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RTI INTERNATIONAL

BRIEFER

Teacher Professional Development Effectiveness Study

Uzbekistan Education for Excellence Program | July 2023

INTRODUCTION AND BACKGROUND

The Uzbekistan Education for Excellence Program (the Program), funded by the United States Agency for International Development, designed the teacher professional development (TPD) effectiveness study to assess the effectiveness of the Program's TPD approach in terms of teachers' satisfaction of learning events, their acquisition of knowledge and skills, their shift in self-efficacy, possible changes in teacher beliefs about new teaching approaches, and to what extent teachers received the necessary support at the administrative and school levels. The Program also used quality assurance data derived from the study to minimize dilution effects of the cascade approach and to inform and adapt the ongoing TPD activities as needed. The TPD Effectiveness Study was designed to answer the following research questions (RQ):

? *RQ1. What is teachers' level of satisfaction regarding TPD learning activities?*

? *RQ2. To what extent do TPD learning activities improve teachers' content knowledge and pedagogical skills embedded in the TG?*
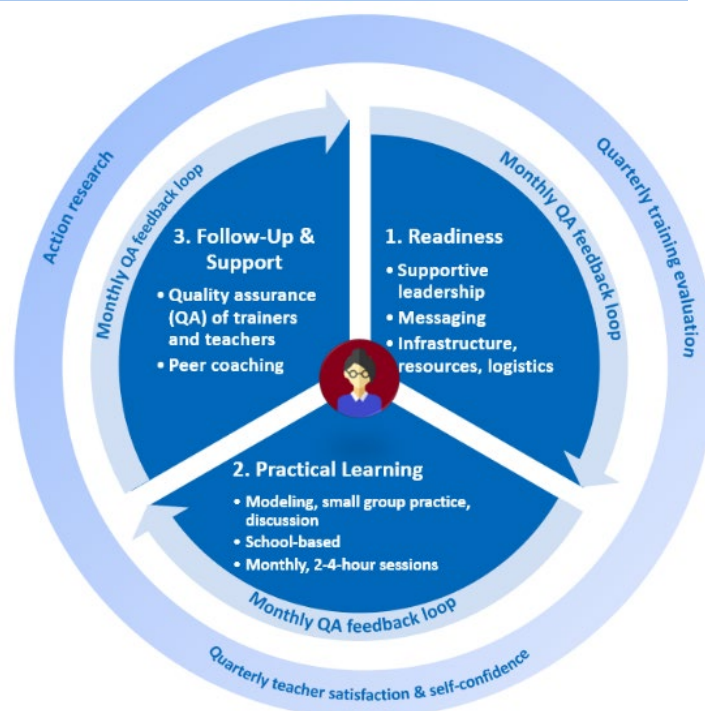
? *RQ3. To what extent does teachers' self-efficacy about teaching ULA and Mathematics improve by attending TPD learning events?*

? *RQ4. What are teachers' beliefs and attitudes regarding the TPD approach and content?*

? *RQ5. To what extent are teachers receiving sufficient admi...*

APPROACH AND SAMPLE

The TPD approach sought to improve classroom instruction for Uzbek Language Arts and mathematics teachers via the effective implementation of teacher guides and the student-centered strategies therein. The approach consisted of a three-tiered cascade training model where a total of 80 Tier 1 Master Trainers (MT), trained 752 Tier 2 trainers who in turn trained over 8,386 Tier 3 teachers. Trainings were comprised of eight monthly sessions, 2 to 4 hours each. Over 95 percent of participants completed 75 percent or more of the trainings, thereby meeting the Program targets. Training sessions included evidence-based practical instructional techniques such as modeling, role-playing, small group practice, and discussion. The TPD approach used existing teacher professional development days

Action research

Monthly QA feedback loop

Quarterly training evaluation

3. Follow-Up & Support
- Quality assurance (QA) of trainers and teachers
- Peer coaching

1. Readiness
- Supportive leadership
- Messaging
- Infrastructure, resources, logistics

2. Practical Learning
- Modeling, small group practice, discussion
- School-based
- Monthly, 2-4-hour sessions

Monthly QA feedback loop

Quarterly teacher satisfaction & self-confidence

("Methodological Days") within the Uzbek education system to conduct the monthly sessions rather than one-off, multi-day training events.

The Program provided all trainers with facilitator guides, slides, and scripts. To minimize the dilution effects of the cascade process and to ensure that all teachers at all levels could shift their teaching strategies toward a more practical and student-centered approach, the Program undergirded the pilot with a robust quality assurance instructional feedback loop. To inform this study, 6,426 (70 percent), 5,060 (55 percent), and 5,231 (57 percent) participants responded to a satisfaction survey in August 2022, November 2022, and March 2023, respectively. During the same respective time periods, 4,770 (52 percent), 4,370 (47 percent), and 3,300 (36 percent) participants responded to a post-test. The Program administered a self-efficacy survey twice (in November 2022 and in March 2023)

KEY FINDINGS

The findings of the TPD Effectiveness Study are presented below and are organized by research questions (RQ).

RQ1. What is teachers' level of satisfaction regarding TPD learning events?
Teachers and trainers were very satisfied with the Program's training. On average, 97 percent of MTs (Tier 1), 96 percent of trainers (Tier 2), and 95 percent of teacher respondents rated the trainings as 'excellent' or 'good'. Overall, respondents predominantly rated the training as 'excellent'; there were slightly higher levels of satisfaction in higher tiers in the same cycle; and there was an overall reduction in satisfaction in the March 2023 training compared to the two previous trainings.

Level of participant satisfaction by level over time

Moreover, close to 100 percent of respondents stated that they would recommend the Program's training to colleagues. In the March 2023 survey, around 94 percent of respondents indicated that the Program's training was better than other trainings that they had attended.

Participants were satisfied with trainers' preparedness. An average of 97 percent of MTs, 97 percent of trainers, and 94 percent of teachers 'strongly agreed' or 'agreed' that their trainers were prepared. However, the variation between tiers between 'strongly agree' and "agree" is significant. Depending on the tier and time point, between 44 and 86 percent of participants 'agreed' that the trainers were well prepared and the percentage of participants who 'strongly agreed' ranged from 8 to 54 percent across all three time points and all three tiers.

Level of satisfaction with trainer preparation
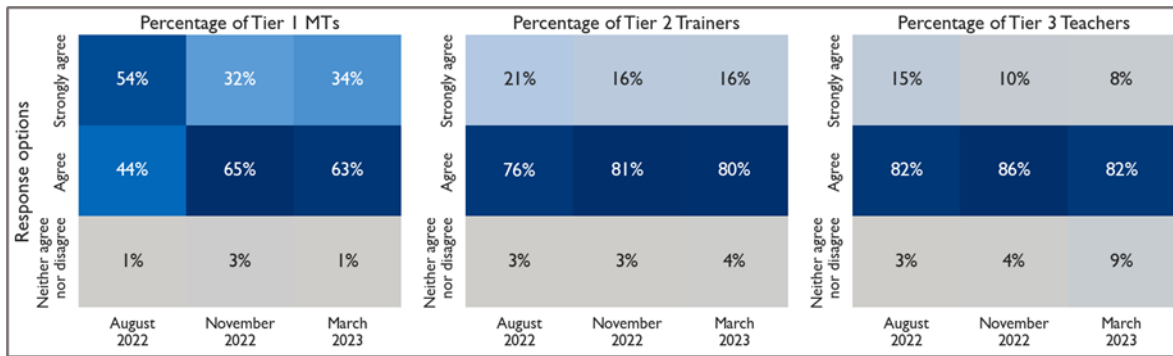
Teachers and trainers were satisfied with the level of engagement and participation during learning events. Over 90 percent of teacher participants, across all tiers and three survey time points, indicated that they 'agreed' or 'strongly agreed' that trainers asked questions that encouraged participants to think and reflect. However, relatively fewer Tier 3 teachers selected 'strongly agreed' compared to other tier trainers.

How trainers engaged participants and whether trainers asked questions that encouraged participants to think and reflect
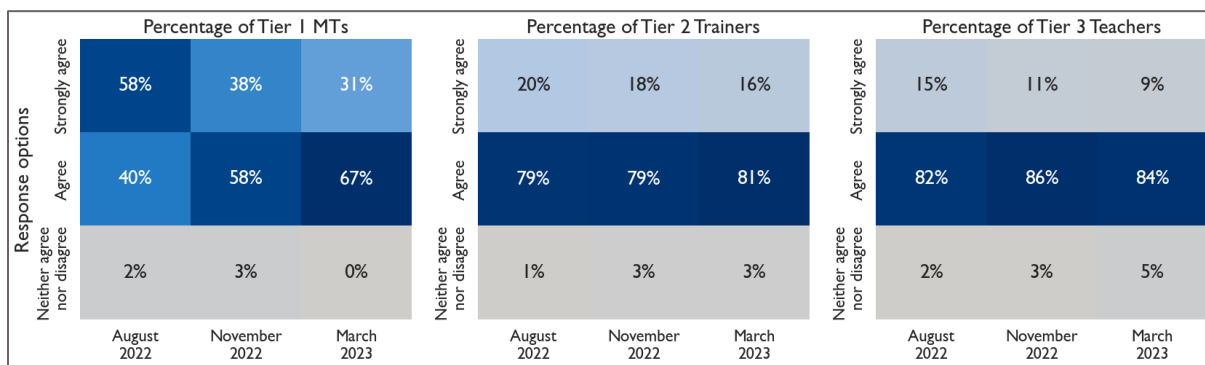
RQ2. To what extent do TPD learning events improve teachers' content knowledge and pedagogical skills embedded in the TG?

Teachers have a high level of TG content and skills knowledge after training events. For each of the post-tests, participants, on average, answered at least 79 percent or six out of seven subject-specific questions correctly. The scores per training highlight the content shift from easier to more complex teaching strategies (for example, toward differentiated instruction, the writing process, mathematics conceptualization, formative assessment, etc.).

Average post-test results by subject
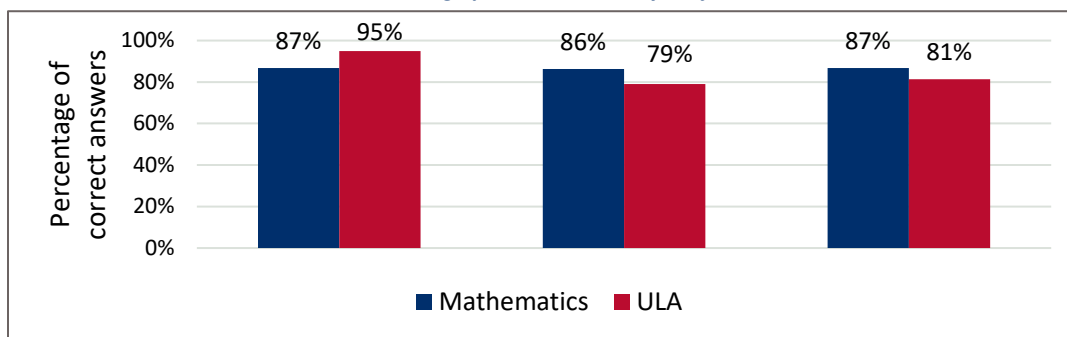
Trainer Quality Assurance: The large majority of trainers were consistently able to model Mathematics lessons, support group work and practice, and facilitate discussion in Mathematics training sessions. Trainers demonstrated three desired behaviors (walking around supporting groups, discussing incorrect mathematical answers, and modeling with independent work). The number of trainers exhibiting all three practices improved by 11 percentage points over the school year, with around 74 percent of trainers demonstrating the desired behaviors of an ideal mathematics training session with a quality of training score by February 2023. The Program provided structured

feedback to teachers as part of the quality assurance process. The Program also used these data to inform subsequent training sessions.

Desired trainer behaviors by mathematics lesson component
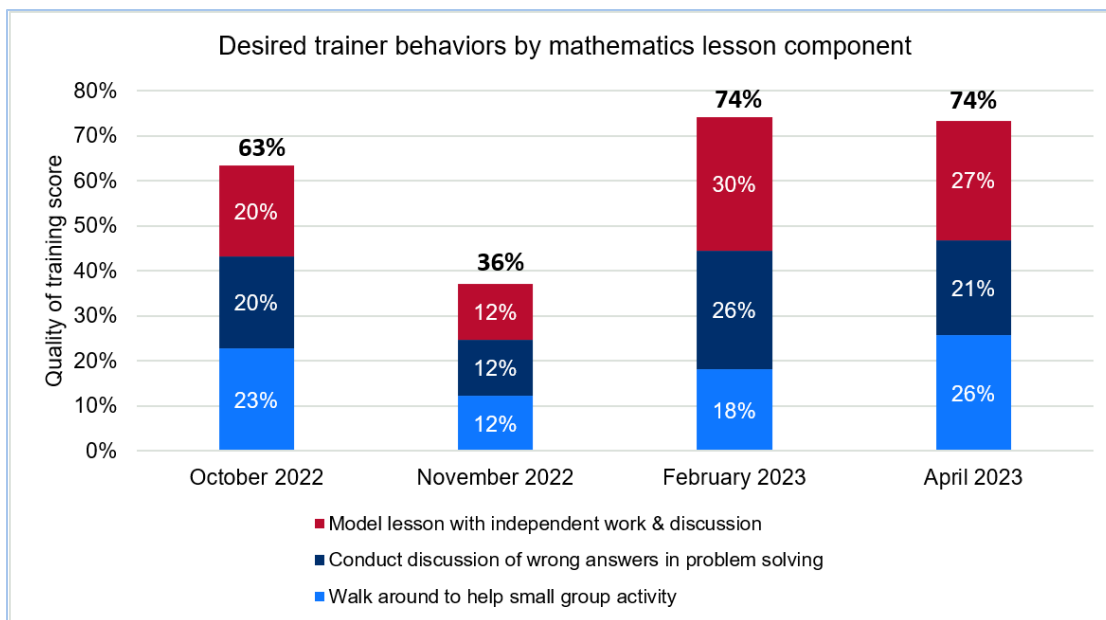
RQ3. To what extent do teachers' self-efficacy about teaching ULA and mathematics improve by attending TPD learning events?

Overall teacher self-confidence (self-efficacy) to teach ULA and Mathematics remained at a flat but high rate. A score of 40 represents a good level of confidence. Teachers maintained high self-efficacy scores, with an average score of around 50 out of maximum of 60 for both Mathematics and ULA between two timepoints November 2022 and March 2023.

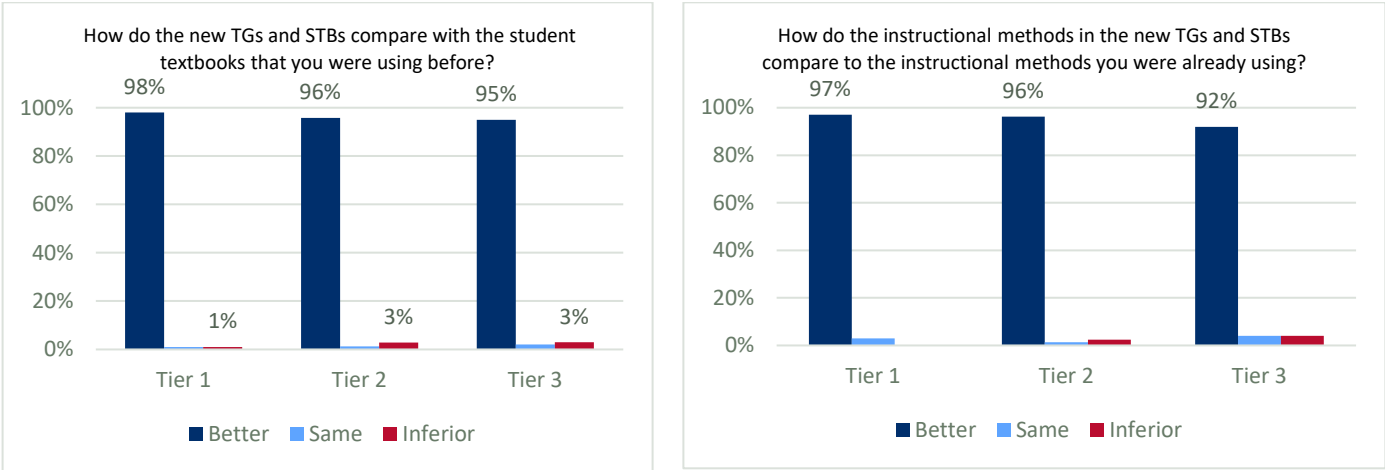*Scatter plot of self-efficacy scores by time point, tier, and subject*
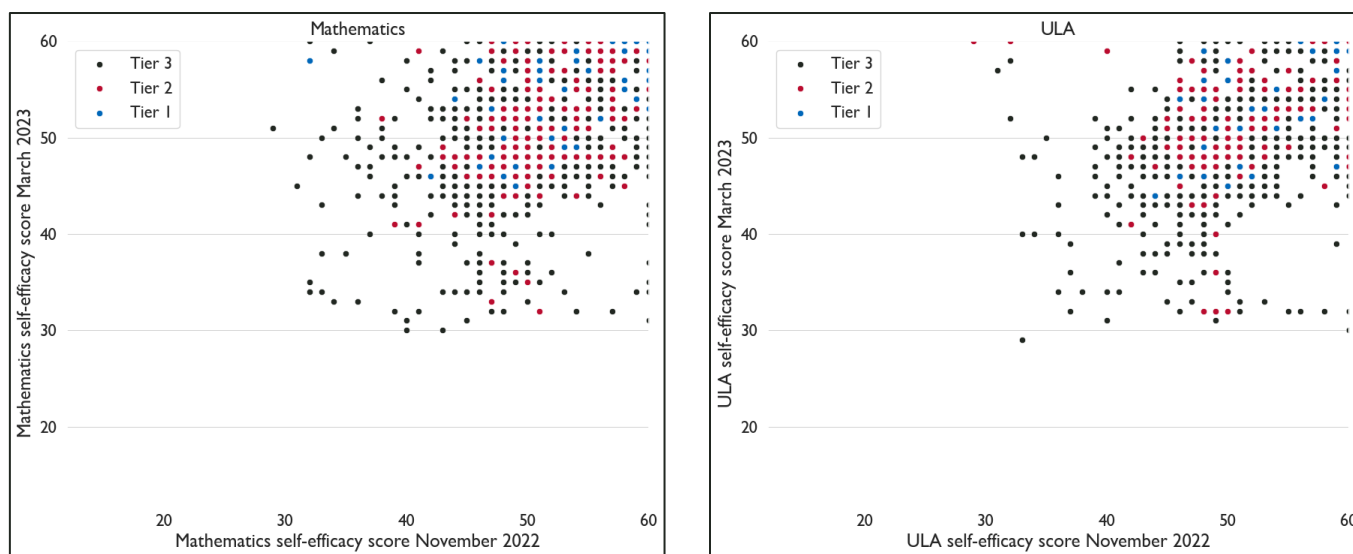
An analysis of the relationship between self-efficacy scores and levels of participation (or attendance) in Program trainings did not yield a statistically significant correlation of significant magnitude. However, the Program found a moderate magnitude level of correlation between participation and Tier 1 self-efficacy scores.
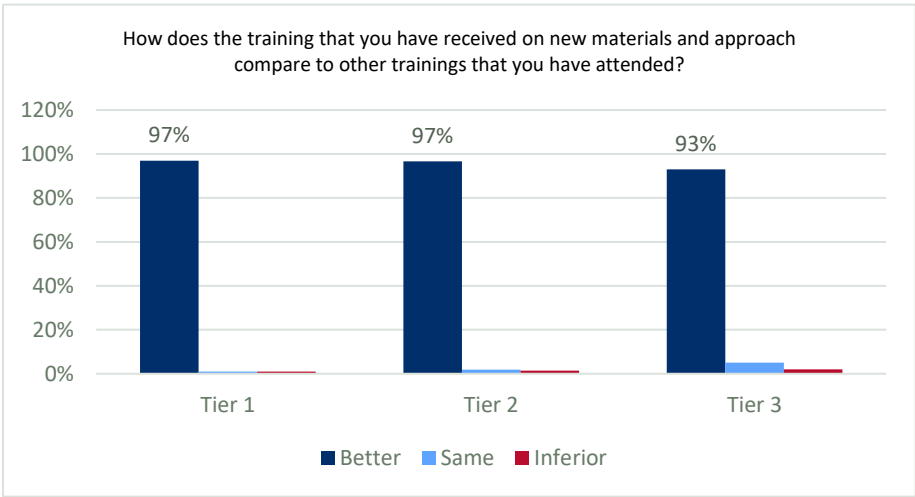
RQ4. What are teachers' belief and attitudes regarding the TPD pilot approach and content?

Overall, teachers were very satisfied with the content and training approach as compared to those of previous trainings they attended. Over 95 percent of trainers and teachers at all three levels of the cascade approach stated that the new materials on which they were being trained were better than the materials they were using before. Similarly, over 90 percent of respondents indicated that the instructional methods in the new materials were better than those in the materials teachers were already using.

Teacher perceptions of new materials and instructional methods

How do the new TGs and STBs compare with the student textbooks that you were using before?

How do the instructional methods in the new TGs and STBs compare to the instructional methods you were already using?

Over 90 percent of teachers were also overwhelmingly satisfied with the trainings as compared to other, prior trainings they had attended.

How does the training that you have received on new materials and approach compare to other trainings that you have attended?

Teachers' satisfaction with the pilot content and methodology as described above can explain, in part, teachers' reasoning for attending the trainings. Specifically, most teachers stated that the main reason for attending the trainings was an interest in learning about new materials. Fewer teachers stated an interest in receiving a certificate of participation as a motivating factor for attending training sessions, thereby demonstrating a stronger intrinsic motivation to learn than might have been expected.

Why did you participate in this training refresher event?
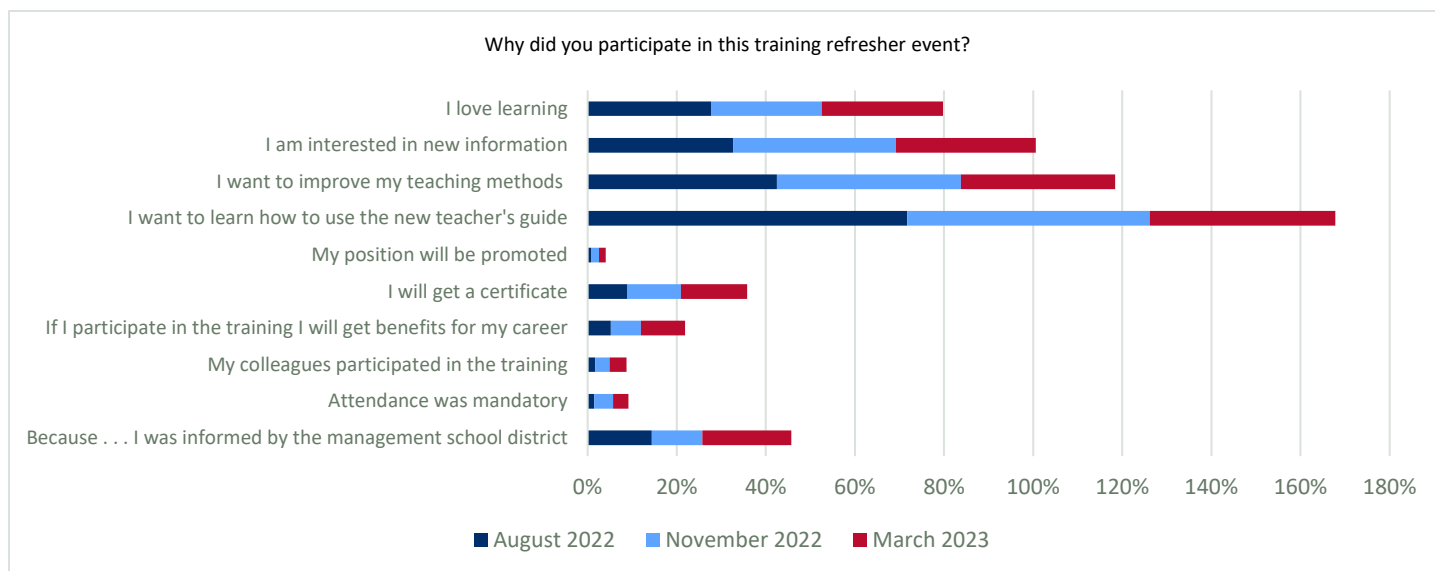
RQ5. To what extent are teachers receiving sufficient administrative support to attend learning events at the school level?

The majority of trainers and teachers enjoyed the support of their school administration to participate in TPD activities. Between 68 and 72 percent of participants 'agreed' that their administration or school provided the necessary *support* for them to participate in the TPD training sessions offered by the Program. During the same time periods, between 65 and 67 percent of participants also 'agreed' that their administration or school provided them with the necessary *resources* to participate in all TPD training sessions.

My adminisration or school provided the necessary *support* for me to participate in this learning event.

My administration or school provided me with the necessary *resources* to participate in this learning event.
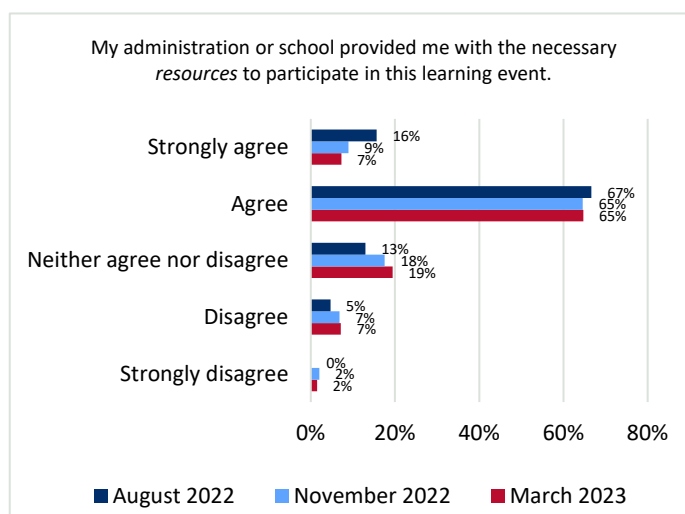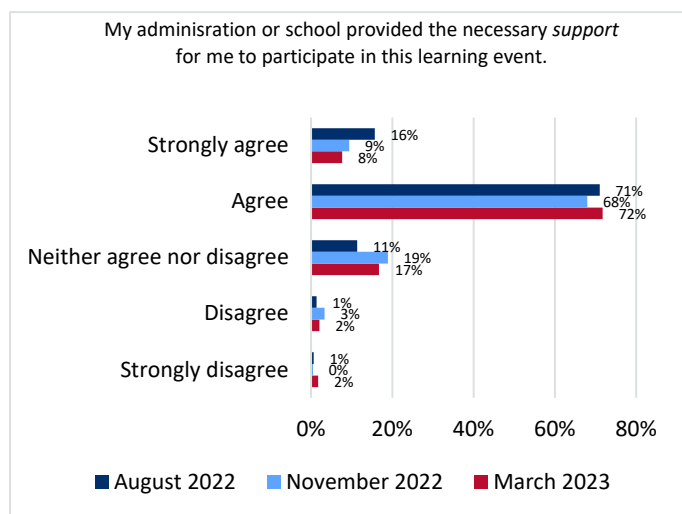
Collaborating, learning, and adapting

In May 2023, the Program held a CLA event with 80 Tier 1 MTs. During the event, some of the TPD Effectiveness Study findings were presented to the MTs. The purpose of the event was to analyze and interpret the data. Program event facilitators showed MTs data and asked how more favorable outcomes could be achieved. Discussions provided further insight on future TPD approaches. Questions and answers are summarized below.

▪ How can teacher satisfaction with training events be increased?

 – Ensure school principals are better informed of professional development activities.
 – Ensure a reliable Internet connection and a stable Learning Management System to mitigate trainer frustration with electronic attendance issues.

- Reinstate the district methodologist position that had been eliminated by MoPSE. Eliminating this position led to low quality organizational and methodological support. This was because methodologists were instrumental in ensuring that teachers were aware of upcoming trainings and overall field-based coordination.

- How can MTs better engage Tier 2 trainers, and how can Tier 2 trainers better engage teachers?

  - Remunerate MTs and trainers when conducting trainings.
  - Ensure greater adherence to training protocols, such as having participants turn off or silence mobile phones, respecting break times, following the schedule more closely, and being more actively engaged.
  - Ensure a more rigorous selection process of Tier 2 trainers such as through an interview process, via pre-testing, or by developing more demanding selection criteria.

- What were the reasons that content knowledge for ULA dropped and remained lower after August 2022?

  - ULA questions were long and somewhat difficult to answer, and thus led respondents to answer randomly.
  - In comparison with Mathematics, the ULA material content was more complex and harder to understand.

Conclusions and Recommendations

This section provides an overview of the main conclusions and recommendations drawn from the above findings.

Conclusions

- Trainers and teachers participated in most of the TPD in-person offerings.

- Teachers and trainers were very satisfied with the Program's training content and approach.

- Teachers were pleased with the level of preparedness of the trainers and their level of engagement and participation during training sessions.

- Teachers and trainers demonstrated a high-level of knowledge about the newly introduced TG subject-matter content and instructional strategies after training events.

- Most teachers expressed a high level of confidence to teach Mathematics and ULA.

- Most trainers were consistently able to model lessons, support group work and practice, and facilitate discussions in training sessions.

- Most trainers and teachers enjoyed the support of the school administration to participate in TPD activities.

- Most participants indicated that they received sufficient administrative support and resources to attend learning events. Interestingly, however, when Tier 1 participants provided explanations of barriers to higher levels of training quality, they listed mostly system administrative reasons such as a need for methodological support; more reliable Internet; better process for selecting trainers, with better remuneration; and better communication with school principals.

- The TPD approach demonstrated the successful application of four critical factors to effective training: satisfaction, learning, self-efficacy, and system support.

Based on these findings it is possible to conclude that the Uzbekistan Education for Excellence Program TPD approach was indeed effective. Moreover, the data point to minimal dilution effects of the cascade model that was part of the TPD approach. It is also possible to conclude that this can be attributed to the continuous trainer quality assurance observations conducted throughout the training cycle.

Recommendations for MoPSE

Based on the above study findings, the Program offers the following recommendations for the MoPSE to consider in future TPD initiatives.

- Ensure all teacher training is student-centered and practical and includes modeling, role playing, small group practice, discussion, and reflection.
- Conduct shorter trainings but on a regular, monthly basis and effectively utilize MDs.
- Reinstate MDs to offer practical, school-based training to teachers.
- Establish a 'feed-forward' information loop to effectively inform future trainings.
- Conduct trainer and teacher quality assurance classroom observations to inform trainings.