms to enhance their learning. Respondent descriptions of promising practices for student use referenced the goals of deepening student learning, increasing student ownership of the learning process, and enhancing student engagement and participation. For

example, respondents expressed that one promising practice is the use of technology to construct knowledge and demonstrate creative thinking through project-based learning and content creation to demonstrate learning. Respondents described these projects as personalized because they allowed students to choose their focus within a certain topical area. Respondents also said that these projects are often multistepped and require the student to conduct activities ranging from researching on the Internet and writing to developing presentations, iMovies, and animations or drawings to support their work.

Another promising practice mentioned is the use of technology to participate in virtual field trips, which allow student to experience a specific time or place or time period through descriptive text or images on the Internet. For example, as students read about a place in the world, they were able to access maps of streets and images of the country or city, or when they learned about historical events, they were able to supplement the text they were reading by searching for additional documents or images related to the event. One respondent provided the following example:

> Virtual field trips or even meetings, . . . children being able to be in touch with, maybe children in other countries and have access to instruction that's going on in a different way

A VLCF respondent offered a similar example, in which a teacher had her students use GarageBand to do a concert with musicians from the Los Angeles Philharmonic.

A key benefit to using technology in the classroom, according to interviewed school personnel, was the relative ease with which teachers could differentiate instruction to meet student needs. A potential promising practice they identified as supporting differentiated instruction was the use of adaptive learning programs to enhance and reinforce instruction. These adaptive programs (e.g., Lexia Core 5 and ST Math) differentiated instruction by providing the students with activities appropriate to their current achievement on a formative pretest. As students used these adaptive programs throughout the year, teachers, parents, and students were able to track their growth in the content area through the data collection platforms that were built into the software programs. One respondent said of using ST Math, for example:

> You want [students] at a certain level relatively speaking at different times in the school year. So that allows [teachers] to then pull groups based on what concepts they're stuck at and not able to move to the next level. So they do use it to differentiate small-group instruction.

In many schools, respondents noted that technology enabled students to support their own learning in new ways and enhanced student responsibility for their learning. Students accessed the embedded assistive technologies, such as integrated speech to text within the device, reached out to the teacher through electronic communication to ask questions and get feedback on assignments, and identified resources and education videos to support their learning. For example, one school staff respondent said that English language learners used the speech-to-text function to assist with essay writing, and another school staff respondent said that they witnessed a student with disabilities taking pictures of the whiteboard to capture class notes easily. School staff also reported that iPads (and other technology) allowed students to enhance their learning of

content by using the Internet to answer questions as they arose in the classroom to address "just-in-time" learning needs.

Teacher Use

School staff reported several teacher uses of technology to support communication with students, classroom organization, and instructional planning. Respondents shared a number of promising practices that teachers used to increase communication between the teacher and the student both within and outside the classroom. Some respondents noted that teachers experienced success with establishing in-class chat rooms for students, to use during a lesson to ask questions about the lesson and respond to questions posed by the teacher, for example with Socrative. This practice helped teachers to conduct checks for understanding and also provided an avenue for quiet students who would typically not raise their hands to ask questions. One school respondent said:

> Teachers discovered a thing where they could post [questions to] the class so they could almost have a chat room in their class. So you could post a question and then students could immediately respond to it. What was happening is, once kids were responding that way, then … they were actually also responding verbally. Even people who were shy, who had not typically done that. Overnight, literally overnight. Unbelievable, unbelievable.

Lesson platform apps such as Edmodo and Nearpod were used to support instructional planning and content delivery; they were mentioned by staff in 10 different schools. Teachers used the app to assemble electronic curriculum content that students could access. One school staff respondent described using Nearpod in the following way:

> The presentation that's been provided can be shared from an iPad to other iPads. So …I can control the presentation and they can view it. And then in the presentation there [are] opportunities for them to take quizzes or perform a task. And in the moment they can submit it and I can see their results. And I can share those results back from an individual student back to the whole class so they see.

Thus, teachers could use entry and exit polls to administer quick assessments using the technology and get immediate results of classroom understanding. Teachers could then use these real-time data to guide instruction and identify areas of the lesson that needed to be retaught. A variation on the use of technology for content delivery, noted in one school, is for teachers to record their lessons, for example using Educreations, and post them online. Students who were absent could then view the lesson and access the instruction, and students who struggled with the content provided could revisit the lesson by watching the video.

Many teachers also used technology to collect class assignments and provide feedback on students' work through platforms such as Edmodo and School Loop. Respondents commented that teachers seemed to provide more immediate feedback to these electronic submissions, and students responded positively to the prompt feedback. Two VLCF respondents noted that teachers also use Google Docs to have students conduct peer reviews of each other's work, incorporating teacher comments.

In addition to using technology to increase communication with students, teachers used technology to support overall organization and classroom management, such as Dojo to track attendance, monitor student behavior, and record grades, and apps such as Achieve 3000, ST Math, Socrative, Nearpod, and Juno to collect formative student achievement data.

Finally, teachers used technology to support their own professional learning by attending virtual meetings and conferences.

3.D. Use of the Pearson Curriculum in CCTP Schools

The digital Pearson curriculum was a major component of the technology to be provided to CCTP schools. School administrators from seven schools (five elementary and two middle schools) reported that teachers have used the Pearson app. An administrator from one high school said that the school has not used the Pearson app, noting that it did not contain a high school mathematics curriculum. Another school noted that teachers utilize the Pearson curriculum to integrate lessons aligned with the Common Core.

Overall, staff voiced concerns about the functionality of the Pearson application. At nearly all schools, staff stated that the Pearson curriculum that was promised during initial CCTP trainings was not available during the school year. Administrators at three schools said that components of the ELA curriculum were missing (e.g., narrative writing, Grade 3 curriculum), and administrators at two schools said that mathematics components were missing. Another school respondent said that s/he thought that the ELA curriculum was effective, but that "their technology component… doesn't back up their lessons very well; we have to go ahead and do our own on the side using other apps [e.g., Notability], things to support that."

In addition to a lack of a robust content contained in the application, respondents from two schools indicated that the application's content upload was cumbersome and lengthy. Five schools indicated experiencing issues with login and accessing their Pearson accounts and reported these were barriers to using the application. Furthermore, one elementary school characterized the curriculum as lacking rigor and preferred utilizing the Treasures Reading program instead of the Pearson curriculum for its ability to provide rigor and purposeful learning exercises. One teacher respondent at this school noted the challenge of integrating the Pearson curriculum with consideration to educator planning time because the curriculum was not made available during the summer months when teachers often do their planning for the year.

Consistent with these concerns, the Pearson curriculum app was seldom observed in use in classrooms. Specifically, it was observed in only one of 245 classrooms, in a single elementary school (a combined fourth- and fifth-grade classroom). The app was used for a Grade 4 mathematics lesson on fractions.

These findings were mainly corroborated by VLCFs. They noted that elementary schools used the Pearson content more often than other levels did. In fact, several VLCFs noted that Pearson content is not used at all at the high school level. District interviewees perceived that the primary barrier to use of the Pearson content is the login process for accessing the curriculum lessons. Therefore, if several students forget their login information, the teacher has to resolve that issue before starting a lesson. Two VLCF interviewees noted that the Pearson content is not used

because it is not complete; it is missing large swaths of content. The final barrier shared by VLCFs is that the Pearson application is a large file and takes too long to download.

4. District Leadership Findings

This section addresses evaluation question (EQ) 2, *What is the nature of the district's planning and support of the CCTP and other school-based technology integration initiatives with regard to:*

2.a. *Responsibilities of participating committees or departments with respect to planning and implementation?*

2.b. *Interaction, communication, and decision making between/among the various departments regarding the CCTP and Common Core?*

2.c. *Early implementation goals?*

2.d. *Communications and dynamics regarding the rollout?*

2.e. *Training provided to the 14 VLCFs to perform their roles and responsibilities?*

2.f. *Accomplishments and future plans?*

2.g. *Strengths and weaknesses of strategies employed?*

In this section, we provide a summary of district leadership pertaining to four topics: deploying devices to schools, maintaining safety and security of students and devices, coordinating with related initiatives, and communicating about the project to both internal and external audiences. Before exploring these topics, we present a brief overview of the structure of the project team. Data sources analyzed include interviews with district leaders and VLCFs, focus groups with MCSAs and ESC area superintendents, and public documents.

4.A. Structure of the CCTP Team

A broad group of district leaders and staff have responsibilities for the CCTP . The project itself is housed in the Office of Curriculum, Instruction, and School Support (OCISS). The project team is directly responsible for project planning and execution, overseeing work of vendors, and responding to challenges as they arise. The structure of the project team is depicted in Figure 10.

The CCTP project director has the main responsibility for overseeing the project and directing the work of the larger team. She was hired in July 2013 and participated in the hiring of numerous team leads. The project director participates in the major planning and decision making involving instruction and technology and resolves the issues that are escalated from other team leads. She is assisted in the day-to-day management of CCTP by the program manager. This individual sets up and continues to oversee several project management processes, including project schedule tracking, issues tracking, and risk tracking.

As depicted in Figure 10, project team members are distributed among the following six functional teams for Phase 1: instructional/content development, project management, technical, organizational change management, deployment, and safety. An additional functional team was planned for the integration of a learning management system, but was put on hold due to a delay in the procurement of this system. Each functional group has a lead who reports directly to the project director. These leads are housed in the CCTP Project Team Office and meet weekly with the project director and program manager. The roles of each of the following teams may be summarized as follows:

- **Instructional lead/content developer**. The two Instructional Lead/Content Developers are responsible for designing and planning CCTP professional development. One Instructional Lead/Content Developer is assigned to English/Language Arts and the other to mathematics. The ELA Instructional Lead/Content Developers is also a VLCF for a school. The Instructional Lead/Content Developers are also responsible for setting standards and procedures for behavior management surrounding the device and answering questions from CCTP and non-CCTP schools regarding Smarter Balanced (SBAC) tests.
- **Project Management (PM) Support.** The PM support team has several related responsibilities, including project schedule monitoring, issues tracking, and risk tracking. The PM support lead (the "program manager" in Figure 10) communicates with other team leads as necessary and provides weekly status reports to the project steering committee.
- **Technical.** The technical team consists of several individuals in the Information Technology Division (ITD) assigned to three functional groups:
    - The cyber security team works with all technical parties and instructional leads to ensure students are safe when using devices and have the appropriate forms signed. The team is responsible for security policy and configuration. Team members review security logs for inappropriate use and security breaches. They communicate as needed with MCSAs about the implementation of security policies (e.g., web filtering changes or apps that need to be put on a device).
    - The infrastructure team ensures that schools have the wireless environment for devices to connect to the Internet. Under the supervision of the district's director of infrastructure, this team designs the system architecture, purchases and installs equipment, maintains servers, and administers the network. The MCSAs provides feedback to the Infrastructure team based on their experiences with the network infrastructure at a given school.
    - The Mobile Device Management (MDM) team works with the AirWatch software installed on each device to track and monitor devices. This includes ensuring that each device is compliant with the security policy and is connected the Internet. The team also handles request to push out apps to groups of users (e.g., a classroom of students), and works with school police to track lost or stolen devices.
- **Organizational Change Management (OCM).** The OCM team supports other teams in implementing changes at CCTP schools. This support involves a developing and employing a pre-launch strategy for the change; preparing for the launch of the change activity; managing the change activity; and reinforcing the change activity. The OCM lead is assigned to support communication efforts related to professional development opportunities. According to one administrator, the five OCM specialist positions listed in the organizational chart have not yet been staffed.
- **Deployment.** Within the CCTP project team, the deployment team is responsible for ensuring school readiness to receive CCTP technologies, preparing devices for the schools, and supervising the initial distribution of devices to schools. The VLCFs and

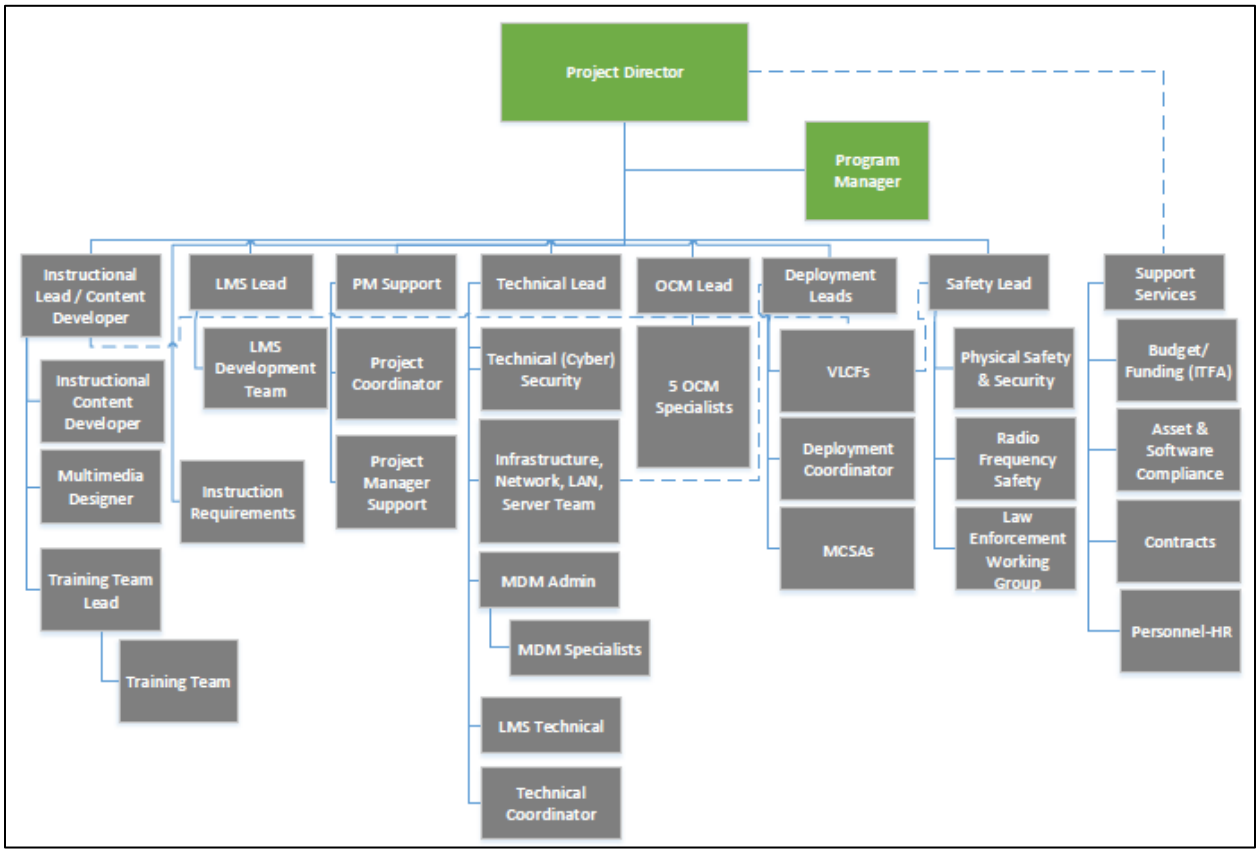
MCSAs, who serve as the project's field-based support staff, are included in this team. As described in a presentation to the board by project sponsors, the MCSAs were to provide first level support for the operation of CCTP iPads; whereas the VLCFs were to work with school leadership on planning and coordinating deployment and preparing leadership teams to support school staff. Apart from their different roles, these two groups differed in several respects:

  - There were 14 VLCFs hired to work with Phase 1 schools during the past school year. VLCFs are housed in OCISS, and within the CCTP organization structure, are supervised by one of the deployment leads. VLCFs are certified teachers who previously taught in LAUSD. They were selected by the CCTP project director and CCTP deployment leads based on their experience, knowledge, and skills in technology integration, curriculum planning, and instructional leadership. Due to restrictions in use of bond funds, VLCFs were permitted to work only with the school leadership team (10 percent or less of teachers) and were restricted from provided training to the school as a whole. As of June 2014, the district had arranged for a mix of general and bond funds to be used to fund VLCFs.
  - The MCSAs role was not created as part of this project. Rather, the MCSAs are employees within ITD who are assigned to provide technical support for the project, funded through the project. Fourteen MCSAs started working with the CCTP project in August 2013, and were initially assigned to specific Phase 1 schools.

  The roles of these two groups will be further discussed throughout this report.

- **Safety.** The Safety team oversees security of devices, including safety of students in using the devices, promoting awareness on issues such as online predators, and tracking stolen devices.

Figure 10. LAUSD CCTP Project Team Organizational Chart



Note: The CCTP is housed within the Office of Curriculum, Instruction, and School Support.
Source: LAUSD, 2014.

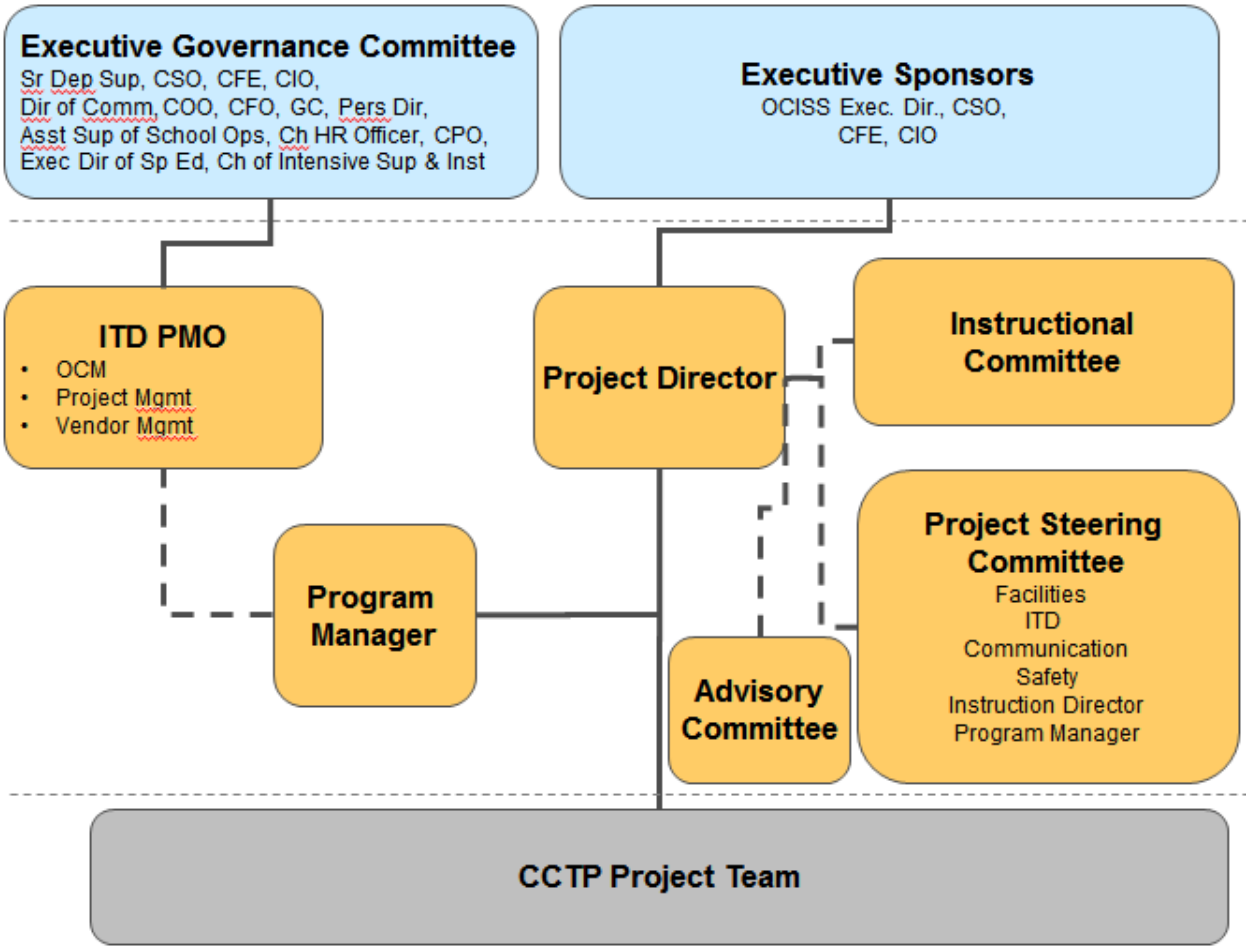
Governance structure. The CCTP governance model is provided in Figure 11. The governance structure was developed by the PM support team, and this team monitors the functioning of the different layers of governance. The following is a brief summary of the governance structure.

- The work of the project team, and the overall progress of the initiative, is supervised and assisted by four **executive sponsors**. These include the district's chief strategy officer, chief information officer, chief facilities executive, and the executive director of OCISS. The executive sponsors meet weekly with the CCTP director and team leads to make strategic decisions about the project's direction and to ensure that other departments are committing resources to the project as necessary and expected. Their weekly meetings address issues as they arise (e.g., summer storage of devices) and include presentations from and discussions with project staff vendors as needed.
- Through the **project steering committee**, the CCTP director and project manager coordinate with representatives of different departments, including ITD, Facilities Services Division, communications, and the LASPD. The steering committee meets weekly to monitor progress, make decisions, and resolve escalated issues.
- The purpose of the **CCTP Instructional Committee** is to coordinate CCTP with other instruction-related initiatives such as the implementation of Common Core State Standards. The committee is comprised of the CCTP director, CCTP content developers,

district-level instructional directors (e.g., curriculum and instruction, special education, English language learners), some building principals, and the Educational Service Centers (ESC) area superintendents. The extent of this coordination is discussed in section 4.D.

- Through the **Advisory Committee,** the CCTP director and the OCISS executive director have the opportunity to discuss the project with representatives from the teachers' and administrators' unions. This committee was scheduled to meet quarterly but district staff reported it met only once during 2013-14.
- The **ITD Project Management Office (PMO)** provides support to the program manager. This department provides processes and templates for organizational change management, project management, and vendor management.
- The **Executive Governance Committee** is a standing committee of LAUSD chief officers and executive directors that conducts ongoing review and monitoring of all major projects in the district, including CCTP.

Figure 11. LAUSD CCTP Governance Model



Source: LAUSD, 2014 (individuals' names not included).

4.B. Deploying Devices to Schools

Deployment of devices to schools was the foremost focus of CCTP team efforts during Phase 1. All VLCFs identified deployment as an early implementation goal. One VLCF articulated this goal as "ensuring that all LAUSD students received a one-on-one device in CCTP schools in the initial 16-month period." Between August 2013 and January 2014, the district deployed devices to 30,490 students and 1,360 teachers in 47 Phase 1 schools. This section describes the team's process for deployment and the challenges it encountered.

Technical Approach

As noted above, the deployment team included VLCFs and MCSAs, whose roles were intended to be complementary but in practice were overlapping. The district assigned 14 MCSAs to provide technical support to specific schools. As the initiative progressed, MCSAs no longer worked with specific schools, but rather, moved around depending on need.[8] According to notes from a CCTP board presentation and the MCSA focus group, MCSA responsibilities included the following:

- diagnosing and troubleshooting wireless connectivity,
- provisioning iPads (preparing for deployment by registering the device, installing applications, setting device access permissions, inventorying the device, and placing it in the storage location),
- addressing hardware and software malfunctions, and
- providing technical assistance with implementation of the CCSoC.

The VLCFs were responsible for supporting the distribution of devices to schools. According to district plans presented to the board and the VLCF job description, the VLCFs were to work with the school leadership during three phases:

- Pre-deployment preparation of the school leadership team (e.g., on technical aspects and parent engagement) and coordination with the school on deployment options
- During deployment, assisting with a variety of deployment activities[9] and ensuring the school has systems in place to manage devices
- Post-deployment, training to school leadership teams on supporting staff on technology integration

VLCFs were assigned to specific schools, with a staffing ratio of approximately one per four schools. By late spring 2014, there were 11 VLCF remaining on staff, and LAUSD had recently offered the VLCF position to nine more individuals. A district leader stated that the district plans to make additional hires to bring the total number to 31 VLCFs for the 2014-15 school year, when there will be a total of 107 schools across Phases 1, 1L, and 2.

[8] This information was provided via feedback from two district leaders on an earlier version of this report.
[9] A VLCF process document indicates these included confirming the inventory of devices and accessories, providing legal forms for parents to sign, setting up passwords, and training a few members of a school's staff to manage passwords.

Other members of the CCTP team assisted with deployment due to the number of tasks that had to be addressed during Phase 1, including the two content developers on the CCTP team. The role of these staff in deployment included setting up standards for acceptable student behavior when using the devices and designing orientation sessions for parents to discuss these standards (among other expectations). In addition, the content developers each served as a VLCF to address a shortage at this position at different points during the school year.

Deployment Challenges

Respondents noted several challenges related to deployment. The overarching theme of comments related to deployment from district leaders, VLCFs and MCSAs was that deployment of devices on this scale and pace had never been attempted before in the district, and that they had to learn and adapt as the project unfolded. A key challenge was the time required to provision (i.e., set up) devices for individual users. Specifically, MCSAs noted that Apple IDs are difficult to manage in that Apple's systems and processes are not designed for enterprise-level implementation. One district administrator estimated that the set-up of each device took about five minutes and that this amount of time was problematic given the large numbers of devices that had to be provisioned in a brief period of time. Compounding the difficulty, according to two VLCFs, was a perceived lack of technology readiness among schools. They stated that many schools had few technology resources, an insufficient wireless infrastructure, and staff with limited knowledge of and comfort with using technology. This lack of readiness created additional issues to address during deployment.

In light of the intense effort required for deployment, some district staff questioned whether the project was sufficiently staffed. In the opinion of three district leaders and several VLCFs, the focus on deployment drew attention from other goals. As one VLCF stated:

> The early implementation goals was to just get the devices out, that was basically it, just get the devices out, use them as quick as possible...there were other goals…, they were talked about but they really didn't get implemented.

Similarly, a district leader stated:

> Usually the deployment and implementation teams would have been responsible for deployment and say the organizational change management team and the instructional team would have been working more on PD but we didn't have enough people so everyone was working on deployment for Phase 1 and that really, really impacted our professional development rollout, in fact we barely had one because of that.

The efforts of other CCTP leaders were also diverted to focus on deployment, an issue discussed in more detail in Chapter 5, in the section on instructional support.

Some of the data collected in spring 2014 suggest that the district's approach to deployment is not sufficient to meet the goal of full-scale deployment throughout the entire district on the currently envisioned schedule. One district administrator acknowledged the importance of finding a more efficient process for provisioning devices in light of the fact that the number of schools planned for Phase 3 is an order of magnitude greater than in the preceding rounds. A related concern about the scalability of the program, expressed by two district leaders, is the

ability to hire sufficient numbers of VLCFs. One district leader did not know where the district would find the hundred or so additional staff needed to support the anticipated Phase 3 schools, and another district leader was concerned about the impact on individual schools of taking those teachers out of the classrooms and installing them as VLCFs.

Three VLCFs discussed the lack of technological readiness of schools as a barrier. In line with this challenge, the CCTP team developed an Instructional Readiness Survey in order to better understand the instructional, cultural, and technological readiness of schools. This purpose of the tool is to assist district staff in supporting schools and plan the order of the rollout so that schools with low readiness across all three areas will receive assistance from VLCFs to increase their readiness, prior to device deployment.

Finally, district staff identified two factors that helped facilitate deployment:

- One district leader stated that the fact that technological environment of the iPad is consistent across all schools in Phase 1 and Phase 2 creates efficiencies at several points of project implementation, including deployment (along with procurement, professional development, and technical support).

- The revised deployment schedule, which delayed the rollout of Phase 2 from January 2014 to August 2014 (in most of its schools), may have benefited the project in the first year of implementation. The change in schedule enabled the CCTP project team to provide closer attention and support to Phase 1 schools and gave the district additional time to prepare the technological infrastructure in Phase 2 schools.

Based on these findings, the evaluation team recommends that, to make deployment run more smoothly, the district should **find a technical solution to decrease the time spent on provisioning each device**. It is understood that the district is currently investigating technologies that would allow schools to quickly scan a device when taking inventory (e.g., prior to summer storage). Allowing students to keep their devices over the summer would be another way to reduce the effort involved in re-provisioning devices for students at the start of a new school year. Another recommendation offered below about increasing support staff and clarifying the process for requesting technical support during (and beyond) deployment are also relevant to deployment, as there were many technical support requests during the deployment period (see section 5.A. on "Technical Support").

VLCF Training

All of the VLCFs interviewed stated there was no formal training process for them when they were hired and that, immediately upon being hired, they were deployed to the field and "learned on the job." The CCTP deployment lead indicated that VLCFs essentially "invented their own processes." Initial information provided by the district to VLCFs was limited to communicating the vision and goals of the project and providing general descriptions of VLCF roles and responsibilities.

Training did occur after VLCFs were hired and in place. Specifically, all VLCFs became certified in Pearson digital content, and the CCTP project director trained VLCFs on design

thinking. VLCFs hired later in Phase 1 indicated that they received minimal training and that they learned by job shadowing other VLCFs. Moving forward, all VLCFs are becoming certified Apple trainers; however, there is no deadline for when VLCFs must earn this certification. VLCFs indicated interest in training on performance management methodologies with regard to instruction—specifically on setting, identifying, and tracking instructional goals and performance measures.

4.C. Maintaining Safety and Security of Students and Devices

Establishing procedures and infrastructure to ensure safety and security for students and the devices was a major early implementation goal. The district pursued this goal with a four-pronged strategy focusing on cyber safety, community outreach, technology solutions, and collaboration with law enforcement agencies.

Cyber Safety

LAUSD's cyber safety strategy, as summarized in a presentation to the board[10], is intended to align with the two broad requirements of the Federal Children's Internet Protection Act (CIPA) of 2000.[11] CIPA compliance requires that districts a) have an Internet safety policy that includes technology protection measures (i.e., filtering and monitoring), and b) that districts educate students about appropriate online behavior. With regard to the first requirement, MDM software enables district staff to monitor and control what apps are downloaded to devices. This software also provides filtering of Internet content; an upgrade to this software in September 2013 prevented users from removing or disabling it.

With regard to the second CIPA requirement, the district launched the Digital Citizenship campaign aimed at students, parents, and school staff. This campaign sought to promote awareness and education about navigating an online environment safely and responsibly. According one of the district leaders, the Digital Citizenship campaign involves the collaboration and input of the Superintendent, School Police, ITD, and OCISS. The district has established a partnership with Common Sense Media to support these efforts. The District is using Common Sense Media materials (e.g., handbooks, blog posts, videos) for different educational purposes. Specific efforts of this educational campaign included the following (as described in the board presentation and further corroborated by interviews with district leaders and VLCFs):

- Through the monthly CCTP Principals Meetings, principals were introduced to the concept of digital citizenship and provided online resources they could use at their schools. VLCFs modified Common Sense Media's "boot camp" lessons for all grade levels as well as create new boot camp lessons exclusively for LAUSD.
- A portion of the CCTP website is devoted to digital citizenship and includes resources for schools by grade level and for parents.

[10] See presentation at November 5th, 2013 board meeting archived at http://laschoolboard.org/sites/default/files/CCTPPresentation110513FINAL.pptx_.pdf.
[11] Further details are available at http://www.fcc.gov/guides/childrens-internet-protection-act.

- CCTP is working closely with the Parent Community Services Branch to deliver digital citizenship and literacy resources, training, and support to parents through the pre-existing network of Parent Centers at school campuses.
- One major component of the Cyber Safety campaign, as described in the CCTP board presentation, was Digital Citizenship Week, a week-long series of special events held in March 2013 that provided resources for teachers, students, and parents. Digital Citizenship Week provided grade-appropriate lesson plans about digital citizenship and materials to engage parents, guardians, and communities. District staff stated that VLCFs and one of the content developers assisted with the planning and execution of Digital Citizenship Week.

It was not clear from these data sources the extent to which cyber safety education was coordinated and monitored by the district. The evolution of the Digital Citizenship campaign and related efforts will be an important topic to track in later stages of this evaluation.

Community Outreach

The district engaged in community outreach about safety through meetings with parents, public service announcements, and outreach to certain resale or pawn shops. One component of parent training was described in the section on the Digital Citizenship campaign and was provided at Parent Centers at school campuses. As part of this effort, parents were asked to sign an acknowledgement form (see Appendix D) indicating their understanding that they would be liable in the event of willful damage to iPads by their child, and allowing them to opt out of having their student receive one. Another aspect of the district's efforts include developing public service announcements for public television station KLCS. In addition, the safety team delivered community presentations and communications about safety and security. For example, students and parents received a list of Do's and Don'ts for security of their devices Additional outreach efforts were described in the November 5, 2013 board presentation, including Town Hall meetings, press conferences, and other advertising media, but we have collected no evidence to indicate that these have occurred. This would appear to be a possible topic for future evaluation.

Technology Solutions

The district has used technology applications to deter theft, as part of a strategy it terms "Lock it/Freeze it/Track it." According to the CCTP board presentation and district interviews, the MDM software enables the district to disable a lost or stolen device remotely so that it is not usable outside of the District, and to track the device as well. Furthermore, every tablet is etched with the District's information, which cannot be removed. The vendor delivers the device in a heavy duty protective case to protect against damage.

Collaboration With Law Enforcement Agencies

Through the Law Enforcement Working Group, the district collaborates with local law enforcement agencies, prosecutors, and community organizations to deter and respond to device theft. The district's November 5, 2013 board presentation stated that the LASPD is collaborating

with county and city law enforcement agencies to identify crime trends, identify suspects, conduct timely and thorough investigations, and make relevant arrests. The district is working with community based organizations to ensure every pawn shop and second hand merchandise outlet is aware of the rollout, can recognize the devices, and will notify law enforcement if they spot them. There is some evidence that this collaboration is occurring and has resulted in recovery of devices. It should be noted in this context that there were 96 CCTP iPads reported stolen in 2013-14. Of those, 37 were subsequently recovered by police, according to LASPD logs.

Device Security

The safety team has engaged in efforts to ensure safe storage of devices. The LASPD, working with the safety team, conducted walk-throughs of CCTP schools in advance of the rollout to get a better understanding of the security of devices. The team also surveyed the leaders of CCTP schools about plans for summer storage of the devices and to determine whether the plans met security criteria established by the LASPD. Finally, the safety team supervised the procedures for collecting all devices from Phase 1 schools and other schools where devices had been distributed for Smarter Balanced (SBAC) testing, and warehousing them over the summer.

Concerns About Safety and Security

The district's response to the disabling of the content filters (described in the list of milestones on page 3) created additional challenges related to device security. In response to this incident in September 2013, the district required that devices stay at school. This move created logistical challenges for schools to distribute and collect devices on a regular basis. This challenge was particularly pronounced in secondary schools, where students change classrooms and teachers throughout the day. The decision to keep devices on school grounds also made the school the custodian of the devices on nights and weekends. Staff in four schools cited concerns about tracking and monitoring devices that must remain in the schools. In particular, staff at three Phase 1 high schools reported that monitoring and tracking the devices was a logistical barrier and took up instructional time. In some high schools, students checked out their iPads during a homeroom or advisory period at the beginning of the school day and checked it back in during a second homeroom at the end of the day, but as one administrator said, "If you have checked an iPad out to a child at 8 in the morning and the expectation is they go back to someplace and check it back in, if they depart during the middle of the day what happens to that iPad?" According to some district leaders, students will once again be permitted to take their devices home in the 2014–15 school year. In the meantime, middle and high schools could benefit from learning about other schools' efforts in handling the challenges created by this restriction. The district should **consider establishing a secondary-level task force to address logistical challenges of iPad distribution and monitoring.** Representatives from schools that have struggled in this area, and/or have developed increasingly effective procedures and protocols for distributing and tracking iPads, could serve on a task force that advises the district-based CCTP team and disseminates information to other CCTP middle and high schools.

In addition to concerns about device tracking and monitoring, staff from five schools expressed concerns about student safety and device security in the event that students are once again allowed to take iPads home. School staff also expressed concerns about students' access of unsanctioned

content on the Internet when unsupervised. Allowing students to take devices home can be an important step in giving all students equal access to technology resources. However, the district should **leverage the insights of administrators, teachers, and parents at CCTP schools before making the decision to allow students to take the devices home** to ensure these concerns are addressed.

4.D. Coordinating With Related Initiatives

This section addresses EQ 2.b.:

> *What is the nature of the district's planning and support of the CCTP and other school-based technology integration initiatives with regard to* ***interaction, communication, and decision making between/among the various departments regarding the CCTP and Common Core?***

One of the overarching goals of the CCTP is to facilitate the alignment of curriculum and instruction to the Common Core State Standards. Several district administrators on the project team emphasized the importance of "technology as a means for implementing Common Core State Standards," which was the reason for including "Common Core" in the name of CCTP. In general, our first-year findings suggest that coordination between the CCTP and Common Core implementation is in its early stages.

In particular, there has not yet been coordination of professional development efforts. The Office of Curriculum and Instruction (within OCISS) and the CCTP project director are responsible for coordinating Common Core–related professional development with CCTP professional development. According to several types of respondents (district leader, ESC area superintendents, and school staff), there has been no coordination as of yet on the professional development for the two initiatives. For example, the five Educational Service Center area superintendents for instruction, who have been involved in providing Common Core–related professional development for their five respective areas, stated they had not been involved with or coordinated professional development with CCTP. Moreover, the ESC superintendents did not participate in meetings of the Instructional Committee, according to one participant in this committee. During their focus group, ESC supervisors indicated that CCTP has not been at cross-purposes with their professional development efforts but that training focused on both technology and the CCSS is not yet occurring. One reason they cited is that a relatively small proportion of schools in their regions were participating in CCTP (as Phase 1 schools). That is, Common Core-related professional development offered during 2013-14 was meant to be applicable to all teachers in the district; it was not targeted specifically at integrating technology resources provided by CCTP. Perhaps as a result of the lack of coordination, the majority of school staff did not indicate that CCTP supports implementation of the Common Core, as described in the section on professional development in Section 5.

The evaluation team recommends that the district **integrate training about the Common Core standards into training about technology and vice versa.** The district CCTP team, perhaps with representatives from CCTP pilot schools, should collaborate with district Common Core leaders and trainers to make sure technology is presented as a key tool in Common Core implementation and, conversely, explicitly include a focus on the Common Core standards and

their implementation in all CCTP trainings. For example, professional development modules being developed by VLCFs could incorporate Common Core–related information and resources.

4.E. Communicating About the Project

District staff indicated that a key early implementation goal was to communicate about the initiative internally (i.e., with schools) and externally (i.e., with parents the broader community). The district has made progress toward this goal but has encountered challenges with both audiences.

Internal Communication

In this section, we describe the strategies for district–school communication about the rollout and the effectiveness of these strategies (in the view of district staff). VLCFs reported frequent e-mail communication with schools during deployment regarding technical support. There were several other avenues of communications between the CCTP project team and Phase 1 schools, which included the following:

- Professional development sessions, including the initial kick-off presentation, which were used to share CCTP goals and activities
- School administrator monthly meetings and trainings with district leaders, where school administrators heard about CCTP progress and information and received professional development on use of devices
- CCTP monthly newsletter
- Phone conferences and e-mail communications with principals as needed
- VLCF communication with school leadership teams, as discussed further in Chapter 5.

In response to an interview question about barriers to implementation, staff at six CCTP schools mentioned communication problems with the district. Specific communication problems included not receiving clear guidance about the purpose of the devices or the apps they can use and receiving frequently changing information about when the devices would be deployed and whether students would be able to take them home. Staff reported as a problem that teachers did not receive e-mails directly from the district about CCTP (i.e., the information was sent to the principal who was responsible for communicating it with the staff). In one school, an administrator reported that the school had a new VLCF whom they do not know, and they did not get information from the VLCF. It is possible that the lack of clarity about the instructional aspect of the project is a consequence of the CCTP team's focus on issues related to deployment, as noted earlier in this section and elsewhere in the report. In the coming years of the evaluation, we will continue to investigate district–school communication and whether district guidance about the purpose of devices and apps changes or improves in later years of the project.

External Communication

Several aspects of the project have been the subject of public scrutiny, such as the use of public bond funds, selection of a single vendor and device platform, and breaches in device security and tracking. In light of this criticism, five of the district leaders we interviewed mentioned external

communications as one of the areas for project improvement. Two leaders noted that negative publicity has colored public perceptions in a way that the project has needed to overcome, and three others noted that the district's external communication has been reactive rather than proactive. That is, rather than reaching out to external audiences to clarify the project from the beginning, the district has waited until it received public criticism of some aspect of the project, and then tried to counter this criticism. One district leader stated:

> I think we underestimated the need to do more proactive communication both internally and externally. [This involves]…communication around what this project is and what it isn't, how it's being paid for, the timing of rollout, who makes determinations of what we go live with and what we don't…And I think we've learned a lot about that. So what went wrong was [that] we did not do that.

Three administrators stated that parents were one audience in particular with whom communication should be improved. As mentioned in the November 5, 2013 board presentation and in one district interview, the district conducted a focus group with parents to elicit feedback on parent training modules. Parent feedback suggested that more differentiated training would be helpful in light of differences among parents in school level and specific programs in which their students are enrolled, as well as parent familiarity with technology and digital citizenship. One positive impact of the project, in the opinion of some district leaders, has been to increase parent engagement by bringing them to parent meetings about the devices.

To improve and coordinate CCTP-related communications with the public, the LAUSD Joint CCTP Communications Task Force was established in fall 2013. The Task Force planned and initiated several communication vehicles to explain the initiative, including a project website (http://achieve.lausd.net/cctp), monthly newsletter, and several hour-long television programs about the project, produced by LAUSD and aired on public television station KLCS, safety and security PSAs (as noted above), and centralized common fact sheets. One interviewee indicated that, at the time of the interview in spring 2014, the task force had developed a communication plan for the next phases of the project. The *CCTP Communication Plan 2014-15*, provided by a CCTP leader, provides additional detail on the frequency and modality of communication efforts (see Appendix E).

In light of these findings, it is clear that the district has worked to communicate proactively to the public at large and to parents in particular. As the project moves forward, **it is recommended that the district follow through on its efforts to develop differentiated training sessions for parents, and then implement them**. Leveraging the support of parents for establishing expectations for student behavior and digital citizenship may be key to the success of the CCTP, particularly if students are able to bring devices home at some point in the future. The district's efforts to communicate with parents and the broader public will be an important topic for future evaluation efforts.

5. Support for Implementation

This section addresses topics related to support that Phase 1 schools received for CCTP implementation. It addresses the following four subquestions (listed here in numerical order):

2b. *What are the most common barriers to achieving early implementation goals?*

3a. *Have teachers received support to integrate technology in their classrooms?*

3b. *What technical support is available, and did teachers access it?*

3c. *What professional development are teachers accessing?*

These questions are examined separately in three sections: technical support, instructional support, and barriers and concerns. We address these topics drawing primarily from school staff interviews but also from classroom observations, extant data, and VLCF interviews. At the end of this section, we provide recommendations for improving the support for CCTP implementation.

5.A. Technical Support

This section describes the technical support for early implementation of CCTP made available from the district, and schools' experiences accessing this support. As reiterated in the next section (Instructional Support), the district focused primarily on technical over instructional support during the first year of implementation of the CCTP, due at least in part to the fact that the schools and district were in the early implementation stages of this project, some of the schools seemed to have low levels of technology "readiness," and because bond funding can be used to pay for improvements infrastructure but not for instruction or curriculum.

District Technical Support

Technical support refers to efforts to respond to technical problems that may impede the use of the technology. The CCTP staff working on deployment also provided technical support, along with staff from the district's ITD. The VLCFs and MCSAs responded to requests for help from school staff. VLCFs typically provided assistance regarding set-up of devices and the access and use of applications. MCSAs provided help with other technical issues, such as problems with hardware or with Wi-Fi connectivity. Both groups provided help over the phone, through e-mail, or in person.

Our findings suggest that the VLCFs and MCSAs did not coordinate their efforts during the 2013–14 school year, and both seemed to be focused on deployment and technical support. Both VLCFs and MCSAs indicated that their respective responsibilities were overlapping. For example, MCSAs sometimes were called to the central office to help with testing. When this happened, VLCFs filled their role at the school level, and end up providing the technical support that the MCSAs normally would have provided. Moreover, several VLCFs stated that most of their time was spent providing technical, rather than instructional, support, due to low levels of technology proficiency among school staff and the challenges inherent in the rollout (e.g., setting up passwords). Three VLCFs believed that more technical support staff were needed to address these challenges.

According to a member of the district leadership team, the VLCFs and MCSAs began to have regular meetings to coordinate their efforts starting in spring 2014. MCSAs reported interacting with VLCFs by sharing updates on what is occurring in their respective schools. An example includes sharing information regarding stolen iPads or replacement devices. MCSAs also reported going to VLCFs for updates if they had not recently been to a school. MCSAs shared school assignments with between 1 and 4 VLCFs during the 2013–14 school year.

Other district staff members were also involved with technical support, including the following:

- **ITD help desk.** When VLCFs or MCSAs were unable to solve a help request, they reported issues to the district's help desk, operated by ITD.
- **MDM administrator**. The MDM administrator and support staff assisted with pushing apps to devices upon request (i.e., apart from preloaded apps) and with connecting to the Internet.

The district provided support to CCTP pilot schools through VLCFs, MCSAs, and the ITD help desk. Depending on the issue and technical personnel availability, VLCFs or MCSAs addressed issues over the phone, through the MDM system, or directly on site. VLCFs reported issues they could not resolve to the help desk, including Wi-Fi and connectivity issues; device hardware issues, such as devices not turning on; and issues with accessing and downloading applications. When a VLCF or MCSA was not on site to address issues, schools could report technical issues directly to the help desk.

Help desk incident records are a useful source of information about the frequency and nature of requests for technical support. As mentioned in the Methods section, we have reviewed the incidents that directly pertain to CCTP. More than 90 percent of all help desk requests were closed by the time we received the data in June 2014, and fewer than 5 percent were still open; thus, most of our analyses pertain to incidents that were resolved. Table 13 shows the number of help desk requests between August 2013 and May 2014 by status.

Table 13. Number and Percentage of Help Desk Requests Between August 2013 and May 2014, by Status as of June 2014

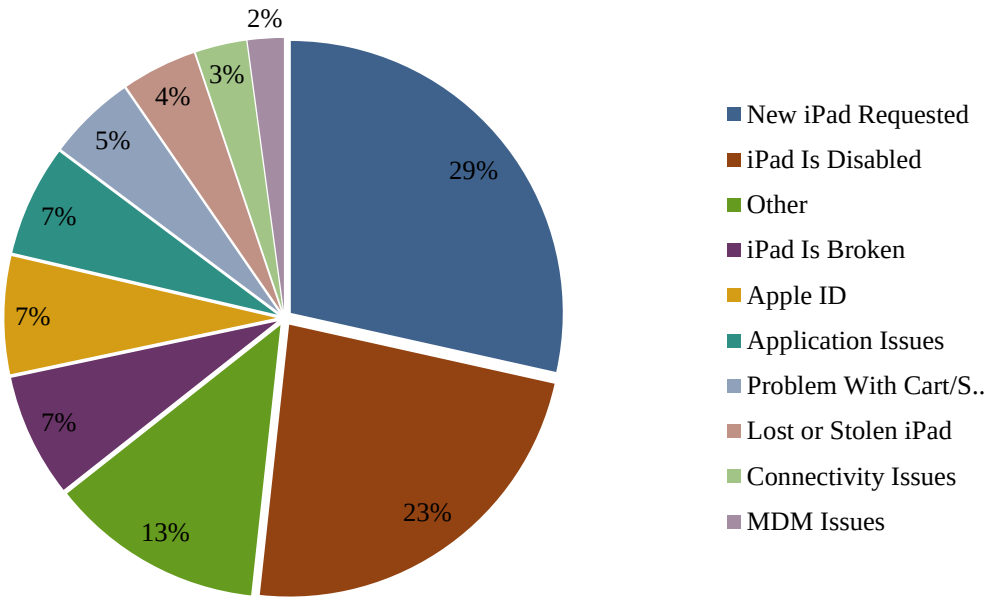
Status	Help Desk Requests	Percentage of Total Requests
Closed	1,105	90.7%
Updated	69	5.7%
Open	42	3.5%
Alert stage 3	2	0.2%
Total	1,218	100%

Note: "Alert stage 3" refers to a request that has remained unresolved after an extended period (the researchers were unable to ascertain the duration). "Updated" refers to new information regarding an open request.

The relative frequency of different types of requests is summarized in Figure 12. The most common requests were for new iPads (e.g., for new students) or requests to fix a disabled iPad (e.g., when a student forgot a device password). These two types of requests accounted for more than half of all help desk tickets during the 2013–14 school year. The third most frequent category was Other, which included several less frequent types of incidents, such as connectivity

problems, broken accessories, such as keyboards or headphones, and incidents in which the description was ambiguous.

Figure 12. Types of Incidents in Help Desk Requests (*N* = 1,218 requests)



Help Desk Requests by School Level. We also examined whether the type of technical support requested varied by school level (Table 14). The cells show the number of help desk requests in each help desk category as a percentage of total number of help desk requests in each school level; the percentages in each column sum to 100 percent. We observed that more than 40 percent of help desk requests from high schools were for new iPads, while in elementary and middle schools, requests for new iPads made up a somewhat smaller proportion of help desk requests. Nearly 30 percent of help desk requests from elementary and middle schools were reporting disabled iPads; this problem made up only 18 percent of help desk requests from high schools.

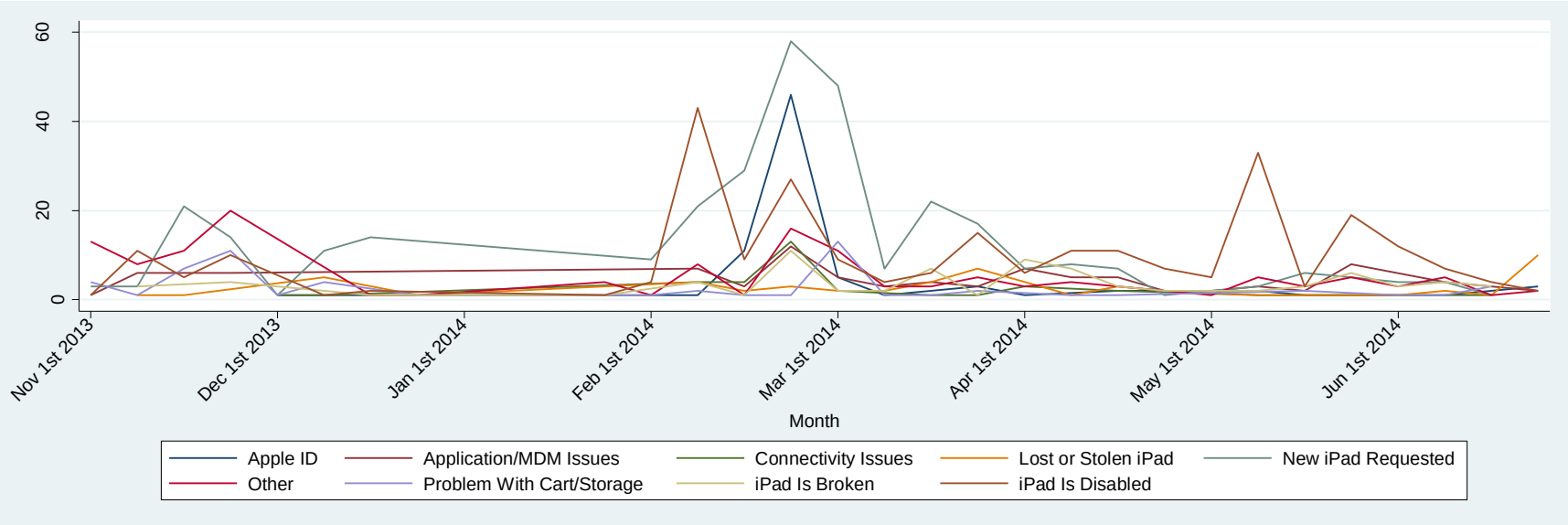
Table 14.Percentage of Help Desk Requests, by Type of Request and School Level

Incident Type	Elementary School (*N* = 297)	Middle School (*N* = 137)	High School (*N* = 123)	Span School (*N* = 77)
New iPad Requested	28%	15%	42%	17%
iPad Is Disabled	27%	28%	18%	38%
Other	11%	14%	7%	0%
iPad Is Broken	10%	9%	9%	9%
Application Issues	8%	9%	2%	4%
Lost or Stolen iPad	4%	9%	9%	10%
Problem With Cart or Storage	4%	7%	3%	1%

Incident Type	Elementary School (*N* = 297)	Middle School (*N* = 137)	High School (*N* = 123)	Span School (*N* = 77)
Connectivity Issues	2%	4%	1%	16%
Apple ID	3%	4%	4%	3%
MDM Issues	2%	0%	5%	3%
Total	100%	100%	100%	100%

Help Desk Requests by Month. Figure 13 shows the number of weekly help desk requests for each of the help desk request types throughout the course of the year. Spikes in help desk requests were observed between February and March 2014. There was also a small spike in new iPad requests around Thanksgiving and a large spike in requests dealing with disabled iPads at the beginning of May.

Figure 13. Weekly Help Desk Requests, by Categorization



School Experiences with Technical Support

Staff at six of the 15 schools we visited reported general difficulty accessing technical support and said that teachers spent time troubleshooting problems with devices on their own. In these cases, school staff reported that there was often no resolution because teachers did not have sufficient technology expertise. Staff from these schools also reported having difficulty reaching district personnel assigned to their school and difficulty obtaining follow-up from district personnel to resolve issues. As described below in Barriers and Concerns, technical issues were the most frequently reported barrier to CCTP implementation. These included problems with wireless connectivity issues, apps, and hardware.

Our findings suggest that different schools had different approaches to putting in help desk requests to seek technical support. For example, in two elementary schools, staff reported that teachers communicated technical issues directly to VLCFs. The VLCF confirmed receiving the request with an e-mail back to the principal. The VLCF resolved the issue or opened a ticket on the ITD Help Desk. In three schools, teachers turned in iPads to the main office with a self-sticking note to indicate the device's technical issue. These were then provided to the VLCFs when they visited the schools. Some of these processes could be holdovers from the initial deployment period, when only district staff (e.g., VLCFs) could submit help desk requests directly. No school staff commented on this issue specifically, but one district respondent said that not all teachers are aware that they are able to submit help desk tickets directly.

Findings about help desk responsiveness varied. Two VLCFs reported that response times could be as long as a week or a month, with slower response times during standardized testing, indicating that the response was not as prompt as it should be. Another district respondent said that the level of help desk staffing is below national averages for the volume of requests. However, one of the VLCFs reported that response times have improved. In light of the fact that the process for submitting help desk requests changed in the middle of the year, the effectiveness of help desk support (among other forms of technical support) is an important topic for the evaluation.

To address the need for more prompt and effective technical support, the district should **ensure that there are a sufficient number of MCSAs assigned to the project, and clarify the process by which schools access technical support**. The district also may consider **assisting CCTP schools in building a trained team (or individual) to collaborate with the MCSAs and VLCFs to provide technical support,** including troubleshooting issues, communicating with the ITD Help Desk, and providing technical support directly to school staff as needed.

In addition to the fact that 2013-14 was the first year of the CCTP rollout, one reason that there was a substantial need for technical support may have been a lack of readiness of some schools. Several VLCFs mentioned that the groundwork had not been laid in many schools that had very few technology resources and an insufficient wireless infrastructure, including a lack of technology literacy among staff. District staff have stated that they will use site readiness surveys in Phase 2 schools to assess, and address, the technology needs of schools prior to deployment, and that they will conduct post device deployment visits to tune and configure school wireless

networks. These efforts, if implemented as planned, would appear to be a promising approach to reducing the need for technical support.

5.B. Instructional Support

In interviews, district staff described several goals related to supporting schools in technology use, most generally expressed as building an "awareness of what technology can do to transform education." More specifically, this goal was articulated as preparing teachers and administrators for using technology through professional development and developing a more complete set of digital curriculum resources. This section describes the instructional support that schools received to meet this goal, including VLCFs and professional development resources, and school staff's perceptions of the district support available to them.

VLCFs

As noted previously, VLCFs serve as liaisons between schools and the district. Their official job description lists primary responsibilities related to providing guidance to school staff on curriculum resources and instructional approaches, and they were selected based on their ability to provide this support. However, for a number of reasons including challenges with deployment, staffing challenges, and funding issues VLCFs primarily provided technical support to schools, and as noted previously, assumed MCSA responsibilities in schools at times.

Challenges with deployment during the first year of implementation seem to have inhibited efforts to support instructional uses of technology. VLCFs indicated that the focus of their efforts had been on technology troubleshooting. One VLCF explained, "[T]he logistics behind getting the devices there and then handling the daily turnover of the mechanics of it…it takes away from our roles of doing instruction[al support]." The capacity for VLCFs to provide instructional support was further stretched by the loss of staff; there were 14 VLCFs at the start of the school year but only 11 by the end of the year. Some VLCFs also stated that they were understaffed for the work they needed to perform. Finally, due to funding restrictions related to public bond funds (as noted in the Introduction), VLCFs were permitted to work only with School Leadership Teams. One of the CCTP project leads noted that this restriction hampered their efforts, stating "…if you can only train a couple people that is not very effective." Moreover, several VLCFs acknowledged they were often drawn away from this role due to other duties related to deployment and technical support. Most VLCFs indicated that they work with leadership teams in at least some of their assigned schools, but that this support focuses mainly on technical rather than instructional issues. In most cases, VLCFs have not yet started planning with school leadership teams.

Data from VLCF logs support the finding that most of the VLCFs' time was spent on operations and technical support. The log data also suggest that, at least for the last two months of the school year, they were providing some instructional support. Table 15 shows the number and duration of different activities recorded by VLCFs in May and June 2014. As noted in Section 2 (Methods), VLCFs categorized each activity as Instructional or Operations and Technical when completing their logs. According to these log data, the VLCFs spent 59 percent of their time on Operations and Technical activities and 41 percent of their time on Instructional activities in May and June.

In light of the need to hire additional VLCFs for Phase 2, another focus of their activities was preparing a handbook of materials to guide future VLCFs. Data from VLCF logs submitted for May and June 2014 indicate that 11 VLCFs spent a total of 295 hours on developing technical support resources. Thus, it appears that, during this early implementation phase, VLCFs worked to collect materials and document procedures that will help future VLCFs get up to speed more quickly.

Table 15. Count and Duration of VLCF Activities Supporting Instructional or Operations and Technical Purposes in May and June 2014 (VLCF Logs)

Activity	Instruction		Operations and Technical		Total	
	No. Records	Duration (Hours)	No. Records	Duration (Hours)	No. Records	Duration (Hours)
Attend CCTP Planning Meetings	52	236	63	331	115	566
Attend Professional Development	16	89	NA	NA	16	89
Attend Training	NA	NA	7	35	7	35
Create Resources	78	427	56	295	134	721
Deliver Professional Development	10	46	NA	NA	10	46
Initial Support	NA	NA	22	129	22	129
Initial Training	NA	NA	3	10	3	10
Leadership Support	53	171	43	173	96	344
Other Instructional Support	25	106	NA	NA	25	106
Other Technical Support	NA	NA	83	377	83	377
Parent Support	2	2	NA	NA	2	2
Deployment Window Technology Support	NA	NA	37	190	37	190
Total	236	1,076	314	1,538	550	2,614

Note: Data reflect activity from May and June in logs submitted by 11 VLCFs.

We discussed school perceptions of VLCF support with staff in 11 of the 15 CCTP schools in which we conducted interviews. At least one staff person interviewed in seven of these schools knew the assigned VLCF and was able to discuss the role this person plays in CCTP implementation.

- Staff in two schools described the VLCF as a liaison between the school and the district, with the task of facilitating the allocation of resources to schools for CCTP implementation and ensuring that the VLCF communicated the schools' needs and progress to the district about CCTP.
- Staff in two other schools said that they expected VLCFs to provide instructional coaching to integrate technology in the classroom but reported that instead the VLCFs focused more on technical issues, such as providing schools with information about iPad deployment; ensuring that schools received the appropriate number of iPads, accessories,

and training manuals; ensuring that parents signed the necessary legal documents for CCTP rollout; ensuring student login accounts were in order; supporting schools with Smarter Balanced (SBAC) logistics preparation; and troubleshooting.

Although VLCFs did not meet some schools' expectations for instructional support during Phase 1, respondents from six schools described a positive relationship with the VLCFs:

- Respondents from two schools reported that VLCFs were integrated into the school community, and as a result, VLCFs performed their duties on a one-on-one and self-directed basis at the school. According to an administrator from one of these schools, rapport fostered between the VLCF and teachers facilitated more rapid solution turnaround when technical issues or CCTP implementation questions arose in their school.
- Respondents at two other (elementary) schools reported that, when the VLCFs are not on-site, staff informally e-mail or call the VLCFs to address CCTP-related issues.
- Staff from an additional two schools said that VLCFs are great resources in general.

On the other hand, one high school administrator said that the VLCF was often overextended with the responsibility of handling multiple schools; and one CCTP high school reported being promised technical support personnel but never received any, with the exception of assistance for Smarter Balanced (SBAC) testing.

In light of these findings, the district should **create opportunities for VLCFs to support technology integration into instructional practice.** If resources allow, hiring additional MCSAs would reduce the immediate burden of technical support. Ensuring that schools are technologically ready before deploying devices might reduce the volume of requests for technical support. The majority of VLCFs interviewed expressed optimism that they will be able to increase the amount of time spent providing instructional support in subsequent years of the project. This is enabled by changes in their funding source and their substantial investment in development of implementation support materials.

School-Based Support

Staff in 11 of the 19 visited schools reported putting in place their own school-based technology support, either in the form of a team (seven schools) or an individual technology coordinator (four schools). Table 16 presents these findings by school type (CCTP or non-CCTP).

Table 16. School-Level Technology Support in CCTP and Non-CCTP Schools

	CCTP			Non-CCTP			TOTAL
	Elem. (*n* = 8)	Mid. (*n* = 2)	High (*n* = 5)	Elem. (*n* = 1)	Mid. (*n* = 1)	High (*n* = 1)	
CCTP or Technology Support Team	2	2	2	1			7
Individual	2		1			1	4
None in Place or Unofficial	4		2	1	1		8

In the remaining schools, there was either no support structure or apparent confusion about whether there was one and what it was. For example, in one high school, the principal named herself and the person she had identified as the technology coordinator for the evaluation as the support system, and the person identified as the technology coordinator reported that there is no official support in place, noting "It's more a whole school thing than it is a leadership team." In two of the elementary schools, the principal reported that there were no structures in place, and the other interviewee said that they had taken on that role through necessity (e.g., other teachers coming to them and asking for help). This finding was corroborated by two VLCFs, who noted that some schools have not established any type of technology support team (referred to as the school leadership team by the VLCFs) and that, in other schools, this team consists of one or two individuals.

School staff reported that school teams or individuals provided technical support to teachers, training to teachers to integrate technology fully with teaching, or both. For example, one respondent said:

> [My role is] fluid, it depends, sometimes it's, "My things aren't charging." "Well, did you check the bottom and see if all the plugs are plugged in?" Last year it was that teacher initiated "Hey, let's get together and figure out what you learned about this app that you found versus what I learned." Or "let me model what this looks like in my classroom so it's not so scary for you to try it, too." So we were doing all of that.

Table 17 shows the number of CCTP and non-CCTP schools in which a team, individual, or "unofficial" support person provided different types of support (technical support, training, or both). Most teams or individuals provided technical support or both technical support and training; only two provided training exclusively, and one of these was an unofficial support person. In at least one school, the CCTP team provided solely technical support ("they were assigned to help us roll out the iPads"), while a separate team provided professional development about instruction because "iPads are seen as this little isolated thing in and of itself."

Table 17. Types of Support Provided by School-Based Teams and Individuals in CCTP and Non-CCTP Schools

	CCTP			Non-CCTP			TOTAL
	Team	Individual	Unofficial	Team	Individual	Unofficial	
Technical Support	3	1	1				5
Training			1		1		2
Both	2			1		1	4

Note: Three schools indicated they have a support team or individual but did not specify the type of support provided. These three schools are not included in the table counts.

Because the vast scope of the project requires building capacity of schools to support technology integration, the district should **encourage the formation and active involvement of school leadership teams and professional learning communities.** For example, VLCFs could help encourage teachers to visit each other's classrooms and schools, and work collaboratively during common planning time and regularly scheduled meetings.

Professional Development

According to the district's Learning Zone Professional Development Logs, the introductory training for Phase 1 schools took place in August and September 2013. During this training, the CCTP project team introduced staff to the CCTP goals and plans and presented a video about safety from the LASPD. Representatives from Apple trained staff on iOS device setup, use, and management, and representatives from Pearson provided training on the Pearson digital content and application use. The training was three days long for elementary school staff (one day from Apple and two days from Pearson on both mathematics and language arts) and two days long for secondary school staff (one day from Apple and one day from Pearson on either mathematics or language arts). Table 18 provides a summary of the summer 2013 predeployment professional development sessions. This introductory training provided to Phase 1 schools will not be delivered in the same way to schools in later phases of the CCTP.

Table 18. Summer 2013 CCTP Professional Development Sessions, by Grade Span and Subject

Grade Span	Subject	Professional Development Sessions
Elementary School	All	▪ Two days of Pearson ▪ One day of Apple
Middle School	ELA and Mathematics	▪ Two days of Pearson ▪ One day of Apple
High School	Mathematics	▪ One day of Apple ▪ One day Dominguez Hills/LAUSD "The Math Project" ▪ One day make-up session: Technology Integration in High School Mathematics
High School	English	▪ Two days of Pearson ▪ One day of Apple
Middle and High School	Non-English and Mathematics Subjects	▪ Two days of Apple
All	All	▪ Make-up Apple and Pearson professional development sessions were offered in September to Phase 1 certificated staff

CCTP school principals received the training described previously, as well as additional training. According to interviews with district leaders, the CCTP project team's content specialists provided one full day of professional development to principals during the summer of 2013 as well as monthly principal trainings throughout the 2013–14 school year. The content of this training was not specified in the interviews. In addition, staff from Pearson also provided one day of training to principals to introduce the Pearson Common Core System of Courses.

Nine out of 14 CCTP school respondents who were asked about CCTP-related professional development participation reported that staff received technology-related professional development from the district, mainly referring to the deployment orientation at the beginning of

the school year. Staff from two schools reported that principals have access to training through monthly meetings.

To examine school staff participation in CCTP-related professional development, we also examined the district's Learning Zone Professional Development Logs, which include records from each of the CCTP professional development offerings from the district. We used these logs to calculate the completion rates overall and by school level and adoption time. We used both the total teachers in the professional development rosters (Table 19) as well as the total number of iPads provisioned (Table 20) as the denominator for full attendance. Overall, we found that 78 percent of school staff registered for the district-provided CCTP training completed it; however, according to these records, only 42 percent of staff who received a CCTP iPad completed this training.

Table 19. Professional Development Completion Rates by CCTP School Level

Level	Total Completed	Total on Rosters	Total Provisioned	Percentage of Registered Complete	Percentage of Provisioned Complete
Elementary School	259	313	449	82.8%	57.7%
Middle School	135	182	409	74.2%	33.0%
High School	169	215	408	78.6%	41.4%
Span School	3	17	78	17.7%	3.8%
TOTAL	566	727	1,344	77.9%	42.1%

Table 20. Professional Development Completion Rates by Phase 1 Adoption Stage

Level	Total Completed	Total On Rosters	Total Provisioned	Percentage of Registered Complete	Percentage of Provisioned Complete
Early Adopter	244	303	554	80.5%	44.0%
Mid Adopter	239	318	562	75.2%	42.5%
Late Adopter	83	106	228	78.3%	36.4%
TOTAL	566	727	1,344	77.9%	42.1%

Other Technology-Related Training

Apart from deployment training, school staff received additional technology-related professional development from a number of sources, including the VLCFs, technology vendors (Apple and Pearson), and other school staff.

VLCFs provided training to school staff on technical aspects of the devices, such as assigning Apple IDs and using particular apps. (As noted previously, VLCFs had limited capacity to provide instructional training due to the restrictions of bond funding and the need to provide technical support.) In our interviews with seven VLCFs, we asked them to describe the training they provided to teachers during the 2013–14 school year. Some VLCFs noted that the training they provided was intended to address the needs of the particular school. In the words of one VLCF, "I tried to get a sense of where teachers are and how to meet them at that place…." We

also asked them to specify the topics on which they had provided training, and we found that the majority of these topics were related to use of specific tools and apps (four topics), deploying and managing devices (three topics), and technical support (one topic). (See Table 21.)

Table 21. Topics of Training Provided by VLCFs (VLCF Interviews)

Use of Specific Tools and Apps
▪ Using workflow tools and collaboration tools
▪ Using specific applications
▪ Signing into the Pearson app
▪ Personalizing the device
Deploying and Managing Devices
▪ Deploying devices
▪ Management and logistics of devices
▪ Setting up user accounts (Apple IDs)
Technical Support
▪ Common technical issues and fixes

Pearson trainers also provided on-site coaching and technical assistance for teachers at Phase 1 schools. According to Pearson's contract, training sessions were to focus on accessing Pearson digital content and integrating Pearson digital content into curriculum and instruction. One of the district staff involved in planning professional development stated that schools could contact Pearson directly with requests for on-site training on a particular topic. According to district records, Pearson conducted on-site sessions on 169 occasions in 26 of the 47 Phase 1 schools.[12] The number of sessions per school varied from one to 19.

Respondents from seven schools reported participating in site-based professional development offered by Pearson. Reactions to the Pearson training included the following:

- Although one school respondent called the Pearson training "highly effective," staff from five schools said that the training was not effective because the Pearson curriculum materials were not complete at the time of the trainings.
- Respondents from three schools indicated that these trainings lacked the information teachers needed to integrate the Pearson curricula effectively into their classrooms.
- Respondents from two schools said that they had trouble accessing the app after they had been trained.

Apple also provided trainings to staff in seven schools, including two non-CCTP schools. Interviewees generally indicated that the trainings had been useful. Respondents from four of these schools said that the trainings were focused on how to use the iPad, iPad apps, and other Apple products (e.g., Apple TV), rather than on instruction. Respondents from two schools, however, said that the trainings fully integrated functions with instructional uses.

[12] Pearson was contractually required to provide up to 50 onsite training session.

The source of technology-related professional development most frequently reported by interviewees (15 respondents) was school staff. School-level offerings were sometimes informal, as teachers shared ideas and practices with each other. Several school respondents compared the help teachers were able to give to each other on integrating technology into the classroom very favorably to other types of professional development. For example, one administrator said:

> What I think has made more bang for the buck is the [teachers] teaching each other. So one teacher figures out how to do something with their class and they share…. Then the other teachers are interested. And by them working with each other, it's kind of unraveled them being afraid to use it, and they feel safer amongst each other. So I had to just step back and kind of watch and look at the personalities and for instance, if there is a teacher that's stronger in the area, I'll say, "Well go ask such and such teacher," because I have a few teachers that have hidden talents they weren't talking about, and then they just took the ball and ran with it.

The district should **provide teachers with a variety of professional development approaches about how to integrate technology successfully into classroom instruction.** Teachers and other school staff do require training on accessing and using the devices and apps, but CCTP professional development should evolve to address more educationally substantive aspects of implementation.

Technology Professional Development and the Common Core State Standards

Staff in 14 of the 19 visited schools discussed staff participation in Common Core–related professional development. They described who provided the professional development and the extent to which it was integrated with technology use.

- Of the 10 respondents who specified the provider of Common Core training, six respondents said it was provided by the district, two respondents said it was other school staff, and one respondent said it was provided by both; one other high school has accessed Common Core–related professional development through a network of magnet schools.
- Only one of the respondents reported that the Common Core–related training integrated information about technology (the instructor modeled a close read—an instructional method encouraged by the Common Core—on an iPad). Conversely, two respondents said that technology-related professional development integrated information about the Common Core. As one respondent said, "When I get people to come in to work with my teachers on the devices or the apps or things it's isolated, it's not really under [Common Core]. I would love to have more Common Core–related [professional development]: 'How can we use this [device] to teach this?' I think it's a little isolated."

Two respondents noted that the Common Core State Standards are integrated into all aspects of instruction, including instruction using the new devices, but did not indicate that professional development addressed this. Overall, findings from school staff suggest that they do not perceive how CCTP supports implementation of the Common Core. Lack of CCTP and Common Core integration reflects the lack of coordination among the initiatives reported in section 4.D.

5.C. Barriers and Concerns

This section examines barriers schools faced in implementing new technology (CCTP and non-CCTP) in the context of available supports. This section also summarizes Phase 1 school staff concerns about implementing the CCTP.

Barriers

School staff reported barriers to implementing new technology in a range of categories, including:

- Technical barriers
- Lack of technical skills among students and staff
- Communication
- Logistical issues with both software and hardware
- Other barriers related to time, support, acceptance of change, specific products, student use, and access and security

Table 22 lists the barriers to implementation that staff reported by category, along with the number of schools in which at least one interviewee mentioned the barrier. The following paragraphs describe each barrier in more detail, starting with the most frequently reported.

Table 22. Barriers to Implementing New Technology

Barriers	Number of Schools
Technical issues	**13**
▪ Poor connectivity	9
▪ Devices not working correctly	9
Lack of technical skills among students and staff	**8**
▪ More training is needed (general)	7
▪ Teachers lack technology skills	5
▪ Students lack technology skills	2
Inadequate technical support	**6**
Communication	**6**
▪ Lack of clear guidance from the district	5
▪ Lack of communication from the VLCFs	2
Logistic issues (software)	**5**
▪ Problems with Apple IDs and logins	4
▪ E-mail inaccessible	1
Logistic issues (hardware)	**4**
▪ Students unable to take the devices home	3

Barriers	Number of Schools
▪ Tracking and monitoring the devices	3
Monitoring how students use the iPads	**4**
Inadequate staff time for the initiative	**4**
Staff resistance to using new technology	**3**
Lack of administrator access to the iPads	**2**

Note: Of the 15 CCTP schools visited, staff at several schools reported multiple barriers, sometimes within a single barrier category. As a result, the total number of schools reporting individual issues within a category may not total the number of schools reporting the overall category.

The most frequently reported barrier to technology implementation was technical issues, including problems with connectivity and devices not working correctly. For example, staff in CCTP schools reported that apps were frequently slow to load and that students experienced disruptions during Smarter Balanced (SBAC) testing due to service interruptions. Respondents at middle and high school CCTP schools reported that slow loading was a problem because lessons were delayed while students waited for materials to load to their devices. In the primary grades (e.g., K–2), teachers needed to download apps and materials onto their students' devices, and slow loading made this process time consuming. Connectivity issues also prevented students from accessing instructional materials from the Internet or uploading assignments to the cloud. Some interviewees simply reported that devices did not always work properly and did not provide further details about the specific problems with the devices. As noted in Section 5.D., several school staff members believed they did not receive sufficient technical support.

There were no patterns in the presence or absence of a school-based CCTP or technology support team or individual in schools where staff reported technical issues as an implementation barrier. Of the 13 schools that reported technical issues, five schools had a technology support team in place, two schools had an individual assigned to provide technical support, and six schools did not report having school-based technical support. Only one of the six schools that reported inadequate technical support did not have a school-based CCTP or technology support team or individual in place.

Another frequently reported barrier to technology implementation was lack of technical skills among students and staff and the need for additional training in this area. Phase 1 school staff reported that they would like more professional development on using apps in instruction and for SBAC testing. However, staff in four of the five schools that reported lack of teacher technical skills as a barrier also reported inadequate time for staff to learn new programs or apps, especially given that they are learning to implement the Common Core at the same time. Two VLCFs also perceived the lack of technological proficiency among teachers to be a barrier.

Staff at six CCTP schools reported communication problems with the VLCFs or district as a barrier to successful implementation. Specific communication problems included not receiving clear guidance about the purpose of the devices or the apps they can use and receiving frequently changing information about when the devices would be deployed and whether students would be able to take them home. Staff reported it a problem that teachers did not receive e-mails directly

from the district about CCTP. In one of the six schools, an administrator reported that the school had a new VLCF whom they do not know, and they did not get information from the VLCF.

Staff in CCTP schools also reported logistical barriers with software (five schools) or with the hardware (devices) (four schools). Logistical software issues included problems establishing Apple IDs, students being locked out after too many days of inactivity, or users not having access to their e-mail accounts. Logistical hardware issues included the fact that students were not allowed to take devices home and tracking and monitoring devices while they were in the schools. Staff at three CCTP high schools reported that monitoring and tracking the devices was a logistical barrier and took up instructional time, as noted in Section 4.C.

Staff at four schools said that not being able to monitor student iPad use effectively, including Internet security, was a barrier to implementation. One teacher said, "With their iPads they were able to play games. I was able to block those games on the district computers, but not on the iPads…. These kids are like, 'Oh wow, I finally get to do what I've seen everyone else do,' so it's not even like you could say, 'Don't do that.' We were asking water not to be wet." Similarly, two VLCFs noted that teachers lacked the skills to manage classrooms in which students used their devices independently. Teacher apprehension about student behavior with the devices, according to one VLCF, led them to use technology in a way that allowed them to control student use of the device (e.g., through whole-class instruction).

Staff at two schools said that their inability to gain administrative access to the iPads was a barrier.

School Concerns

School staff at 12 of the 15 CCTP schools that we visited expressed concerns about the CCTP during interviews. Table 23 summarizes the concerns expressed by at least one interviewee per school in the spring 2014 site visit interviews.

Table 23. School Concerns About Participating in the CCTP

Concern	Examples	Number of Schools
Safety	▪ Safety of both equipment and students if iPads are sent home ▪ Student access to inappropriate Internet content ▪ Hygiene (i.e., when students share earbuds) ▪ Theft	5
Quality of instruction	▪ Integration of technology into classroom instruction ▪ Teachers' abilities to teach 21st century skills ▪ Replacement of teaching with technology	5
Learning	▪ Pearson curriculum ▪ Appropriateness of products for student learning ▪ Teaching students to be good digital citizens	4

Concern	Examples	Number of Schools
Meeting district expectations for the CCTP	▪ Inability to meet district expectations in a small school ▪ Inability to use iPads for the district's intended purposes	4
Appropriateness of the technology	▪ Appropriateness of the iPad for the school ▪ Obsolescence of technology	3
Student development	▪ Amount of screen time ▪ Ability to develop interpersonal skills ▪ Ability to solve problems ▪ Access to kinesthetic learning and development of fine motor skills	2
Professional development needs	▪ Securing differentiated professional development for high- and low-tech teachers ▪ Expanding teachers' knowledge of iPad features	2
Technology support	▪ Having the needed support for technology issues	1
New student access	▪ Securing sufficient iPads for new students	1
Continuity	▪ Securing the same iPads for student use in subsequent school years	1

As expected, safety was one of the most common concerns expressed by school staff and included concerns about iPad theft from students or from the school; students' physical safety in high crime neighborhoods, where some Phase 1 schools were located; and students' safety while online. The latter two concerns were expressed in reference to the issue of whether students should take iPads home. Staff at four of the schools said they were concerned about questionable content on the Internet.

The other most common concern was the quality of instruction students would receive under the CCTP, especially if teachers were not prepared to teach 21st century skills. One school respondent said that direct instruction in this area is crucial, because students will not necessarily learn new technology skills just through exposure, saying:

> Yeah, some of them are intuitive about the technology, but they're only intuitive to it to a certain level… The analogy is like a child who doesn't really read. So if you have a child who's not a strong proficient reader in high school by the time they've got to us they have learned skills to hide that pretty damn well. And you have to really struggle to find it. It's the same is true with the technology. Because they think all of their friends know.

Other areas of concern included whether students would be able to learn academic content using the devices and software, the ability for schools to meet district expectations for the CCTP, appropriateness of iPads specifically, and whether students would develop appropriate kinesthetic skills. The last concern was voiced only at elementary schools, where one respondent said that "a lot of kids need to feel and be tactile." Another respondent who discussed student development as a concern said he or she was echoing concerns expressed by parents about

students' screen time. The respondent said, "That surprised me when it came up at the parent meeting. I'm like, 'Why would you think your kid would be 5 hours in front of an iPad all day?' But I guess if you're not in a classroom, that's something they thought about."

School staff also expressed concerns about meeting teachers' professional development needs, having sufficient support for technology issues, obtaining devices for new students, and continuing to be able to supply iPads in future years.

6. Discussion

During Phase 1 of the CCTP and through this evaluation, LAUSD learned about potential challenges to the wide-scale implementation of networked digital device-based curriculum and instruction reform and the establishment of infrastructure and processes that might overcome them. An overall strength of the project has been the eagerness of district staff to identify and learn from such challenges. This section discusses some of the major themes that cut across multiple sections of the report, with an emphasis on the project's strengths, challenges, and priorities.

Deployment of devices to Phase 1 schools was a central goal of the initiative in the first year. A deployment team, consisting of two leads, 14 VLCFs, and 14 MCSAs (with numbers that fluctuated over time), oversaw the deployment of iPads to 30,490 students and 1,360 teachers in 47 Phase 1 schools. The challenges of a deployment on this scale meant that project staff assigned to support integration of technology into instruction needed to spend most of their time on technical troubleshooting in the first year of implementation. A key challenge was the time required to set up devices for individual users. To make deployment run more smoothly, the district should **find a technical solution to decrease the time spent on provisioning each device.** Other difficulties arose from schools' lack of technological readiness (staff and infrastructure). The district addressed these challenges by developing processes for increasing the efficiency of deployment, as compiled in a VLCF handbook. The district also developed an instructional readiness survey to determine whether schools are ready for deployment and what assistance they require to achieve readiness. The focus on successful deployment, however, had its costs. The preponderance of evidence suggests that the challenges of deployment (as well as technical support, as discussed later) drew the focus of VLCFs and district CCTP leaders away from efforts to support the integration of technology into instruction.

The second major theme was the need for stronger professional development and instructional support. District administrators acknowledge that the adoption of one-to-one technology requires a more extensive set of professional development offerings than what the district had provided so far to Phase 1 schools. School staff in these schools participated in a two- to three-day training session in late summer of 2013. However, district records indicate that only about 42 percent of staff who received an iPad attended the professional development. In addition to this introductory session, the technology vendors and VLCFs provided follow-up coaching sessions that were typically focused on the use of different apps. These sessions were not mandatory and appeared to be offered in response to school requests for assistance. The VLCFs were supposed to build the capacity of school leadership teams who would in turn support the rest of their school's staff, but our findings indicate that VLCFs seldom had an opportunity to provide training in instructional support for technology integration. Most VLCFs indicated that they work with leadership teams in at least some of their assigned schools, but that this support focuses mainly on technical rather than instructional issues. Two VLCFs indicate that some schools had not yet established school leadership teams. In several schools that we visited in spring 2014, staff indicated that the training they received did not adequately prepare them for integrating technology into their instruction (e.g., they did not understand the instructional purpose of different apps). Finally, evidence shows that CCTP professional development was not coordinated with the efforts of ongoing initiatives related to implementation of the Common

Core. Perhaps because of the lack of coordination, school staff did not perceive how CCTP supports implementation of the Common Core. In light of this these findings, we recommend that the district **provide teachers with a variety of professional development approaches about how to integrate technology successfully into classroom instruction.** Moreover, the district should **integrate training about the Common Core into training about technology and vice versa.** Because the vast scope of the project requires building capacity of schools to support technology integration, the district should **encourage the formation and active involvement of school leadership teams and professional learning communities.** Finally, the district should continue to identify efficiencies in deployment, and ensure an appropriate level of staffing, so that **VLCFs and district leaders are available to support technology integration into instructional practice.**

A third major theme of Phase 1 was the challenge of providing technical support. The district provided support to Phase 1 schools through VLCFs, MCSAs, and the ITD Help Desk. In addition, 60 percent of the Phase 1 schools we visited in May 2014 had designated a staff member to serve as a point of contact for technical problems. Yet access to technical support, particularly related to device access and wireless connectivity, was a concern at several of the 15 Phase 1 schools we visited as part of the Year 1 evaluation activities. Schools have made uneven progress in implementing school-based support teams and in accessing necessary technical support and training from the district. Staff at six of the 15 schools reported general difficulty reaching district personnel assigned to their school, as well as difficulty obtaining follow-up from district personnel to resolve technical issues. As a result, many schools report experiencing insufficient technical or logistical support. The demand for technical support was one of the factors that reduced the capacity of VLCFs to support the integration of technology into instruction. A majority of VLCFs we interviewed stated that additional technical support staff members are needed to address the technical support needs of participating schools adequately, particularly as the project scales up. In terms of underlying reasons for the need for technical support, two VLCFs perceived that some schools lacked technology infrastructure and that some teachers had limited knowledge of and comfort with using technology. The district has attempted to address the challenge of technical support through training sessions for school staff developed and provided by VLCFs and by their efforts to evaluate the readiness of schools before deployment. To address the need for more prompt and effective technical support, the district should **ensure that a sufficient number of MCSAs are assigned to the project and clarify the process by which schools access technical support**. The district also may consider **assisting CCTP schools in building a trained team (or individual) to collaborate with the MCSAs and VLCFs to provide technical support,** including troubleshooting issues, communicating with the ITD Help Desk, and providing technical support directly to school staff as needed. There is evidence that the district is taking steps to assess, and address, the technology needs of schools prior to deployment. These efforts would appear to be a promising approach to reducing the need for technical support.

The fourth theme relates to the previous three and is the extent to which technology has been adopted and integrated in Phase 1 schools. As would be expected in the first year of implementation of a new technology initiative, CCTP schools appear to be at an early stage of adoption. This was evident in the classroom observations, where we saw iPads not just present but in use in 48 percent of the classrooms observed in the 15 Phase 1 schools we visited. In these observations, we saw that iPads were typically used in ways that replaced conventional

technology or classroom practices without substantially changing instructional strategies. For example, iPad apps substituted for conventional technologies such as the overhead projector and student notebooks for note-taking or journaling. On the other hand, classroom observations and staff interviews indicated several uses of technology that show promise for transforming teaching and learning in ways envisioned by the project. Among students, promising practices included the use of technology for project-based learning, communication with teachers, use of adaptive practice programs, and "virtual field trips" that connected students with people and places around the world. Among promising practices identified by staff in visited schools were delivery and facilitation of interactive lessons, formative assessments, submission and grading of assignments, and additional channels for communication with students (during and outside of class time). We found evidence that schools were not implementing Pearson's Common Core System of Courses to the extent anticipated by the district at the time of our visits because the content was not yet available in certain grades and subjects and because technology problems made access difficult in cases where it was available. Although these first-year observations of technology use in Phase 1 schools provide useful initial information about typical use and promising practices, the evaluation will use the observation findings from this first round of data collection as a baseline against which to gauge changes in instructional practice over time.

The fifth major theme is the acknowledgment of the challenge of scaling up the district's present approach to deployment, instructional support, and technical support. Supporting the rollout of the project to the entire district will require a substantially expanded corps of VLCFs and MCSAs, yet district staff questioned whether qualified staff members are available in such large numbers. The fact that Phase 3 will be rolled out gradually (i.e., across three time periods) will help reduce the demands on these staff during deployment. We would suggest that a concerted effort to build the capacity of school staff, such as through school leadership teams, is essential to reducing the burden on the VLCFs. A second challenge is the collection and redistribution of devices to individual students. The district's processes will need to be much more efficient to be feasible on a districtwide scale. The district will need to evaluate several options for improving efficiency, such as limiting the number of devices that need to be reprovisioned (e.g., by matching students up with their previously assigned iPads and allowing some students to keep their iPads over the summer) and, as recommended above, finding a technical solution to reduce the time and effort of reprovisioning devices.

A sixth crosscutting theme has been the district's efforts to maintain safety and security. The district enacted a four-pronged strategy, focusing on cyber safety, community outreach, technology solutions, and collaboration with law enforcement agencies. One widely reported challenge was students in three high schools disabling Internet filters early in the 2013–14 school year. The district responded by finding an appropriate technological solution and, for the time being, keeping devices on campus where student use of technology can be monitored more closely. These appear to have been effective strategies for preventing additional, similar incidents, but they have created logistical challenges related to the distribution and storage of devices, particularly in middle and high schools where students change classrooms and teachers throughout the day. The district should **consider establishing a secondary-level task force to address these logistical challenges and share best practices for minimizing loss of instructional time related to device distribution and monitoring throughout the school day.** Some district leaders stated that the restriction on devices leaving campus may be removed for the 2014–15 school year. Allowing students to take devices home can be an important step in

giving all students equal access to technological resources. However, the district should **leverage the insights of administrators, teachers, and parents at CCTP schools before making the decision to allow students to take the devices home** to ensure that concerns about student safety are addressed. The district is engaged in a concerted effort to educate students and parents about cyber safety through its Digital Citizenship campaign. It is not yet clear how the district is monitoring whether these lessons and trainings are being offered in a consistent manner across schools to ensure that all students and parents have an opportunity to learn from them.

The seventh and final theme relates to communication with key audiences. District leaders perceived communication to the broader public to be a challenge. Public discussion focused on high-profile criticisms of the project, and the district's communication strategy was reactive, according to project leaders. The CCTP team has addressed this challenge by convening a communications task force to develop a communication plan. Guided by this plan, the district has created several communication vehicles to explain the initiative to the public (e.g., a project website, monthly newsletter, and several hour-long television programs about the project). District leaders acknowledged that parents were one audience in particular with whom communication should be improved. To address this goal, the district conducted a focus group with parents to elicit feedback on parent training modules. Parent feedback suggested that more differentiated training would be helpful. In light of these findings, it is clear that the district has worked to communicate proactively to the public at large and to parents in particular. As the project moves forward, **it is recommended that the district follow through on its efforts to develop a differentiated training sessions for parents**. Leveraging parental support for establishing expectations for student behavior and digital citizenship may be key to the success of the CCTP, particularly if students are able to bring devices home at some point in the future.

Finally, the district has communicated with schools through a monthly meeting of CCTP leaders and school administrators, in phone conferences and e-mails with school administrators as needed, and through the monthly newsletter. The VLCFs served as the conduit for communication about deployment and technical support issues. Staff at several schools noted communication problems regarding the initiative, such as lack of guidance about the purpose of the devices along with apps they should use and how, when the devices would be deployed, and whether students would be able to take them home. Staff reported that it was a problem that they did not receive information directly from the district. It is possible that the lack of clarity about the instructional aspect of the project is a consequence of the CCTP team's focus on issues related to deployment.

General Discussion

It is important to situate these findings within the research literature on implementation of large-scale educational technology initiatives. Leveraging technology for transformational change in schools and classrooms requires more than a commitment to purchase and disseminate the equipment (Penuel, 2006, Valiente, 2010). Rather, it is a process that unfolds over time through the sustained efforts of district and school leaders and teachers. The evidence suggests successful implementation of technology initiatives requires a cyclical process of systematic planning, implementing and refining processes to foster change in the system (Center for Technology Implementation, 2013; Fixsen, Naoom, Blase, & Wallace, 2007).

The available research suggests that one-to-one computing *can* change how teachers approach instruction, as both teachers and students are given an opportunity to teach, creating a "student-centered pedagogy." A student-centered focus can allow students to guide their own learning process, with the teacher serving as a facilitator or coach (Argueta, Huff, Tingen, & Corn,2011). Teachers can learn formally through professional development and technical and instructional support, while informally they are supported by leadership, their colleagues, and their own students (Argueta et al., 2011, Penuel, 2006; Valiente, 2010). However, even in "highly connected" schools (including schools with one-to-one laptop or mobile device initiatives) achieving meaningful technology integration is difficult and takes time (Davies & West, 2014; Shapley, Sheehan, Malone, & Caranikas-Walker, 2010).

In order for teaching and learning to shift toward student-centered pedagogy enabled by technology, research suggests a number of key ingredients. For example, Penuel (2006) and Valiente (2010) emphasize the importance of school leadership to champion one-to-one computing and this form of instruction. Essential infrastructure includes connectivity to the wireless network, the devices themselves, and technical and instructional support for teachers (Argueta et al., 2011). Other prior research suggests that that essential components of technology integration into the classroom include professional learning (Fixsen et al., 2007; Staples, Pugach, & Himes, 2005), school culture (Billig, Sherry, & Havelock, 2005; Glazer, Hannafin, & Song, 2005), and organizational support (AbbottGreenwood, Buzhardt, & Tapia., 2006; Fixsen et al., 2007). These essential components underscore many of the recommendations in this report and indicate the importance of continued evaluation of LAUSD's progress in instantiating these components over time.

Furthermore, although it is important to note that LAUSD is unique in the size and scope of the CCTP initiative, recent educational technology initiatives in other districts and states help to put the first-year findings into perspective. Other technology initiatives, including other one-to-one computing initiatives, also encountered challenges related to technical and instructional support in the first years and reported slow progress in changing teaching and learning practices in the early stages. For example, Shapley et al. (2010) found that even with sufficient infrastructure and access to one-to-one technology, students most often used technology for information gathering or word processing. Teachers most frequently used technology for administrative purposes, such as attendance and grade keeping, and personal productivity, such as locating resources, and communicating with other staff and parents. Early findings from Maine's Learning Technology Initiative (MLTI), the oldest statewide one-to-one initiative, suggest that two years after starting the initiative less that 65 percent of the MLTI teachers used their laptop to create new instructional lesson plans or personalize student learning. These findings emphasize the challenge of implementing technology initiatives that move from deployment at scale to fine-grained changes in teachers' instruction and students' learning experiences at the classroom level.

In summary, although the CCTP is a large and ambitious program, it shares some common features with other recent technology initiatives with similar design or aims, and the early findings related to CCTP implementation would not be unexpected in light of previous research on initial implementation. Project leaders may draw upon the experiences of these programs and prior related research as they continue to chart the course for the CCTP and the students of LAUSD.

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Appendix A. CCTP Phase 1 Schools

School Name	Timing of Adoption	Type	Level
54th St EL	Early	OCR	Elementary
Ambler EL	Mid	OCR	Elementary
Angelou Comm SH Fine Arts	Early	SFF	High School
Angelou Community SH Global Issues	Early	SFF	High School
Animo Westside Charter MS	Mid	Charter	Middle School
Annalee EL	Mid	OCR	Elementary
Apple Academy Charter Public School	Mid	Charter	Elementary
Baldwin Hills EL	Mid	OCR	Elementary
Broadacres EL	Early	OCR	Elementary
Chavez LA— ARTES	Early	SFF	High School
Cimarron EL	Early	OCR	Elementary
Cowan EL	Mid	OCR	Elementary
Curtiss MS	Mid	OCR	Middle School
Diego Rivera Learning Complex—Communication and Technology School	Early	SFF	High School
Diego Rivera Learning Complex—Green Design Community School	Early	SFF	High School
Diego Rivera Learning Complex—Performing Arts Community School	Early	SFF	High School
Diego Rivera Learning Complex—Public Service Community School	Early	SFF	High School
Fleming MS	Mid	OCR	Middle School
Harte Prep Int	Mid	OCR	Middle School
Hillcrest EL	Mid	OCR	Elementary
Kentwood EL	Mid	OCR	Elementary
Leapwood EL	Early	OCR	Elementary
Lizarraga EL	Mid	OCR	Elementary
Magnolia Science Academy 3	Mid	Charter	Span School
Magnolia Science Academy 4	Mid	Charter	Span School
Manchester EL	Mid	OCR	Elementary
Manhattan EL	Mid	OCR	Elementary
Middle College HS	Early	OCR	High School
Muir MS	Late	OCR	Middle School
Nevada EL	Early	OCR	Elementary
Obama Global Prep Academy	Early	OCR	Middle School
Ocean Charter School	Mid	Charter	Span School
Palms MS	Late	OCR	Middle School
Rancho Dominguez Prep School	Mid	SFF	Span School
Revere MS	Late	OCR	Middle School

School Name	Timing of Adoption	Type	Level
Roosevelt HS	Early	SFF	High School
Sotomayor LA—ARTLAB	Early	SFF	High School
Sotomayor LA—School of HADA	Early	SFF	High School
Sotomayor Learning Academy-LARS	Early	SFF	High School
Valley Academy of Arts & Sciences	Early	SFF	High School
Webster MS	Late	OCR	Middle School
Westchester HS	Early	OCR	High School
Western EL	Mid	OCR	Elementary
Westport Heights EL	Early	OCR	Elementary
Windsor M/S Aero Magnet	Mid	OCR	Elementary
Woodcrest EL	Mid	OCR	Elementary
YES Academy	Mid	OCR	Elementary

Note: OCR = Office of Civil Rights; SFF = Schools of the Future

Appendix B. VLCF Log Categories

Activity	Description
Operations and Technical	
Provide Initial School Leadership Support	Supporting leadership team with all activities related to Readiness Checklist; supporting logistics and coordination with vendors to fulfill Readiness Checklist; and supporting training for Asset Management and MDM
Create Project Resources Operations and Technical	Develop materials covering operational deployment, technical support in deployment, support of LMS, program promotion of operations and technical, legacy documentation
Attend VLC Technical Training	Attend technical training around deployment, MDM, asset management, functional operation of device (noninstructional)
Provide Initial Technical and Operational Support	Resolve initial technical and deployment issues; develop distribution and collection procedures; work with school and school police in determining safe room, acting as liaison between technical staff and school.
Deliver Initial Technical Training	Technical training around deployment, MDM, asset management, functional operation of device (noninstructional), Apple ID to school leadership
Attend CCTP Project Planning Meetings	Staff meetings are schedule to discuss deployments, operations, issues, risks, following up on tasks, ongoing communications (internal and with all stakeholders), documenting work and project monitoring, making copies, and the like
Post deployment window Technology Support	Submit help desk tickets, collect inoperable devices, provide assistance for lost, stolen or damage procedures
Other Tech Support	Detailed description required by VLCF
Instruction	
Provide School Leadership Support for Instruction and Community	The professional development that is related [to] content After-school programming with technology: working with existing or new groups or organizations that want to integrate technology into their programming (students and/or adults)
Create Project Resources —Instructional	Develop instructional resources, such as lesson plans integrating technology, digital citizenship, support for LMS, project promotion, App-flows, legacy documentation
Attend Professional Development	Attend instructional professional development (including Common Core, pedagogy, subject matter, technology integration)
Deliver Professional Development	Providing professional development in the form of coaching, modeling, and observations to school personnel (as a whole group, select groups and individual)
Attend CCTP Planning meetings	Staff meetings are schedule to discuss instructional goals, issues, risks, professional development, ongoing communications (internal and with all stakeholders), documenting work and project monitoring, making copies, and the like
Parent Support for Technology	Parent meetings and workshops

Other Inst. Support	Detailed description required by VLCF

Appendix C. Most Downloaded Applications

Table C-1 shows the 25 applications most downloaded to student devices. The Application Count is the number of downloads; the Device Proportion is the proportion of devices on which the application is installed; and the Download Proportion is the proportion of all non-preloaded downloads that are attributable to the application. The 25 most downloaded applications accounted for about 27 percent of all downloads of non-preloaded applications to student devices.

Table C-1. Twenty-Five Applications Most Downloaded to Student Devices

Application	Category	Application Count	Rank	Device Proportion	Download Proportion
YouTube	Social Media	3,936	1	14.9%	1.4%
Pandora	Nonacademic	3,779	2	14.3%	1.4%
Subway Surf	Nonacademic	2,787	3	10.5%	1.0%
Snapchat	Social Media	2,785	4	10.5%	1.0%
Piano Tiles	Nonacademic	2,661	5	10.0%	1.0%
Asphalt 8	Nonacademic	2,604	6	9.8%	0.9%
ST Math	Math Curriculum	2,575	7	9.7%	0.9%
Drive	Nonacademic	2,525	8	9.5%	0.9%
Dictionary	Search or Reference	2,398	9	9.0%	0.9%
Edmodo	Platform or Sharing	2,306	10	8.7%	0.8%
Flappy Bird	Nonacademic	2,240	11	8.5%	0.8%
SoundCloud	Nonacademic	1,988	12	7.5%	0.7%
INJUSTICE	Nonacademic	1,751	13	6.6%	0.6%
Smash Hit	Nonacademic	1,680	14	6.3%	0.6%
Dropbox	Platform or Sharing	1,523	15	5.7%	0.6%
Minecraft PE	Nonacademic	1,507	16	5.7%	0.5%
Dumb Ways	Nonacademic	1,439	17	5.4%	0.5%
Candy Crush	Nonacademic	1,436	18	5.4%	0.5%
Netflix	Nonacademic	1,426	19	5.4%	0.5%
Lexia Core5	ELA Curriculum	1,401	20	5.3%	0.5%
Twitter	Social Media	1,400	21	5.3%	0.5%
DreamLeague	Nonacademic	1,313	22	5.0%	0.5%
Flow Free	Nonacademic	1,296	23	4.9%	0.5%
Retrica	Tools	1,253	24	4.7%	0.5%
Sonic Dash	Nonacademic	1,152	25	4.3%	0.4%

Note: These 25 applications account for 18.5 percent of all 275,689 downloads of non-preloaded applications.

Table C-2 shows the 25 applications most frequently downloaded to teacher devices. The 25 most downloaded applications accounted for about 18 percent of all teacher downloads of non-preloaded applications to teacher devices.

Table C-2. Twenty-Five Applications Most Downloaded to Teacher Devices

Application	Category	Application Count	Rank	Device Proportion	Download Proportion
Edmodo	Platform or Sharing	403	1	32.8%	1.5%
Dropbox	Platform or Sharing	363	2	29.6%	1.4%
Netflix	Nonacademic	353	3	28.7%	1.3%
Pandora	Nonacademic	344	4	28.0%	1.3%
Common Core	Search or Reference	335	5	27.3%	1.3%
YouTube	Social Media	323	6	26.3%	1.2%
Drive	Unsure	276	7	22.5%	1.0%
Facebook	Social Media	184	8	15.0%	0.7%
ClassDojo	Other	176	9	14.3%	0.7%
Chrome	Search or Reference	169	10	13.8%	0.6%
Candy Crush	Nonacademic	158	11	12.9%	0.6%
Adobe Reader	Tools	157	12	12.8%	0.6%
FindMyiPhone	Nonacademic	154	13	12.5%	0.6%
Gmail	Tools	147	14	12.0%	0.6%
Educreations	Tools	141	15	11.5%	0.5%
Dictionary	Search or Reference	134	16	10.9%	0.5%
Google Maps	Search or Reference	122	17	9.9%	0.5%
Kindle	Content	117	18	9.5%	0.4%
Evernote	Tools	116	19	9.4%	0.4%
Google Earth	Search or Reference	116	19	9.4%	0.4%
ST Math	Math Curriculum	114	22	9.3%	0.4%
Pinterest	Social Media	109	23	8.9%	0.4%
Prezi	Tools	99	24	8.1%	0.4%
ShowMe	Tools	98	25	8.0%	0.4%
Skype	SocialMedia	98	24	8.0%	0.4%

Note: These 25 applications account for 18.1 percent of all 26,506 downloads of non-preloaded applications

Appendix D. Parent Consent Form

LOS ANGELES UNIFIED SCHOOL DISTRICT
COMMON CORE TECHNOLOGY PROJECT
333 S. Beaudry Avenue, 25th Floor
Los Angeles, California 90017
Telephone: (213) 241-5532
Fax: (213) 241-8977

JOHN E. DEASY, Ph.D.
SUPERINTENDENT OF SCHOOLS

JAIME R. AQUINO, Ph.D.
DEPUTY SUPERINTENDENT OF INSTRUCTION

BERNADETTE C. LUCAS
DIRECTOR

PARENT ACKNOWLEDGMENT

Rules and Regulations Concerning Use of iPads Assigned to Students

Student's Last Name (PRINT)	Student's First Name (PRINT)	Grade	Student ID Number	Date

I am being issued a Los Angeles Unified School District (LAUSD) iPad and I agree to keep it safe and well maintained. I will follow the guidelines for care of the iPad as explained below.

SECURITY (student and parent initial here) _____

1. I will know where my assigned iPad is at all times.
2. I will never leave my assigned iPad unattended.
3. I will secure my assigned iPad in my locker when I am participating in PE unless instructed to bring the iPad to PE class by the teacher.
4. I will never loan my assigned iPad to anyone.
5. I realize that security devices have been installed on the assigned iPad and that tracking and usage will be monitored.
6. I will, at all times, keep myself safe and will use the iPad only in areas where I will not attract unwanted attention doing so.

PREPARATION (student and parent initial here) _____

7. I will keep my assigned iPad muted (sound = off), unless directed otherwise by the teacher. I will plug in my earphones should I need to listen to audio (with my teacher's permission).

CARE (student and parent initial here) _____

8. I will protect the screen from scratches.
9. I will keep food and beverages away from my assigned iPad since they may cause damage to it.
10. I understand that the iPad assigned to me includes a protective case that is to remain on the iPad at all times. This case may not be removed or replaced.
11. I will not mark, draw, write or place unapproved stickers on the iPad or case.
12. I will not disassemble or attempt any repairs on any part of my assigned iPad (this will void the iPad's warranty).
13. If damage occurs, including, but not limited to, scratches, cracks or dents, I will report the damage to the school administration within 24 hours.
14. In the case of theft or vandalism, I will file a police report and notify school administration within 24 hours.

USAGE (student and parent initial here) _____

15. I will follow the LAUSD Acceptable Use Policy (AUP).
16. Headphones for my assigned iPad are provided. I may use my own personal headphones but only with the permission of the classroom teacher while in class.
17. I will not reformat the iPad or change the iOS/operating system.
18. I will adhere to all applicable copyright and software license agreements that forbid downloading of media and software that has not been legally acquired.
19. I will not engage in any harassment or acts of intimidation (cyber-bullying) in an attempt to harm other people using any electronic device or network in general and, specifically, using my assigned iPad and the LAUSD network.

RESPONSIBILITY (student and parent initial here) _____

20. I understand that my assigned iPad is subject to inspection by any staff member, teacher or administrator at the school, at any time and without notice. I further understand that the iPad remains the property of the LAUSD.
21. I agree to return the LAUSD iPad, power cord, cable, and iPad case in good working condition immediately upon request by the LAUSD. I understand that I will pay for replacement in the event any of these items is lost, stolen, or damaged (see current replacement costs on next page).
22. I will return the assigned iPad to my school administrator (or designee) at the end of each school year. If I withdraw, am expelled, or terminate enrollment at my school for any reason, I will return the assigned iPad and accessories on the date of termination to the school's administrator.
23. I will complete the Cyber Safety Awareness presentation when it becomes available.

Appendix E. CCTP Communication Plan 2014–15

Communication Event and Purpose	Frequency	Project Phase
LAUSD Brief: Intended audience is to deliver project updates to principals districtwide	Biweekly	All
Director's Digest: Project updates	As Needed	Phases 1 and 2
CCTP Newsletter: Highlights from the field, project updates, tools section, perspective, connections	Monthly	All
CCTP Website: Featuring information about the project, including resources for teaching and learning	Ongoing	All
Project Milestone Update: Infographic showing growth of the project by phase	As Needed	All
E-Mail: Communications to CCTP principals regarding project updates and meetings	Monthly and as Needed	Phases 1 and 2
Teleconference: With principals to listen to concerns and respond	Monthly	Phases 1 and 2
In-Person Meetings: Attend staff meetings, meet with principals one on one	As Needed	Phases 1 and 2
Lunch and Learns: For project staff	Monthly	Phases 1 and 2
CCTP Staff Meetings: Project updates, project adjustments, professional development	Weekly	All
CCTP E-Mail: General public e-mail to address questions to the project	Daily	All
CCTP Communications Task Force: District personnel who assist with external communications and promoting CCTP to the public (executive summary provided to evaluators)	Ongoing	All
WebEx: Principals participate in this forum to share ideas and express concerns with the project	As Needed	Phase 1
Sponsor, Steering and Instructional Committees: Project updates	Weekly	All
CCTP Leads Meeting: Team leads provide updates about their focus to the rest of the leads on the project	Weekly	All
Principal Meetings: Project updates, learning, and collaboration	Monthly	Phases 1 and 2
Three-Point Communications: Related to each event that occurs in the project; leads to communicate	As Needed	All
Communication Plan: For upcoming year will include the above listed items and the following additional strategies		
Awareness Blitz: Tidbits of information to be released at regular intervals to inform *all* of the principals	Bimonthly	All
Weekly Update Communications to Principals	Weekly	Phases 1 and 2

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