# Status of 

 Instruction StudyRound 1

UZBEKISTAN EDUCATION for<br>EXCELLENCE PROGRAM

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# Uzbekistan Education for Excellence Program 

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## ACRONYMS AND ABBREVIATIONS

COVID-19
EFL
FFT
ICT
MPE
SIS
TPD
ULA
USAID
coronavirus disease 2019
English as a Foreign Language
Framework for Teaching
Information and Communication Technology
Ministry of Public Education
Status of Instruction Study
teacher professional development
Uzbek Language Arts
United States Agency for International Development

The Uzbekistan Education for Excellence Program (the Program), funded by the United States Agency for International Development (USAID), aims to support the Government of Uzbekistan's vision for high-quality education. The curricular focus of the Program is on Uzbek Language Arts (ULA), Mathematics, Information and Communication Technology (ICT), and English as a Foreign Language (EFL) in the country's primary and secondary schools. The Program is implemented as a partnership between USAID, the Uzbekistan Ministry of Public Education (MPE), and a consortium of implementing partners led by RTI International (RTI) with Florida State University and Mississippi State University. The RTI Consortium provides the expertise and experience needed to help the MPE to do the following:

- Develop relevant and appropriate student learning standards for ULA, Mathematics, ICT, and EFL.
- Customize or develop and pilot revised student textbooks and teacher guides.
- Design and implement an effective in-service teacher professional development (TPD) approach on the new curriculum products and instructional practices.
- Conduct Program monitoring, evaluation, and learning activities, including impact evaluation research.
The Status of Instruction Study (SIS) aims to shed light on teachers' knowledge, attitudes and beliefs, and skills and behaviors; the resources available at the school level and for the targeted subjects; and how these resources are used. The SIS was designed to inform the customization and development of student textbooks, teacher guides, and TPD approaches.
Originally, the SIS was to have a school-based data collection component that would include classroom observations and parent and teacher interviews. Given the protracted challenges resulting from the coronavirus disease 2019 (COVID-19) pandemic, data collection was conducted remotely and focused on garnering feedback directly from teachers. As such one limitation of this study is that all data are self-reported without additional means of triangulation or confirmation at this point in time.

This report presents the SIS methodology and findings from online surveys administered to more than 9,400 teachers from all regions of Uzbekistan, including the Republic of Karakalpakstan and Tashkent City.

## 2. METHODOLOGY

The final SIS design, taking into account the contextual realities of the COVID-19 pandemic, was a descriptive quantitative study. The main research questions used to guide the final study design were as follows:

1. What resources do teachers use, and how much time do they invest in lesson planning?
2. What resources are available at the school and in the classroom to support instruction in the subject areas under study?
3. What instructional techniques are commonly used by Uzbek teachers for questioning, student engagement, student grouping, and student formative assessment and performance feedback?
4. Do teachers engage in school-based community of practice activities?
5. What opportunities and support do are currently available to teachers to enhance their content knowledge and pedagogical skills?
To guide the instrumentation and analysis approaches used for the SIS, the Program conducted a rapid review of previous, similar studies and potential conceptual frameworks for adoption. A range of studies have investigated teachers' knowledge, attitudes and beliefs, and skills and behaviors. However, few studies have specifically collected these data to inform curriculum material development.

RTI previously conducted a situation analysis of English language instruction in Ethiopia ${ }^{1}$ a study on teacher guides ${ }^{2}$ and a School Snapshot focused on management effectiveness ${ }^{3}$ This work provided context for the design of the SIS. In the absence of a specific, existing conceptual framework ready for adoption as is, the Program team decided to adapt the widely used Framework for Teaching (FFT) developed by The Danielson Group (2019)4:
Figure 1 presents the four domains included in the FFT and their components.

[^0]Figure 1. The Framework for Teaching (FFT)

## THE FRAMEWORK FOR TEACHING



## DOMAIN 2: THE CLASSROOM ENVIRONMENT

2a Creating an Environment of Respect and Rapport Teacher interactions with students, including both words and actions Student interactions with other students, including both words and action
2b Establishing a Culture for Learning
Importance of content and of learning
Expectations for learning and achievement . Student pride in work
2c Managing Classroom Procedures
Instructional groups . Transitions -Materials and supplies
Performance of classroom routines
Supervision of volunteers and paraprofessionals
2d Managing Student Behavior
Expectations - Monitoring of student behavior
Response to student misbehavior
2e Organizing Physical Space
Safety and accessibility
Arrangement of furniture and use of physical resources

```
                                    DOMAIN 3: INSTRUCTION
3a Communicating With Students
Expectations for learning - Directions for activities
Explanations of content . Use of oral and written language
3b Using Questioning and Discussion Techniques
Quality of questions/prompts . Discussion techniques
Student participation
3c Engaging Students in Learning
Activities and assignments. Grouping of students
Instructional materials and resources.-Structure and pacing
3d Using Assessment in Instruction
Assessment criteria - Monitoring of student learning
Feedback to students
Student self-assessment and monitoring of progress
3e Demonstrating Flexibility and Responsiveness
Lesson adjustment • Response to students
- Persistence
```

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The main purpose of the FFT is as a tool for teachers and administrators to use to support teacher reflection, improve practice, and conduct evaluation. As such, the intended purpose of the FFT did not fully align with the aims of the SIS. However, the FFT provided useful domains and components to organize the SIS and allow for harmonization of relevant items across the four targeted subjects.

As a result, the SIS conceptual framework included aspects of the FFT organized as follows:

- The adapted conceptual framework used for the SIS included items along all four domains (Figure 1).
- The adapted conceptual framework used for the SIS included items relevant to all components but focused on the most relevant components of each domain. For example, in Domain 1: Planning and Preparation, it was determined to be critical to consider items along Component 1a: Demonstrating Knowledge of Content and Component 1b: Demonstrating Knowledge of Students. In contrast, for the specific purposes of the SIS and the Program at large, which aim to provide teachers with structured teacher guides to help guide instruction, Component 1e: Designing Coherent Instruction was identified as a lower priority.
- For each priority component, the SIS featured at least two or three questions to ensure that study findings on this component would provide a sufficient basis to draw practical conclusions and inform the development of curriculum materials for each subject.
- COVID-19 limited the ability to conduct school visits and classroom observations. Therefore, the SIS only included items that could be evaluated using remote data collection via online surveys.

Subject matter experts in ULA, Mathematics, ICT, and EFL from RTI, Florida State University, and Mississippi State University developed draft items for each subject-specific survey. Uzbek Program staff then reviewed the draft instruments and items for contextual appropriateness. The instruments were translated into Uzbek, and the surveys were then tested with three to five teachers to ensure the clarity of the questions and response phrasing, the comprehensiveness of the response options, and the ease of the online survey administration and to estimate the time needed to administer the survey. Program staff subsequently revised the instruments to incorporate teachers' feedback.

RTI's Institutional Review Board exempted the survey from review given that its purpose did not meet the criteria of research with human subjects. The survey did include, however, a comprehensive informed consent procedure to ensure that respondents were fully aware of the purpose of the study, potential risks, its approaches to administration, data privacy, security, analysis, and reporting; respondents were also given contact information to use should they have questions.

The survey was designed in the online survey system Voxco, and the link to the survey was shared with teachers via MPE Telegram channels. The original response rate, after 3 weeks of activation, was low, yielding just over 600 responses. Subsequently, the MPE reached out to regional teacher training centers to encourage survey completion while teachers were undergoing in-service training at the centers. The MPE's efforts eventually yielded more than 9,400 responses. The survey data collected were exported from Voxco and analyzed by RTI home office statisticians using Stata.

## 3. RESPONDENT DEMOGRAPHICS

### 3.1 DISTRIBUTION OF TEACHER RESPONDENTS BY REGION AND GENDER

Table 1 presents the regional and gender distribution of the teachers who completed the survey. The total number of teacher respondents was 9,402 . Xorazm Region had the largest number of respondents $(1,520)$, representing $16 \%$ of the total sample. The regions with the fewest respondents were Surxondaryo (108) and Bukhara (113), each of which contributed $1 \%$ of the total sample. Overall, there were more female teachers in the sample than male teachers ( $78 \%$ versus $22 \%$ ). Interesting gender distributions were observed in Tashkent Region, where almost all respondents ( $95 \%$ ) were women, and Surxondaryo Region, where unlike all other regions, the majority of the responding teachers ( $67 \%$ ) were men.

Table 1. Teacher Respondents by Region and Sex

| Region | Overall Total <br> Respondents | Percentage <br> of Sample | Actual <br> Population <br> Percentage | Percentage <br> Women in <br> the Sample | Percentage <br> Men in the <br> Sample |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Andijan Region | 1,366 | $15 \%$ | $9 \%$ | $79 \%$ | $21 \%$ |
| Bukhara Region | 113 | $1 \%$ | $6 \%$ | $84 \%$ | $16 \%$ |
| Fergana Region | 1,228 | $13 \%$ | $11 \%$ | $80 \%$ | $20 \%$ |
| Jizzakh Region | 270 | $3 \%$ | $4 \%$ | $56 \%$ | $44 \%$ |
| Karakalpakstan <br> Region | 494 | $5 \%$ | $6 \%$ | $76 \%$ | $24 \%$ |
| Namangan Region | 373 | $4 \%$ | $8 \%$ | $73 \%$ | $27 \%$ |
| Navoiy Region | 738 | $8 \%$ | $3 \%$ | $86 \%$ | $14 \%$ |
| Qashqadaryo Region | 473 | $5 \%$ | $10 \%$ | $67 \%$ | $33 \%$ |
| Samarqand Region | 709 | $8 \%$ | $11 \%$ | $67 \%$ | $33 \%$ |
| Sirdaryo Region | 580 | $6 \%$ | $3 \%$ | $66 \%$ | $34 \%$ |
| Surxondaryo Region | 108 | $1 \%$ | $8 \%$ | $33 \%$ | $67 \%$ |
| Tashkent City | 659 | $7 \%$ | $9 \%$ | $95 \%$ | $5 \%$ |
| Tashkent Region | 771 | $8 \%$ | $8 \%$ | $77 \%$ | $23 \%$ |
| Xorazm Region | 1,520 | $16 \%$ | $6 \%$ | $85 \%$ | $15 \%$ |
| TOTAL | $\mathbf{9 , 4 0 2}$ | $\mathbf{1 0 0 \%}$ | $\mathbf{1 0 0 \%}$ | $\mathbf{7 8 \%}$ | $\mathbf{2 2 \%}$ |

[^1]
### 3.2 TEACHERS' TEACHING EXPERIENCE

As shown in Figure 2, respondents' teaching experience varied across subjects: more than $60 \%$ of ULA and Mathematics teachers had been teaching for 16 or more years, while most ICT teachers ( $73 \%$ ) and EFL teachers ( $81 \%$ ) had been teaching for between 0 and 15 years.

Figure 2. Teachers' Years of Teaching Experience, by Subject


### 3.3 TEACHER RESPONDENTS' TECHNOLOGY AVAILABLE AT HOME

The percentage of teacher respondents reporting having access to a computer for home use was highest in the regions of Andijan, Fergana, Navoiy, Sirdaryo, Tashkent City, Tashkent, and Xorazm (Figure 3). At least $80 \%$ of the teachers in these regions reported having a computer for use at home. Home internet access was also highest in these regions, with at least $90 \%$ of teachers reporting that they have access to either Wi-Fi or mobile internet. Of all regions, Tashkent City had the greatest proportion (98\%) of teachers with access to internet at home.

Qashqadaryo Region had the smallest proportion of teachers who reported having access to a computer for use at home (50\%), followed by Samarqand (67\%) and Karakalpakstan ( $71 \%$ ). Qashqadaryo also had the largest proportion of teachers who reported lacking internet access at home (20\%).

Figure 3. Teachers' Access to a Computer and Internet at Home, by Region


### 3.4 CLASS SIZE BY REGION AND SUBJECT

Surveyed teachers were asked to report the number of students in the largest class they taught. As shown in Table 2, across all regions, the mean number of students in teacher respondents' largest classes ranged between 27 and 32 students. Tashkent City and Andijan Regions had the highest average number of students in participating teachers' largest classes ( 32 students), followed by Fergana, Samarqand, Tashkent, and Xorazm Regions, where the average was 31 students in teachers' largest classes. Teachers in Karakalpakstan Region reported lowest average number of students in their largest classes (27 students). By subject, ICT classes had, on average, more students than classes in other subjects, with an overall average of 31 students in teachers' largest classes. ULA and EFL classes had the lowest average number of students (29) in the largest classes.

Table 2. Mean Largest Class Size, by Region and Subject

| Region | Regional <br> Average |  | Subject-Specific Average |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  |  | ULA | Mathematics | ICT | EFL |
| Andijan Region | 32 | 32 | 32 | 32 | 30 |
| Bukhara Region | 30 | 29 | 27 | 39 | 29 |
| Fergana Region | 31 | 29 | 30 | 32 | 30 |

Table 2. Mean Largest Class Size, by Region and Subject

| Region | Regional Average | Subject-Specific Average |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | ULA | Mathematics | ICT | EFL |
| Jizzakh Region | 29 | 28 | 27 | 31 | 28 |
| Karakalpakstan Region | 27 | 24 | 26 | 32 | 25 |
| Namangan Region | 30 | 31 | 32 | 30 | 27 |
| Navoiy Region | 28 | 30 | 31 | 29 | 24 |
| Qashqadaryo Region | 30 | 28 | 29 | 34 | 26 |
| Samarqand Region | 31 | 29 | 29 | 30 | 30 |
| Sirdaryo Region | 28 | 25 | 27 | 28 | 28 |
| Surxondaryo Region | 29 | 21 | 28 | 29 | 28 |
| Tashkent City | 32 | 36 | 40 | 36 | 31 |
| Tashkent Region | 30 | 27 | 26 | 33 | 30 |
| Xorazm Region | 31 | 31 | 33 | 31 | 27 |
| Overall Average | 30 | 29 | 30 | 31 | 29 |

### 3.5 DISTRIBUTION OF STUDENTS WITH DISABILITIES BY REGION AND SUBJECT

Table 3 shows the proportion of students with a disability in teachers' largest classes, by region and subject. Across regions, the overall percentage of students with a disability in the teachers' largest current classes was 3\%. Teachers in Qashqadaryo Region reported the highest proportion (5\%) of students with a disability in their largest classrooms. Among subjects, ICT and EFL had the highest proportion (4\%) of students with a disability in the teachers' largest current classes.

Table 3. Students with a Disability in Teachers' Largest Current Classes, by Region and Subject

| Region | Regional <br> Percentage |  | Subject-Specific Percentage |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  |  | ULA | Mathematics | ICT | EFL |
| Andijan Region | $3 \%$ | $3 \%$ | $3 \%$ | $3 \%$ | $3 \%$ |
| Bukhara Region | $3 \%$ | $1 \%$ | $2 \%$ | $3 \%$ | $7 \%$ |
| Fergana Region | $3 \%$ | $2 \%$ | $3 \%$ | $5 \%$ | $4 \%$ |
| Jizzakh Region | $3 \%$ | $2 \%$ | $3 \%$ | $4 \%$ | $4 \%$ |
| Karakalpakstan Region | $3 \%$ | $2 \%$ | $2 \%$ | $3 \%$ | $5 \%$ |
| Namangan Region | $4 \%$ | $2 \%$ | $1 \%$ | $5 \%$ | $3 \%$ |
| Navoiy Region | $3 \%$ | $2 \%$ | $3 \%$ | $3 \%$ | $5 \%$ |
| Qashqadaryo Region | $5 \%$ | $4 \%$ | $6 \%$ | $6 \%$ | $6 \%$ |
| Samarqand Region | $3 \%$ | $3 \%$ | $3 \%$ | $2 \%$ | $2 \%$ |
| Sirdaryo Region | $4 \%$ | $2 \%$ | $4 \%$ | $5 \%$ | $4 \%$ |
| Surxondaryo Region | $4 \%$ | $2 \%$ | $7 \%$ | $2 \%$ | $3 \%$ |
| Tashkent City | $4 \%$ | $1 \%$ | $3 \%$ | $3 \%$ | $4 \%$ |
| Tashkent Region | $3 \%$ | $1 \%$ | $2 \%$ | $5 \%$ | $3 \%$ |

Table 3. Students with a Disability in Teachers' Largest Current Classes, by Region and Subject

| Region | Regional <br> Percentage |  | Subject-Specific Percentage |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  | $3 \%$ | ULA | Mathematics | ICT | EFL |
|  |  | $2 \%$ | $3 \%$ | $5 \%$ | $4 \%$ |  |
| Xorazm Region | $3 \%$ | $2 \%$ | $3 \%$ | $4 \%$ | $4 \%$ |  |
| Overall Percentage |  |  |  |  |  |  |

This section presents the survey results of ULA, Mathematics, ICT, and EFL teachers. There are four subsections in this section. The first subsection presents the results on lesson planning, the second subsection presents the results on the materials and facilities that support teaching and learning in schools, the third subsection presents the results on selected teacher instructional practices, and the fourth subsection presents the results on teacher participation in professional development activities.

### 4.1 LESSON PLANNING

The survey examined lesson-planning practices by asking teachers about the time they spend planning a lesson, the resources they use to plan their lessons, whether they use teacher guides and how, and the resources they would like to have to help them plan lessons.

### 4.1.1 Time Teachers Spend Planning for a Lesson

Figure 4 shows that $39 \%$ of the participating ULA and Mathematics teachers and approximately $32 \%$ of ICT and EFL teachers plan a lesson within 1 hour. Across all subjects, nearly $40 \%$ of teachers reported that lesson planning took 1-2 hours, and between $9 \%$ and $12 \%$ of teachers indicated that they spent more than 2 hours to plan one lesson. Some teachers do not currently plan their lessons; most of these teachers taught EFL (20\%) and ICT (17\%).

Figure 4. Time Spent by Teachers Planning One Lesson, by Subject


### 4.1.2 Teachers' Use of Lesson-Planning Templates

Teachers were asked whether they used a template for lesson planning for most of their lessons. Figure 5 shows that overall, approximately $63 \%$ of the teachers reported using the
required lesson-planning template provided by their school administration or the MPE. A comparison among subjects revealed that more ICT and EFL teachers (67\%) than ULA ( $53 \%$ ) and Mathematics teachers ( $52 \%$ ) used the required template to plan their lessons.
A substantial proportion of teachers $(18 \%-25 \%)$ reported that they do not have a template and, thus, plan lessons in a free mode, whereas $8 \%-20 \%$ of teachers indicated making detailed notes (conspekt) for each lesson. Most of the teachers who did not use a lessonplanning template (i.e., those who typically plan in a free mode or use detailed notes) were ULA and Mathematics teachers.

Figure 5. Teachers' Utilization of a Lesson-Planning Template, by Subject


### 4.1.3 Resources Teachers Use to Plan Their Lessons

As shown in Figure 6, the most widely used resources by participating teachers to plan their lessons were methodological guides. The majority of ULA and Mathematics teachers (78\%) and EFL teachers ( $77 \%$ ) reported using methodological guides to plan their lessons. In contrast, the majority of ICT teachers (71\%) reported using social media resources (e.g., Facebook, Telegram, Instagram) to plan their lessons. Across all subjects, the use of social media for lesson planning (about 64\% of responses) was notable. A large proportion of teachers (approximately 65\%) also reported using student books to plan lessons, though this proportion was lower than the proportion who indicated using methodological guides.

Other resources used by teachers to plan lessons include other resource books with activities (roughly 35\%) and lesson resources from colleagues in school (about 14\%).

Figure 6. Resources Teachers Use to Plan Lessons, by Subject


### 4.1.4 Teachers' Use of Teacher Guides

Over $90 \%$ of ICT and EFL teachers and over $80 \%$ of ULA and Mathematics teachers reported that they use a teacher guide or methodological guide for any of the subjects they teach (Figure 7). The proportion of teachers who said they use teacher guides was highest among EFL teachers (96\%), followed by ICT teachers (91\%), Mathematics teachers (85\%), and ULA teachers (82\%).

Figure 7. Teachers' Who Use a Teacher Guide for Any of the Subjects They Teach, by Subject


### 4.1.5 How Teachers Use the Teacher Guides

Figure 8 shows that, across subjects, the most common use of teacher guides by teachers was for "planning lesson activities with students." Between $61 \%$ and $67 \%$ of teachers reported that they use teacher guides for this purpose. This finding reinforces the results
presented in Section 4.1.3, which showed that most teachers (75\%) use methodological guides as resources to plan their lessons.

The second most commonly mentioned use of the teacher guides by teachers was to plan lesson content ( $50 \%$ of teachers overall). Substantial proportions of teachers also reported using teacher guides as a resource for their continuous professional development (between $42 \%$ and $50 \%$ ) and as a general reference material (between $32 \%$ and $41 \%$ ).

Figure 8. Teachers' Use of Teacher Guides, by Subject


### 4.1.6 Teachers' Desired Resources to Support Lesson Planning

As shown in Figure 9, teachers expressed a desire for more resources to help them plan lessons, and the most cited resources overall included pre-made lesson plans for each lesson (approximately 58\%); guidance on how to teach key topics, such as fractions or reading comprehension (about 57\%); and online resources (roughly 56\%).

The most desired resources among the ULA and Mathematics teachers were pre-made lesson plans for each lesson (about 64\%) and guidance on how to teach key topics (59\%). ICT teachers most frequently reported desiring guidance on how to teach key topics (62\%), followed by pre-made lesson plans and online resources, both of which were mentioned by $59 \%$ of teachers. The majority of participating EFL teachers (60\%) indicated wanting online resources, whereas $54 \%$ desired pre-made lesson plans and guidance on how to teach key topics. A few teachers (less than 3\% overall) indicated that they did not need any more resources to help them plan lessons.

Figure 9. Resources Desired by Teachers to Support Lesson Planning, by Subject


### 4.2 MATERIALS AND FACILITIES THAT SUPPORT TEACHING AND LEARNING IN SCHOOLS

Teachers were asked about the materials generally available for their lessons, when needed. The survey included a list of materials, and participating teachers were asked to place a checkmark next to each listed material available in their schools. Teachers were also asked about the existence of key amenities in their schools, including libraries, audio and video equipment, copy machines, computers, internet, chairs, and desks. The findings are presented in Tables 4 and 5 and Figure 10.

### 4.2.1 Materials Teachers Can Access for Use in Their Lessons

Overall, most teachers reported having the materials they need for their lessons. As shown in Table 4, the most common materials available in schools for teachers to use in lessons were as follows: at least one functioning computer, at least one story book in Uzbek (not a textbook) for each child, extra paper for students/teachers to draw/write on, crayons or markers, scissors and tape, at least one functioning projector, and at least one functioning set of speakers. Overall, between $74 \%$ and $86 \%$ of participating teachers mentioned having access to these materials.

By subject, the data indicated that the materials most commonly available to ULA, Mathematics, and EFL teachers ( $70 \%$ to $88 \%$ of responses) were extra paper for students/teachers to draw/write on, colored paper for students/teachers to draw/write on, crayons or markers, scissors and tape, at least one functioning computer, at least one functioning projector, and at least one storybook in Uzbek (not a textbook) for each child. In addition, $73 \%$ of EFL teachers reported having at least five age-appropriate storybooks in English available.

Calculators were the most notable material that teachers lacked access to, and unfortunately, Mathematics teachers were the most affected by this lack. Only 20\% of Mathematics teachers reported having at least one calculator for every five students in their class. In contrast, nearly all (96\%) ICT teachers had access to at least one functioning
computer, and over $80 \%$ of ICT teachers had access to at least one functioning projector and at least one functioning set of speakers.

Table 4. Materials Teachers Can Access for Use in Their Lessons, by Subject

| Materials |  | Proportion of Teachers by Subject |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | Overall | ULA | Mathema <br> tics | EFL | ICT |
| At least 20 counters/colored <br> plastic sticks per child | $53 \%$ | $71 \%$ | $65 \%$ | $47 \%$ | $37 \%$ |
| At least one calculator for every <br> five students | $27 \%$ | $23 \%$ | $20 \%$ | $27 \%$ | $35 \%$ |
| Extra paper for students/teachers <br> to draw/write on | $75 \%$ | $80 \%$ | $78 \%$ | $77 \%$ | $63 \%$ |
| Colored paper for <br> students/teachers to draw/write <br> on | $68 \%$ | $77 \%$ | $72 \%$ | $70 \%$ | $52 \%$ |
| Crayons or markers | $79 \%$ | $82 \%$ | $79 \%$ | $82 \%$ | $70 \%$ |
| Scissors and tape | $76 \%$ | $84 \%$ | $80 \%$ | $77 \%$ | $60 \%$ |
| At least one functioning <br> computer | $86 \%$ | $81 \%$ | $82 \%$ | $88 \%$ | $96 \%$ |
| At least one functioning projector | $74 \%$ | $63 \%$ | $64 \%$ | $78 \%$ | $87 \%$ |
| At least one functioning set of <br> speakers | $74 \%$ | $63 \%$ | $62 \%$ | $83 \%$ | $81 \%$ |
| At least one storybook in Uzbek <br> (not a textbook) for each child | $81 \%$ | $88 \%$ | $85 \%$ | $76 \%$ | $79 \%$ |
| At least five age-appropriate <br> storybooks in English | $63 \%$ | $59 \%$ | $57 \%$ | $73 \%$ | $51 \%$ |
| A CD player | $53 \%$ | $64 \%$ | $44 \%$ | $62 \%$ | $53 \%$ |
| A DVD player and screen | $61 \%$ | $56 \%$ | $55 \%$ | $65 \%$ | $67 \%$ |

### 4.2.2 Facilities Available in Schools to Support Teaching and Learning

As shown in Table 5, almost all teacher respondents (97\% overall) reported that in their school, they have a library with books and that students use it. Only $3 \%$ of the teachers overall said that their school has a library with books but that students do not use it. No teacher reported that their school lacked a library.
More than half of EFL teachers (61\%) reported that their school library lacks English books. Furthermore, a third (38\%) of EFL teachers reported not having any English audio tapes, CDs, or DVDs.

Access to at least one functioning copy machine was fairly high among teachers overall. Across subjects, about $67 \%$ of teachers said they had at least one functioning copy machine at their school and could use it. Only $14 \%$ of teachers overall reported that their school have a functioning copy machine but that teachers cannot use it.

Teachers reported that most schools have computer labs that students use. Indeed, over $90 \%$ of teachers indicated that their school has a lab with functioning computers and that students use it. Only $5 \%$ of teachers mentioned that their school lacks a lab with functioning computers.

Access to reliable internet varied among teachers. More than two-thirds (70\%) of ICT and ULA teachers reported that they have access to reliable internet, compared to $68 \%$ of Mathematics teachers and $58 \%$ of EFL teachers. Over 20\% of teachers overall reported limited access to internet, and $13 \%$ reported no access to internet.

Table 5. Facilities Available in Schools, by Subject

| Facilities | Proportion of Teachers by Subject |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Overall | ULA | Mathema tics | EFL | ICT |
| A library with books that students use | 97\% | 98\% | 98\% | 96\% | 98\% |
| A library with books that students do not use | 3\% | 2\% | 2\% | 3\% | 2\% |
| No library | 0\% | 0\% | 0\% | 0\% | 0\% |
| A library with books in English that students use | 41\% | 43\% | 42\% | 37\% | 46\% |
| A library with books in English that no students use | 3\% | 3\% | 3\% | 3\% | 3\% |
| No library with books in English | 57\% | 54\% | 56\% | 61\% | 51\% |
| English audio tapes, CDs, DVDs, and other materials that students use | 59\% | 67\% | 62\% | 55\% | 59\% |
| English audio tapes, CDs, DVDs, and other materials that students do not use | 8\% | 8\% | 8\% | 8\% | 5\% |
| No English audio tapes, CDs, DVDs, or other materials | 33\% | 25\% | 29\% | 38\% | 36\% |
| At least one functioning copy machine that teachers can use | 67\% | 73\% | 71\% | 60\% | 71\% |
| At least one functioning copy machine that teachers cannot use | 14\% | 13\% | 13\% | 18\% | 7\% |
| No functioning copy machine | 19\% |  | 16\% | 22\% | 22\% |
| A lab with functioning computers that students use | 90\% | 93\% | 92\% | 86\% | 94\% |
| A lab with functioning computers that students do not use | 5\% | 4\% | 4\% | 7\% | 2\% |
| No lab with functioning computers | 5\% | 3\% | 4\% | 8\% | 3\% |
| Reliable access to internet | 65\% | 70\% | 68\% | 58\% | 72\% |
| Limited access to internet | 22\% | 20\% | 20\% | 26\% | 17\% |
| No access to internet | 13\% | 10\% | 12\% | 16\% | 11\% |

### 4.2.3 Availability of Sufficient and Movable Chairs and Desks and WheelchairAccessible Classrooms

As presented in Figure 10, the majority of teachers across subjects reported having sufficient chairs ( $92 \%$ ULA and Mathematics, $84 \%$ ICT and EFL) and desks (92\% ULA and Mathematics, $85 \%$ ICT, and $84 \% \mathrm{EFL}$ ) for all students in their classrooms. Furthermore, over $90 \%$ of teachers across subjects indicated that the desks and chairs in their classrooms are
movable. A small proportion of teachers (12\%-17\% depending on subject) reported having wheelchair-accessible classrooms.

Figure 10. Teachers with Sufficient Chairs and Desks, Movable Chairs and Desks, and Wheelchair-Accessible Classrooms, by Subject


### 4.3 TEACHERS' INSTRUCTIONAL PRACTICES

The study examined teachers' instructional practices by asking teachers questions related to various learning activities, including how teachers introduce lesson objectives to students in a typical lesson, how teachers call on students to answer questions during lessons, in-class grouping of students, formative assessment, feedback to students, and teachers' opinions about struggling students in their classrooms.

### 4.3.1 How Teachers Introduce a Lesson Objective in a Typical Lesson

Figure 11 shows that the main way teachers introduce a lesson objective in a typical lesson is by writing the lesson objective on the board when starting the lesson ( $63 \%$ overall). The largest proportion of teachers who reported using this method was among EFL teachers (69\%). Some teachers indicated that they let students discover the lesson objective themselves by going through the lesson. This was the second most common method mentioned by teachers ( $14 \%-30 \%$ by subject). Across subjects, approximately $12 \%$ of teachers introduce the lesson objective by telling students at the start of the lesson what the lesson is about, while a very low proportion (1\%) teach without mentioning the lesson objective to their students.

Figure 11. Ways Teachers Introduce a Lesson Objective in a Typical Lesson, by Subject


### 4.3.2 How Teachers Call on Students to Answer Questions

As shown in Figure 12, the majority of teachers, regardless of the subject they teach, preferred to have students answer questions during class by selecting from among those students raising their hands. A smaller proportion of teachers (31\%) reported selecting students who do not have their hands raised, while $10 \%$ of respondents allow students to call out the answer. Approximately a fifth of teachers also typically use other methods to call on students to answer questions during class.

Figure 12. Ways Teachers Call on Students to Answer Questions in Class, by Subject


### 4.3.3 How Often Teachers Implement In-Class Grouping of Students

The frequency with which teachers grouped students for lesson activities varied across subjects, but overall, the largest proportion of teachers (about 45\%) grouped students in nearly every lesson (Figure 13). By subject, EFL had the highest percentage of teachers (51\%) who grouped students in nearly all lessons, followed by ULA (43\%), Mathematics (42\%), and ICT (34\%).

Almost a quarter (23\%) of ULA and Mathematics teachers and 19\% of EFL teachers grouped their students in every lesson. Approximately a third of teachers, depending on subject, grouped their students occasionally, while a small percentage of teachers ( $3 \%-7 \%$ depending on the subject) rarely grouped their students for lesson activities.

Figure 13. Teachers' Frequency of In-Class Grouping of Students, by Subject


### 4.3.4 Teachers' Criteria for In-Class Grouping of Students

As seen in Figure 14, the most common criterion that teachers use to group students was grouping students of mixed ability levels. Overall, $34 \%$ of teachers reported using this criterion. About a third of teachers indicated that they group students randomly, but this method was not as common as mixed-ability grouping.

Nearly a quarter (23\%) of teachers stated that they group students seated at the same desk, while a very small proportion of teachers (4\% overall) reported that they usually group students of the same gender and approximately $2 \%$ group students of the same ability level. By subject, most (34\%) of ULA and Mathematics teachers indicated that they use mixedability grouping. In contrast, ICT teachers reported using two main criteria-mixed-ability and random grouping (both representing 34\% of responses), and EFL teachers mainly use random grouping (37\%).

Figure 14. Criteria Used by Teachers to Implement In-Class Grouping of Students, by Subject


### 4.3.5 Teachers' Approaches to Assigning Group Work to students

The approaches teachers use to assign group work to students are presented in Figure 15. Across subjects, most teachers reported assigning the same task to different groups of students. More than half of EFL (59\%) and ICT (53\%) teachers and nearly half of Mathematics (46\%) and ULA (47\%) teachers reported using this method.

The second most common approach that teachers use to assign work when they group students is giving groups different tasks. This approach was reported by $45 \%$ of Mathematics and ULA teachers and between $32 \%$ and $36 \%$ of EFL and ICT teachers. Less than $10 \%$ of teachers let the groups select a task from a set of tasks prepared by the teacher.

Figure 15. Teachers' Approaches for Assigning Group Work to Students, by Subject


### 4.3.6 Teachers' Formative Assessment Techniques

To ascertain if students are learning, teachers use multiple formative assessment techniques in their classrooms. As shown in Table 6, the most common method is "informal checks for understanding," which teachers implement during the lesson. Across subjects, $52 \%-56 \%$ of teachers reported using this method.

Some teachers also correct students' independent work during class (43\% overall), correct students' homework ( $42 \%$ overall), and keep a checklist of who understood and who needs support (38\% overall).

Table 6. Methods Used by Teachers to Conduct Formative Assessments, by Subject

| Formative Assessment Methods Used by Teachers | Overall | Primary Teachers (Grades 1-4): ULA | Primary Teachers (Grades 1-4): Mathematics | ICT <br> Teachers (Grades 5-11) | EFL <br> Teachers (Grades 1-11) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Weekly end-of-unit tests | 26\% | 27\% | 25\% | 22\% | 27\% |
| Monthly end-of-unit tests | 23\% | 13\% | 13\% | 22\% | 28\% |
| I correct their independent work during class | 43\% | 50\% | 50\% | 47\% | 38\% |
| I correct their homework | 42\% | 37\% | 37\% | 40\% | 46\% |
| I keep a checklist of who understood and who needs more support | 38\% | 44\% | 45\% | 40\% | 34\% |
| I do informal checks for understanding during the lesson | 53\% | 55\% | 56\% | 52\% | 53\% |
| Other | 8\% | 7\% | 7\% | 9\% | 8\% |

### 4.3.7 Teachers' Use Formative Assessment Results

Table 7 presents how teachers use the formative assessment results. Overall, when teachers assess students, the main ways they use the assessment results are as follows:

- To identify patterns of misunderstanding among students (61\%).
- To provide extra support for students who need support (59\%).
- To plan the next lesson (58\%).

By subject, the largest percentage (about 67\%) of ULA and Mathematics teachers use formative assessment results to provide extra support for students who need it, while ICT teachers (59\%) and EFL teachers (63\%) typically use the results to identify patterns of misunderstanding.
Overall, a small proportion of teachers use formative assessment results to group students by ability ( $26 \%$ ), rank students ( $23 \%$ ), or adjust the pacing of lessons (17\%). A smaller proportion (about 14\% overall) share the results of students' formative assessments with parents and school principals.

Table 7. Ways Teachers Use Formative Assessment Results, by Subject

| Uses of Formative Assessment | Overall | Primary <br> Teachers <br> (Grades | Primary <br> Teachers <br> (Grades <br> 1-4): ULA | ICT <br> Teachers <br> (Grades <br> Mathemat | EFL <br> Teachers <br> (Grades <br> 1-11) |
| :--- | :---: | :---: | :---: | :---: | :---: |
| To group students by ability | $26 \%$ | $28 \%$ | $27 \%$ | $31 \%$ | $22 \%$ |
| To adjust the pacing of lessons | $17 \%$ | $16 \%$ | $15 \%$ | $19 \%$ | $16 \%$ |
| To plan the next lesson | $58 \%$ | $57 \%$ | $57 \%$ | $53 \%$ | $61 \%$ |
| To identify patterns of <br> misunderstanding | $61 \%$ | $61 \%$ | $62 \%$ | $59 \%$ | $63 \%$ |
| To grade students | $23 \%$ | $25 \%$ | $25 \%$ | $25 \%$ | $22 \%$ |
| To provide extra support for students <br> who need it | $59 \%$ | $66 \%$ | $67 \%$ | $54 \%$ | $58 \%$ |
| To share with <br> parents/caregivers/principals | $14 \%$ | $17 \%$ | $17 \%$ | $11 \%$ | $14 \%$ |
| Other | $7 \%$ | $7 \%$ | $7 \%$ | $9 \%$ | $7 \%$ |

### 4.3.8 Teachers' Actions When a Student Gives a Wrong Answer

As seen in Figure 16, when a student gives a wrong answer, most teachers (approximately $42 \%$ ) across subjects ask another student to give the correct answer.

The second most common action undertaken by teachers when a student gives a wrong answer is to ask the student to explain their answer. Between $37 \%$ and $39 \%$ of teachers across the four subjects reported using this strategy. Less than a quarter of respondents mentioned that they explain to the student why their answer is wrong.

Figure 16. Actions Teachers Take When a Student Gives a Wrong Answer, by Subject


### 4.3.9 Feedback Teachers Are Most Likely to Give to Students Who Get a High Score

Almost all teachers stated that they are likely to give some kind of feedback to students who get high scores, but the range of feedback that teachers give is very limited. Figure 17 shows that across all subjects, the majority of teachers (74\% or more, depending on subject) tell students, "Well done on this assignment." The subjects with the largest percentages of teachers who would most likely give students this feedback after they earned a high score were ULA and Mathematics (about 90\% each).

A smaller percentage of teachers (less than 12\%) reported complimenting students who get high scores by telling them, "You are a good student" or "You did well explaining each step of your answer." About 1\% of ICT teachers indicated that they do not give students who perform well any feedback.

Figure 17. Teachers' Most Likely Feedback to Students Who Get High Scores, by Subject


### 4.3.10 Feedback Teachers Are Most Likely to Give to Students Who Get a Low Score

As observed in teachers' responses regarding the feedback they give students who get high scores, teachers indicated that they use few strategies to give feedback to students who attain low scores. As seen in Figure 18, across subjects, the most common feedback that teachers give students with low scores is, "You are a slow learner and need to work harder" (64\%-75\% of responses).

Some teachers reported that they give other types of feedback, such as telling the student that they need to improve on how they explain each step of their answer (about 15\%) or telling students that they did not do well on the assignment (approximately 7\%). Overall, roughly $2 \%$ of teachers do not give any feedback to students who attain low scores.

Figure 18. Teachers' Most Likely Feedback to Students Who Get Low Scores, by Subject


### 4.3.11 Teachers' Explanations for Why Some Students Learn at a Slower Pace Than Others in Their Classes

Table 8 shows the reasons teachers gave for students who learn new content at a slower pace than the rest of the students in their class. Across subjects, the main reason given by most teachers for why some students struggle in their classes is that, "Their parents do not support them at home." This reason was reported by nearly $80 \%$ of ULA and Mathematics teachers and over 60\% of ICT and EFL teachers.

Other notable reasons that teachers reported for why some students struggle included the following: students are not making an effort ( $46 \%$ overall), students may be facing emotional difficulties outside of school (39\% overall), and these students "are just slow learners" (31\% overall).

Some teachers gave responses that reflected on their own practices: $21 \%$ of all teacher respondents mentioned that they cannot spend enough time with struggling students individually, and $9 \%$ reported that they have difficulty finding effective ways to explain new content to struggling students. A small proportion of teachers (3\%) overall suggested that the students who struggle in their classes may have a disability.

Table 8. Teachers' Perceived Reasons for Why Students Struggle in Their Classes, by Subject

| Likely Reasons Why Students <br> Struggle | Total | Primary <br> Teachers <br> (Grades 1- <br> 4): ULA | Primary <br> Teachers <br> (Grades 1- <br> 4): | ICT <br> Teachers <br> (Grades <br> 5-11) | EFL <br> Teachers <br> (Grades <br> 1-11) |
| :--- | :--- | :--- | :--- | :--- | :--- |
| They are not making an effort $46 \%$ $40 \%$ $39 \%$ $50 \%$ <br> Their parents do not support them at <br> home $71 \%$ $79 \%$ $79 \%$ $65 \%$ |  |  |  |  |  |

Table 8. Teachers' Perceived Reasons for Why Students Struggle in Their Classes, by Subject

| Likely Reasons Why Students Struggle | Total | Primary Teachers (Grades 1- <br> 4): ULA | Primary Teachers (Grades 14): Mathematics | ICT <br> Teachers (Grades 5-11) | EFL <br> Teachers (Grades 1-11) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| I cannot spend enough time with them individually | 21\% | 13\% | 13\% | 23\% | 24\% |
| I have difficulty finding effective ways to explain new content to these students | 9\% | 6\% | 6\% | 12\% | 10\% |
| They are just slow learners | 31\% | 36\% | 36\% | 27\% | 30\% |
| They may be facing emotional difficulties outside of school | 39\% | 31\% | 32\% | 40\% | 44\% |
| They may have a disability | 3\% | 3\% | 3\% | 3\% | 3\% |

### 4.4 TEACHERS' PARTICIPATION IN PROFESSIONAL DEVELOPMENT ACTIVITIES

To examine teachers' involvement in professional development activities, the survey prompted teachers to report how often they took part in selected collaborative, peer-support events in a typical month. The survey also asked teachers whether they have ever received training on how to use a new student textbook and what the main barriers to their professional development are.

### 4.4.1 Frequency with Which Teachers Participate in Selected Collaborative, Peer-Support Activities

Table 9 presents data on how often teachers meet with their colleagues in a typical month to participate in peer-support activities, by subject. A large proportion of teachers ( $71 \%$ or more, depending on the subject) meet regularly (at least once a week in a typical month) with their colleagues to share what they are teaching. By subject, Mathematics had the largest percentage of teachers ( $90 \%$ ) who responded meeting regularly to share what they are teaching; ULA had the smallest percentage (71\%).

Frequent teacher collaboration on lesson planning was most frequently reported by ULA and Mathematics teachers, with about $81 \%$ of them reporting that they meet with other teachers to plan lessons at least once a week.

Similarly, ULA and Mathematics teachers were more likely to observe another teacher's lesson more frequently. Between $81 \%$ and $83 \%$ of ULA and Mathematics teachers reported observing another teacher's lesson at least once a week. The proportion of teachers reporting this behavior and frequency was smallest among EFL teachers (64\%).
Regarding teachers' lessons being observed by someone else (e.g., school director, methodologist), ULA had the highest percentage of teachers (70\%) who reported that one of their lessons was observed by someone else at least once a week, whereas EFL had the lowest percentage (55\%). Overall, the proportion of teachers who stated that one of their lessons was observed by someone else at least once a week was low.

Across subjects, the percentage of teachers who reported meeting with other teachers at least once a week to discuss students was high ( $74 \%$ or more, depending on the subject).

Mathematics had the highest proportion of teachers (82\%) who said they met with other teachers to discuss students at least once a week; this proportion was lowest among EFL teachers ( $74 \%$ ).

Overall, large proportions of ULA and Mathematics teachers reported frequent teacher collaboration and peer support compared to teachers of other subjects, with the smallest proportion observed among EFL teachers.

Table 9. Frequency of Teachers' Participation in Selected Collaborative Peer-Support Activities in a Typical Month, by Subject

|  |  | Frequency |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Indicator | Subject | Everyday | $\begin{gathered} \text { 2-3 } \\ \text { Times a } \\ \text { Week } \end{gathered}$ | Once a Week | Total (at Least Once a Week) | $\begin{gathered} 2-3 \\ \text { Times } \\ \text { a } \\ \text { Month } \end{gathered}$ | ONCE A MONT H | Total (at Least Once a Month) | Never |
| Percentage of teachers who meet with other teachers to share what they are teaching | Primary <br> Teachers (Grades 1- <br> 4): ULA | 51\% | 9\% | 11\% | 71\% | 6\% | 3\% | 9\% | 1\% |
|  | Primary <br> Teachers (Grades 14): <br> Mathematic s | 51\% | 28\% | 11\% | 90\% | 6\% | 2\% | 8\% | 1\% |
|  | ICT <br> Teachers (Grades 511) | 29\% | 30\% | 24\% | 83\% | 11\% | 6\% | 17\% | 1\% |
|  | EFL <br> Teachers (Grades 111) | 31\% | 30\% | 22\% | 83\% | 9\% | 5\% | 14\% | 2\% |
| Percentage of teachers who meet with other teachers to plan lessons | Primary <br> Teachers (Grades 1- <br> 4): ULA | 35\% | 28\% | 17\% | 80\% | 9\% | 8\% | 17\% | 3\% |
|  | Primary <br> Teachers (Grades 1- <br> 4): <br> Mathematic <br> s | 34\% | 29\% | 18\% | 81\% | 9\% | 8\% | 17\% | 3\% |
|  | ICT <br> Teachers (Grades 511) | 18\% | 27\% | 24\% | 69\% | 14\% | 12\% | 6\% | 5\% |
|  | EFL <br> Teachers (Grades 111) | 19\% | 26\% | 22\% | 67\% | 12\% | 13\% | 5\% | 7\% |

Table 9. Frequency of Teachers' Participation in Selected Collaborative Peer-Support Activities in a Typical Month, by Subject

|  |  | Frequency |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Indicator | Subject | Everyday | $\begin{gathered} \text { 2-3 } \\ \text { Times a } \\ \text { Week } \end{gathered}$ | Once a Week | Total (at Least Once a Week) | $\begin{gathered} 2-3 \\ \text { Times } \\ \text { a } \\ \text { Month } \end{gathered}$ | ONCE <br> A MONT H | Total (at Least Once a Month) | Never |
| Percentage of teachers who observed another teacher's lesson | Primary Teachers (Grades 14): ULA | 8\% | 36\% | 39\% | 83\% | 13\% | 4\% | 17\% | 0\% |
|  | Primary <br> Teachers (Grades 14): <br> Mathematic s | 6\% | 35\% | 40\% | 81\% | 14\% | 4\% | 18\% | 0\% |
|  | ICT <br> Teachers (Grades 511) | 6\% | 34\% | 35\% | 73\% | 16\% | 7\% | 3\% | 2\% |
|  | EFL <br> Teachers (Grades 111) | 5\% | 31\% | 33\% | 64\% | 20\% | 9\% | 9\% | 2\% |
| Percentage of teachers who had one of their lessons observed by someone else | Primary Teachers (Grades 1- <br> 4): ULA | 6\% | 33\% | 31\% | 70\% | 19\% | 19\% | 38\% | 1\% |
|  | Primary <br> Teachers (Grades 1- <br> 4): <br> Mathematic <br> s | 3\% | 33\% | 31\% | 67\% | 20\% | 10\% | 30\% | 0\% |
|  | ICT <br> Teachers (Grades 511) | 8\% | 32\% | 26\% | 66\% | 22\% | 10\% | 32\% | 2\% |
|  | EFL <br> Teachers (Grades 111) | 5\% | 26\% | 24\% | 55\% | 27\% | 16\% | 43\% | 3\% |
| Percentage of teachers who meet with other teachers to discuss students | Primary Teachers (Grades 1- <br> 4): ULA | 31\% | 30\% | 20\% | 81\% | 10\% | 7\% | 17\% | 1\% |
|  | Primary Teachers (Grades 1- | 30\% | 31\% | 21\% | 82\% | 11\% | 7\% | 18\% | 1\% |

Table 9. Frequency of Teachers' Participation in Selected Collaborative Peer-Support Activities in a Typical Month, by Subject

|  |  | Frequency |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Indicator | Subject | Everyday | $\begin{gathered} \text { 2-3 } \\ \text { Times a } \\ \text { Week } \end{gathered}$ | Once a Week | Total (at Least Once a Week) | $\begin{gathered} 2-3 \\ \text { Times } \\ \text { a } \\ \text { Month } \end{gathered}$ | $\begin{gathered} \text { ONCE } \\ \text { A } \\ \text { MONT } \\ \mathbf{H} \end{gathered}$ | Total (at Least Once a Month) | Never |
|  | 4): <br> Mathematic <br> s |  |  |  |  |  |  |  |  |
|  | ICT <br> Teachers (Grades 511) | 25\% | 30\% | 23\% | 78\% | 13\% | 7\% | 20\% | 2\% |
|  | EFL <br> Teachers (Grades 111) | 23\% | 29\% | 22\% | 74\% | 13\% | 10\% | 13\% | 3\% |

### 4.4.2 Teacher Training on Use of New Instructional Materials

When asked whether they have ever received training when a new student textbook was introduced, $60 \%$ of teachers overall reported that they had received training on how to use a new student textbook (Figure 19). ICT teachers (61\%) were slightly more likely to have ever received training on how to use a new student textbook compared with ULA, Mathematics, and EFL teachers (60\%).

Figure 19. Teachers' Receipt of Training on How to Use a New Student Textbook, by Subject


### 4.4.3 Barriers to TPD

As shown in Table 10, teachers cited multiple constraints to their professional development. The two most common barriers that teachers mentioned were time availability (noted by
nearly half of ICT and EFL teachers) and the fact that inspectors often only check paperwork rather than assessing teachers' actually professional skills, which limits teachers' motivation to engage in professional development activities (noted by about $45 \%$ of ULA and Mathematics teachers).
Across subjects, almost $20 \%$ of teachers also reported that their professional development is constrained by lack of incentives (21\%), school financial resources (19\%), personal financial resources (19\%), and course availability (18\%).

In addition, approximately a third of ULA (29\%) and Mathematics teachers (30\%) mentioned that lack of internet access is a barrier to their professional development. This was less frequently reported among EFL and ICT teachers.

Table 10. Teachers' Main Obstacles to TPD

| Barriers to Professional <br> Development | Total | Primary <br> Teachers <br> (Grades <br> 1-4): <br> ULA | Primary <br> Teachers <br> (Grades <br> 1-4): <br> Mathemati <br> cs | ICT Teachers <br> (Grades 5- <br> 11) | EFL <br> Teacher <br> s <br> (Grades <br> 1-11) |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Time availability | $46 \%$ | $41 \%$ | $40 \%$ | $46 \%$ | $49 \%$ |
| Course availability | $18 \%$ | $15 \%$ | $15 \%$ | $22 \%$ | $17 \%$ |
| Lack of mentor | $10 \%$ | $6 \%$ | $6 \%$ | $16 \%$ | $11 \%$ |
| Lack of incentives to engage in <br> professional development | $21 \%$ | $21 \%$ | $21 \%$ | $18 \%$ | $23 \%$ |
| Lack of internet access | $19 \%$ | $29 \%$ | $30 \%$ | $20 \%$ | $13 \%$ |
| Inspectors check only paperwork, not <br> teachers' professional skills, limiting <br> motivation | $44 \%$ | $44 \%$ | $45 \%$ | $38 \%$ | $47 \%$ |
| Lack of school financial resources | $19 \%$ | $18 \%$ | $19 \%$ | $18 \%$ | $20 \%$ |
| Lack of personal financial resources | $19 \%$ | $15 \%$ | $16 \%$ | $18 \%$ | $23 \%$ |
| Other | $14 \%$ | $15 \%$ | $15 \%$ | $19 \%$ | $12 \%$ |

## 5. SUMMARY AND CONCLUSIONS

This section presents a summary of the survey findings and conclusions that can be drawn based on the findings, organized by survey theme.

### 5.1 LESSON PLANNING: FREQUENCY AND RESOURCES

Only $39 \%$ of ULA and Mathematics teachers and about $32 \%$ of ICT and EFL teachers reported that they plan a lesson within 1 hour. This observation suggests that most of the participating teachers take longer (i.e., more than an hour) to plan for one lesson, which may lead to fatigue and frustration. The findings also indicate that some teachers are not currently planning their lessons; most of these teachers were EFL (20\%) and ICT (17\%) teachers.

Approximately 63\% of teacher respondents reported using the required lesson-planning template provided by their school administration or the MPE, which implies that overall, about $37 \%$ of them do not use the required template.

Teachers indicated that they utilize multiple resources to plan for their lessons. The main resources that teachers use are methodological guides (nearly $75 \%$ of teachers), student books (about $65 \%$ of teachers), and social media resources (roughly $64 \%$ of teachers).

The use of methodological or teacher guides in schools is widespread, with more than $90 \%$ of ICT and EFL teachers and over $80 \%$ of ULA and Mathematics teachers reporting using a methodological or teacher guide for the subjects they teach. The most common use of these guides is to plan for lesson activities with students, as noted by $61 \%$ to $67 \%$ of teachers. Across teachers, about $50 \%$ of teachers also mentioned that they use these guides to plan lesson content. This finding, underscore the importance of teacher guides in helping teachers develop and implement pedagogical activities. Most of the methodological and teacher guides currently used in the Uzbek system, however, are not designed to support actual lesson delivery. These guides are more like a book of methods than explicit instructional guidance aligned with the student textbook for each lesson or curricular topic.
Beyond the resources they use now, teachers expressed a desire for additional resources to help them plan lessons. About 58\% reported wanting pre-made lesson plans, $57 \%$ desired guidance on how to teach key topics, and nearly $56 \%$ said they would use online resources. These findings indicate that currently available resources are not sufficient for teachers to effectively plan their lessons.

To respond to these finding, UEEP is in the process of developing and customizing teacher guides. For ULA and Mathematics, the UEEP teacher guides include lesson plans for each lesson with explicit guidance on how to teach embedded. For example, in Mathematics, each lesson has a "teacher model" box that provides the teacher with an exemplar explanation of how to explain the solution to the problem of the day. For ICT, where content spans across several lessons, the teacher guides include explicit activities for each topic.

### 5.2 MATERIALS AND FACILITIES TO SUPPORT TEACHING AND LEARNING IN SCHOOLS

The availability of instructional materials in classrooms can significantly increase learning achievement by supporting teaching and learning processes ${ }^{6}$. Teachers can use materials to better explain concepts to students and make learning easy and interesting. Large proportions of teachers reported having access to relevant materials and teaching aides other than teacher guides:

- $88 \%$ of ULA teachers reported the availability of at least one storybook in Uzbek for each child.
- $96 \%$ of ICT teachers and over $80 \%$ of ULA, Mathematics, and EFL teachers indicated that they have access to at least one functioning computer.
- $73 \%$ of EFL teachers reported the availability of at least five age-appropriate storybooks in English.
- Across subjects, over 70\% of teachers noted having access to crayons or markers and extra paper for students/teachers to draw/write on.
- $78 \%-87 \%$ of ICT and EFL teachers and over 60\% of ULA and Mathematics teachers have access to at least one functioning projector and at least one functioning set of speakers.

The vast majority of teachers (96\%) reported that their school has a library with books and that students are using it. Only 3\% of teachers mentioned that their school has a library with books that students do not use. Based on these findings, all schools have a library.

Overall, nearly $90 \%$ of teachers reported that their school has a computer lab with functioning computers and that students use it, about $67 \%$ of teachers said that their school has at least one functioning copy machine that they can use, and between $58 \%$ and $72 \%$ of teachers across subjects reported that they have access to reliable internet.

These findings indicate a relatively high availability of key facilities to facilitate teaching and learning in schools; however, these facilities are not fully resourced. More than half ( $61 \%$ ) of EFL teachers reported that their school lacks a library with English books; a third (38\%) of EFL teachers reported not having any English audio tapes, CDs, or DVDs; and overall, a third ( $35 \%$ ) of teachers said they have limited or no internet access at their school, yet $91 \%$ of responding teachers report having Internet at home.

Students' physical comfort in the classroom is often neglected but can play an important role in the quality of students' learning. Students spend long hours at school seated on chairs and at desks. Classroom furniture should, therefore, be sufficient for the number of students enrolled and movable to facilitate students' group work. Over $90 \%$ of ULA and Mathematics teachers and $80 \%$ of ICT and EFL teachers indicated that they have sufficient chairs and desks for all students in their classrooms. A large majority of teachers (more than $90 \%$ ) also reported that the desks and chairs in their classrooms are movable. Only $12 \%-17 \%$ of teachers reported having wheelchair-accessible classrooms.
Considering these findings, UEEP is pursuing a two-pronged approach to distributing instructional resources to teachers. While all student textbooks and teacher guides will eventually be printed for each student and teacher, electronic copies of these materials are

[^2]also made available. In addition, UEEP has developed and procured additional resources, especially for EFL and ICT instruction, including audio recordings, file templates, and assessment resources. The digital platform currently under development with MPE, will host downloadable and printable pdf files of all these materials as applicable. In addition, to cater for classrooms and schools without connectivity, UEEP is currently preparing these resources also for offline distribution to each UEEP pilot school.

### 5.3 SELECTED TEACHER INSTRUCTIONAL PRACTICES

Sharing a lesson objective with students at the start of a lesson helps students understand what they will learn from the lesson and why. While the majority of teachers (63\%) introduce the lesson objective in a typical lesson by writing it on the board, a considerable proportion ( $14 \%-30 \%$, depending on subject) simply let students discover the lesson objective themselves by going through the lesson.

Regarding the approach teachers use to call on students to answer questions in class, the majority of teachers indicated that they preferred to select from among students raising their hands over other methods, such as choosing students who do not have their hands raised or allowing students to call out the answer.
Survey findings indicate that $45 \%$ of teachers group students in nearly every lesson and that about $20 \%$ of teachers group students in every lesson. These results suggest that most teachers group students for lesson activities frequently. The most common methods teachers use to group students are mixed-ability grouping (35\%) and random grouping (32\%). Additionally, when they group students, most teachers assign the same task to different groups of students.

Teachers use multiple formative assessment methods, but the most prominent one, used by over $50 \%$ of teachers across subjects, is informal checks for understanding during lessons. When teachers assess students, they mainly use the results to identify patterns of misunderstanding among students ( $61 \%$ ), provide extra support for students who need support ( $59 \%$ ), and plan the next lesson ( $58 \%$ ). Only $14 \%$ of teachers reported that they share formative assessment results with parents, caregivers, or school principals. These findings imply that most teachers conduct formative assessments to ascertain whether students are learning the content they are teaching and that they use the results to adapt their teaching to meet identified gaps. However, very few teachers share students' performance with parents or caregivers.

Although all teachers were likely to give some kind of feedback to students who get high scores, the range of feedback that teachers give is very limited. Most teachers ( $75 \%$ or more, depending on the subject) are likely to tell the student, "Well done on this assignment." Similarly, teachers use few strategies to give feedback to students who attain low scores. The feedback that teachers would most likely give students who earn low scores is, "You are a slow learner and need to work harder." This negative feedback is likely to demotivate poorperforming students.

The majority of teachers perceive a lack of parental support as the main reason why students struggle in their classes. This reason was cited by nearly $80 \%$ of ULA and Mathematics teachers and over 60\% of ICT and EFL teachers. Other notable reasons mentioned by teachers include the following: students are not making an effort (46\%), students are facing emotional difficulties outside of school (39\%), and these students "are just slow learners" (31\%). These findings imply that teachers mainly believe that the reasons that some students learn at a slower pace than others in their classes are related to the students themselves.

To address these findings, UEEP is incorporating different levels of support into the Program's teaching and learning materials. All lessons have lesson objectives stated clearly, with links to standards. Formative assessment is embedded in all teacher guides. Teachers are also provided with detailed information on how to understand what student proficiency looks like for this particular content, and then ways to modify problems to make them easier or more difficult, depending on student needs. Future TPD planning will also incorporate supports to teachers for grouping strategies and providing feedback, using the content provided in the teachers' guide.

### 5.4 TEACHERS' PARTICIPATION IN PROFESSIONAL DEVELOPMENT ACTIVITIES

The study findings generally show a high level of collaboration and peer support among teachers. Across subjects, at least $71 \%$ of teachers meet with colleagues monthly to share what they are teaching or once per week to discuss students. In addition, $80 \%-83 \%$ of ULA and Mathematics teachers reported that they observe another teacher's lesson or meet with their colleagues to plan lessons at least once a week. Overall, higher proportions of ULA and Mathematics teachers reported frequent teacher collaboration than teachers of other subject. Teacher collaboration and peer support provide opportunities for teachers to work together to reflect on their current instructional practices, share ideas, acquire new knowledge, and adapt their practices. This is a powerful TPD strategy that can be used to supplement traditional teacher training workshops.

Data on TPD when new instructional materials are introduced show that $60 \%$ of teachers across subjects have received training on how to use a new student textbook. Thus, about $40 \%$ of teachers have never received any training on the use of new student textbooks.
Teachers mentioned various barriers to their professional development, but the most common were lack of time (as reported by nearly half of ICT and EFL teachers) and limited motivation to engage in professional development, given that inspectors only check paperwork and do not typically assess teachers' professional skills (as reported by about 45\% of ULA and Mathematics teachers). These findings highlight the need for school administrators to incorporate adequate time in school schedules for teachers to engage in professional development activities and for inspectors to observe lessons and provide feedback on teachers' instructional practices.

UEEP has begun to address some of these findings within the current ICT and EFL TPD pilot. Based on several discussions with the Avloni Research Center, the principal institution overseeing TPD, it has agreed to award teachers and master trainers with continuing professional development "credits", thereby motivating teachers to participate and complete their professional development trainings.
UEEP is also building upon the high levels of collaboration and support that already exists among teachers. The current ICT and EFL pilots are facilitating two special 'community of practice' sessions per month during the respective subject-specific "methodological" days when teachers don't teach but rather meet and plan together. Each session covers discussions on issues and opportunities that have arisen in the use of the new materials in the classroom and then also supports teachers to prepare for the upcoming lessons.

UEEP will consider the above findings on student answering of questions, formative assessment, and feedback and incorporate these insights into final TPD approach in form of explicit topic and practice activities.

Future planning for Math and ULA TPD will build from the successes of the ICT and EFL pilot, extending practices such as continuing professional development "credits." In addition, UEEP plans to incorporate time for teachers to become familiar with its adopted methodology. For instance, in Mathematics, UEEP will take time during TPD to build up teachers' own mathematical knowledge for teaching, where they will engage in authentic problem solving and explain multiple solutions, so that they can then use this methodology in their classroom.

## ANNEX 1: STATUS OF INSTRUCTION STUDY ROUND 1 INSTRUMENT

Dear colleague,
Thank you for sparing a few moments of your time to consider participating in this study to document common teaching practices in Uzbekistan. This survey is being sent to school teachers as part of the Uzbekistan Education for Excellence Program of the Ministry of Public Education, in collaboration with the United States Agency for International Development and RTI International.
The purpose of this survey is to help the Uzbekistan Education for Excellence Program team to better understand common teaching practices and the resources available in grade 1-11 classrooms in Uzbekistan. The objective of the Uzbekistan Education for Excellence Program is to improve the quality of education for students in Uzbekistan.

Here is some additional information about the survey:

- Your name will NOT be recorded with your answers or mentioned anywhere in the survey data. The results of this survey will be published as summaries of the data collected from several respondents.
- Your participation is very important, but you do not have to participate if you do not wish to.
- We estimate that this online survey will take no more than 30 minutes of your time.
- We believe there is no risk to you in participating in this study.
- There is no direct benefit or financial compensation for participating in this study, but your responses will support the Ministry of Public Education to improve the quality of education for students in Uzbekistan.

Before agreeing to participate in this survey, please be sure that you understand what the study involves. You can print a copy of this document for your records.

If you have any questions or comments about this study, please contact the Uzbekistan Education for Excellence Program Sr. Monitoring, Evaluation and Learning Officer, Khurshida Gapirova, at kgapirova@ueep.rti.org.

If you consent to participate in this study, please continue and provide your answers to the questions.

SCREENER QUESTION: Are you currently teaching in a general primary or secondary school? Yes/No

| Questions |  | $\quad$ Response Options |
| :--- | :--- | :--- |
| 1. Email address | $\square$ | [open field] |
| 2. | Region | $\square$ |
|  |  | Andijan Region |
|  | $\square$ | Bukhara Region |
|  | $\square$ | Fergana Region |
|  | $\square$ | Jizzakh Region |
| $\square$ | Xorazm Region |  |
|  | $\square$ | Namangan Region |
|  | $\square$ | Navoiy Region |
|  | $\square$ | Qashqadaryo Region |
|  | $\square$ | Samarqand Region |
|  | $\square$ | Sirdaryo Region |
|  | $\square$ | Surxondaryo Region |
|  | $\square$ | Tashkent Region |
|  | $\square$ | Karakalpakstan Region |
|  | $\square$ | Tashkent City |
| 3. Gender | $\square$ | Female |
|  |  | $\square$ |


| 11. For how many years have you been a teacher? | $\square$ | [Numeric entry field] |
| :--- | :--- | :--- |
| 12. Which shifts do you teach? | $\square$ | Morning |
|  | $\square$ | Afternoon |
| $\square$ | Both |  |
| 13. How many girls are in your largest current class? | $\square$ | [Numeric entry field] |
| 14. How many boys are in your largest current class? | $\square$ | [Numeric entry field] |
| 15. How many students with a disability are in your <br> largest current class? | $\square$ | [Numeric entry field] |

Framework for Teaching Domains, Recommended Priority Components, and General Round 1 Questions

| Questions | Response Options |
| :---: | :---: |
| 1. On average, how much time do you spend planning one lesson? | Less than 1 hour per lesson 2 hours per lesson 2-3 hours per lesson More than 3 hours per lesson I do not currently plan my lessons I never plan my lessons |
| 2. For most of your lessons, do you use a template for lesson planning? | Yes, I use the required template (provided by my school administration or the Ministry of Public Education) No, I do not have a template; I plan lessons in a free mode No, I make detailed notes (conspekt) for each lesson Other |
| 3. What resources do you use to plan your lessons? [select all that apply] | Textbooks Methodological guides Other resources (e.g., books with activities) resources from other teachers at my school Internet resources media resources (e.g., from Facebook, Telegram, or Instagram) Other |
| 4. Do you use a teacher guide or methodological guide for any of the subjects you teach? [select all that apply] | Yes, for Uzbek Reading and grammar Yes, for mathematics Yes, for EFL Yes, for ICT Yes, for another subject No |
| 5. How do you use the teacher guide(s) and/or methodological guide(s)? [select all that apply] | For planning lesson content For planning lesson activities with students For professional development For general reference Other |
| 6. Which of the following resources would you like to have to help you plan lessons? [select all that apply] | Pre-made lesson plans for each lesson Guidance on how to teach key topics (e.g., fractions, comprehension) Lessons/resources from other teachers |


|  | Online resources I do not need any other resources Other |
| :---: | :---: |
| 7. Which of the following materials do you have generally available for your lessons, when needed: |  |
| a. At least 20 counters/plastic colored sticks per child | $\square$ Yes <br> $\square$ No |
| b. At least one calculator for every five students | Yes No |
| c. Extra paper for students/teachers to draw/write on | Yes No |
| d. Colored paper for students/teachers to draw/write on | Yes No |
| e. Crayons or markers | Yes No |
| f. Scissors and tape | Yes No |
| g. At least one functioning computer | Yes No |
| h. At least one functioning projector | Yes No |
| i. At least one functioning set of speakers | Yes No |
| j. At least one storybook in Uzbek (not a textbook) for each child | Yes No |
| k. At least five age-appropriate storybooks in English | Yes No |
| I. A CD player | Yes No |
| m. A DVD player and screen | Yes No |
| 8. In your school, do you have... | A library with books that students use A library with books that students do not use No library |
| 9. In your school, do you have... | A library with books in English that students use A library with books in English that students do not use No library with books in English |
| 10. In your school, do you have... | audio tapes, CDs, DVDs, and other materials that students use English audio tapes, CDs, DVDs, and other materials that students do not use No English audio tapes, CDs, DVDs, or other materials |
| 11. In your school, do you have... | At least one functioning copy machine that you can use At least one functioning copy machine that you cannot use No functioning copy machine |


| 12. In your school, do you have... | A lab with functioning computers that students use A lab with functioning computers that students do not use No lab with functioning computers |
| :---: | :---: |
| 13. Approximately how many functioning computers are available in your school's lab? | [Numeric entry field] |
| 14. In your school, do you have... | Reliable access to internet Limited access to internet No access to internet |
| 15. Do you have sufficient desks for all students? | Yes No |
| 16. Do you have sufficient chairs for all students? | $\begin{aligned} & \square \text { Yes } \\ & \square \quad \text { No } \end{aligned}$ |
| 17. How are desks arranged in your classroom? | Student desks are in rows Student desks are in a circle Other |
| 18. How do you determine where students will be seated in your classroom? | They sit by gender They sit by ability level They sit with friends It is random Depending on physical conditions Other |
| 19. Is your classroom accessible for a person using a wheelchair? | $\square \quad$ Yes <br> $\square$ No |
| 20. Are the desks and chairs in your classroom movable? | $\begin{array}{ll} \square & \text { Yes } \\ \square & \text { No } \end{array}$ |
| 21. How do you typically decide what students to call on to answer questions? | I call on students with hands raised I call on students without hands raised My students call out the answers Other |
| 22. In a typical lesson, do you ... | Write the lesson objective on the board at beginning of the lesson Tell students the lesson objective at the beginning of the lesson Let students discover the lesson objective themselves by going through the lesson Do not inform students about the lesson objective Other |
| 23. How often do you group students for lesson activities? | Every lesson Nearly every lesson Occasionally (every 8-10 lessons) Rarely (2-3 times per quarter) Never |
| 24. When you use grouping, how do you usually group your students? | $\square \quad$ Students seated at the same desk Students of the same gender Students of the same ability level Students of mixed ability levels Students who are friends |


|  | Random Other |
| :---: | :---: |
| 25. When you group students, how do you usually assign work? | All groups get the same task Groups get different tasks Groups choose from a set of tasks Other |
| 26. If a student gives you the wrong answer, what do you usually/most often do? | Ask another student for the correct response Tell the student why they are wrong Ask the student to explain their answer Other |
| 27. Typically, what do you do to know if students are learning the content you are teaching? [select all that apply] | Weekly end-of-unit tests Monthly end-of-unit tests I correct their independent work during class I correct their homework I keep a checklist of who understood and who needs more support I do informal checks for understanding during the lesson Other |
| 28. When conducting formative assessments (regular knowledge checks), how do you typically use the results? [select all that apply] | To group students by ability To adjust the pacing of lessons To plan the next lesson To identify patterns of misunderstanding To grade students To provide extra support for students who need it To share with parents/caregivers/principals Other |
| 29. A student scores highly on an assignment. What feedback are you most likely to give? | "Well done on this assignment" "You are a good student" "You got 98\% correct" "You did well explaining each step of your answer" I do not give that student any feedback None of the above |
| 30. A student scores low on an assignment. What feedback are you most likely to give? | "You are a slow learner and need to work harder" "You did not do well on this assignment" "You need to improve on how you explain each step of your answer" "You got 56\% correct" I do not give that student feedback None of the above |
| 31. Imagine that there are two students in your class who learn new content more slowly than the rest of the class. What are some likely reasons why they are struggling? [select all that apply] | They are not making an effort Their parents do not support them at home I cannot spend enough time with them individually I have difficulty finding effective ways to explain new content to these students They are just slow learners They may be facing emotional difficulties outside of school They may have a disability Other |


| 32. In a typical month, how often do you meet with other teachers to share about what you are teaching? | Everyday 2-3 times a week Once a week 2-3 times a month Once a month Never |
| :---: | :---: |
| 33. In a typical month, how often do you meet with other teachers to plan lessons? | Everyday 2-3 times a week Once a week 2-3 times a month Once a month Never |
| 34. In a typical month, how often do you observe another teacher's lesson? | Everyday 2-3 times a week Once a week 2-3 times a month Once a month Never |
| 35. In a typical month, how often does someone observe one of your lessons? | Everyday 2-3 times a week Once a week 2-3 times a month Once a month Never |
| 36. In a typical month, how often do you meet with other teachers to discuss the progress of individual students? | Everyday 2-3 times a week Once a week 2-3 times a month Once a month Never |
| 37. Outside of the national in-service summer residency training, how many days of training have you attended in the past 2 years? | [Numeric entry field] |
| 38. If you indicated more than 0 days in response to the previous question, please specify which of the following subjects the trainings focused on. | Uzbek Reading and Grammar Mathematics ICT EFL Other |
| 39. Have you ever received training on how to use a new student textbook? | $\square$ Yes <br> $\square$ No |
| 40. What are the three main barriers to your professional development? | Time availability Course availability Lack of a mentor Lack of incentives to engage in professional development Lack of internet access Inspectors check only paperwork, not teachers' professional skills, limiting motivation |


|  | $\square$ | Lack of school financial resources |
| :--- | :--- | :--- |
|  | $\square$ | Lack of personal financial resources |
|  | $\square$ | Other |


[^0]:    ${ }^{1}$ RTI International. (2017). English situation analysis report. Reading for Ethiopia's Achievement Developed Technical Assistance (READ TA). Retrieved from https://pdf.usaid.gov/pdf_docs/PA00MHT6.pdf
    ${ }^{2}$ Piper, B. Sitabkhan, Y., Mejía, J., \& Betts, K. (2018). Effectiveness of teachers' guides in the Global South: Scripting, learning outcomes, and classroom utilization. RTI Press Publication No. OP-00531805. RTI Press. Retrieved from https://doi.org/10.3768/rtipress.2018.op.0053.1805
    ${ }^{3}$ RTI International. (2016). Education Data for Decision Making (EdData II): Key achievements and lessons learned final report. Retrieved from https://ierc-
    publicfiles.s3.amazonaws.com/public/resources/Core\%20Final\%20Report_16Dec2016_0.pdf
    ${ }^{4}$ The Danielson Group. (2019). The Framework for Teaching. Retrieved from https://danielsongroup.org/framework

[^1]:    ${ }^{5}$ The numbers in this column are from the census (population that lives in each region) as a comparison to the sample percentages by region and they are included to help the reader understand the high - and low - response rates by region. For example, Andjian had a higher response rate ( $15 \%$ sample percentage was higher than the actual $9 \%$ population percentage), while Surxondaryo had a very low response rate relative to the other regions ( $1 \%$ of sample, but $8 \%$ of actual population percentage)

[^2]:    ${ }^{6}$ Purpose of teaching and learning materials. (2020). Available at https://www.open.edu/openlearncreate/mod/page/view.php?id=168509

