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Tracer Study of C-Certificate Program Graduates

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Acronyms:

ALU	Association of Liberian Universities
CFL	Christian Foundation for Liberia
ECSEL	European Commission Support for Education in Liberia
EMIS	Education Management Information System
FHI	Family Health International
LTTP	Liberia Teacher Training Program
MER	Monitoring, Evaluation, & Research
MoE	Ministry of Education
NTAL	National Teacher Association of Liberia
UNICEF	United Nations Children Fund
USAID	United States Agency for International Development

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Executive Summary

This report presents results from a study conducted by the LTTP Monitoring, Evaluation, and Research team. The purpose of the study was to assess the extent to which graduates of USAID/LTTP supported pre-service and in-service C-Certificate programs as well as other C-Certificate programs are employed as teachers or administrators in government or non-government primary or secondary schools. The study analyzed the Ministry of Education's 2013 EMIS database, augmented by inserting information from lists of graduates from the five cohorts of USAID/LTTP-supported pre-service program, the five cohorts of the USAID/LTTP-organized in-service C-Certificate program as well as from in-service C-Certificate programs organized by other organizations (Christian Foundation for Liberia (CFL), European Commission Support for Education in Liberia (ECSEL), the National Teachers Association of Liberia (NTAL), and UNICEF).

The study provides information on the percentages of male and female graduates who are in various employment categories within the education sector. More specifically, the study reports on the percentages of graduates who are employed as teachers and administrators (principals, vice principals, and registrars) in government primary schools, those employed in such positions in non-government primary school, those employed as teachers and administrators in government secondary schools, and those employed in such positions in non-government secondary schools.

The study also presents the percentages of graduates of the various C-Certificate programs who were not found in the 2013 Education Management Information System (EMIS) database. Indeed, of the 6,710 individuals who earned a C-Certificate from one of these programs during the 2000 to 2013 period, 3,967 (58.7%) of them were not found in the 2013 EMIS database. Undoubtedly, because of the limitations of this study, some of these graduates are in fact employed in the education sector. That is, some of the graduates may be working in the 202 schools (i.e., 6.6%) whose principals participated in the EMIS trainings but did not return the annual school census questionnaires. Furthermore, some of the graduates may be working in the education sector but under a different name than they used when participating in the C-Certificate program. However, it is very likely that many of the 3,967 graduates who were not found in the 2013 EMIS database either had never been employed in the education sector (e.g., graduates of cohort 4 and 5 of the LTTP-supported pre-service program) or left the profession after completing the C-Certificate program. This likely constitutes a sizeable group of professionally "qualified" individuals who could be employed or re-employed as teachers or administrators in government or non-government primary or secondary schools.

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Depending on the size of this group of professionally qualified individuals who are not currently employed in the education sector, the Ministry of Education may be in a position to increase the proportion of primary school teachers who have at least the minimum qualification (i.e., a C-Certificate). Although a number of interventions have been made by partners in helping to strengthen Liberia's teaching force, the government must take concrete action to hire and retain "qualified" teachers. However, this may require that the Ministry establish special packages of financial incentives, organize better living conditions, and/or improve working conditions to attract and retain "qualified" teachers in some settings.

With respect to the employment categories of graduates who were found in the EMIS database, there are some interesting differences across the C-Certificate programs supported or organized by different partners. For the USAID/LTTP-supported pre-service program and the USAID/LTTP-organized in-service program the vast majority of graduates were found to be working in government primary schools, as teachers or administrators. Relatively smaller percentages of these programs' graduates were seen to be employed in government secondary schools (as teachers or administrators), and very small percentages of these programs' graduates were working in non-government schools. In contrast, the percentages of graduates of the other organizations' C-Certificate programs were almost as likely to be employed in primary schools as they were to be working in secondary schools. Moreover, especially for the programs organized by European Commission Support for Education in Liberia (ECSEL) and National Teachers Association of Liberia (NTAL), there were noticeably higher percentages of graduates serving as teachers or administrators in non-government primary and non-government secondary than was the case for USAID/LTTP-supported or organized programs.

One issue that needs to be discussed relates to whether having educators with C-Certificates working in government secondary schools is a positive or negative development. On one hand, these are individuals who could instead be hired to increase the percentage of qualified primary school teachers and administrators. On the other hand, while their credentials are below that which government policy stipulates as the minimum qualification for secondary school teachers (i.e., a B-Certificate for lower secondary and a university degree for upper secondary), these individuals have credentials equal to or higher than many of their secondary school colleagues. According to the *Education Statistics* (MoE 2013, National Statistics Booklet), 27.2% of all government and non-government secondary school teachers are "untrained," that is, possessing less than a C-Certificate, and only 13.8% have a university degree. Thus, there is a need to upgrade the qualifications of many secondary school teachers, but having secondary school teachers and administrators who are graduates of the C-Certificate programs may in the current situation contribute to improving the quality of education at the lower and upper secondary levels.

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Another issue which would benefit from policy dialogue concerns the number of graduates of C-Certificate programs, particularly those organized by ECSEL and NTAL, who are currently working as teachers or administrators in non-government primary or secondary schools. On the one hand, one may view this as a leakage of qualified primary school teachers from the government to the non-government subsector of education – representing a loss of investment designed to improve the quality of education at the primary level. On the other hand, given that the pupils attending non-government schools are for the most part Liberian citizens, this could be seen as a valuable, if unintended, contribution to improving the country's education system. Moreover, since some children and youth likely move back and forth between government and non-government schools, having teachers and administrators with C-Certificate qualifications working in non-government school teachers may in fact contribute to improving learning outcomes for at least some pupils in government schools.

While discussions regarding the policy and practice implications of this study should be undertaken, there is also a need for further research to clarify some of the issues. First, this study should be replicated once the 2014 EMIS database is ready. Hopefully, the 2014 annual school census will include an even higher percentage of government and non-government schools than was the case in 2013. It may also be that, with on-going work on cleaning up the employment and payroll records, there were be fewer C-Certificate program graduates whose names do not match how their names are recorded in the annual school census and EMIS database from 2013.

Second, a follow-up study should be conducted with a sample of those C-Certificate program graduates who were not found in the 2013 EMIS database (or who are not found in the 2014 EMIS database). This study should focus particularly on pre-service graduates who either never were employed in the education sector or in-service graduates who left the profession. Understanding better why they did not gain employment or why they discontinued their work as a teacher or administrator would certainly inform discussions leading to possible reforms in policies, procedures, or practices.

Background to the Study

Over the last several years a significant amount of money and human resources have been invested by the Ministry of Education, Rural Teacher Training Institutes, USAID and other cooperating partners in preparing or upgrading primary school teachers so that they possess the minimum qualification (i.e., a C-Certificate) as stipulated in the 2011 Education Reform Act (Republic of Liberia, 2011) and the *Liberia Education Regulations* (Ministry of Education, 2011). There is evidence that the proportion of primary school teachers possessing a C-Certificate has increased since 2010, when the Education Sector Survey conducted by the Association of Liberian Universities (ALU, 2012) found that 40% of government primary schools had at least this level of qualifications. According to the 2013 annual school census

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data presented in the *Education Statistics* publication, approximately 63% of teachers in government primary schools are “trained,” with this percentage varying across counties with a low of approximately 30% in Sinoe and a high of approximately 89% in the Monrovia Consolidated School System (MoE, 2013, p. 56).

A telephone-implemented tracer study of 2011 pre-service program graduates was conducted last year (Tuowal, 2013). However, what is not known is the extent to which various cohorts of participants in USAID/LTTP-supported pre-service and in-service C-Certificate programs have been hired and have remained in teaching positions in government (or non-government) primary schools. Moreover, given that other organizations (Christian Foundation for Liberia, the European Commission Support for Education in Liberia, the National Teacher Association of Liberia, and UNICEF) have assisted in efforts to upgrade primary school teachers in Liberia, it is also important to know the employment status of the graduates of those in-service C-Certificate programs. Such information is critical to planning for future pre-service and in-service programs as well as for Ministry of Education discussions about recruitment, training, and deployment of primary school teachers. See also the report on the *Study of Primary School Teacher Supply and Demand* (Goyee et al, 2014).

Objectives of the Study

The main purpose of this study is to assess the extent to which graduates of USAID/LTTP-supported and other C-Certificate programs are employed as teachers in government (or non-government) primary and secondary schools. More specifically, the study is designed to answer the following research questions:

1. For the five LTTP-supported *pre-service* C-Certificate program cohorts, what are percentages of male and female graduates who are:
 - a. Employed as teachers in *government primary* schools?
 - b. Employed as teachers in *non-government primary* schools?
 - c. Employed as teachers in *government secondary* schools?
 - d. Employed as teachers in *non-government secondary* schools?
 - e. Employed as administrators (registrar, vice principal, or principal) in *government primary* schools?
 - f. Employed as administrators (registrar, vice principal, or principal) in *non-government primary* schools?
 - g. Employed as administrators (registrar, vice principal, or principal) in *government secondary* schools?
 - h. Employed as administrators (registrar, vice principal, or principal) in *non-government secondary* schools?
 - i. Not employed by the MoE (at least not in schools included in the 2013 EMIS dataset)?
2. For the five LTTP-organized *in-service* C-Certificate program cohorts as well as the graduates of in-service C-Certificate programs organized by the Christian Foundation for Liberia (CFL), the European Commission Support for Education in Liberia (ECSEL), the National Teacher Association of Liberia (NTAL), and UNICEF, what are percentages of male and female graduates who are:

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- a. Employed as teachers in *government primary* schools?
- b. Employed as teachers in *non-government primary* schools?
- c. Employed as teachers in *government secondary* schools?
- d. Employed as teachers in *non-government secondary* schools?
- e. Employed as administrators (registrar, vice principal, or principal) in *government primary* schools?
- f. Employed as administrators (registrar, vice principal, or principal) in *non-government primary* schools?
- g. Employed as administrators (registrar, vice principal, or principal) in *government secondary* schools?
- h. Employed as administrators (registrar, vice principal, or principal) in *non-government secondary* schools?
- i. Not employed by the MoE (at least not in schools included in the 2013 EMIS dataset)?

Methodology

Because of the urgent need for this information and given the investment of the Ministry of Education and USAID, the study relies on data recently collected as part of the 2013 Annual School Census. The additional advantage of employing this approach is that it will be relatively easy to replicate the current study in the future using EMIS data collected in subsequent annual school censuses. The existing 2013 EMIS database was augmented by inserting information on which individuals previously participated in one of the cohorts of either the USAID/LTTP-supported pre-service or in-service C-Certificate programs or other in-service c-certificates program implemented by different organizations. The lists of graduates were obtained from LTTP files and from the records archived in the Ministry's Bureau of Teacher Education regarding other in-service program graduates.

In collaboration with the Ministry's EMIS and Monitoring and Evaluation (M&E) divisions and LTTP's EMIS staff, the LTTP Monitoring, Evaluation and Research Team analyzed the augmented EMIS database to answer the above-noted questions. The team calculated the percentages of (male and female) C-Certificate program graduates who were not found in the database as well as the percentages of (male and female) C-Certificate program graduates who had various categories of employment within the education sector.

It is important to keep in mind two limitations of this study, even though the findings are robust enough to facilitate dialogue about current policies, procedures, and practices. First, according to the 2013 Education Statistics Bulletin (MoE, 2013, p. 142), principals from all but 202 (i.e. 6.6%) of the 3,051 schools who participated in the EMIS training returned questionnaires. While the missing data represent a limitation to this study, one should note that the database provides an almost complete portrait of the teaching force in Liberia. However, it is possible that some of the C-Certificate program graduates who were not found in the 2013 EMIS database are currently working in one of the schools not included in the annual school census. Second, it is also likely that some individual graduates were not found in the database because their names in the database were different than their names on the graduate lists. For example, if a female got married after graduating, she may be using a

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different name. There are also other reasons that teachers may use different names in different contexts.

In addition to developing this written report, the LTTP Monitoring, Evaluation, and Research Team plans to present the findings to various stakeholders of the education sector (e.g., key personnel within the central Ministry of Education's Departments of Planning and Instruction, county education offices, district education offices, and rural teacher training institutes as well as USAID and other cooperating partners). By promoting dialogue about the findings, the team hopes to encourage consideration of possible changes in policies, procedures, and practices that may enhance the quality of primary education in Liberia.

Findings

In this section we present the results of analyses of the data designed to answer the research questions. First, we present information on the percentage of graduates from the various C-Certificate programs that were not found in the 2013 EMIS database and thus may not have been employed in the education sector at that point in time. Then we discuss the categories of employment of graduates of each of the C-Certificate programs whose employment categories were identified in the EMIS's 2013 database.

C-Certificate Graduates NOT in the 2013 EMIS Database

Table 1 and Chart 1 show the percentage of graduates of the various C-Certificate programs whose names we were not able to match with names in the 2013 EMIS database. As mentioned above, it is likely that some of these graduates are in fact employed in government or non-government schools, but not included in the EMIS database. This may be because their schools were not included in the 2013 Annual School Census, since the questionnaires were not received from 202 (6.6%) of the schools (MoE, 2013, p. 139).¹ It is also possible that some graduates' names were not found in the EMIS database because their names had changed (e.g. because of marriage) or because they used different names for different purposes.

As can be observed in Table 1, 70.4% of *all* USAID/LTTP-supported pre-service program graduates, 36.9% of the *all* LTTP-organized in-service program graduates, 49.4% of CFL-organized in-service graduates, 48.1% of ECSEL-organized in-service program graduates, 65.2% of NTAL-organized in-service programs graduates, and 70.9% of UNICEF-organized in-service graduates are not found in the 2013 EMIS database.²

¹ According to the *Education Statistics Bulletin* (MoE, 2013, p. 139), three counties had more than 10% of their schools not reporting: Grand Bassa (10.4%), Montserrado (14.9%), and Sinoe (20.3%).

² Note that the percentages for male and female graduates are similar for most program groups, the percentages of graduates not in the EMIS database are somewhat higher for males for both cohort 1 of the

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The high percentage of USAID/LTTP-supported pre-service program overall results from the fact that all (i.e., 100%) of the cohort 4 and cohort 5 graduates were not in the 2013 database.³ For this reason, Chart 1 presents separately the percentage for graduates of cohorts 1-3 (46.7%) and the percentage of cohorts 4-5 (100%) of the USAID/LTTP-supported pre-service programs. That the percentages of the other USAID/LTTP-supported pre-service cohorts that are not in the 2013 database are relatively high (i.e., 40.9% for cohort 1, 41.7% for cohort 2, and 56.5% for cohort 3), however, indicates that there likely are substantial numbers of USAID/LTTP-supported pre-service C-Certificate graduates who either never gained employment or who left the teaching profession after completing their certification program.

The relatively large percentage of UNICEF-organized in-service program graduates who are not in the EMIS database is at least in part a consequence of these programs having operated almost a decade or more ago (i.e., 2000-2004). Thus, many of the graduates of this program may have moved on from teaching posts they obtained during or immediately after the Second Liberia Civil War (1999-2003).

LTTP-supported pre-service program and the NTAL-organized in-service program and somewhat higher for females for the CFL-organized in-service program.

³ Note that cohort 5 had not completed the program when the 2013 annual school census was conducted, and thus would not be expected to be included in the EMIS database. It also seems that none of the cohort 4 graduates had yet been employed as teachers, almost one year after they completed their program.

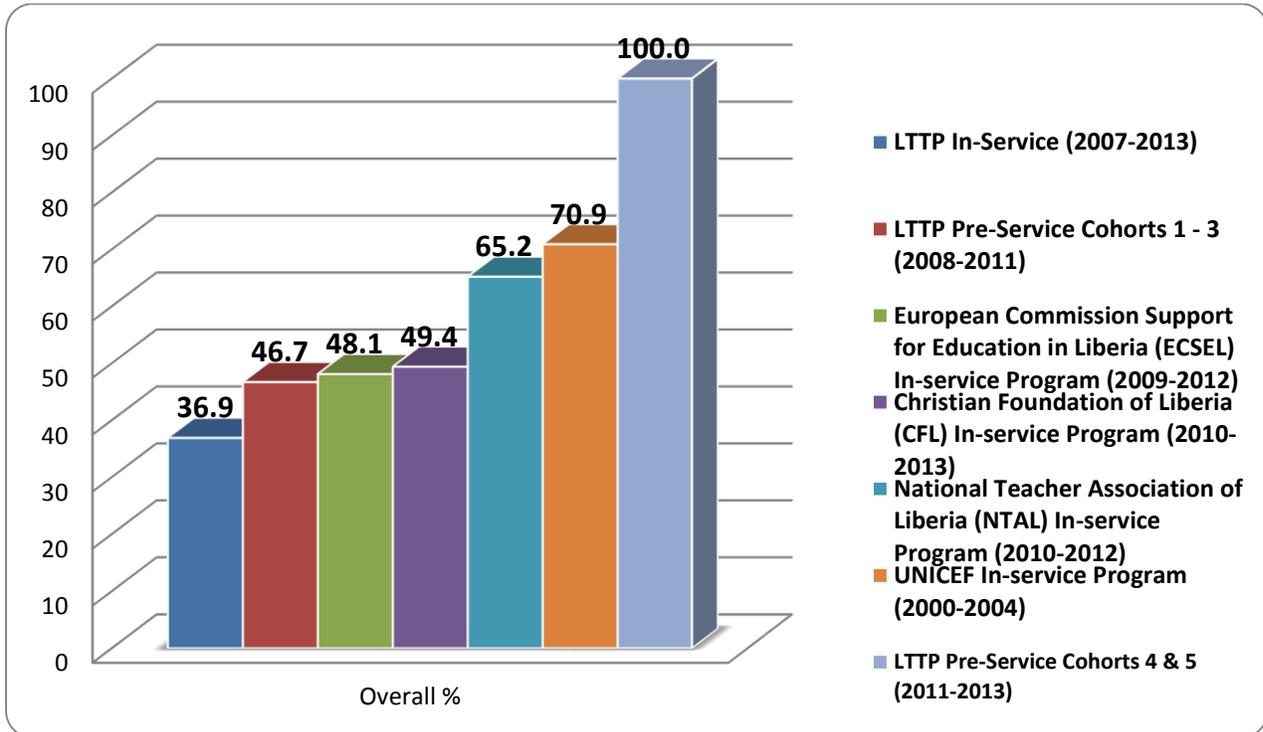
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Table 1: Percentage of C-Certificate Program Graduates NOT in 2013 EMIS Database

C-Certificate Program (years implemented)	% Female	% Male	% Total
All LTTP <i>Pre-service</i> Program Cohorts (2008-2013)	76.9	69.4	70.4
LTTP Pre-service Cohort 1 (2008-2009)	34.4	41.4	40.9
LTTP Pre-service Cohort 2 (2009-2010)	42.6	41.6	41.7
LTTP Pre-service Cohort 3 (2010-2011)	58.3	56.2	56.5
LTTP Pre-service Cohort 4 (2011-2012)	100	100	100
LTTP Pre-service Cohort 5 (2012-2013)	100	100	100
All LTTP <i>In-service</i> Program Cohorts (2007-2013)	34.3	37.4	36.9
LTTP In-service Cohort 1 (2007-2008)	29.5	45.1	42.5
LTTP In-service Cohort 2 (2008-2009)	37.1	36.6	36.6
LTTP In-service Cohort 3 (2009-2010)	29.3	38.0	36.8
LTTP In-service Cohort 4 (2010-2011)	39.3	44.2	43.1
LTTP In-service Cohort 5 (2012-2013)	34.7	29.6	30.4
Christian Foundation of Liberia (CFL) In-service Program (2010-2013)	62.2	44.9	49.4
European Commission Support for Education in Liberia (ECSEL) In-service Program (2009-2012)	56.3	47.4	48.1
National Teacher Association of Liberia (NTAL) In-service Program (2010-2012)	56.0	68.8	65.2
UNICEF In-service Program (2000-2004)	64.8	72.3	70.9

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Chart 1: Percentage of Graduates of Various C-Certificate Programs NOT in the 2013 EMIS Database



Looking at the percentages of graduates from various in-service C-Certificate programs who are not in the EMIS database, we may conclude that substantial numbers of individuals, who were teaching at the time they participated in these programs, left the teaching profession at some point after completing their certification program.

As shown in Table 2, the combination of pre-service and in-service C-Certificate graduates who are not in the EMIS database equals 3,967 individuals. More specifically, there are 1,799 LTPP pre-service program graduates and 2,168 in-service program graduates (593 LTPP + 353 CFL + 193 ECSEL + 58 NTAL + 971 UNICEF) who were not found in the 2013 EMIS database. While a portion of them are undoubtedly employed as teachers (but not included in the database), there is undoubtedly a substantial pool of “qualified” individuals who could be employed or re-employed in the education sector, either in government or non-government primary schools.

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Table 2: Number of Individuals with C-Certificates NOT in 2013 EMIS Database

Program	Females	Males	Both Genders
LTPP Pre-service	270	1529	1,799
LTPP In-service	85	508	593
CFL In-service	115	238	353
ECSEL In-service	18	175	193
NTAL In-service	14	44	58
UNICEF In-service	173	798	971
TOTAL	675	3292	3967

This conclusion is reinforced by the findings presented in Table 3. According to this table, 58.7% of all C-Certificate program graduates were not found in the EMIS 2013 database. Thus, unless these graduates were employed in one of the schools (202) not covered during the 2013 annual school census or they used a different name than was included on the list of graduates, either they were never employed in the education sector or they left the sector for some reasons before the 2013 EMIS data were collected. Thus, the additional analyses presented below focus mainly on the 41.3% of the graduates who were found in the database, enabling us to identify the categories of their employment in the education sector (as teachers or administrators in government or non-government schools).

Table 3: C-Certificates Graduates in and not in the database (LTPP-supported and Other Programs)

Teachers Category	%Females	%Males	%Both Genders
Teachers in the EMIS' database	40.7%	41.4%	41.3%
Teachers Not in the EMIS' database	59.3%	58.6%	58.7
Total Percentage	100%	100%	100%
Total Teachers	1134	5576	6710

Employment of LTPP-Supported Pre-service C-Certificate Graduates

Looking at Table 4, which presents data on graduates of *all* cohorts of the USAID/LTPP-supported pre-service C-Certificate program, we note that the vast majority of those in the Education Management Information System (EMIS) database are working in government primary schools. That is, one sixth (17.5%) are government primary school teachers and approximately one-twelfth (8.1%) are government primary school administrators (principals, vice principals, or registrars). While the percentages of females and males who are government primary school teachers are almost equal, males are somewhat more likely to be government primary administrators than females (8.9% versus 2.8%). The percentages of USAID/LTPP-supported pre-service program graduates who are working in

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government secondary schools and in non-government primary or secondary schools are quite small (2.3% or less).

Table 4: Employment Status of ALL Cohorts of LTTP-Supported Pre-service C-Certificate Program Graduates

Category of Employment	% Female	% Male	% Total
Government Primary School Teacher	17.1	17.6	17.5
Government Primary School Administrator	2.8	8.9	8.1
Government Secondary School Teacher	0.6	2.3	2.1
Government Secondary School Administrator	0	0.1	0.1
Non-government Primary School Teacher	0.3	0.8	0.7
Non-government Primary School Administrator	0.6	0.3	0.3
Non-government Secondary School Teacher	1.1	0.5	0.6
Non-government Secondary School Administrator	0.6	0.2	0.2
<i>NOT Included in 2013 EMIS Database</i>	76.9	69.4	70.4
Graduates (Total %)	100%	100%	100%
TOTAL Number of Graduates	351	2203	2554

We now turn to an examination of the employment categories of each of the five cohorts of USAID/LTTP-supported pre-service C-Certificate programs. This is important because, as noted above, none of the graduates of cohort 4 or cohort 5 were included in the 2013 EMIS database. Thus, there is a need to examine separately the employment status of graduates of cohorts 1-3.

As shown in Table 5, cohort 1 graduates are mainly employed in government primary schools. We observe that just under one third (30.5%) are government primary school teachers and slightly less than one quarter (23.3%) are government primary school administrators. Note that male cohort 1 graduates are almost equally likely to be teachers as they are administrators (29.4% versus 24.2%), but female cohort 1 graduates are much more likely to be working as teachers than as administrators (43.8% versus 12.5%).

Furthermore, as we noted for all cohorts (see Table 4), only relatively small percentages of cohort 1 pre-service graduates have taken employment in government secondary schools or non-government primary or secondary schools, either as teachers or administrators.

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Table 5: Employment Status of Cohort 1 of LTTP-Supported Pre-service C-Certificate Program Graduates

Category of Employment	% Female	% Male	% Total
Government Primary School Teacher	43.8	29.4	30.5
Government Primary School Administrator	12.5	24.2	23.3
Government Secondary School Teacher	0	0.2	0.2
Government Secondary School Administrator	0	0.2	0.2
Non-government Primary School Teacher	3.1	1.5	1.6
Non-government Primary School Administrator	3.1	0.7	0.9
Non-government Secondary School Teacher	3.1	1.5	1.6
Non-government Secondary School Administrator	0	0.7	0.7
<i>NOT Included in 2013 EMIS Database</i>	34.4	41.4	40.9
Graduates (Total %)	100%	100%	100%
TOTAL Number of Graduates	32	401	433

As shown in Table 6, cohort 2 graduates of USAID/LTTP-supported pre-service program are mainly employed in government primary schools. We observe that just under one third (32.9%) are government primary school teachers and slightly less than one quarter (21.2%) are government primary school administrators. Note that male cohort 2 graduates are somewhat more likely to be teachers than administrators (32.2% versus 22.8%), while female cohort 2 graduates are much more likely to be working as teachers than as administrators (37.7% versus 9.8%).

Additionally, as we noted for all cohorts (see Table 4), only relatively small percentages of cohort 2 pre-service graduates have taken employment in government secondary schools or non-government primary or secondary schools, either as teachers or administrators.

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Table 6: Employment Status of Cohort 2 of LTTP-Supported Pre-service C-Certificate Program Graduates

Category of Employment	% Female	% Male	% Total
Government Primary School Teacher	37.7	32.2	32.9
Government Primary School Administrator	9.8	22.8	21.2
Government Secondary School Teacher	0	0.5	0.4
Government Secondary School Administrator	0	0.2	0.2
Non-government Primary School Teacher	0	0.9	0.8
Non-government Primary School Administrator	1.6	0.7	0.8
Non-government Secondary School Teacher	4.9	0.9	1.4
Non-government Secondary School Administrator	3.3	0.2	0.6
<i>NOT Included in 2013 EMIS Database</i>	42.6	41.6	41.7
Graduates (Total %)	100%	100%	100%
TOTAL Number of Graduates	61	435	496

Looking now at Table 7, one sees that the cohort 3 graduates of USAID/LTTP-supported pre-service program are mainly employed in government primary school teachers (31.3%), though 10.3% are working as teachers in government secondary schools. Note that female cohort 3 graduates are somewhat more likely than their male colleagues to be primary school teachers (38.3% versus 30.4%) and somewhat less likely than their male colleagues to be secondary school teachers (3.3% versus 11.3%). It is also noteworthy that none of the cohort 3 graduates are employed as school administrators, either in primary or secondary schools operated by the government or non-governmental organizations. Perhaps they have not been employed in the education sector long enough to apply and be considered for administrative posts.

Additionally, as we discussed for all cohorts (see Table 4), only relatively small percentages of cohort 3 pre-service graduates (and only males) have taken employment in non-government primary or secondary schools, and in the few cases these graduates are males working as teachers.

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Table 7: Employment Status of Cohort 3 of LTTP-Supported Pre-service C-Certificate Program Graduates

Category of Employment	% Female	% Male	% Total
Government Primary School Teacher	38.3	30.4	31.3
Government Primary School Administrator	0.0	0.0	0.0
Government Secondary School Teacher	3.3	11.3	10.3
Government Secondary School Administrator	0.0	0.0	0.0
Non-government Primary School Teacher	0.0	1.9	1.6
Non-government Primary School Administrator	0.0	0.0	0.0
Non-government Secondary School Teacher	0.0	0.2	0.2
Non-government Secondary School Administrator	0.0	0.0	0.0
<i>NOT Included in 2013 EMIS Database</i>	58.3	56.2	56.5
Graduates (Total %)	100%	100%	100%
TOTAL Number of Graduates	60	485	485

Tables 8 and 9, respectively, present the findings for cohorts 4 and 5 of the USAID/LTTP-supported pre-service C-Certificate program. Given that none of the graduates from these two cohorts are in the 2013 EMIS database (i.e.100% were not found in the EMIS database), there is not much more that can be said of their employment.

Table 8: Employment Status of Cohort 4 of LTTP-Supported Pre-service C-Certificate Program Graduates

Category of Employment	% Female	% Male	% Total
Government Primary School Teacher	0	0	0
Government Primary School Administrator	0	0	0
Government Secondary School Teacher	0	0	0
Government Secondary School Administrator	0	0	0
Non-government Primary School Teacher	0	0	0
Non-government Primary School Administrator	0	0	0
Non-government Secondary School Teacher	0	0	0
Non-government Secondary School Administrator	0	0	0
<i>NOT Included in 2013 EMIS Database</i>	100%	100%	100%
Graduates (Total %)	100%	100%	100%
TOTAL Number of Graduates	75	428	503

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Table 9: Employment Status of Cohort 5 of LTTP-Supported Pre-service C-Certificate Program Graduates

Category of Employment	% Female	% Male	% Total
Government Primary School Teacher	0	0	0
Government Primary School Administrator	0	0	0
Government Secondary School Teacher	0	0	0
Government Secondary School Administrator	0	0	0
Non-government Primary School Teacher	0	0	0
Non-government Primary School Administrator	0	0	0
Non-government Secondary School Teacher	0	0	0
Non-government Secondary School Administrator	0	0	0
<i>NOT Included in 2013 EMIS Database</i>	100%	100%	100%
Graduates (Total %)	100%	100%	100%
TOTAL Number of Graduates	123	514	637

Employment of LTTP-Organized In-service C-Certificate Graduates

Looking now at Table 10, which presents data on graduates of all cohorts of the USAID/LTTP-organized in-service C-Certificate program, we note that the vast majority of those in the EMIS database are working in government schools. However, unlike what we discussed above for the pre-service program graduates, while more graduates are working in primary schools, we also observe a sizeable proportion working in secondary schools. Specifically, more than one fourth (28.4%) of USAID/LTTP-organized in-service program graduates are employed as government primary school teachers and approximately one seventh (14.1%) are working as government primary school administrators (principals, vice principals, or registrars). With respect to gender differences, we note that female graduates are much more likely to be teachers than administrators (40.7% versus 8.1%), though male graduates are only somewhat more likely to be teachers than administrators (26.2% versus 15.2%).

Additionally, among the graduates of all cohorts of the USAID/LTTP-organized in-service program, 11.3% are teachers and 6.1% are administrators in government secondary schools. Moreover, there are only small differences between male and female graduates in these categories of employment.

It is also worth noting that only a small percentage of USAID/LTTP-organized in-service program graduates are working in non-governmental schools, either as teachers or administrators at the primary or secondary level. Thus, it does not appear that many

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graduates of this program have used their credentials to obtain employment in non-government schools.

Table 10: Employment Status of ALL Cohorts of LTTP-Organized In-service C-Certificate Program Graduates

Category of Employment	% Female	% Male	% Total
Government Primary School Teacher	40.7	26.2	28.4
Government Primary School Administrator	8.1	15.2	14.1
Government Secondary School Teacher	10.1	11.6	11.3
Government Secondary School Administrator	4.8	6.3	6.1
Non-government Primary School Teacher	1.2	2.2	2.1
Non-government Primary School Administrator	0	0.5	0.4
Non-government Secondary School Teacher	0.8	0.6	0.6
Non-government Secondary School Administrator	0	0.1	0.1
<i>NOT Included in 2013 EMIS Database</i>	34.3	37.4	36.9
Graduates (Total %)	100%	100%	100%
TOTAL Number of Graduates	248	1359	1607

We now examine the categories of employment of the various cohorts of the LTTP-organized in-service program. Table 11 presents the findings for the analysis of cohort 1. In Table 11 one observes that that the vast majority of those in the EMIS database are working in government schools. And, similar to the overall pattern of employment among LTTP-organized in-service program graduates (see Table 10), while more cohort 1 graduates are working in primary schools, we also observe a sizeable proportion working in secondary schools. More specifically, about one third (33.6%) of in-service cohort 1 graduates are employed as government primary school teachers and approximately one seventh (14.2%) are working as government primary school administrators (principals, vice principals, or registrars). With respect to gender, both male and female cohort 1 graduates are more much more likely to be teachers than administrators in government primary schools, though the percent difference is somewhat greater for females (45.5% versus 18.2%) than for males (31.3% versus 13.4%).

Furthermore, among the cohort 1 graduates of the LTTP-organized in-service program, 4.1% are teachers and 4.1% are administrators in government secondary schools. And there are only small differences between male and female cohort 1 graduates in these categories of employment.

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It is also worth noting that only a small percentage of LTTP-organized in-service program cohort 1 graduates are working in non-governmental schools, either as teachers or administrators at the primary or secondary level. Thus, as was the case overall for all graduates of LTTP-organized in-service C-Certificate programs (see Table 10), it does not appear that many graduates of cohort 1 have used their credentials to obtain employment in non-government schools.

Table 11: Employment Status of Cohort 1 of LTTP-Organized In-service C-Certificate Program Graduates

Category of Employment	% Female	% Male	% Total
Government Primary School Teacher	45.5	31.3	33.6
Government Primary School Administrator	18.2	13.4	14.2
Government Secondary School Teacher	2.3	4.5	4.1
Government Secondary School Administrator	4.5	4.0	4.1
Non-government Primary School Teacher	0	1.3	1.1
Non-government Primary School Administrator	0	0	0
Non-government Secondary School Teacher	0	0.4	0.4
Non-government Secondary School Administrator	0	0	0
<i>NOT Included in 2013 EMIS Database</i>	29.5	45.1	42.5
Graduates (Total %)	100%	100%	100%
TOTAL Number of Graduates	44	224	268

In Table 12 one observes that that the vast majority of cohort 2 graduates of the LTTP-organized in-service program who are in the EMIS database are working in government schools. And, similar to the overall pattern of employment among LTTP-organized in-service program graduates (see Table 10), while more cohort 1 graduates are working in primary schools, we also observe a sizeable proportion working in secondary schools. That is, more than one third (38.6%) of in-service cohort 2 graduates are employed as government primary school teachers and approximately one tenth (10.6%) are working as government primary school administrators (principals, vice principals, or registrars). With respect to gender, both male and female cohort 2 graduates are more much more likely to be teachers than administrators in government primary schools, though the percent difference is somewhat greater for females (42.9% versus 5.7%) than for males (38.1% versus 11.3%).

Additionally, among the cohort 2 graduates of the LTTP-organized in-service program, approximately one eighth (12.0%) are teachers, but one (0.0%) are school administrators.

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However, there are only small differences between male and female cohort 2 graduates who are government secondary school teachers.

It is also worth noting that only a small percentage of LTTP-organized in-service program cohort 2 graduates are working in non-governmental schools, either as teachers or administrators at the primary or secondary level. Thus, it does not appear that many graduates of this cohort of the program have used their credentials to obtain employment in non-government schools.

Table 12: Employment Status of Cohort 2 of LTTP-Organized In-service C-Certificate Program Graduates

Category of Employment	% Female	% Male	% Total
Government Primary School Teacher	42.9	38.1	38.7
Government Primary School Administrator	5.7	11.3	10.6
Government Secondary School Teacher	14.3	11.7	12.0
Government Secondary School Administrator	0	0	0
Non-government Primary School Teacher	0	1.9	1.7
Non-government Primary School Administrator	0	0.4	0.3
Non-government Secondary School Teacher	0	0	0
Non-government Secondary School Administrator	0	0	0
<i>NOT Included in 2013 EMIS Database</i>	37.1	36.6	36.6
Graduates (Total %)	100%	100%	100%
TOTAL Number of Graduates	35	257	292

In Table 13 one observes that the vast majority of cohort 3 graduates of the LTTP-organized in-service program who are in the EMIS database are working in government schools. However, somewhat different than the overall pattern of employment among LTTP-organized in-service program graduates (see Table 10), the percentages of cohort 3 graduates who are working in government primary schools as teachers and administrators are almost the same as the percentages working as teachers and administrators in government secondary schools. More specifically, approximately one sixth of in-service cohort 3 graduates are employed as government primary school teachers (18.4%) and as government secondary school teachers (17.1%), while approximately one eighth are working as government primary school administrators (13.0%) and as government secondary school administrators (11.7%).

With respect to gender, one can see that compared to their male colleagues, female cohort 3 graduates are more likely to be teachers than administrators. For government primary

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schools the teacher-to-administrator ratio is 24.4%/4.9% for females, while for males it is 17.5%/14.2%. For government secondary schools the teacher-to-administrator ratio is 24.4%/12.2% for females, while for males it is 16.1%/11.7%.

Again, it is worthwhile to state that only a small percentage of LTTP-organized in-service program cohort 3 graduates are working in non-governmental schools, either as teachers or administrators at the primary or secondary level. Thus, it does not appear that many graduates of this cohort have used their credentials to obtain employment in non-government schools.

Table 13: Employment Status of Cohort 3 of LTTP-Organized In-service C-Certificate Program Graduates

Category of Employment	% Female	% Male	% Total
Government Primary School Teacher	24.4	17.5	18.4
Government Primary School Administrator	4.9	14.2	13.0
Government Secondary School Teacher	24.4	16.1	17.1
Government Secondary School Administrator	12.2	11.7	11.7
Non-government Primary School Teacher	2.4	1.5	1.6
Non-government Primary School Administrator	0	0.4	0.3
Non-government Secondary School Teacher	2.4	0.7	1.0
Non-government Secondary School Administrator	0	0	0
<i>NOT Included in 2013 EMIS Database</i>	29.3	38.0	36.8
Graduates (Total %)	100%	100%	100%
TOTAL Number of Graduates	41	274	315

Table 14 indicates that that the vast majority of cohort 4 graduates of the LTTP-organized in-service program who are in the EMIS database are working in government schools. Somewhat different than the overall pattern of employment among LTTP-organized in-service program graduates (see Table 10), however, almost all of these graduates are working in primary schools. More specifically, about one third (32.8%) of in-service cohort 2 graduates are employed as government primary school teachers and approximately one sixth (16.4%) are working as government primary school administrators (principals, vice principals, or registrars). With respect to gender, female cohort 4 graduates are much more likely to be teachers than administrators in government primary schools (48.2% versus 8.9%, while male cohort 4 graduates are only somewhat more likely to be working as teachers than as administrators (28.6% versus 18.4%).

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Note that a somewhat higher percentage of LTTP-organized in-service program cohort 4 graduates are working in non-government schools than we have observed for other cohorts. As shown in Table 14, 4.2% of cohort 4 graduates are employed as non-government primary school teachers, with the percentage being greater for males (4.9%) than for females (1.4%).

Table 14: Employment Status of Cohort 4 of LTTP-Organized In-service C-Certificate Program Graduates

Category of Employment	% Female	% Male	% Total
Government Primary School Teacher	48.2	28.6	32.8
Government Primary School Administrator	8.9	18.4	16.4
Government Secondary School Teacher	0	1.5	1.1
Government Secondary School Administrator	0	0	0
Non-government Primary School Teacher	1.8	4.9	4.2
Non-government Primary School Administrator	0	1.5	1.1
Non-government Secondary School Teacher	1.8	1.0	1.1
Non-government Secondary School Administrator	0	0	0
<i>NOT Included in 2013 EMIS Database</i>	39.3	44.2	43.1
Graduates (Total %)	100%	100%	100%
TOTAL Number of Graduates	56	206	262

In Table 15 one sees that that the vast majority of cohort 5 graduates of the LTTP-organized in-service program who are in the EMIS database are working in government schools. However somewhat different than the overall pattern of employment among LTTP-organized in-service program graduates (see Table 10), the percentages of cohort 5 graduates who are working in government primary schools as teachers and administrators are almost the same as the percentages working as teachers and administrators in government secondary schools. More specifically, approximately one fifth of in-service cohort 5 graduates are employed as government primary school teachers (23.4%) and as government secondary school teachers (16.8%), while somewhat more than one tenth are working as government primary school administrators (15.5%) and as government secondary school administrators (10.6%).

With respect to gender, one notes that compared to their male colleagues, female cohort 5 graduates are much more likely to be teachers than administrators in primary schools. For government primary schools the teacher-to-administrator ratio is 40.3%/4.2% for females, while for males it is 20.4%/14.2%. For government secondary schools the teacher-to-administrator ratios are fairly similar for females (12.5%/6.9%) and for males 17.6%/11.3%).

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Again, it is worth mentioning that only a small percentage of LTTP-organized in-service program cohort 5 graduates are working in non-governmental schools, either as teachers or administrators at the primary or secondary level. Thus, it does not appear that many graduates of this cohort have used their credentials to obtain employment in non-government schools.

Table 15: Employment Status of Cohort 5 of LTTP-Organized In-service C-Certificate Program Graduates

Category of Employment	% Female	% Male	% Total
Government Primary School Teacher	40.3	20.4	23.4
Government Primary School Administrator	4.2	17.6	15.5
Government Secondary School Teacher	12.5	17.6	16.8
Government Secondary School Administrator	6.9	11.3	10.6
Non-government Primary School Teacher	1.4	2.0	1.9
Non-government Primary School Administrator	0	0.5	0.4
Non-government Secondary School Teacher	0	0.8	0.6
Non-government Secondary School Administrator	0	0.3	0.2
<i>NOT Included in 2013 EMIS Database</i>	34.7	29.6	30.4
Graduates (Total %)	100%	100%	100%
TOTAL Number of Graduates	72	398	470

Employment of CFL-Organized In-service C-Certificate Graduates

We move now to examining the employment categories for in-service C-Certificate programs organized by groups other than the USAID-funded Liberia Teacher Training Program (LTTP). To begin this discussion, Table 16 presents findings on graduates of the in-service program organized by the Christian Foundation for Liberia (CFL). We observe that the majority of the graduates of the CFL-organized in-service program who are in the EMIS database are working in government schools. However somewhat different than the overall pattern of employment among LTTP-organized in-service program graduates (see Table 10), the percentages of CFL-organized program graduates who are working in government primary schools as teachers and administrators are almost the same as the percentages working in government secondary schools as teachers and administrators. More specifically, just over one tenth of CFL-organized program graduates are employed as government primary school teachers (14.0%) and as government secondary school teachers (10.1%), while approximately one tenth are working as government primary school administrators (11.6%) and as government secondary school administrators (6.7%).

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With respect to gender, one can see that compared to their male colleagues, female CFL-organized program graduates are somewhat more likely to be teachers than administrators, in both primary and secondary schools. For government primary schools the teacher-to-administrator ratio is 11.9%/2.2% for females, while for males it is 14.7%/14.9%. For government secondary schools the teacher-to-administrator ratio for females is 11.9%/2.2%, while for males it is 9.4%/8.3%.

Note that a somewhat higher percentage of CFL-organized in-service program graduates are working in non-government schools than we have observed overall for the LTTP-organized in-service program graduates (see Table 10). As shown in Table 16, 3.8% and 2.8% of CFL-organized program graduates are employed as non-government primary school teachers and non-government secondary school teachers, respectively, with the percentages being very similar for males than for females.

Table 16: Employment Status of CFL-Organized C-Certificate Program Graduates

Category of Employment	% Female	% Male	% Total
Government Primary School Teacher	11.9	14.7	14.0
Government Primary School Administrator	2.2	14.9	11.6
Government Secondary School Teacher	11.9	9.4	10.1
Government Secondary School Administrator	2.2	8.3	6.7
Non-government Primary School Teacher	5.4	3.2	3.8
Non-government Primary School Administrator	1.1	0.6	0.7
Non-government Secondary School Teacher	2.7	2.8	2.8
Non-government Secondary School Administrator	0.5	1.1	1.0
<i>NOT Included in 2013 EMIS Database</i>	62.2	44.9	49.4
Graduates (Total %)	100%	100%	100%
TOTAL Number of Graduates	185	530	715

Employment of ECSEL-Organized In-service C-Certificate Graduates

Turning now to Table 17, which presents findings on graduates of the in-service program organized by the European Commission Support to Education in Liberia (ECSEL), we note that the majority of the graduates who are in the EMIS database are working in government schools. However, somewhat different than the overall pattern of employment among LTTP-organized in-service program graduates (see Table 10), the percentages of ECSEL-organized in-service program graduates who are working in government primary schools as teachers and administrators are almost the same as the percentages working in government

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secondary schools as teachers and administrators. More specifically, just over one tenth of ECSEL-organized program graduates are employed as government primary school teachers (11.0%) and as government secondary school teachers (11.2%), while just under one tenth are working as government primary school administrators (9.7%) and as government secondary school administrators (7.2%).

With respect to gender, one can see that compared to their male colleagues, female ECSEL-organized program graduates are somewhat more likely to be teachers than administrators, in both primary and secondary schools. For government primary schools the teacher-to-administrator ratio is 9.4%/3.1% for females, while for males it is 11.1%/10.3%. For government secondary schools the teacher-to-administrator ratio for females is 12.5%/3.1%, while for males it is 11.1%/7.6%.

Note that a somewhat higher percentage of ECSEL-organized in-service program graduates are working in non-government schools than we have observed overall for the LTPP-organized in-service program graduates (see Table 10). As shown in Table 17, the same percentage of ECSEL-organized program graduates are employed as non-government primary school teachers and as non-government secondary school teachers (4.2%), while 3.2% are working as non-government primary school administrators. Interestingly, however, all of the ECSEL-organized program graduates working in non-government schools are male.

Table 17: Employment Status of ECSEL-Organized C-Certificate Program Graduates

Category of Employment	% Female	% Male	% Total
Government Primary School Teacher	9.4	11.1	11.0
Government Primary School Administrator	3.1	10.3	9.7
Government Secondary School Teacher	12.5	11.1	11.2
Government Secondary School Administrator	3.1	7.6	7.2
Non-government Primary School Teacher	0.0	4.3	4.2
Non-government Primary School Administrator	0.0	3.5	3.2
Non-government Secondary School Teacher	0.0	3.8	4.2
Non-government Secondary School Administrator	0.0	0.0	0.0
<i>NOT Included in 2013 EMIS Database</i>	56.3	47.4	48.1
Graduates (Total %)	100%	100%	100%
TOTAL Number of Graduates	32	369	401

Employment of NTAL-Organized In-service C-Certificate Graduates

Looking now at Table 18, which presents findings for the in-service program organized by the National Teachers Association of Liberia (NTAL), we observe that the majority of graduates who are in the EMIS database are working in government schools. However somewhat different than the overall pattern of employment among LTTP-organized in-service program graduates (see Table 10), the percentages of NTAL-organized in-service program graduates who are working in government primary schools as teachers and administrators are almost the same as the percentages working as in government secondary schools as teachers and administrators. More specifically, just under one tenth of NTAL-organized program graduates are employed as government primary school teachers (7.9%) and as government secondary school teachers (9.0%), while just under one twentieth are working as government primary school administrators (4.5%) and as government secondary school administrators (3.4%).

With respect to gender, one can see that for government primary schools the teacher-to-administrator ratio among NTAL-organized program graduates is very similar for females (8.0%/4.0%) and for males (7.8%/4.7%). For government secondary schools the teacher-to-administrator ratio is slightly larger for females (12.0%/4.0%) than for males (7.8%/3.1%).

Note that a somewhat higher percentage of NTAL-organized in-service program graduates are working in non-government schools than we have observed overall for the LTTP-organized in-service program graduates (see Table 10). As shown in Table 18, 4.5% and 2.2% of NTAL-organized program graduates are employed as non-government primary school teachers and as non-government secondary school teachers, respectively, while 2.2% are working as non-government primary school administrators. It is also worth noting that in contrast to EXCEL-organized program graduates, it is the female NTAL-organized program graduates who (percentage-wise) are more likely to be employed in non-government schools.

Table 18: Employment Status of NTAL-Organized C-Certificate Program Graduates

Category of Employment	% Female	% Male	% Total
Government Primary School Teacher	8.0	7.8	7.9
Government Primary School Administrator	4.0	4.7	4.5
Government Secondary School Teacher	12.0	7.8	9.0
Government Secondary School Administrator	4.0	3.1	3.4
Non-government Primary School Teacher	8.0	3.1	4.5
Non-government Primary School Administrator	4.0	1.6	2.2
Non-government Secondary School Teacher	4.0	1.6	2.2
Non-government Secondary School Administrator	0	1.6	1.1
<i>NOT Included in 2013 EMIS Database</i>	56.0	68.8	65.2
Graduates (Total %)	100%	100%	100%
TOTAL Number of Graduates	25	64	89

Employment of UNICEF-Organized In-service C-Certificate Graduates

Finally, Table 19 presents findings for the UNICEF-organized in-service program. We observe that the majority of the relatively few graduates who are in the EMIS database are working in government schools. However, somewhat different than the overall pattern of employment among LTTP-organized in-service program graduates (see Table 10), the percentages of UNICEF-organized in-service program graduates who are working in government primary schools as teachers and administrators are similar to the percentages working in government secondary schools as teachers and administrators. More specifically, approximately one twentieth of UNICEF-organized program graduates are employed as government primary school teachers (8.0%) and as government secondary school teachers (3.8%), while about one twentieth are working as government primary school administrators (6.1%) and as government secondary school administrators (5.0%).

With respect to gender, one can see that compared to their male colleagues, female UNICEF-organized program graduates are somewhat more likely to be teachers than administrators, in both primary and secondary schools. For government primary schools the teacher-to-administrator ratio is 10.9%/3.7% for females, while for males it is 7.3%/6.6%. For government secondary schools the teacher-to-administrator ratio for females is 6.4%/2.6%, while for males it is 3.2%/5.5%.

Note also that relatively few UNICEF-organized in-service program graduates are working in non-government schools (i.e., 2.7% or less), which is similar to what we have observed overall for the LTTP-organized in-service program graduates (see Table 10). However,

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similar to what was discussed for NTAL-organized program graduates, the percentages of UNICEF-organized program graduates working in non-government schools tends to be higher for females than for males.

Table 19: Employment Status of UNICEF-Organized C-Certificate Program Graduates

Category of Employment	% Female	% Male	% Total
Government Primary School Teacher	10.9	7.3	8.0
Government Primary School Administrator	3.7	6.6	6.1
Government Secondary School Teacher	6.4	3.2	3.8
Government Secondary School Administrator	2.6	5.5	5.0
Non-government Primary School Teacher	5.6	2.0	2.7
Non-government Primary School Administrator	2.2	1.1	1.3
Non-government Secondary School Teacher	2.6	1.4	1.6
Non-government Secondary School Administrator	1.1	0.5	0.7
<i>NOT Included in 2013 EMIS Database</i>	64.8	72.3	70.9
Graduates (Total %)	100%	100%	100%
TOTAL Number of Graduates	267	1103	1370

Conclusion

This report presented results from a study conducted by the LTTP Monitoring, Evaluation, and Research team. The purpose of the study was to assess the extent to which graduates of LTTP/USAID supported pre-service and in-service C-Certificate programs as well as other C-Certificate programs are employed as teachers or administrators in government or non-government primary or secondary schools. The study analyzed the Ministry of Education's 2013 EMIS database, augmented by inserting information from lists of graduates from the five cohorts of LTTP-supported pre-service program, the five cohorts of the LTTP-organized in-service C-Certificate program as well as from in-service C-Certificate programs organized by other organizations (Christian Foundation for Liberia, European Commission Support for Education in Liberia, the National Teachers Association of Liberia, and UNICEF).

The study provides information on the percentages of male and female graduates who are various employment categories within the education sector. More specifically, the study

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reports the percentages of graduates who are employed as teachers and administrators (principals, vice principals, and registrars) in government primary schools, those employed in such positions in non-government primary school, those in employed as teachers and administrators in government secondary schools, and those employed in such positions in non-government secondary schools.

The study also presents the percentages of graduates of the various C-Certificate programs who were not found in the 2013 EMIS database. Indeed, of the 6,710 individuals who earned a C-Certificate from one of these programs during the 2000 to 2013 period, 3,967 (58.7%) of them were not found in the 2013 EMIS database. Undoubtedly, because of the limitations of this study, some of these graduates are in fact employed in the education sector.⁴ That is, some of the graduates may be working in the 202 schools (i.e., 6.6%) whose principals participated in the EMIS trainings but did not return the annual school census questionnaires. Furthermore, some of the graduates may be working in the education sector but under different names than they used when participating in the C-Certificate program. However, it is very likely that many of the 3,967 graduates who were not found in the 2013 EMIS database either had never been employed in the education sector (e.g., graduates of cohort 4 and 5 of the LTTP-supported pre-service program) or left the profession after completing the C-Certificate program. This likely constitutes a sizeable group of professionally “qualified” individuals who could be employed or re-employed as teachers or administrators in government or non-government primary or secondary schools.

Depending on the size of this group of professionally qualified individuals who are not currently employed in the education sector, the Ministry of Education may be in a position to increase the proportion of primary school teachers who have at least the minimum qualification (i.e., a C-Certificate). Although, a number of interventions have been made by partners in helping to strengthen Liberia’s teaching force, the government must take concrete actions to hire and retain “qualified” teachers. However, this may require that the Ministry establish special packages of financial incentives, organize better living conditions, and/or improve working conditions to attract and hold “qualified” teachers in some settings (see also Goyee et al., 2014).

With respect to the employment categories of graduates who were found in the EMIS database, there are some interesting differences across the C-Certificate programs supported or organized by different partners. For the USAID/LTTP-supported pre-service

⁴ That at least some of the C-Certificate program graduates not in the 2013 EMIS data base may be employed in the education sector is signaled by the results from another, more limited tracer study previously conducted. Based on direct telephone contact with 76 of 509 graduates of cohort 3 of the LTTP-supported pre-service program and information they reported about their colleagues, Tuowal (2012) indicates that 404 (i.e., 79.4%) were working – and on the payroll – in schools. This compares with 43.5% of the graduates of cohort 3 of the LTTP-supported pre-service program which were found to be in the 2013 database.

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program and the USAID/LTTP-organized in-service program the vast majority of graduates were found to be working in government primary schools, as teachers or administrators. Relatively smaller percentages of these programs' graduates were seen to be employed in government secondary schools (as teachers or administrators), and very small percentages of these programs' graduates were working in non-government schools. In contrast, the percentages of graduates of the other organization's C-Certificate programs were almost as likely to be employed in primary schools as they were to be working in secondary schools. Moreover, especially for the programs organized by ECSEL and NTAL, there were noticeably higher percentages of graduates serving as teachers or administrators in non-government primary and non-government secondary than was the case for LTTP-supported or organized programs.

One issue that needs to be discussed concerns whether having educators with C-Certificates working in government secondary schools is a positive or negative development. Certainly, these are individuals who could instead be hired to increase the percentage of qualified primary school teachers and administrators. However, while their credentials are below that which government policy stipulates as the minimum qualification for secondary school teachers (i.e., a B-Certificate for lower secondary and a university degree for upper secondary), these individuals have credentials equal to or higher than many of their secondary school colleagues. According to the *Education Statistics* publication (MoE, 2013, p. 77), 27.2% of all government and non-government secondary school teachers are "untrained," that is, possessing less than a C-Certificate, and only 13.8% have a university degree. Thus, there is a need to upgrade the qualifications of many secondary school teachers, but having secondary school teachers and administrators who are graduates of the C-Certificate programs may in the current situation contribute to improving the quality of education at the lower and upper secondary levels.

Another issue which would benefit from policy dialogue relates to the number of graduates of C-Certificate programs, particularly those organized by ECSEL and NTAL, who are currently working as teachers or administrators in non-government primary or secondary schools. On the one hand, one may view this as a leakage of qualified primary school teachers from the government to the non-government subsector of education – representing a loss of investment designed to improve the quality of education at the primary level. On the other hand, given that the pupils attending non-government schools are for the most part Liberian citizens, this could be seen as a valuable, if unintended, contribution to improving the country's education system. Moreover, since some children and youth likely move back and forth between government and non-government schools, having teachers and administrators with C-Certificate qualifications working in non-government school teachers may in fact contribute to improve learning outcomes for at least some pupils in government schools.

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While discussions regarding the policy and practice implications of this study should be undertaken, there is a need for further research to clarify some of the issues. First, this study should be replicated once the 2014 EMIS database is ready. Hopefully, the 2014 annual school census will include an even higher percentage of government and non-government schools than was the case for the 2013 EMIS database. It may also be that with on-going work on cleaning up the employment and payroll records there were be fewer C-Certificate program graduates whose names do not match how their names are recorded in the annual school census and EMIS database.

Second, a follow-up study should be conducted with a sample of those C-Certificate program graduates who were not found in the 2013 EMIS database (or who are not found in the 2014 EMIS database). This study should focus particularly on pre-service graduates who either never were employed in the education sector or on in-service graduates who left the profession. Understanding better why they did not gain employment or they discontinued their work as a teacher or administrator would certainly inform discussions leading to possible reforms in policies, procedures, or practices.

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