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ICT Baseline Assessment
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Uzbekistan Education for Excellence Program

ICT Assessment Baseline Assessment Report, 2022
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CONTENTS

TABLES

FIGURES

ACRONYMS AND ABBREVIATIONS

CS	Computer Science
EFL	English as a Foreign Language
EOY	End of Year
FSU	Florida State University
ICT	Information and Communication Technology
ISTE	International Society for Technology in Education
MoPSE	Ministry of Preschool and School Education
MSU	Mississippi State University
REC	Republic Education Center
RTI	RTI International
SME	Subject Matter Expert
STB	Student Textbook
TG	Teacher Guide
TPD	Teacher Professional Development
ULA	Uzbek Language Arts
U.S.	United States
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

The United States Agency for International Development (USAID) Uzbekistan Education for Excellence Program (the Program) supports the ambitious education reform agenda of the Ministry of Preschool and School Education in the Republic of Uzbekistan. The Program is implemented in target schools in Namangan and Sirdaryo Regions.

SUMMARY OF FINDINGS

The information and communication technology (ICT) baseline assessment measured current competency of grades 9, 10, and 11 students on the Program-developed materials that include standards, teacher guides, and use of the ICT student textbooks (STB). The Program customized the STB for Uzbekistan from an internationally sourced series of ICT materials originating from Cambridge University Press. The assessment was conducted with students across these three grades in two distinct regions (Namangan and Sirdaryo) of Uzbekistan. Average ICT scores for all five domains (Digital Literacy and Citizenship, Technology Applications, Social Impacts, Computing, and Computing Systems) across all three grades assessed are provided in **Table 1**.

Table 1. Overall Baseline Scores by Grade

	Grade 9 (*n* = 451)	Grade 10 (*n* = 427)	Grade 11 (*n* = 362)
Overall Baseline Scores	40%	33%	33%

n = total number of assessed students per grade

Overall, none of the cohorts in any grade scored, on average, above 40% on the overall assessment for their grade. Average baseline assessment scores for grades 9, 10, and 11 were 40%, 33%, and 33%, respectively. These scores are considered to be well below proficiency levels, which are 78%, 79%, and 77%, respectively, for grades 9, 10, and 11. This indicates the need for continued improvement, which is expected as students' progress through the curriculum over the course of the school year.

However, as shown in **Table 2**, 19% of ninth grade students achieved or exceeded the intermediate proficiency of 50%. Additionally, 28% and 25% of tenth and eleventh graders, respectively, achieved or exceeded their intermediate proficiency of 40%.

Table 2. Percentage of Students Achieving or Exceeding Intermediate Proficiency

	Grade 9 (*n* = 84)	Grade 10 (*n* = 118)	Grade 11 (*n* = 92)
Intermediate Proficiency	**50%**	**40%**	**40%**
Percentage of Students Achieving or Exceeding Intermediate Proficiency	19%	28%	25%

n = number of students achieving or exceeding intermediate proficiency per grade

SECTION 1: BACKGROUND

1.1 PROGRAM OVERVIEW

The Government of Uzbekistan Ministry of Preschool and School Education (MoPSE), previously the Ministry of Public Education, is committed to an ambitious program of systematic and comprehensive reforms. The country aims to create an education system that can produce graduates with critical thinking, problem solving, and practical skills that will enable them to succeed.

The Program is implemented by a consortium of implementing partners including RTI International (RTI) as the Consortium lead, Florida State University (FSU), and Mississippi State University (MSU). The RTI Consortium provides the expertise and experience needed to help the MoPSE achieve and sustain three overarching results:

1. Improved Uzbek Language Arts (ULA) and Mathematics outcomes in grades 1–4.
2. Enhanced Information and Communication Technology (ICT) instruction for grades 5–11; and
3. Improved English as a Foreign Language (EFL) instruction in grades 1–11.

1.2 LIFE OF THE PROGRAM ANTICIPATED ACHIEVEMENTS

Over the life of the Program, in close collaboration with the MoPSE, the Program will:

- Develop relevant and appropriate student learning standards for ULA, mathematics, ICT, and EFL.
- Customize or develop and pilot revised student textbooks (STBs) and teacher guides (TGs).
- Design and implement an in-service teacher professional development (TPD) approach.
- Conduct Program monitoring, evaluation, and learning activities, including impact evaluation research.

The new approaches to curriculum product development and support for TPD include a digital platform for instructional materials. These materials and approaches will be used as centerpieces to help enhance teachers' capacity to understand, apply, reflect on, and improve classroom practices. It is expected that the improvements in curriculum products and in teacher capacity will translate into improvements in student achievement over time.

The implementation of activities will also provide the Program and the MoPSE with lessons that can be utilized to ensure a solid scale-up of the Program's specific interventions. In addition, the Program's approach to TPD could be introduced to other regions and districts outside of the Program's two target regions. The Program also includes a focus on implementation science to look closely at what is working, how and why, and what effect the changes are having on improving teaching and learning.

This report details the baseline assessment findings for the ICT component of the Program. The assessment contributes to measuring the impact of the intervention of learning outcomes of ICT students, specifically Indicator 004 in the Activity Monitoring, Evaluation, and Learning Plan. Indicator 004 is stated as the *"Percent of learners targeted for USG assistance who demonstrate ICT proficiency in grade 11."* Students did not experience lost class time during the 2022–2023 school year when the assessment was conducted.

SECTION 2: STUDY DESIGN

2.1 PURPOSE OF THE STUDY

The purpose of the baseline assessment is to determine the level of ICT knowledge of students enrolled in ICT classes early in the school year before they have broad exposure to the ICT standards and teaching and learning materials for their current grade. Findings from the ICT baseline assessment provide a snapshot of student achievement based on beginning-of-the-year competency levels and compare student achievement by region, gender, and domain. At the end of the school year a follow-up endline assessment will evaluate the Program's impact on learning outcomes.

To determine student growth in ICT proficiency after a year of instruction, the same students in grades 9, 10, and 11 will be tested with an End of Year (EOY) assessment in May 2023. Data from the exams in May 2023 will be evaluated to identify gaps in students' curriculum content acquisition.

2.2 RESEARCH QUESTIONS

The overall goal of the ICT assessment is to evaluate the Program's impact on students' learning. To this end, we will compare baseline data collected in September 2022 with endline data to be collected in May 2023. The secondary goal of this assessment is to provide a snapshot of student achievement. To achieve these two goals, the following research questions will be addressed:

1. What is the overall impact of the Uzbekistan Education for Excellence Program in grades 9, 10, and 11 on ICT knowledge?
2. What are the baseline levels of ICT achievement for students at the beginning of grades 9, 10, and 11?
3. Are the student baseline achievement levels for the Program across regions and gender equivalent?

This ICT baseline report responds to research questions 2 and 3. The ICT endline will answer research question 1.

The assessments used to answer research questions 2 and 3 were designed to be administered to students at the beginning of their grade 9, 10, and 11 school years. The Program ICT baseline assessment was designed to align with the international standards customized for the Uzbekistan educational system.

2.3 MEASURING IMPACT

In standards-based education, summative EOY testing is an objective metric of learning and instruction. With the ICT baseline and EOY exams, UEEP will contribute to a culture of benchmarking by measuring ICT student learning against expectations of what students should know and be able to do at the end of each grade. The information gained from baseline and EOY testing will inform instructional changes, thus playing an important role in the holistic improvement of education in Uzbekistan. Data will be reviewed and instruction adjusted accordingly to promote increased learning.

The ICT assessment was designed to be conducted with Program schools at two time points, returning to the same schools and grades and sampling the same students each time. This longitudinal study measures the impact of student learning outcomes over the

course of a year. A comparison of the means analysis will be applied at endline to measure impact.

The role of the ICT EOY exams was explained to teachers in teacher training in Fall 2022. To discourage undue pressure toward teaching the test, they were encouraged to focus on teaching the curriculum and ensuring that students met standards throughout the year through ongoing formative assessment.

2.4 PROFICIENCY

During Fall 2022, the ICT team recruited Subject Matter Experts (SMEs) from among MSU-affiliated computer science teachers to form a proficiency setting team. To evaluate student competency, proficiency levels were set for grade 9, 10, and 11 assessments. To determine average scores, domain scores were calculated first, and then an overall average of the domain scores was calculated. Based on the average of their own scores, experts set the maximum reasonable proficiency for each grade. These scores were used as the ceiling for minimum proficiency. To set minimum reasonable proficiency levels for each grade, experts examined each assessment question to determine if a proficient student of that grade would correctly answer each question. Based on the number of questions marked as required for proficiency, a minimum proficiency percentage was calculated and set. The minimum proficiency score for each grade is as follows:

- Grade 9: 78%
- Grade 10: 79%
- Grade 11: 77%

These proficiency scores were developed with students of a particular grade in mind, regardless of nationality, and were based on the international standards developed by the Program. The standards were written using curricular priorities, common themes, and language from several countries around the world and states in the United States with respected ICT and computer science standards and successful ICT or computer science programs. In conjunction with the International Society for Technology in Education (ISTE) standards, some of the countries and states referenced were Australia, Canada (British Columbia), England, Korea, New Zealand, Singapore, and the United States (Arkansas, Iowa, Kansas, Massachusetts, Mississippi, South Carolina).

Uzbekistan students were not expected to be proficient at the baseline assessment. The proficiency score was based on what students are expected to know at the end of a school year within each grade following full implementation of the curriculum. Therefore, the proficiency scores are an endline proficiency. Given that the standards and curriculum are new to Uzbekistan and were implemented in grades 5–11 all at once, there is a lag in proficiency due to the implementation process. This means it will take students four years to progress through the new curriculum and become fully proficient, as current fifth graders will then be in ninth grade. Therefore, intermediate proficiencies were set to measure reasonable proficiency until full proficiency is expected to be met with full curriculum implementation. **Table 3** lays out the expected intermediate proficiencies for each grade.

Table 3. Intermediate Proficiencies by Grade

	Grade 9	Grade 10	Grade 11
Intermediate Proficiency	50%	40%	40%

2.5 SAMPLING

Data for the ICT baseline were collected in 10 pilot schools from two regions in Uzbekistan, Namangan and Sirdaryo. To be proportional with the populations of those regions, 6 of the pilot schools were in Namangan and 4 in Sirdaryo. All students from grades 9, 10, and 11 from the 10 schools were assessed to represent the 222 schools in which the Program piloted the ICT component. Even though the minimum sample size needed for comparison of baseline and endline data is a total of 207 students per grade, all of the 1,240 students were assessed during the baseline and will be assessed at the endline to account for attrition. This oversampling attempts to mitigate the risk caused by declining attendance of students in tenth and eleventh grades as the school year progresses.

2.6 SCHOOL AND STUDENT CHARACTERISTICS

School and student sample characteristics are presented in **Table 4.** The sample consisted of 10 schools, 6 in Namangan Region and 4 in Sirdaryo Region, with 1,240 total students in targeted grades.

Table 4. School Sample Characteristics by Region, Grade, and Gender

Region	Namangan (*n* = 755)			Sirdaryo (*n* = 485)		
Grade	**9**	**10**	**11**	**9**	**10**	**11**
Number of Schools		**6**			**4**	
Number of Students						
Girls	129	141	140	81	90	47
Boys	140	91	79	87	73	47
Unknown	8	15	12	6	17	37
Total	277	247	231	174	180	131

n = total number of students in the region

The number of students tested for the ICT baseline assessment was based on proportions of populations in the Namangan and Sirdaryo Regions. As shown in **Table 4**, there were 755 and 485 students sampled from 6 and 4 schools in Namangan and Sirdaryo, respectively. There were 628 and 517 girls and boys sampled, respectively, who chose to identify their gender. There were 451 grade 9 students, 427 grade 10 students, and 362 grade 11 students sampled across both regions.

2.7 ASSESSOR TRAINING AND DATA COLLECTION

MSU's expert in assessments conducted training for the MSU team members, Program staff and Republic Education Center (REC) staff on best practices for securely administering assessments. Following the training, the MSU team, Program staff, and individuals from REC conducted field tests on the assessment protocol in November 2021 and May 2022 while field testing test items for validity. The team used the knowledge gained during the field tests to enhance the protocols for future assessments. The field tests allowed the MSU team and Program staff to gain confidence in best practices and procedures for administering the baseline assessment. The data collection for the ICT baseline assessment took place September 13–16, 2022, using tablets. During that time, the assessors visited the 10 schools in teams of three or four, with an MSU staff member, a Program staff member, a translator, and in some cases individuals from the REC.

2.8 TESTING INSTRUMENT

2.8.1 Testing Instrument

After the Program's ICT standards were finalized, the ICT assessment specialist built exam blueprints closely aligned with the standards for grades 9, 10, and 11. Included on the blueprints were the list of tested topics within each domain, the number of test items per topic, and an indication of the cognitive level of those items as indicated in the standards. The number of items per topic correlated with the amount of instructional time allotted in the scope and sequence. For example, a topic that teachers cover in four instructional hours has twice the number of questions on a test than a topic that teachers cover in two instructional hours. Therefore, proportional with instructional hours, domains with more questions on the test carry more weight on students' scores than those with less.

Table 5 provides an overview of the ICT assessment instrument by the number of questions per grade within each domain.

Table 5. Overview of ICT Assessment Domains

	Grade 9	Grade 10	Grade 11
Domains	**Number of Questions**		
Digital Literacy and Citizenship	7	2	2
Tech Apps	9	9	15
Social Impacts	10	7	15
Computing	11	16	6
Computing Systems	3	6	2
Total Number of Questions	**40**	**40**	**40**

The tested topics are found in the five domains listed in **Table 5**. A description of each domain follows:

- Digital Literacy and Citizenship—foundations of computer operations as well as appropriate and safe use
- Technology Applications—applications that make using technology easier and bring efficiency into personal and professional processes
- Social Impacts—how computing advances and impacts society
- Computing—using technology to create technology
- Computing Systems—physical aspects of computing and the systems computers are a part of

During summer 2021, the ICT team recruited SMEs from among MSU-affiliated computer science teachers to form an item writing team. In a secure setting, each member of the team was assigned questions to write that aligned to the new ICT standards. After questions were written, the team reviewed the items and reached a consensus on each item's quality. The team checked items for clarity, fairness, curricular appropriateness, bias, and correctness. Items that were not initially accepted by the team were edited to bring them into alignment before being added to the test bank. Items that could not be edited satisfactorily were discarded. Test items underwent a final editing and quality check before they were translated. Uzbek project staff were involved in this quality check that included evaluating items for cultural relevance. They also completed the translation of items. Using the exam

blueprint, the MSU ICT curriculum developers selected questions that were a balanced representation of the curriculum topics to be on the baseline assessment.

2.8.2 Tool Adaptation and Piloting

In November 2021, the Program's ICT team piloted the baseline testing process and the grade 9 baseline test in selected schools in the Namangan and Sirdaryo pilot regions. This baseline test pilot helped the team test administration procedures, determine an appropriate testing session length for EOY testing, and begin to collect preliminary data on test items. One hundred seven students were tested, of whom 38 were girls and 69 were boys. Only 5 students did not have time to complete the test, indicating that the number of questions was appropriate for most students for the allowed testing time. The team's goal was to have a baseline group representative of the larger student population, including both boys and girls as well as students with different academic skills. In post-test interviews, students noted that although some of the vocabulary was unfamiliar, the overall language of the test questions was comprehensible. Because of the number of computers per school and interruptions in Internet service and electricity, the ICT team chose to use a paper format. In May 2022, the Program ICT team used tablets to pilot the grade 10 and grade 11 baseline tests in select schools in the pilot regions. The tablets were once again used for the baseline (September 2022) test administration with plans for use during the endline (May 2023) test administration.

After the baseline pilots, the team analyzed the test item data to determine if test items performed well and were suitable and fair for the purpose of determining students' content knowledge. Using test analysis procedures, the team examined items for appropriate difficulty, a discrimination quality that differentiated between students with a high content knowledge and students with a low content knowledge, correlation of each test item to the larger group of items, and the effectiveness and quality of each distractor. The team edited or discarded test items as appropriate and revised and finalized assessment tools for grades 9, 10, and 11 in Summer 2022. **Figure 1** illustrates the assessment preparation processes.

Figure 1. Assessment Building Process

SECTION 3: MAIN RESULTS

To identify baseline scores for each of the assessed grades, student responses were binary coded as either correct (1) or incorrect (0), and a two-step method was employed. First, a mean score was derived for each domain. Second, an overall average was calculated based on the domain means. Results of the assessment are presented in **Table 6** by grade and domain, as well as the average baseline scores for each grade. Overall, none of the cohorts in any grade scored on average above 40% on the baseline assessment for their grade. Average ICT competency levels for grades 9, 10, and 11 were 40%, 33%, and 33%, respectively, which is below proficiency. These scores are considered to be well below proficiency, which is 78%, 79%, and 77%, respectively, for grades 9, 10, and 11. This indicates the need for continued improvement, which is expected as students progress through the curriculum over the course of the school year.

Students in ninth grade on average scored higher (51%) in the Technology Applications domain than all other domains. For tenth grade students, the highest average scores were in the Technology Applications and Social Impacts domains with average scores of 40% in both domains. The highest average domain score for eleventh grade students was in the Social Impacts domain. Overall, students scored higher in the Technology Applications and Social Impacts domain, with the exception of ninth grade students who scored higher not only in Technology Applications but also in Digital Literacy and Citizenship, at 44%. Ninth grade students scored the lowest in Computing Systems (33%), while both tenth and eleventh grade students scored the lowest in Digital Literacy and Citizenship, at 26% and 25%, respectively.

Table 6. Average Baseline Scores by Grade and Domain

Domains *(# of questions by grade)*	**Grade 9 (*n* = 451)**	**Grade 10 (*n* = 427)**	**Grade 11 (*n* = 362)**
		Baseline Scores	
Digital Literacy and Citizenship *(7, 2, 2)*	44%	26%	25%
Technology Applications *(9, 9, 15)*	51%	40%	29%
Social Impacts *(10, 7, 15)*	36%	40%	41%
Computing *(11, 16, 6)*	35%	31%	33%
Computing Systems *(3, 6, 2)*	33%	30%	36%
Average Baseline Scores	**40%**	**33%**	**33%**

n = total number of assessed students per grade

In ninth grade, it is thought that students scored higher in Technology Applications due to greater exposure to similar content from the previous ICT curriculum. However, in eleventh grade, the Program's curriculum is more advanced beyond the scope of the previous curriculum and therefore may not have influenced those scores as significantly. It is also thought that students in grades 10 and 11 scored lowest in Digital Literacy and Citizenship because there were only two questions in this domain on the baseline compared to grade 9. Therefore, incorrect answers in this domain for grades 10 and 11 had a greater impact on the domain average than in grade 9, which had five questions in the same domain. Baseline scores in Social Impacts were relatively high in every grade, which is potentially due to the

topics within the domain, such as privacy, social media, and culture, relating to common knowledge.

While no students met proficiency, **Table 7** shows that 19% of ninth grade students achieved or exceeded the intermediate proficiency of 50%. Additionally, 28% and 25% of tenth and eleventh graders, respectively, achieved or exceeded their intermediate proficiency of 40%.

Table 7. Proficiency Achievements by Grade

	Grade 9	Grade 10	Grade 11
Intermediate Proficiency	*50%*	*40%*	*40%*
Percent Students Achieved	19%	28%	25%
Proficiency	*78%*	*79%*	*77%*
Percent Students Achieved	0%	0%	0%

Table 8 shows the baseline scores for grade 9 by region, domain, and gender. By region, overall, ninth grade students in the Namangan Region scored highest on the Technology Applications domain and lowest on both the Social Impacts and Computing domains, while ninth grade students in the Sirdaryo Region scored highest on the Technology Applications domain and lowest on the Computing Systems domain.

With regard to differences between the two regions and gender differences within the two regions, there were no meaningful differences in domain averages and overall average scores.

Table 8. Baseline Scores for Grade 9 by Region, Domain, and Gender

	Namangan Region			
	Overall (*n* = 277)	**Girls (*n* = 129)**	**Boys (*n* = 140)**	**Unknown (*n* = 8)**
Domains	Baseline Scores			
Digital Literacy and Citizenship	44%	45%	43%	40%
Technology Applications	50%	50%	51%	44%
Social Impacts	36%	37%	34%	45%
Computing	36%	36%	36%	33%
Computing Systems	35%	37%	32%	29%
Average Baseline Scores	40%	41%	39%	38%
	Sirdaryo Region			
	Overall (*n* = 174)	**Girls (*n* = 129)**	**Boys (*n* = 140)**	**Unknown (*n* = 8)**
Domains	Baseline Scores			
Digital Literacy and Citizenship	44%	45%	43%	52%
Technology Applications	53%	50%	55%	60%
Social Impacts	37%	36%	38%	37%
Computing	35%	33%	37%	33%
Computing Systems	31%	35%	28%	33%
Average Baseline Scores	40%	40%	40%	43%

n = total number of assessed students per region and gender

Table 9 shows the baseline scores for grade 10 by region, domain, and gender. With regard to the domains, tenth grade students scored highest on the Technology Applications and Social Impacts domains and lowest on Digital Literacy and Citizenship. By region, overall, tenth grade students in the Namangan Region scored highest on the Social Impacts domain and lowest on the Digital Literacy domain, while tenth grade students in the Sirdaryo Region scored highest on the Technology Application domain and lowest on the Digital Literacy domain.

With regard to gender differences within the two regions, there were no meaningful differences in domain averages and overall scores. With regard to differences between the two regions, there were no meaningful differences in domain averages and overall average scores except in the Digital Literacy and Citizenship domain. Tenth grade girls in both Namangan and Sirdaryo scored lowest in Digital Literacy and Citizenship; however, the domain score for girls in Sirdaryo were even lower than those in Namangan. This is potentially due to the sample size in that Sirdaryo is a considerably smaller region than Namangan and therefore fewer schools and students were sampled.

Table 9. Baseline Scores for Grade 10 by Region, Domain, and Gender

	Namangan Region			
	Overall (*n* = 247)	**Girls (*n* = 141)**	**Boys (*n* = 91)**	**Unknown (*n* = 15)**
Domains	Baseline Scores			
Digital Literacy and Citizenship	29%	28%	26%	50%
Technology Applications	40%	39%	40%	46%
Social Impacts	41%	41%	41%	39%
Computing	31%	31%	31%	33%
Computing Systems	31%	29%	31%	42%
Average Baseline Scores	34%	34%	34%	42%
	Sirdaryo Region			
	Overall (*n* = 180)	**Girls (*n* = 90)**	**Boys (*n* = 73)**	**Unknown (*n* = 17)**
Domains	Baseline Scores			
Digital Literacy and Citizenship	23%	21%	26%	18%
Technology Applications	40%	41%	39%	42%
Social Impacts	38%	38%	40%	33%
Computing	30%	30%	30%	33%
Computing Systems	30%	28%	29%	34%
Average Baseline Scores	32%	32%	33%	32%

n = total number of assessed students per region and gender

Table 10 shows the baseline scores for grade 11 by region, domain, and gender. With regard to the domains, eleventh grade students scored highest on the Social Impact domain and lowest on Digital Literacy and Citizenship. By region, overall, eleventh grade students in the Namangan Region scored highest on the Social Impacts domain and lowest on the Digital Literacy and Citizenship domain, while eleventh grade students in the Sirdaryo Region scored highest on the Social Impacts domain and lowest on the Digital Literacy and Citizenship domain.

Eleventh grade girls in the Namangan Region scored highest on the Social Impacts domain and lowest on the Digital Literacy and Citizenship domain, while girls in the Sirdaryo Region scored highest on the Social Impacts domain and lowest on the Computing domain. Eleventh grade boys in the Namangan Region scored highest on the Social Impacts domain and lowest on both the Digital Literacy and Citizenship and Technology Applications domains, while eleventh grade boys in the Sirdaryo Region scored highest on the Social Impacts domain and lowest on both the Technology Applications and Computing domains.

Table 10. Baseline Scores for Grade 11 by Region, Domain, and Gender

	Namangan Region			
	Overall (*n* = 231)	**Girls (*n* = 140)**	**Boys (*n* = 79)**	**Unknown (*n* = 12)**
Domains	**Baseline Scores**			
Digital Literacy and Citizenship	23%	21%	25%	38%
Technology Applications	29%	31%	25%	34%
Social Impacts	40%	40%	40%	45%
Computing	36%	38%	31%	44%
Computing Systems	34%	31%	39%	42%
Average Baseline Scores	33%	32%	32%	41%
	Sirdaryo Region			
	Overall (*n* = 131)	**Girls (*n* = 47)**	**Boys (*n* = 47)**	**Unknown (*n* = 37)**
Domains	**Baseline Scores**			
Digital Literacy and Citizenship	27%	32%	27%	22%
Technology Applications	29%	31%	26%	31%
Social Impacts	44%	45%	43%	43%
Computing	29%	30%	26%	32%
Computing Systems	38%	39%	32%	45%
Average Baseline Scores	33%	35%	31%	34%

n = total number of assessed students per region and gender

SECTION 4: RECOMMENDATIONS

This section presents recommendations based on the ICT findings and testing.

4.1 CURRICULAR RECOMMENDATIONS

The ICT baseline assessment results, which were below intermediate proficiency and well below proficiency, indicate the need for continued improvement—and improvement is expected as students progress through the curriculum over the course of the school year. Improvements in percentage correct scores are expected by EOY assessment, as there is ample opportunity for growth given the vast amount of new material being implemented. It is highly recommended that pilot teachers use the Program's TGs and STBs to teach ICT lessons. Strategies presented in the TGs will facilitate improvements in student learning as these are evidence- and inquiry-based instructional methodologies that encourage student-centered learning. Using these products will ensure students master the standards that assessments were built from.

4.2 TESTING RECOMMENDATIONS

Continued electronic testing is encouraged for security and efficiency. A proctor script for consistency in testing procedures was piloted and refined and is recommended for continued use in future test administrations. We recommend that a minimum of five proctors be sent to each school for smooth and secure test administration. For larger schools where more than two classes are testing simultaneously, we recommend a minimum of seven proctors be sent. Most importantly, it is recommended that the proctors review testing procedures in a designated training time the day before testing to ensure their understanding of following uniform procedures. Every testing classroom should have a minimum of two trained test proctors in the room for test administration, and neither should be the ICT teacher. The Program's recommendation after piloting is that test banks be given to teachers to use for regular classroom assessments rather than EOY assessments moving forward. This decision will be left up to the MoPSE and REC on how the assessments and test banks will be utilized moving forward.