2025

Baseline Study of TEACH – Classroom observation study in Tajikistan

Baseline Report

The final analytical report was prepared for the Ministry of Education and Science of the Republic of Tajikistan within the framework of the "Learning Environment – Foundation of Quality Education" Project.

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MINISTRY OF EDUCATION AND SCIENCE OF THE REPUBLIC OF TAJIKISTAN

PROJECT "LEARNING ENVIRONMENT – FOUNDATION OF QUALITY EDUCATION"

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Consulting services for organizing and conducting Baseline Study of TEACH – Classroom observation study in Tajikistan

BASELINE REPORT

Customer:	**Ministry of Education and Science of the Republic of Tajikistan**
Consultant:	**"Tahlil va Mashvarat", LLC**
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List of Acronyms

ASoES	Agency for Supervision of Education and Science
CLASS-S	Classroom Assessment Scoring System-Secondary
Consultant	Limited Liability Company «Tahlil va Mashvarat»
DRS	Districts of Republican Subordination
GoT	Government of the Republic of Tajikistan
ISTOF	International System for Teacher Observation and Feedback
LLC	Limited Liability Company
LEARN | Project	Project "Learning Environment – Foundation of Quality Education"
LMICs	Low- and middle-income countries
MoES	Ministry of Education and Science of the Republic of Tajikistan
MQI	Mathematical Quality of Instruction
OECD	Organization for Economic Co-operation and Development
PIU	Project Implementation Unit
PLATO	Protocol for Language arts Teaching Observations
REAL	Research for Equitable Access and Learning Centre
RIATRES	Republican Institute for advanced training and retraining of employees of the education system
RT	Republic of Tajikistan
TEACH	Classroom observation study using TEACH tool
TIPPS	Teacher Instructional Practices and Processes System
WB	World Bank
WBG	World Bank Group

Glossary of Terms

Autonomy	Having control over your own actions and decisions, or the ability to govern yourself. It's about being independent and making choices without being controlled or influenced by others. In the context of the *TEACH* Tool, this behavior is evident when the teacher allows students to make choices and take on meaningful roles in the classroom and when she encourages students to participate in the classroom.
Instructional quality	The aspects of teachers' instruction that positively affect student cognitive and affective outcomes. It essentially means providing engaging and relevant learning experiences that meet the diverse needs of students. It is also referred to as 'teaching quality'.
Perseverance	The effort required to do something and keep doing it till the end, even if it's hard; not giving up. It is persistence and tenacity. In the context of the *TEACH* Tool, this behavior is evident when the teacher promotes students' efforts toward mastering new skills or concepts, has a positive attitude toward challenges and instills in students that failure and frustrations as useful parts of the learning process, and encourages goal setting.
Socio-emotional Skills	The ability to understand, manage, and navigate emotions, build and maintain positive relationships, and make responsible decisions. These skills – such as self-control, stress resistance, co-operation, sociability, and curiosity – are crucial for individuals of all ages, as they contribute to well-being, academic success, and overall life and work outcomes.
TEACH Elements	The term for the 9 groups of 3-4 related behaviors (there are 32 *TEACH* behaviors in total) in the *TEACH* Tool which are used to establish a *TEACH* score for each of the 9 elements. The element scores are on a scale of 1-5 and are derived from the scores given to each behavior. The behaviors are characterized as Low, Medium, or High, based on the written evidence collected during the observation. These behavior scores quantify teaching practices.

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Executive Summary

This study, utilizing the TEACH Secondary framework, which is a free classroom observation tool that provides a window into one of the less explored and more important aspects of a student's education: what goes on in the classroom. It focuses on 3 main aspects of teacher behavior: Classroom Culture, Instruction and Socio-emotional Skills. Each of these 3 practice areas is broken down into 9 elements and 32 behaviors.

The study assessed the quality of teacher practices across 65 Project and 65 control public secondary schools in Tajikistan, comprising 91% rural and 9% urban institutions. Observations were conducted on 426 teachers across various subjects in grades 7-11, of whom 44% were female and 56% were men. The observed gender imbalance among teachers stemmed from subject specialization. Male teachers primarily taught exact sciences (mathematics, physics, chemistry), while female teachers more often taught humanities (literature, Tajik and Russian languages). Because most observed lessons were in exact sciences, more men were present in the observations. The lessons themselves were randomly selected using the TEACH methodology, based on lists provided by the school principal.

Overall findings indicate that Tajikistan's secondary teachers stand out in **Classroom Culture**, with a remarkable 80% scoring above 3. However, they demonstrate significantly less effectiveness in **Socio-emotional Skills**, where only 13% achieved a score above 3. These findings suggest that while strong in classroom management and instructional delivery, a significant area for improvement for Tajikistan's secondary teachers lies in fostering socio-emotional skills among students, warranting targeted professional development and support.

Further analysis, comparing 65 Project intervention schools with 65 control schools, reveals notable differences. In Project schools, just over 10% of teachers struggle (score less than 2) in at least one area, primarily Socio-emotional Skills. In contrast, almost 30% of teachers in control schools exhibit struggles in the same area. Both project and control schools show strong abilities in Classroom Culture, with 83% and 77%, respectively, scoring higher than 3. However, both groups demonstrate weakness in Socio-emotional Skills, with only 14% of project school teachers and 12% of control school teachers scoring above 3 in this area.

Regarding "Time on Task", teachers in both project and control schools consistently provide learning activities for the majority of the lesson (97% and 96% of the time, respectively). When activities are provided, all students are on task 46% (project schools) and 42% (control schools) of the time, with active participation seen in 76% (project schools) and 75% (control schools) of instances.

Classroom culture: Overall, teachers in both school types demonstrate moderate effectiveness in Classroom Culture, averaging 3.3 out of 5 points. They excel at treating students respectfully (46% consistently, over 50% somewhat respectfully) and using positive language (100% of project teachers and 98% of control teachers use some or consistent positive language). However, only 31% of project teachers and 25% of control teachers effectively respond to student needs, and teachers in both groups challenge gender and disability stereotypes, despite 95% of project teachers and 93% of control teachers treating students equally regardless of gender or disability.

Positive Behavioral Expectations: In terms of Positive Behavioral Expectations, both groups of teachers made up 3.2 out of 5 points. Roughly 40% of project and control teachers set clear behavioral expectations, while nearly 60% set only superficial ones. A significant proportion of

teachers, 46% from project schools and 52% from control schools, do not acknowledge positive student behavior. Conversely, 48% of project teachers and 41% of control teachers provide some acknowledgment. Finally, 50% of teachers in both groups are somewhat effective at redirecting misbehavior, with 40% being effective or having well-behaved students.

Supportive learning environment: While both groups of teachers are slightly above average in fostering a supportive learning environment and setting positive behavioral expectations, they fall below average in instructional aspects such as facilitating lessons, checking understanding, and providing feedback. Furthermore, they demonstrate poor skills in promoting student autonomy, fostering perseverance, and developing social and collaborative skills. Grade-level analysis within Project schools shows no significant difference in providing a supportive learning environment, though Grade 7 teachers are slightly better (3.5) at setting positive behavior expectations. In control schools, Grade 8 teachers perform better (3.6 for supportive learning, 3.5 for positive behavioral expectations) than other grades, while Grade 10 teachers show the poorest performance (3.2 and 2.9, respectively).

Instruction: As for Instruction, teachers in both school types performed moderately, averaging 3.0 out of 5 points. They demonstrated relative strengths in lesson facilitation and checking for understanding, but were less effective in providing specific feedback and cultivating critical thinking skills.

Lesson Facilitation: Notably, 49% of project teachers and 46% of control teachers clearly state lesson objectives. The majority of teachers, 67% in project schools and 63% in control schools, use two forms of content representation, with approximately a quarter (24% and 25% respectively) utilizing three or more. However, half of both project and control teachers (50% and 49% respectively) make only superficial or unclear connections between the lesson content and prior knowledge, students' lives, or real-world issues. Furthermore, over one-third (36%) of both groups make no such connections. Over half of project teachers (54%) and 45% of control teachers at least partially model learning activities, with 17% of project teachers and 16% of control teachers fully modeling.

Check for Understanding: Over 60% of teachers (66% in project schools and 63% in control schools) use questions to gauge the understanding of some, but not most, students. Approximately 40% of teachers (42% in project schools and 38% in control schools) monitor some students' understanding during group or independent work. While a significant portion of teachers (69% in project schools and 63% in control schools) make slight lesson adjustments, these adjustments are typically brief and superficial.

Feedback: This area showed lower performance, with an average score of 3.0 out of 5 points. A substantial majority of teachers, over two-thirds (62% in project schools and 64% in control schools), provide only general or superficial comments regarding student misunderstandings. Similarly, over half of teachers (56% in project schools and 53% in control schools) offer only general or superficial comments on student successes.

Critical Thinking: This was the weakest area, with an average score of 2.7 out of 5 points. Half of project teachers (49%) and 43% of control teachers ask two or more open-ended questions but often fail to follow up on responses. Most teachers in both groups (65% in project schools and 61% in control schools) assign only superficial thinking tasks. When presented with thinking tasks, most students in project schools (60%) and control schools (55%) perform them. However, a

significant majority of students in both school groups (55% in project schools and 61% in control schools) do not explain their thinking or ask open-ended questions.

The "Socio-emotional Skills" component analyzes teacher effectiveness in fostering autonomy, perseverance, and social/collaborative skills in both project and control schools. Overall, teachers in both groups demonstrated limited effectiveness in this area, averaging 2.3 out of 5 points. They were particularly ineffective at promoting social and collaborative skills, and only somewhat effective in developing student autonomy and perseverance.

Autonomy: Teachers in project schools averaged 2.7 points and control schools 2.6 points. Almost half of project teachers (45%) and control teachers (48%) provided only superficial choices to students, unrelated to learning objectives. The majority of teachers, 70% in project schools and 65% in control schools, offered students limited roles in the classroom, primarily housekeeping or basic participation tasks. Furthermore, in 68% of project school classrooms and 66% of control school classrooms, fewer than two-thirds of students volunteered to participate.

Perseverance: Project teachers averaged 2.3 points and control teachers 2.2 points. While 61% of project teachers and 50% of control teachers sometimes acknowledged student effort, this praise often focused on intelligence rather than specific efforts. A significant majority of teachers, 76% in project schools and 72% in control schools, maintained a neutral attitude toward student challenges, failing to explicitly frame failure as part of the learning process. Critically, the majority of teachers, 66% in project schools and 68% in control schools, did not encourage students to set short or long-term goals.

Social & Collaborative Skills: This was the weakest area, with project teachers averaging 1.9 points and control teachers 1.8 points. The vast majority of teachers, 69% in project schools and 74% in control schools, did not promote student collaboration. Similarly, most teachers, 68% in project schools and 73% in control schools, did not promote interpersonal skills, with only 29% of project teachers and 25% of control teachers doing so superficially without explaining the importance of such behaviors. Consequently, over half of students (51% in project schools and 57% in control schools) either did not collaborate or exhibited negative behaviors during group activities.

In conclusion, secondary school teachers in Tajikistan, across both Project and control schools, exhibit a mixed bag of pedagogical strengths and areas for development. While demonstrating moderate proficiency in fostering a supportive classroom culture and delivering instruction that includes checking for understanding and providing feedback, their most significant challenge lies in cultivating students' socio-emotional skills, such as autonomy, perseverance, and collaborative abilities. This highlights a critical area for targeted professional development and support to ensure a more holistic educational experience for students in Tajikistan.

Building on these findings, the MoES can implement the following recommendations as actionable steps within the "Learning Environment – Foundation of Quality Education Project (Project LEARN)." These suggestions, drawn from classroom-level observations, aim to specifically enhance the learning environment and improve teaching practices at the secondary level. The recommendations are:

- **Prioritize Socio-emotional and Collaborative Skills:** Focus resources on equipping all teachers to foster student autonomy, perseverance, and social/collaborative skills, critical for work readiness.
- **Promote Student Autonomy and Perseverance:** Encourage all teachers to actively nurture students' intrinsic motivation and resilience.
- **Enhance Critical Thinking:** Improve teachers' ability to facilitate critical thinking through open-ended questions and higher-level activities, especially in Grades 9-10.
- **Strengthen Feedback:** Develop teachers' skills in providing clear, actionable feedback.
- **Address Stereotypes and Biases:** Support teachers in actively dispelling gender and disability stereotypes during lessons to promote respect and fairness.

1. Background

Desk Review

Demand for secondary schooling within low- and middle-income countries (LMICs) is rising exponentially. With the Education for All movement and the adoption of free primary education in a number of contexts, greater numbers of students have been accessing and completing primary school. This has led to increased focus upon the subsequent stage of transitioning and supporting students to remain in secondary schools (Mastercard Foundation, 2020; Null et al., 2017). This continuation is also being facilitated by shifts to free secondary education in numerous LMIC contexts (Evans & Acosta, 2021). It further follows the considerable progress made in the two last decades with access to secondary schooling, with recent statistics reporting steep declines in out-of-school youth globally (UNICEF, 2021).

In addition to a focus on increased participation, the provision of high-quality and relevant secondary education that prepares students not only for school, but employment and civic participation has become a priority for many LMIC's education systems (Hatch, 2015). This heightened focus has arisen in response to both the growing demand for secondary schooling and the challenges affecting the quality of teaching within this context. For instance, due to the increased need for secondary teachers and the inaccessibility for many to quality training, a number of un- and under-qualified teachers exist (World Bank, 2018). Large class sizes and few resources can place further pressure upon teachers. In addition, the trend towards curricula reform can bring new demands which are often not met with opportunities for professional development, requiring teachers to have skills and adopt strategies for which they may be ill-equipped (Mastercard Foundation, 2020; Ochoa et al., 2018).

Compounding these challenges, many students who enter secondary school have low levels of basic literacy and numeracy which can detrimentally impact their learning and engagement as curricula and content become more advanced (World Bank, 2018). For example, evidence has shown that 61% of lower-secondary school aged adolescents worldwide do not meet minimum proficiency levels in reading, a trend which is even more concerning in LMIC contexts (e.g., 89% in Sub-Saharan African region) (UNESCO, 2017). Relatedly, evidence has shown that dropout becomes more likely as students get older. For example, a study which examined dropout risk for 44 developing countries found that while the likelihood in pre-adolescence is typically rare (e.g., 2.6% for both boys and girls at age 10) it rises significantly between the ages of 14-19 to an average of 39% among boys and 50.2% among girls. These findings underscore the adolescent effect of school dropout as well as the significantly higher risk faced by girls, particularly those from rural and economically disadvantaged backgrounds (Wils et al., 2019).

Across contexts, these teacher and student factors underscore the strong need for increased focus upon both structural and process quality within secondary education, with the former denoting aspects of the classroom environment which facilitate effective learning and the latter, the quality of teaching which occurs in the classroom. Quality teaching is central to student success in secondary school. It requires not only sufficient numbers of teachers, but that these teachers are equipped with the skills and resources to instruct and support learners wholistically in increasingly diverse classrooms. Research, including that involving secondary pupils, has shown that the difference between the impact of a weak and great teacher on student test scores is equivalent to

one to two years of schooling (Bau & Das, 2017; Evans & Yuan, 2018; Hanushek & Rivkin, 2010). Moreover, evidence suggests several consecutive years of effective teaching can offset the learning shortfalls of marginalized students (Hanushek & Rivkin, 2010; Nye et al., 2004) and significantly improve students' long-term outcomes (Chetty et al., 2014).

In broader terms, the benefits that can be accrued from improvements in secondary schooling are also considerable (See Null et al., 2017, for review). In studies involving data from multiple developing countries, for instance, economists have indicated that each year of schooling attended brings a 5-12% return (Barro & Lee, 2010). Additionally, increases in cognitive skills have been shown to lead to increased wages and overall GDP growth in these contexts (Hanushek & Woessmann, 2008). Given these associations, greater attention to enhancing the quality and relevance of secondary teaching could go a long way in improving not just youth outcomes, but issues of poverty and socio-economic development within LMICs more broadly (Null et al., 2017).

In response to the growing need to improve the quality of secondary schooling in LMIC countries the World Bank has developed TEACH Secondary to better understand secondary teachers' professional development needs and contribute to the professionalization of secondary teaching worldwide. The development of TEACH Secondary has also been fueled by the success of TEACH Primary and TEACH ECE, which has led to increased demand from a diverse set of users including government, think tanks, and NGOs for a version of the tool applicable to secondary school classrooms.

Part of the TEACH Secondary tool is to propose a framework for defining and measuring the quality of secondary teaching within LMICs. In addition, it contributes to systematizing the evidence on effective secondary teaching practices, drawing as much as possible on research examples from LMICs, and providing an organizing framework to create a common language and evidence-base among stakeholders in LMICs – from the national to the classroom level – to identify and discuss evidence-based, quality Secondary teaching practices. This report details the nature of many of those quality Secondary teaching practices across Tajikistan as captured by the classroom observation tool TEACH Secondary.

Tool-Level Differences

TEACH Secondary was designed to observe secondary classrooms and required changes in the tool descriptions and examples throughout the entire tool to make them more suitable for these settings. *TEACH Secondary* maintains the four Areas from *TEACH Primary* but expands upon two of these —Time on Learning and Instruction— to improve the relevancy and applicability of the tool to secondary classrooms.

For example, changes made to *TEACH Secondary* reflect the greater cognitive demand that secondary schooling can bring, as seen through the expanded critical thinking element of the tool which now includes a new behaviour capturing the importance of students being provided with opportunities to explain their thinking during lessons.

Student's increased agency in the classroom at the secondary level is also reflected through modifications made to the instrument. For example, the Time on Learning area has been expanded to include a new behaviour focused on students' active participation in the classroom, which has been highlighted during an extensive evidence review as an important and effective secondary classroom practice. Existing behaviours (e.g., 1.2, 6.1 and 6.3) have further been modified to better

capture student's enhanced independence and responsibility at the secondary level.

Additionally, *TEACH Secondary* includes greater subject representation compared to *TEACH Primary*, with examples reflecting learning that occurs within the science areas of biology, chemistry and physics in addition to mathematics and language arts. Existing areas of learning are also extended to include more advanced curricula topics (e.g., statistics and algebra within mathematics). These changes are reflected within behaviour examples as well as through the expansion of the critical thinking table.

The varied instructional settings in which *TEACH Secondary* might be applied was further accounted for in the adaptation process. As observers may observe teacher-centred, student-centered or peer learning contexts in traditional classroom environments or more specialised settings such as science laboratories within schools, an effort was made to incorporate examples that reflect a range of instructional contexts in order to ensure relevancy and applicability.

Policy framework

The National Strategy for Education Development of the Republic of Tajikistan for the period until 2030 (NSED 2030) serves as the primary guiding document. Its long-term goal is to establish an effective education system that provides inclusive and equal opportunities for all, fostering intellectual development, enhancing employability, and contributing to the overall welfare of the population. Key pillars of this strategy include:

- **Improving the quality and relevance of education at all levels:** This is a central theme, encompassing curriculum reform, teacher qualification enhancement, and the introduction of modern educational technologies.
- **Ensuring equal access and participation in education and science:** Efforts are focused on reaching marginalized groups and ensuring broad access to learning opportunities throughout life.
- **Strengthening effective governance of the education sector:** This involves building capacity at national and sub-national levels to ensure efficient management and administration of educational institutions.

Complementing the NSED 2030, the National Education Development Framework specifically targets the general secondary education institutions, aiming to enhance the teaching and learning environment and improve educational outcomes. The Law of the Republic of Tajikistan "On Education" (2013, with amendments) provides the legal, organizational, social, and economic basis for the state's education policy.

In recent years, the Ministry of Education and Science has also focused on digital transformation within education, as outlined in the Concept on the Transition to Digital Education in the Republic of Tajikistan to 2042. This includes improving teachers' digital literacy, developing online learning resources, and increasing internet access in schools, though current connectivity remains a significant challenge, as noted in the report (only 16% of schools had internet access in 2022-2023).

International partners, such as the World Bank and UNICEF, actively support the MOES in achieving these policy objectives. Their involvement often centers on funding infrastructure

modernization, developing assessment systems, improving access for vulnerable groups, and promoting evidence-based policy and planning.

Therefore, the Tajikistan TEACH study's results, which highlight specific pedagogical strengths and weaknesses among secondary school teachers, provide crucial, classroom-level insights directly relevant to the MOES's strategic priorities. The identified areas for improvement, such as socio-emotional skills, critical thinking, and feedback, align directly with the broader national goals of enhancing educational quality and preparing students for future success and active societal participation. The recommendations derived from the study can thus directly inform and strengthen the implementation of Project LEARN and other national education initiatives aimed at fostering a more effective and equitable learning environment across Tajikistan.

Project Information

The Government of the Republic of Tajikistan has received grant funding of USD 50.0 million from the World Bank for the implementation of the "Learning Environment - Foundation of Quality Education" Project (LEARN | Project) for the period 2023-2029. The Project is implementing by the Ministry of Education and Science of the Republic of Tajikistan (MoES) in close coordination with the Agency for Supervision in Education and Science (ASoES).

The goal of the Project is to improve the quality of teaching and learning in selected project secondary public schools. In this context, the "teaching and learning environment" refers to the physical, social, and pedagogical environment in which learning takes place. This environment is shaped by the skills and competencies of teachers as well as the physical learning spaces available for educational activities. It encompasses not only classrooms but also the broader school environment where students learn and teachers teach. Improving this environment is essential to boosting the quality of education and student outcomes.

The Project consists of the following components:

- **Component 1. Development of the National Framework**
  - Conducting a review of existing teaching standards and practices;
  - Development and implementation of a new national framework in project schools;
  - Improving the processes of monitoring and evaluating the educational environment;
  - Improving the qualifications of teachers without interrupting their work.
- **Component 2. Improving the quality of the educational environment**
  - Restoration of the physical infrastructure of schools;
  - Ensuring compliance with minimum teaching standards;
  - Reduction in the number of school shifts;
  - Modernization of the educational process in cooperation with donor.
- **Component 3. Strengthening the capacity of the education system**
  - Developing capacity to conduct national learning assessments;
  - Implementation of international assessment standards;
  - Strengthening the management potential of the MoES.

Under the Component 3. Strengthening the capacity of the education system the Project LEARN decided to conduct the **Baseline TEACH Classroom observation study in Tajikistan**.

High-quality teaching is universally recognized as one of the most important in-school factors influencing student learning outcomes. However, in many low- and middle-income countries (LMICs), education systems often lack effective tools to assess what actually happens in classrooms. Traditional methods—such as reviews of qualifications, test scores, or lesson plans—fail to capture the daily instructional practices and teacher-student interactions that define the quality of teaching.

To address this gap, the World Bank developed the TEACH (Teaching Effectively All Children) classroom observation tool. TEACH is a standardized, low-cost, and scalable instrument designed specifically to assess teacher practices in primary and secondary school classrooms in LMICs. It allows governments, education stakeholders, and development partners to collect objective and comparable data on teaching practices that are strongly linked to student learning, socio-emotional development, and engagement.

In the context of Tajikistan's ongoing efforts to improve teaching quality and support evidence-based policymaking in education, the TEACH tool was selected to conduct a large-scale classroom observation study. The goal was to gather reliable, actionable data on what teachers are doing in classrooms across the country, and how their practices vary across school types, regions, and grade levels. These insights are critical for identifying strengths, diagnosing challenges, and informing targeted interventions, such as professional development programs, instructional coaching, or policy reforms.

Study Methodology

Purpose of the study

The purpose of this study was to ***assess the quality of teaching in Project and control secondary public schools of the Republic of Tajikistan***.

In particular, the study aimed to:

- ✓ *assess the current state of the quality of teaching practices that help develop students' socioemotional and cognitive skills;*
- ✓ *identify the time teachers spend on learning and the extent to which students are on task;*
- ✓ *propose effective strategies and mechanisms for implementing changes in educational institutions, based on the results of the analysis of data obtained within the framework of the study;*
- ✓ *provide the MoES with scientifically based conclusions and recommendations for subsequent planning of reforms and improvements in regards of teaching process.*

Objectives of the study

The main task was to conduct the classroom observations in schools of the Project and an equal number of control schools using the TEACH tool[2] adapted to the country context. As part of the study, the Consultant was responsible for completing the following practical study stages and tasks:

1. **Preparatory stage**
   - Review the TEACH methodology and adaptation to Tajikistan context;
   - Translate the TEACH methodology, as well as its tools and instructions into Tajik language;
   - Finalize the methodology with MoES and International Consultant and present the methodology to MoES and its departments.
2. **Data collection**
   - Organize and conduct training for observers;
   - Collect the data on teaching process and interactions between teachers and students;
   - Monitoring and quality control.
3. **Data processing and analysis**
   - Ensure the data collection of project and control schools into a single database;
   - Carrying out the data error checks and raw database cleaning;

[2] Classroom observation tool developed by the World Bank: https://www.worldbank.org/en/topic/education/brief/teach-related-blogs

- Preparing and submitting the database in Microsoft Excel and\or STATA and other requested formats;
- Conduct statistical analysis of data to identify key trends and patterns in the teaching process in collaboration with International Consultant.

4. **Preparation of report and presentation**
   - Prepare detailed report based on the results of the study with recommendations for improving the quality of the teaching process in collaboration with International Consultant;
   - Organize a presentation of the study results and recommendations to MoES and key stakeholders at the national level for further implementation of improvements regards to the teaching process.

Study mechanism

The TEACH is a classroom observation tool developed by the World Bank. Its purpose is to help systematically collect and analyze data on the quality of teaching and interactions between teachers and students in the classroom. The tool assesses aspects such as teaching effectiveness, use of pedagogical strategies, quality of feedback, and support for learning (*see Picture 1*).

Picture 1: Teach Secondary Areas

The deployment of the TEACH tool in this study aimed to:

- generate **evidence-based insights** on teacher instructional quality;
- identify **specific behavioral patterns** in teaching that support or hinder student learning;
- inform the design of **targeted professional development programs**;
- provide **baseline and comparative data** for evaluating education interventions in Tajikistan.

Conceptual Framework of TEACH

As shown in **Picture 1** above, *TEACH Secondary* assesses teaching practices across three interrelated domains:

Area 1: Classroom Culture

- Establishing a supportive and orderly environment conducive to learning.
- Indicators: Emotional support, behavior management, efficient use of time.

Area 2: Instruction

- Cognitive demand and instructional clarity.
- Indicators: Checks for understanding, content relevance, questioning techniques, feedback quality.

Area 3: Social-Emotional Skills (SES)

- Teaching practices that foster students' motivation, self-regulation, collaboration, and social awareness.
- Indicators: Encouraging persistence, autonomy support, positive peer interactions.
- Each domain is broken into elements and sub-elements, scored on a structured rubric.

Sampling design

Sampling frame and size

The Project Team supplied a comprehensive list of secondary public schools across all target districts, serving as the sampling frame for this survey. This list encompassed 2,837 schools with a total enrollment of 1,527,127 students, comprising 783,652 boys and 743,475 girls. It should also be noted that there are 85,300 teachers employed in all these schools, the majority of whom are women (52,663).

The sampling size for this study was derived from the provided list of project and control secondary public schools provided by the Project team. The list included 65 project secondary public schools and 65 control secondary public schools, for a total of 130 schools across 4 regions of Tajikistan, including Khatlon and Sughd region, DRS and GBAO.

The target group of the study were:

- ✓ *teachers of grades 7-11;*

Sampling method and plan

Several sampling methods were used under the study for selection of schools and respondents.

The target sampling method was used for selection of schools according to the provided list of project and control schools by the Project Team taking into account the logistical issues of the schools in districts.

It should be noted that the project schools were chosen on following criteria:

- ✓ availability of land within the school for the construction of an additional educational building;
- ✓ schools that are in a state of emergency or in need of major repairs;
- ✓ schools that have not been allocated funds for construction and reconstruction from any source of funding over the past 10 years, with the exception of schools damaged by natural disasters;
- ✓ schools that are not located in a disaster zone;
- ✓ schools that have access to drinking water;
- ✓ prospects for increasing the number of students in the school's area;
- ✓ socio-economic indicators of the region.

As for the control schools, they were selected in the same area where the project school was located and with approximately the same characteristics.

As for the respondents, the study used simple random sampling which means that every teacher has an equal chance of being selected. The sample depended on the number of classes and lessons planned to be observed in each school. The Consultant used the following approach:

- 3-5 lessons were observed in different classes and with different teachers. This allowed us to assess the diversity of teaching methods and learning environments.
- Observations were focused on lessons involving teachers of different subjects and students of different grades in order to cover as many aspects of teaching as possible.

In this regard the total number of observations varied from:

- Minimum: 3 lessons x 130 schools = 390 observations.
- Maximum: 5 lessons x 130 schools = 650 observations.

This approach ensures a comprehensive assessment of teaching methods within the framework of the study.

Teacher and Subject Selection methodology. To ensure that a variety of subject and grade levels were selected for observation at each school, protocols were set and shared with the observers.

In regard to selecting classes for observation, the observers were responsible for deciding which classes to observe; the principal or assistant principal were not to make the classroom selection. The observers asked the principal for all the secondary-level classes that were available at the particular time they wanted to do their observation, and from that list, they selected one class to observe. The teachers were encouraged, whenever possible, to select different grades and subjects for each observation at each school.

In regard to the number of observations at each school, 3-5 observations were completed at each school in any subject from Grades 7-11. At most schools, due to the TEACH protocols, observations were completed for three class lessons per day. The TEACH procedures stated that observers must finalize the scores of the second segment observation for 15 minutes immediately after leaving the classroom after the lesson had finished. This directive made it impossible for the observers to arrive at the next lesson five minutes before the teacher began teaching, which was another protocol of the TEACH Tool. Therefore, two class lessons could not be observed right after each other. The typical observation schedule was Lesson 1, Lesson 3, and Lesson 5, which allowed the observers to finalize the scores of the previous observations during Lesson 2, Lesson 4, and Lesson 6.

If observers arrived late at a school and missed the start of Lesson 1, they had to wait until Lesson 2 began to start the first observation. In this case, the observation schedule was Lesson 2, Lesson 4, and Lesson 6, which allowed the observers to finalize the scores of the previous observations during Lesson 3, Lesson 5, and at the end of the school day.

Four or five lessons could be observed at one school if that school had two shifts for secondary level classes (i.e., morning and afternoon shifts) and two new teachers could be observed during the second shift. The observers were instructed to ask the principals about shifts for secondary level classes at each school so they could make an appropriate plan. If a school had a second shift for secondary level classes, Lesson 1 and Lesson 3 would be selected from Shift 2, assuming the teachers of those classes had not been observed earlier during the first shift.

The detailed sampling can be found in **Annex 3. Detailed sampling of the study.**

Instruments (observation tool)

The study carried out using The World Bank *TEACH Secondary* observation tool for assessing the quality of teaching in classrooms.

In addition, the *TEACH Secondary* observation tool records (i) teachers' time spent on instruction, the extent to which students' complete tasks and actively engage in learning; and (ii) the quality of teaching methods that promote students' social-emotional and cognitive skills.

Tool Structure and Scoring Methodology:

- Observation Cycles: Two 15-minute classroom segments per teacher.
- Scoring Rubric:
  - For behaviors, scores are given at three levels, Low, Medium, or High.
  - For elements, scores are given on a five-point scale (1–5).

Descriptors and Anchors: Each score point is defined with clear behavioral descriptors to guide observer judgment.

This observation tool was translated into Tajik and passed the stage of pilot-testing and adaptation to the local context taking into account socio-cultural and age-sensitive characteristics in Tajikistan.

All the questionnaires can be found in **Annex 4. Study observation tool.**

Ethical consideration

In the context of the TEACH study in Tajikistan, the ethical considerations are essential measures to ensure the study was conducted responsibly, respectfully, and in accordance with established ethical guidelines. Given the sensitive nature of classroom observations and interactions with teachers and potentially students, these considerations are paramount.

The key elements included:

Consent form. All the school principals and teachers were informed about the study's purpose, procedures, their rights (including the right to refuse participation), and how their data would be used.

Confidentiality and Anonymity. The detailed procedures on how participant data is anonymized and kept confidential is a key. This includes securely storing data, limiting access to authorized research personnel, and ensuring that any reporting of findings does not allow for the identification of individual teachers or schools. This is one of the main responsibilities of the Data Processing Manager.

Minimizing Harm and Maximizing Benefits: The observers were trained to make sure that the study observations would not disrupt the regular teaching and learning process in the classrooms. In addition, steps were taken to ensure that participants felt comfortable and not judged during observations. This involved training observers to be discreet and non-intrusive.

By detailing these ethical considerations, the study establishes its credibility and demonstrates a commitment to responsible research practices, which is crucial for the acceptance and impact of its findings within Tajikistan's education landscape.

Data analysis approach

The data analysis approach for a TEACH study involves a combination of quantitative methods, given that the TEACH tool is structured to collect standardized, quantifiable data on various dimensions of teaching practice.

Trained observers used the TEACH observation tool to systematically record specific teacher behaviors and classroom interactions. The tool breaks down teaching into various domains (e.g., Classroom Culture, Instruction, and Socio-emotional Skills) and indicators, referred to as behaviors, within those domains. There are two fifteen-minute observation segments per teacher. Behaviors are scored as Low, Medium, and High. Groups of related behaviors, called Elements, are scored on a five-point scale: 1-5. This data collection and scoring procedure transforms qualitative observations into quantitative data.

As a form of monitoring and quality control, for nine days, a team consisting of the international consultant, a translator, MOES representatives, and Consultant visited schools in the survey to hold in-person review sessions of the observers and to give feedback immediately after the scheduled observations were completed. This provided prompt clarification of misunderstandings of the *TEACH* behaviors and ensured the data gathered was reliable.

The core of the TEACH study's data analysis is typically quantitative, using statistical methods to identify patterns, strengths, and weaknesses. The several data analysis methods were used:

- **Means and Standard Deviations:** Calculation of average scores for each TEACH domain and indicator across specific subgroups, such as Project schools vs. control schools, different grade levels and gender of teachers. Standard deviations indicate the variability of scores.
- **Percentages and Frequencies:** Determine the percentage of teachers demonstrating specific levels of effectiveness, for instance *what percentage scored "high" in classroom culture*.
- **Visualizations:** The report uses various type of figures and tables to visually represent the distribution of scores and highlight key findings.

Observers Training and Reliability Exam

In order to improve the learning environment and improve pedagogical approaches through lesson observation and analysis of learning processes, a comprehensive training for observers was organized. The training was held from March 3 to 7, 2025 in the hall of the Republican Institute for Advanced Training of Education Personnel with the participation of 24 participants.

The main purpose of the training was to cover the following topics:

- Theoretical foundations of assessing the quality of education;
- Lesson observation methodology;
- Assessment of the learning environment (physical, emotional and academic);
- Ethical principles of observation;
- Consideration of practical cases and modeling of situations;
- Final test and exam.

The training was held in an interactive environment, during which instructions, group work, video materials and discussions were actively used. The level of understanding of the topic and practical skills were constantly assessed. It should be noted that recordings for this training were sourced from the schools where SUS questionnaires were tested. Seventeen lessons, each originally 45 minutes long, for students in grades 7 to 11 were recorded. These recordings were then edited down to fifteen-minute video segments by the consultant, and 14 of these shorter videos were subsequently used for observer training.

The training required the participants to pass a reliability exam (i.e., certification exam) of local classroom videos from Tajikistan classrooms. In order to pass the reliability exam, the participants had to score three fifteen-minute classroom videos following the *TEACH Secondary* manual's protocols. After watching each fifteen-minute video, participants were given 15 minutes to score the video. To pass the reliability exam and become certified *TEACH Secondary* observers, the participants must be accurate within +/-1 of the master codes in eight of the 10 element scores (i.e., the nine "Quality of Teaching Practices" elements and the "Time on Task" element) for each of the three classroom videos.

After the reliability testing, 14 of the 24 participants passed. Of these, there were 11 participants selected who were from each of the four regions of the country and could travel relatively easily to the regions where the sampled schools were located. Each observer was responsible for carrying out observations alone at each of their selected schools.

Limitation and Mitigation

During the entire study period, the following limitations were identified and subsequently addressed. Mitigation strategies for their resolution are provided below:

Methodological Limitations:

- **Observer effect.** The very act of being observed can change a teacher's behavior. They might put on a "performance" that isn't representative of their typical practice. This could lead to skews in data, making it difficult to get an accurate picture of typical teaching.
- **Observer Bias:** The observer's own beliefs, experiences, and expectations can influence what they notice and how they interpret it. This can lead to subjective judgments rather than objective analysis.
- **Observation in English classes.** Observers who cannot speak English very well, will be unable to comprehend the language being used by the teacher for explanations, instructions, questioning, and classroom management. They also won't understand the students' responses and interactions.

Contextual limitations:

- **Access and Permissions in regions.** Obtaining necessary approvals from regional authorities, and potentially ethics review boards, is a necessary but lengthy and complex process, which had an affect on the data collection timeline. In this regard, the day before the start of the fieldwork, observers from the GBAO, Sughd and Khatlon regions were unable to take part in the study due to the lack of permission.
- **Lack of internet connection.** Lack of internet connection, especially in remote villages and cities may significantly effect the data collection timeline.
- **Proper selection of schools.** The secondary school No. 57 of Tursunzade city was selected for the survey, where students are taught up to grade 6, and is a branch of secondary school No. 23 of this city.

Mitigation measures:

- **Observer effect.** Clearly communicate the purpose and process of the observation, emphasizing its role in professional growth and school improvement rather than solely an evaluation. Build a culture of open feedback and dialogue.
- **Observer Bias:** A well-defined checklist was employed that focused on specific, observable behaviors and provided clear criteria for evaluation. A comprehensive training for observers was conducted.
- **Access and Permissions in regions.** This issue was resolved by the observers themselves, after an appeal to the rector of the Republican Institute for advanced training and retraining of employees of the education system (RIATRES) and it’s order to the region departments.

- **Lack of internet connection.** The provided tablets have the function of recording and storing data in offline mode, which allows for the data to be sent to the database at a later time once the internet connection was restored.
- **Proper selection of schools.** The survey was conducted at secondary school No. 23 in Tursunzade city following a schedule adjustment.
- **Observation in English classes.** To prevent difficulty in assessing English classes, the observers were asked to exclude observations of such classes.

2. 'At a Glance' Summary

TEACH Secondary measures the time teachers spend on learning and the extent to which students are on task, and the quality of classroom practices over the course of a teacher's lesson. As part of the Time on Task component, three "snapshots" of 8–10 seconds are used to record both the teacher's actions and the number of students who are on task and actively participating throughout the observation. The Quality of Teaching Practices component, on the other hand, is organized into three broad areas: Classroom Culture, Instruction, and Socio-emotional Skills. These areas have nine corresponding elements that point to 29 behaviors. The behaviors are characterized as low, medium, or high, based on the evidence observed in the classroom. These preliminary scores are translated into a five-point scale, which quantifies the teacher's practices as captured in two fifteen-minute observations.

This study documents the results of a study conducted in period of 02 – 22 April 2025 in 130 selected schools (91% rural and 9% urban) in Tajikistan. Eleven observers, who were trained and certified to conduct classroom observations, captured the practices of 426 teachers (44% female). It should be noted that the reason for the gender imbalance of teachers in the observations is explained by the subject specialization of teachers. The analysis of the distribution by subjects showed that men predominantly teach exact sciences (mathematics, physics, chemistry), while women more often teach humanities (literature, Russian and Tajik languages). Since most of the observed lessons were in exact sciences, the proportion of men among the teachers covered by the observation was higher. At the same time, the selection of lessons for observation was carried out according to the TEACH methodology: randomly - based on the lists of lessons provided by the school principal at the time of the visit. Classroom observations were conducted in grades 7 – 11 and across several subjects including Mathematics, Tajik and Russian Languages, Physics, Geography, Computer Science and others (***Table 0.1***).

Table 0.1. Overview of Study

Location		Tajikistan
Number of Schools		130
% of Rural Schools		91%
% of Urban Schools		9%
Number of Teachers		426
% of Female Teachers		44%
% of Male Teachers		56%
Number of observations		426
Median Class Size		21
Number of Students		8872
% Female Students		51%
% Male Students		49%
Grades Observed	Grade 7	15%
	Grade 8	20%
	Grade 9	23%
	Grade 10	24%
	Grade 11	18%
Subject distribution	Mathematics	15%
	Tajik Language	9%
	Literature	12%
	Chemistry	8%
	Physics	11%
	History	9%
	Biology	9%
	Computer Science	3%
	Russian language	8%
	English language	3%
	Geography	8%
	Other	5%

The overall results indicate that Tajikistan Secondary teachers are more effective in the Area of Classroom Culture; however, they are less effective in Socio-emotional Skills. This is clearly seen in that 80% of Secondary teachers scored above a 3 on Classroom Culture, while only 13% obtained a score above 3 on Socio-emotional skills. Secondary teachers in Tajikistan provide a learning activity to students 97% of the time. However, when teachers provide a learning activity, all students are on task only 44% of the time, but students are found to be actively participating in

classroom activities most of the time (76%).

The Areas in which Secondary teachers are more effective (i.e., Classroom Culture and Instruction) indicate strengths at the country level; the Area in which Secondary teachers are less effective (i.e., Socio-emotional Skills) indicates potential areas for technical assistance, professional development, and/or coaching. Qualitative descriptions and profiles from the data also provide insights into Secondary teachers' practices in Tajikistan.

'At a Glance'
Table 0.2. Results Summary – All Schools

Table 02a. Time on learning

<table>
<tr><td rowspan="5">Time on learning</td><td colspan="2" rowspan="2">Teacher provides learning activity for most students</td><td>No</td><td colspan="3">Yes</td></tr>
<tr><td>3%</td><td colspan="3">97%</td></tr>
<tr><td colspan="2" rowspan="2">Students are on task</td><td>Low</td><td>Medium</td><td>High</td></tr>
<tr><td>6 or more students are off task</td><td>2 to 5 students are off task</td><td>All students are on task - one student may be off task</td></tr>
<tr><td>4%</td><td>53%</td><td>44%</td></tr>
<tr><td colspan="3" rowspan="2">Students are actively participating in learning tasks</td><td colspan="2">Yes</td><td>No</td></tr>
<tr><td colspan="2">76%</td><td>24%</td></tr>
</table>

Table 02b. Classroom Culture

Element Decription and Score Distribution				Behaviors	Low Description		Medium Description		High Description		N/A
Classroom Culture	**SUPPORTIVE LEARNING ENVIRONMENT:** The teacher creates a classroom environment where students can feel emotionally safe and supported. Moreover, all students feel welcome, as the teacher treats all students respectfully.	**1**	0%	1.1 The teacher treats all students respectfully	Does not treat all respectfully	1%	Treats all somewhat respectfully	53%	Treats all respectfully	46%	
		2	6%	1.2 The teacher uses positive language with students	Does not use positive language	1%	Uses some positive language	69%	Consistently uses positive language	30%	
		3	51%	1.3 The teacher responds to students' needs	Is not aware or does not respond to needs	4%	Responds but does not address all of the issues	28%	Responds & addresses all of the issues	4%	64%
		4	40%	1.4a The teacher does not exhibit gender bias and challenges stereotypes in the classroom	Exhibits **gender** bias or reinforces stereotypes	9%	Does not exhibit **gender** bias but does not challenge stereotypes	90%	Does not exhibit **gender** bias and challenges stereotypes	1%	
		5	2%	1.4b The teacher does not exhibit disability bias and challenges stereotypes in the classroom	Exhibits **disability** bias or reinforces stereotypes	1%	Does not exhibit **disability** bias but does not challenge stereotypes	1%	Does not exhibit **disability** bias and challenges stereotypes	0%	
				1.4 The teacher does not exhibit bias and challenges stereotypes in the classroom	Exhibits bias or reinforces stereotypes	6%	Does not exhibit bias but does not challenge stereotypes	94%	Does not exhibit bias and challenges stereotypes	0%	
	POSITIVE BEHAVIORAL EXPECTATIONS: The teacher promotes positive behavior by acknowledging students' behavior that meets or exceeds expectations. Moreover, the teacher sets clear behavioral expectations for different activities	**1**	2%	2.1 The teacher sets clear behavioral expectations for classroom activities	Does not set clear expectations	3%	Sets superficial behavioral expectations	58%	Sets clear, specific behavioral expectations	39%	
		2	20%								
		3	33%	2.2 The teacher acknowledges positive student behavior	Does not acknowledge positive behavior	49%	Acknowledges positive behavior but is not specific	44%	Acknowledges positive behavior and is specific	7%	
		4	42%	2.3 The teacher redirects misbehavior and focuses on an expected behavior rather	Ineffectively redirects	9%	Effectively redirects but focuses on misbehavior	50%	Effectively positively redirects or students are well-behaved	41%	
		5	3%								

Table 02c. Instruction

Element Decription and Score Distribution			Behaviors	Low Description		Medium Description		High Description		N/A
Instruction	**LESSON FACILITATION:** The teacher facilitates learning to promote comprehension by explicitly articulating the objectives, providing clear explanations of concepts, and connecting what is being learned to other content knowledge or students' experiences.	1 3%	3.1 The teacher explicitly articulates the objectives of the lesson and relates classroom activities to the objectives	Does not state objective or activity	7%	States activity but not objective	45%	States objective and activity	48%	
		2 27%	3.2 The teacher explains content using multiple forms of representation	Doesn't explain concepts or explains using 1 form of representation	11%	Explains concepts using 2 forms of representation	65%	Explains concepts using 3+ forms of representation	25%	
		3 32%	3.3 The teacher makes connections in the lesson that relate to other content knowledge, students' daily lives, or real - world issues	Does not connect	36%	Superficially or unclearly connects	50%	Meaningfully connects	14%	
		4 31%	3.4 The teacher models by demonstrating or thinking aloud	Does not model	50%	Partially models or assists	33%	Completely models and narrates/thinks aloud	17%	
		5 7%								
	CHECKS FOR UNDERSTANDING: The teacher checks for understanding to ensure most students comprehend the content that is being delivered. Moreover, the teacher adjusts the pace of the activity to provide students with additional learning opportunities.	1 2%	4.1 The teacher uses questions, prompts or other strategies to determine students' level of understanding	Either does not ask or the class responds in unison	4%	Effectively asks less than half of students	64%	Effectively asks more than half of students	32%	
		2 22%	4.2 The teacher monitors most students during independent/group work	Does not monitor students	9%	Monitors less than half of students	40%	Systematically monitors most students	6%	45%
		3 41%								
		4 29%	4.3 The teacher adjusts teaching to the level of the students	Does not adjust	13%	Adjusts, but briefly and superficially	66%	Substantially adjusts teaching or adjusts by expanding students' language	21%	
		5 6%								
	FEEDBACK: The teacher provides specific comments or prompts to help identify misunderstandings, understand successes, and guide thought processes to promote learning.	1 10%	5.1 The teacher provides specific comments or prompts that help clarify students' misunderstandings	Does not provide comments about misunderstandings or comments are evaluative	10%	Provides general or superficial comments about misunderstandings	63%	Provides specific & substantive comments about misunderstandings	27%	
		2 23%								
		3 40%	5.2 The teacher provides specific comments or prompts that help identify students' successes	Does not provide comments about successes or comments are evaluative	33%	Provides general or superficial comments about successes	55%	Provides specific & substantive comments about successes	13%	
		4 17%								
		5 10%								
	CRITICAL THINKING: The teacher builds students' critical thinking skills by encouraging them to actively analyze content.	1 12%	6.1 The teacher asks open-ended questions	Does not ask OR asks one open-ended question	31%	Asks 2 or more but does not build on students' responses or 1 is a follow-up to a students' response	46%	Asks 3+ & at least 1 builds upon students' responses	23%	
		2 29%	6.2 The teacher provides thinking tasks	Does not provide thinking tasks	23%	Provides superficial thinking tasks	63%	Provides substantial thinking tasks	14%	
		3 40%	6.3 Students perform thinking tasks	Students neither ask nor perform	31%	Students do not ask but perform superficial thinking tasks	57%	Students ask open-ended questions or perform substantial thinking tasks	11%	
		4 18%	6.4 Students explain their thinking to the teacher or ask open-ended questions	Students do not explain their thinking to the teacher during class activities, nor do they ask open-ended questions	58%	Students explain their thinking to the teacher during class activities or ask open-ended questions, although this happens infrequently (only once)	39%	Students frequently explain their thinking to the teacher during class activities or ask open-ended questions (more than once)	2%	
		5 2%								

Table 02d. Socioemotional Skills

Element Decription and Score Distribution			Behaviors	Low Description		Medium Description		High Description		N/A
Socioemotional Skills	**AUTONOMY:** The teacher provides students with opportunities to make choices and take on meaningful roles in the classroom. Students make use of these opportunities by volunteering to take on roles and expressing their ideas and opinions.	**1** 4% **2** 41% **3** 44% **4** 10% **5** 1%	7.1 The teacher provides students with choices	Does not provide choices	49%	Explicitly provides at least 1 choice with 2 options	46%	Explicitly provides at least 1 choice with 3+ options	5%	
			7.2 The teacher provides students with opportunities to take on roles in the classroom	Does not provide opportunities	25%	Provides opportunities to take on limited roles	67%	Provides opportunities to take on meaningful roles	8%	
			7.3 The students volunteer to participate in the classroom	Students don't volunteer	10%	Few students volunteer by expressing their ideas, raising their hands, and taking on roles	67%	Most students volunteer by expressing their ideas, raising their hands, and taking on roles	22%	
	PERSEVERANCE: The teacher promotes students' efforts toward the goal of mastering new skills or concepts, instead of focusing solely on results, intelligence, or natural abilities. In addition, the teacher has a positive attitude toward challenges, framing failure and frustrations as useful parts of the learning process. The teacher also encourages students to set short- and/or long-term goals.	**1** 11% **2** 56% **3** 26% **4** 6% **5** 0%	8.1 The teacher acknowledges students' effort	Does not acknowledge efforts	40%	Sometimes acknowledges efforts	56%	Frequently acknowledges & identifies efforts explicitly	5%	
			8.2 The teacher has a positive attitude towards students' challenges	Has a negative attitude	19%	Has a neutral attitude	74%	Has a positive attitude	7%	
			8.3 The teacher encourages goal-setting	Does not encourage planning	67%	Plans with and/or for the student	31%	Explicitly encourages students to engage in planning	2%	
	SOCIAL & COLLABORATIVE SKILLS: The teacher encourages students' collaboration with one another and promotes students' interpersonal skills. Students respond to the teacher's efforts by collaborating with one another in the classroom, creating an environment free from physical or emotional hostility.	**1** 39% **2** 44% **3** 11% **4** 5% **5** 1%	9.1 The teacher promotes students' collaboration through peer interaction	Does not promote collaboration among students	72%	Promotes superficial student collaboration	23%	Promotes substantial student collaboration	6%	
			9.2 The teacher promotes students' interpersonal skills	Does not promote intra- or interpersonal skills	71%	Briefly or superficially promotes intra- or interpersonal skills	27%	Promotes intra- or interpersonal skills	2%	
			9.3 Students collaborate with one another through peer i	Students do not collaborate or display negative behaviors	54%	Students collaborate superficially	42%	Students collaborate towards a common goal	4%	

3. Discussion and TEACH Secondary Results: Insights into Teacher Practices – A Comparison of Project and Control Schools

TEACH SECONDARY RESULTS SUMMARY

Data collected from *TEACH Secondary* indicates that in the 65 project schools, more than 1 out of every 10 teachers struggles (score less than 2) in at least one area (i.e., Socio-emotional Skills). Within the 65 control schools, which are not receiving intervention from Project, almost 3 out of 10 teachers struggles in the same area. Results indicate teachers in project schools have strong ability in Classroom Culture (83% have a score higher than 3) and teachers in control schools are strong in Classroom Culture, as well (77% have a score of 3 or higher). However, teachers from project schools and control schools exhibit much weaker ability in Socio-emotional Skills with 14% and 12%, respectively, scoring higher than 3 **(*Figures 3.1a and 3.1b*)**.

Figure 3.1a: Distribution of Average TEACH Secondary Scores by Area and Overall in Project Schools

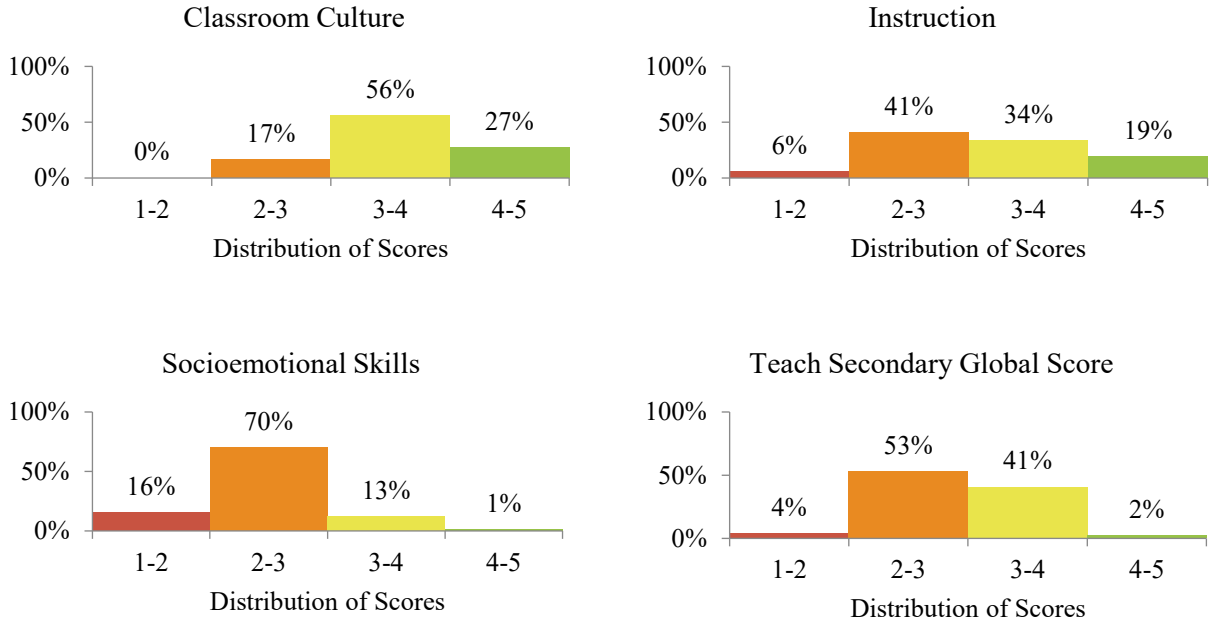
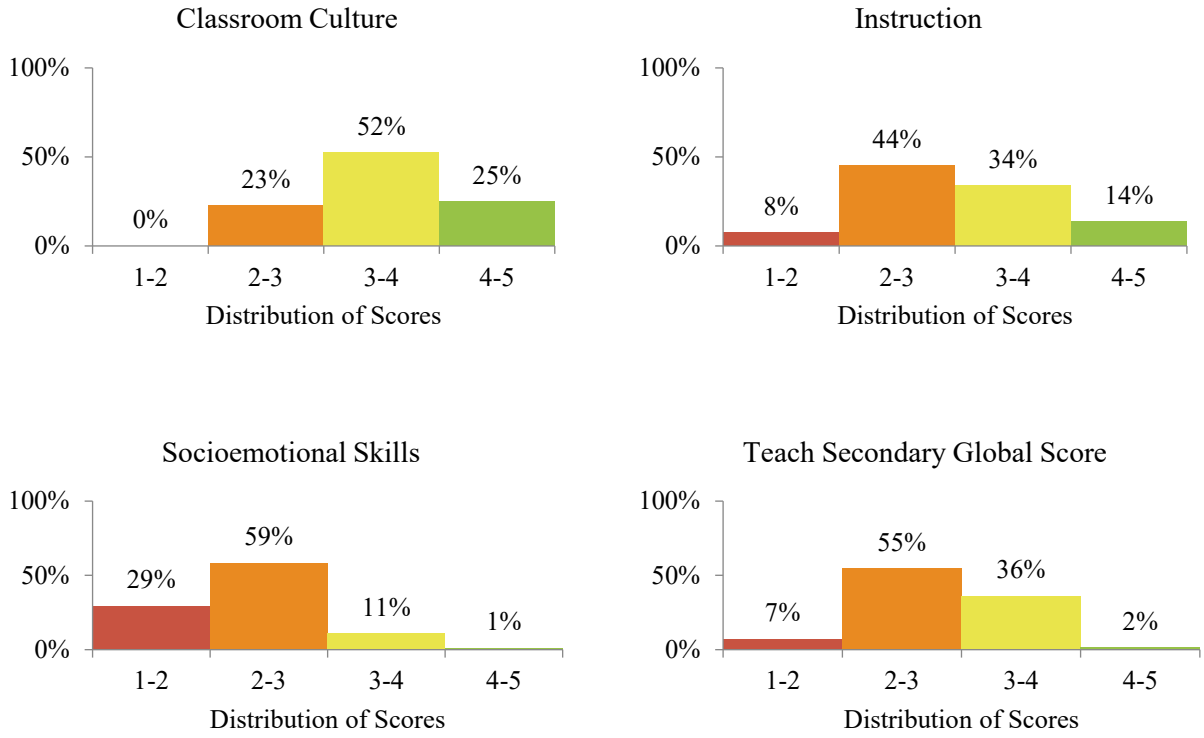


Figure 3.1b: Distribution of Average TEACH Secondary Scores by Area and Overall in Control Schools



Time on Task

In Tajikistan, teachers in project schools and control schools provide a learning activity to students during the vast majority of the lesson (97% and 96% of the time, respectively). Moreover, when teachers provide a learning activity, all students are on task 45% and 42% of the time, respectively, and actively participating in those activities most of the time (76% and 75%, respectively) (***Figures 3.2a and 3.2b***).

Figure 3.2a: Distribution of Time on Task Variables in Project Schools

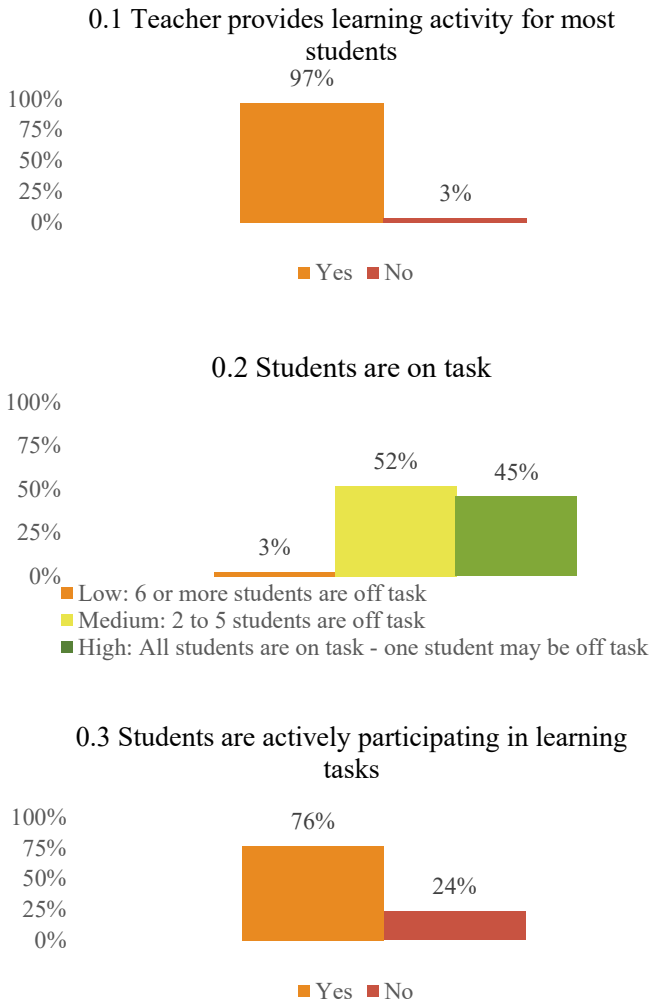
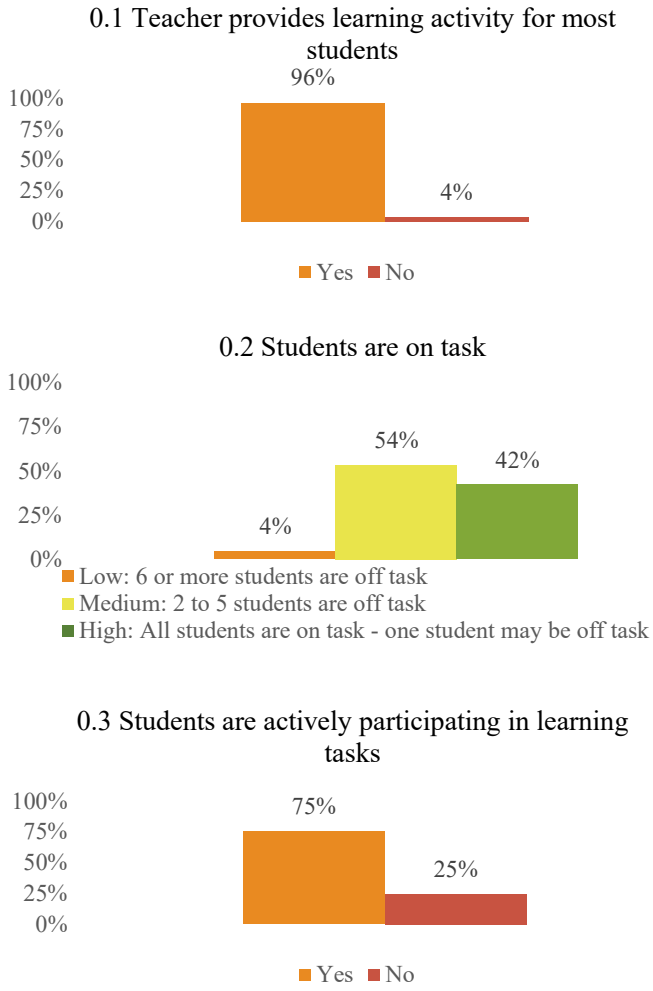


Figure 3.2b: Distribution of Time on Task Variables in Control Schools



TEACH Secondary Scores by Element

Teachers in Project schools and teachers in control schools are slightly above the medium – or average – range at creating a supportive learning environment and setting positive behavioral expectations in the Area of Classroom Culture. Moreover, in the Area of Instruction, these teachers score below the medium range in facilitating the lesson, checking the level of students' understanding, and giving feedback; however, they are less skilled at finding ways to encourage students to think critically. Lastly, project school teachers and control school teachers score at the lower level showing poor skills in promoting students' autonomy, fostering perseverance, and developing social and collaborative skills (***Figures 3.3a and 3.3b***).

The next section characterizes teacher practices in Tajikistan in project schools and control schools for each area.

Figure 3.3a: Distribution of Average Teach Secondary Scores by Element in Project Schools

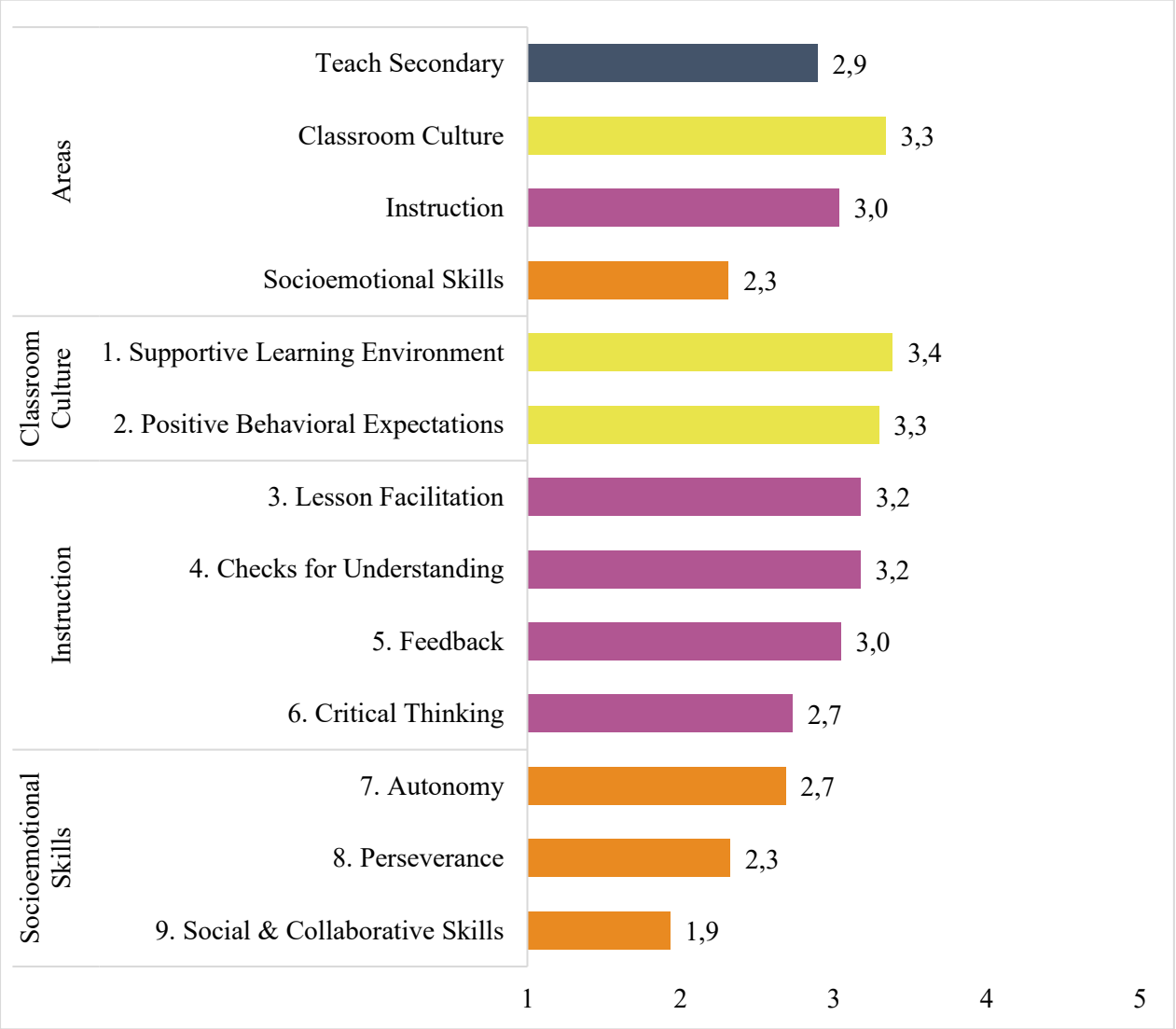
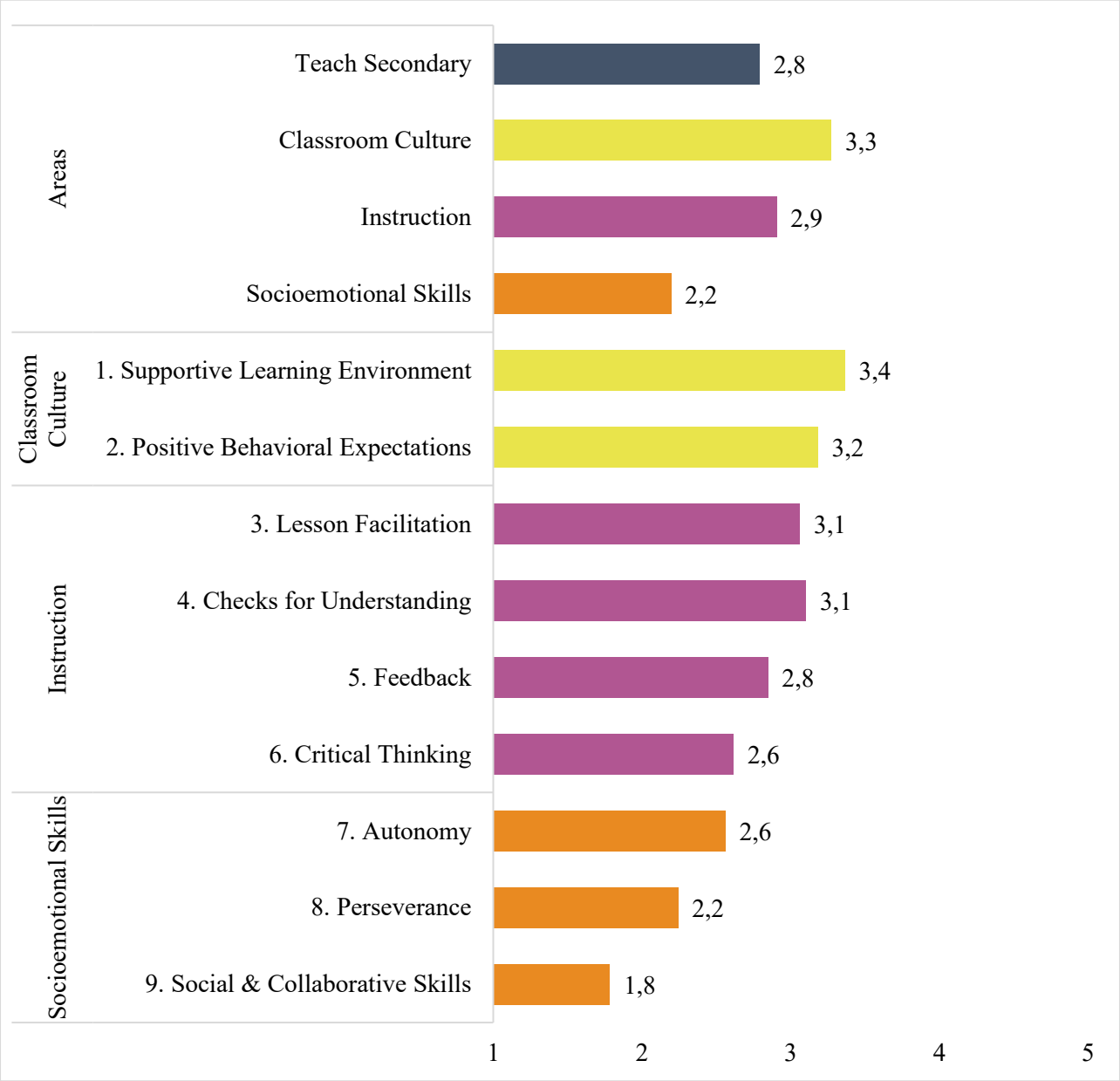


Figure 3.3b: Distribution of Average Teach Secondary Scores by Element in Control Schools



Area 1: Classroom Culture Results

Classroom Culture measures the extent to which the teacher creates a culture that is conducive to learning. The focus here is not on the teacher correcting students' negative behaviors but rather the extent to which the teacher creates: (i) a **supportive learning environment** by treating all students respectfully, consistently using positive language, responding to students' needs, and both challenging gender and disability stereotypes and not exhibiting gender and disability bias in the classroom; and (ii) **positive behavioral expectations** by setting clear behavioral expectations, acknowledging positive student behavior, and effectively redirecting misbehavior.

Overall, teachers in project and control schools perform moderately well with Classroom Culture. On average, they score 3.3 points out of the 5 points possible in this area. They were most effective at treating students with respect and using positive language, and somewhat effective at responding to students' needs, but ineffective at challenging negative stereotypes toward gender and disability (See ***Figure 3.3a and 3.3b***).

Supportive Learning Environment. On average, project teachers and control teachers score 3.4 points out of the 5 points possible in this element (***Figures 3.3a and 3.3b***). ***Figures 3.4a and 3.4b*** show the distribution of scores for supportive learning environment and its respective behaviors. Both project and control teachers consistently treat students respectfully (46%) and over half of the teachers treat students somewhat respectfully. Teachers exhibited respect consistently when the teacher, for example, uses students' names or says "please", "thank you", or "good morning." They are somewhat respectful if they do not show any of these outward signs of respect, but also do not show disrespect by yelling, ridiculing or hitting the students.

Teachers in both groups use positive language in the classroom. Project teachers use some positive language or consistently use positive language 100% of the time. The vast majority of control teachers (98%) either use some positive language or consistently use it in the classroom. This behavior is considered consistent if the teacher, at least 5 times during the observation, says, for example, "well done", "great", "good", "very good", or asks students to give applause to a fellow student who gave the correct answer. The teacher is using some positive language if she uses this kind of language between 1 – 4 times during the observation.

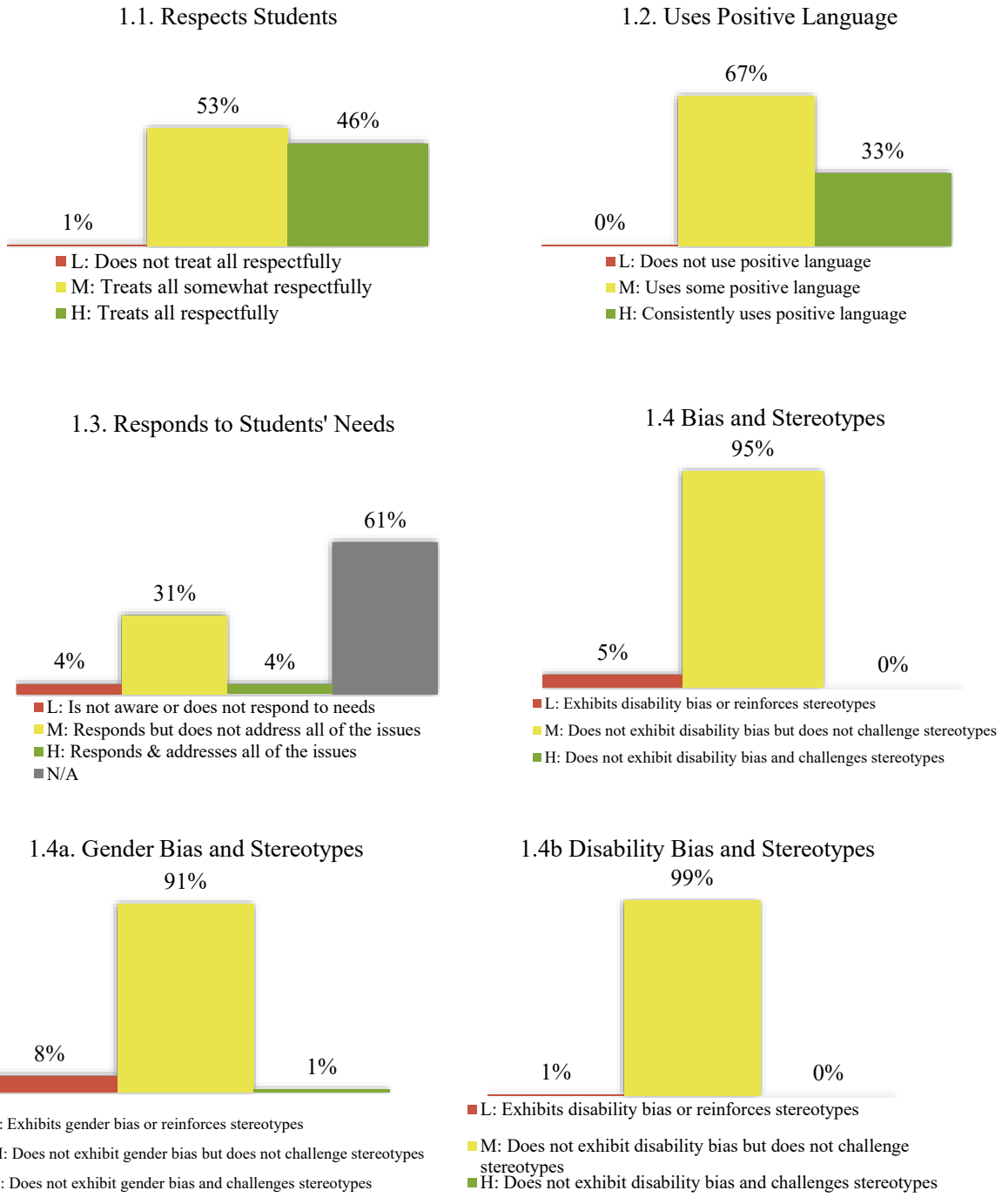
When students express a need in the class, project teachers (31%) and control teachers (25%) respond to the needs but do not fully address or resolve the problems in a timely manner. This means that, for instance, when a student tells the teacher that she cannot see the text on the board very well, the teacher responds by saying that she needs to remember to sit closer to the front next time without moving the student closer to the board, therefore not addressing the immediate problem.

Finally, while almost all teachers in both groups (95% of project teachers and 93% of control teachers) treat students of all genders and students with disabilities equally, no teachers (0% of project and control teachers) challenge these stereotypes in their classrooms. For example, the teacher calls on girls and boys equally to participate during the lesson and may ask boys and girls to lead group work and to collect homework assignments. However, in order to challenge gender and disability stereotypes, the teacher must also, for example, use examples and explanations of that use female, and not just male, doctors and scientists, or mentions men who are cooks, and gives examples of individuals with disabilities with important positions in society as leaders,

scientists, or artists.

Examples of the various behaviors and associated scores for ***Element 1: Supportive Learning Environment*** can be found in ***Table A1.1*** in the Appendices**.**

Figure 3.4a: Supportive Learning Environment in Project Schools



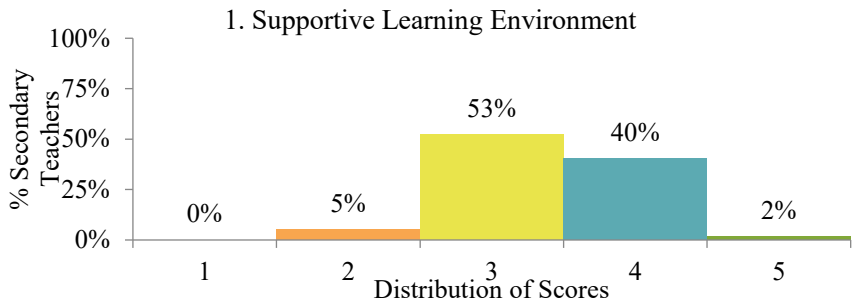
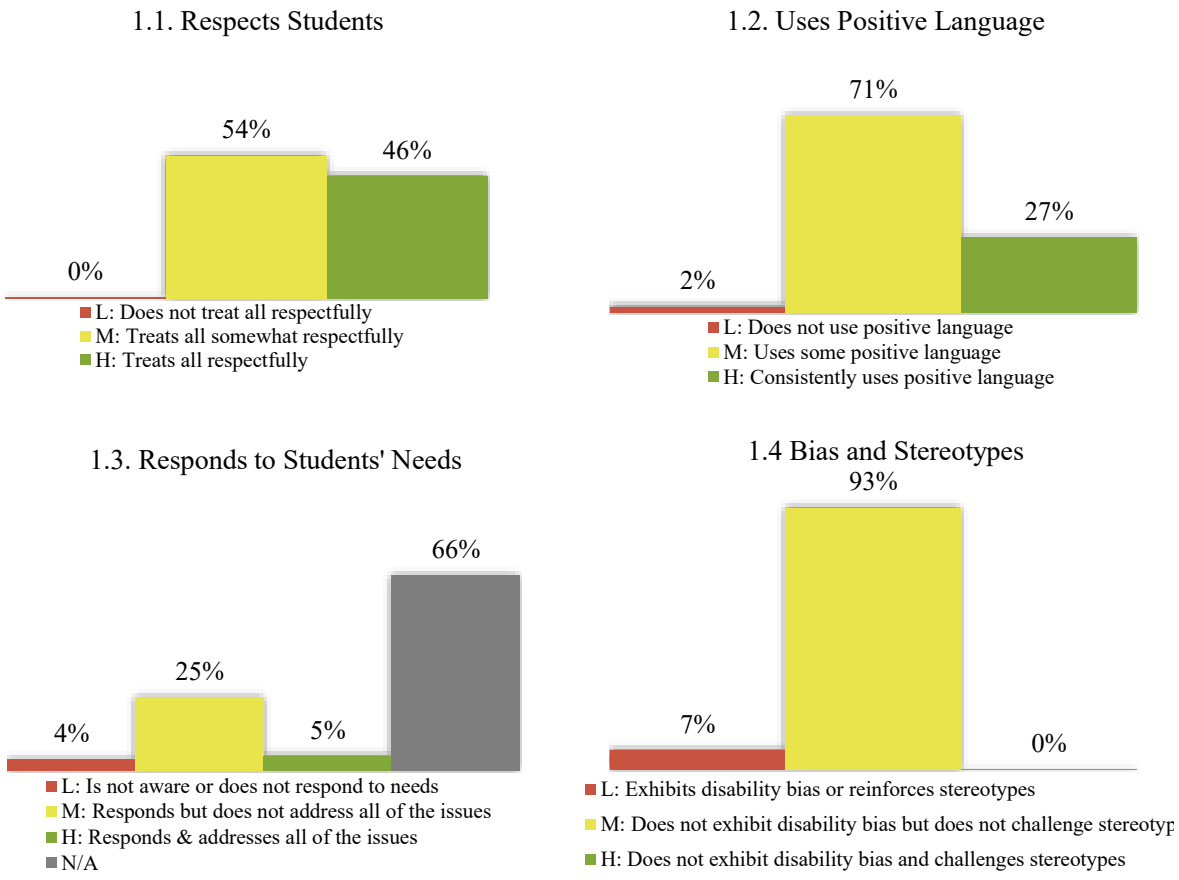
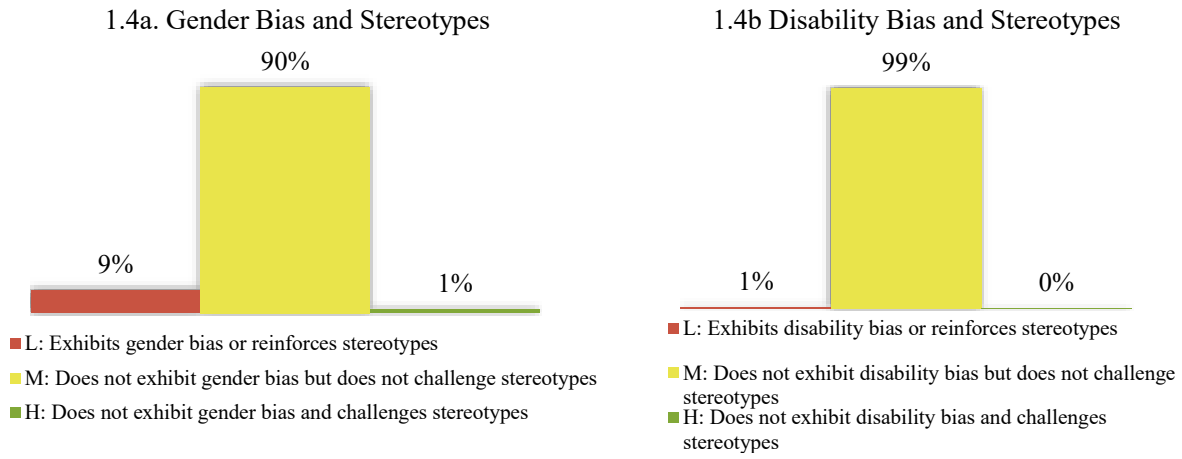
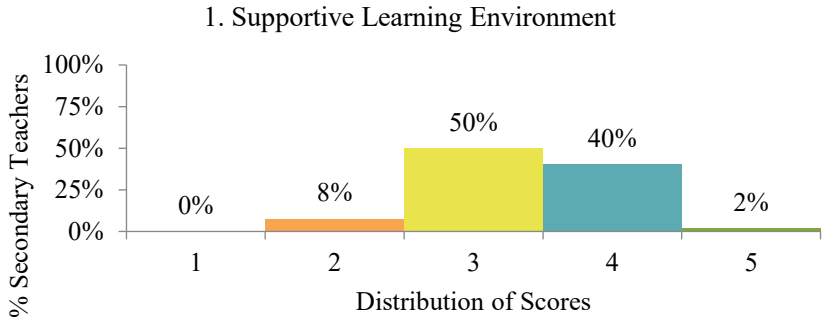


Figure 3.4b: Supportive Learning Environment in Control Schools







Positive Behavioral Expectations. On average, project and control teachers score 3.2 points out of the 5 points possible in this element (***Figures 3.3a and 3.3b***). ***Figures 3.5a and 3.5b*** show the distribution of scores for the positive behavioral expectations' element and its respective behaviors.

Roughly 4 out of 10 project teachers and control teachers set clear and specific behavioral expectations, while almost 6 out of 10 of both groups of teachers set some superficial expectations of students' behavior. Examples of the teacher setting clear behavior expectation in the classroom include when the teacher says, "Please complete the assessment on your own. Keep your eyes on your own work, and do not speak to your neighbor during the assessment," before students begin to work independently.

However, around half of the teachers from project schools and control schools (45% and 52%, respectively) do not acknowledge students' positive behavior at all during the lesson. But 48% of project teachers and 41% of control teachers acknowledge some students' behavior. This means that, for instance, if a small group is following behavioral expectations, the teacher says, "This group is working well together" or "This group is doing a good job," without clarifying why or how.

Finally, half (50%) of both groups of teachers are somewhat effective at redirecting misbehavior, while 4 out of 10 teachers from both groups are effective at positively redirecting misbehavior in the classroom or the students are already well-behaved. An example of somewhat effectively

redirecting misbehavior would be when the teacher notices that two students are not working on the assigned problems, the teacher says, "You two need to stop talking now, you are making too much noise." In this case, the teacher is focusing on the misbehavior rather than the expected behavior (i.e., to quietly complete the assigned work).

Examples of the various behaviors and associated scores for ***Element 2: Positive Behavioral Expectations*** can be found in ***Table A1.2*** in the Appendices**.**

Figure 3.5a: Positive Behavioral Expectations for Project Schools

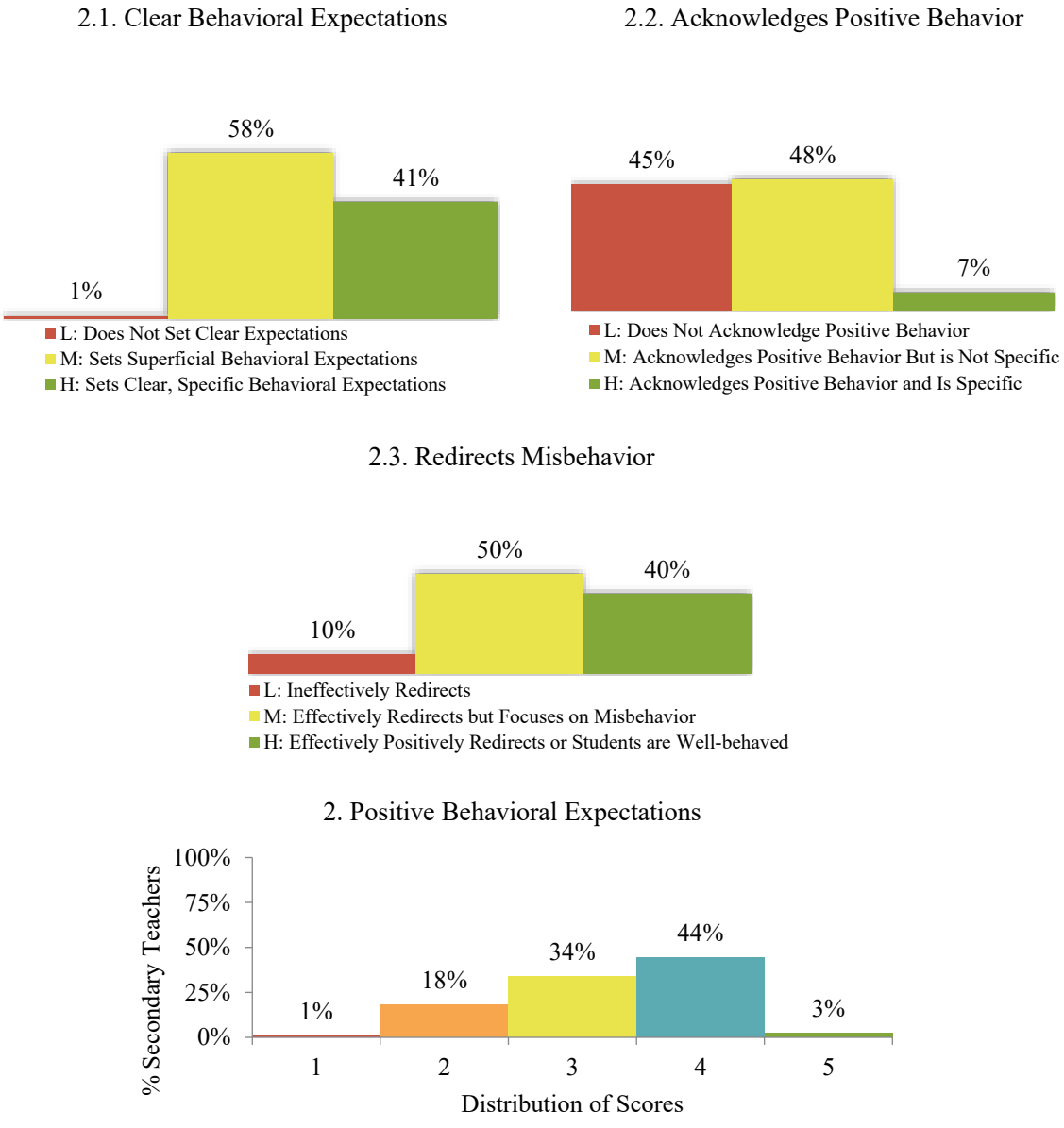
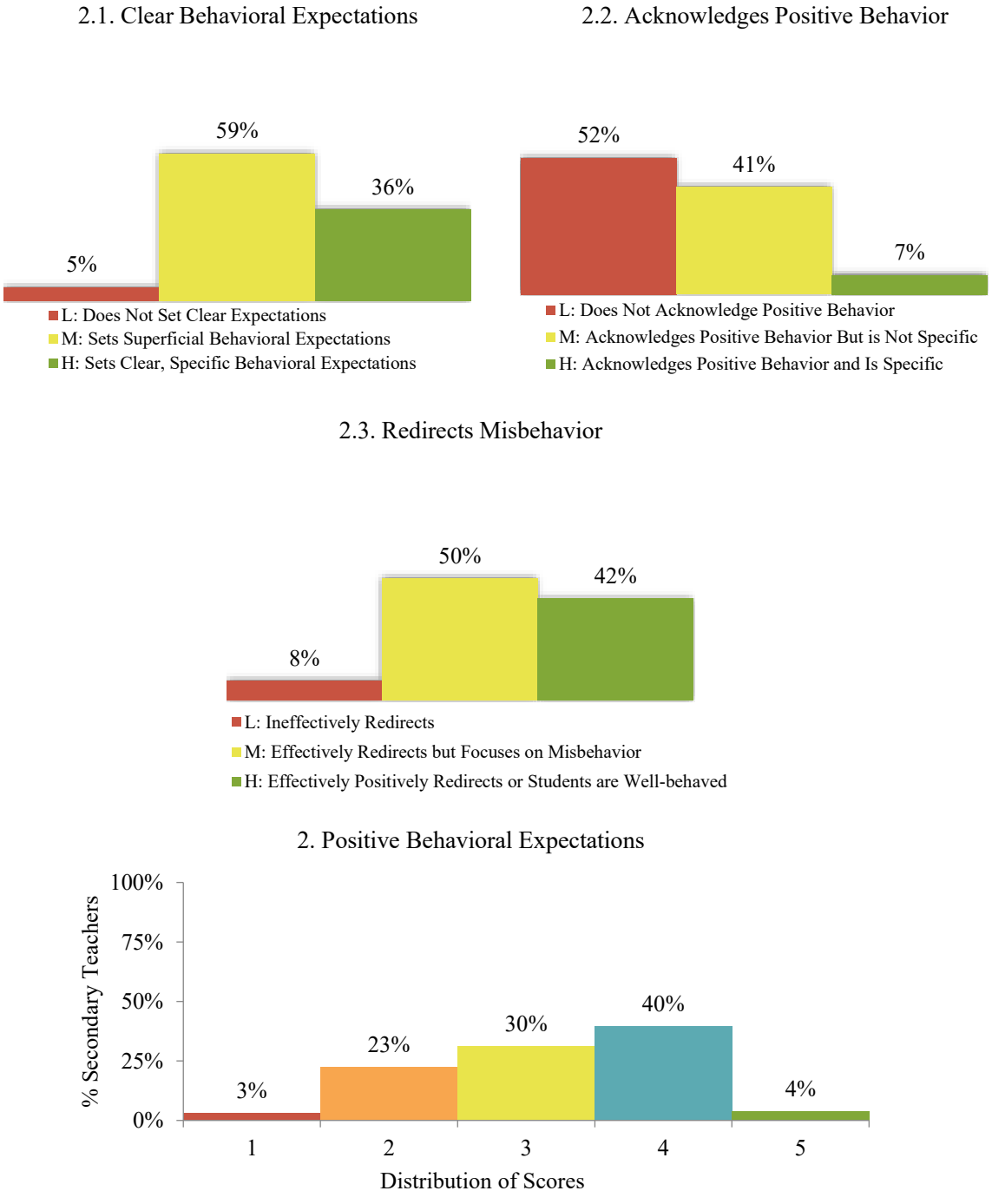


Figure 3.5b: Positive Behavioral Expectations for Control Schools



Classroom Culture Results by Grade Level

Figures 3.6a and 3.6b show the average scores across the two elements that constitute Classroom Culture. This information is broken down by grade level.

In Project schools, there is no significant difference among teachers responsible for different grade levels in providing a supportive learning environment. However, teachers in Grade 7 tend to be slightly better (3.5) at setting positive behavior expectations compared to their colleagues in the higher grade levels.

In control schools, Grade 8 teachers perform noticeably better in providing a supportive learning environment (3.6) and setting positive behavioral expectations (3.5) than the teachers in other grade levels, while Grade 10 teachers had the poorest performance with both of these behaviors scoring 3.2 and 2.9, respectively.

Figure 3.6a: Classroom Culture by Grade Level for Project Schools

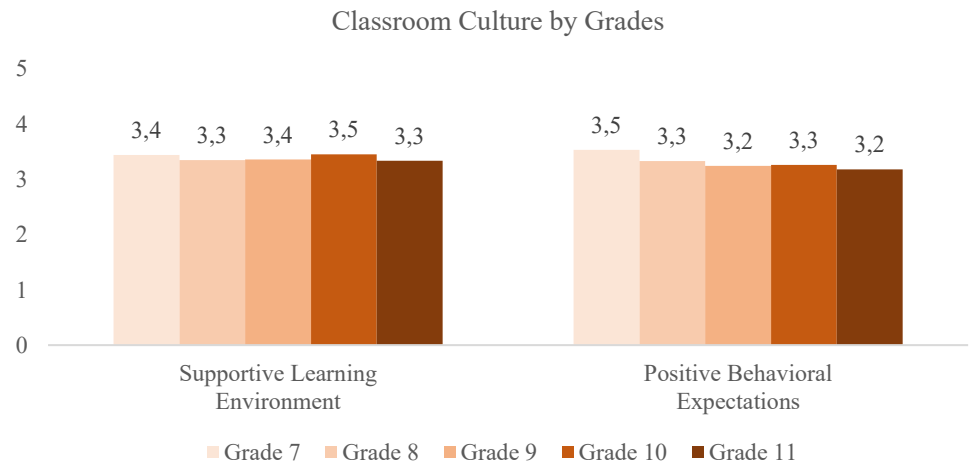
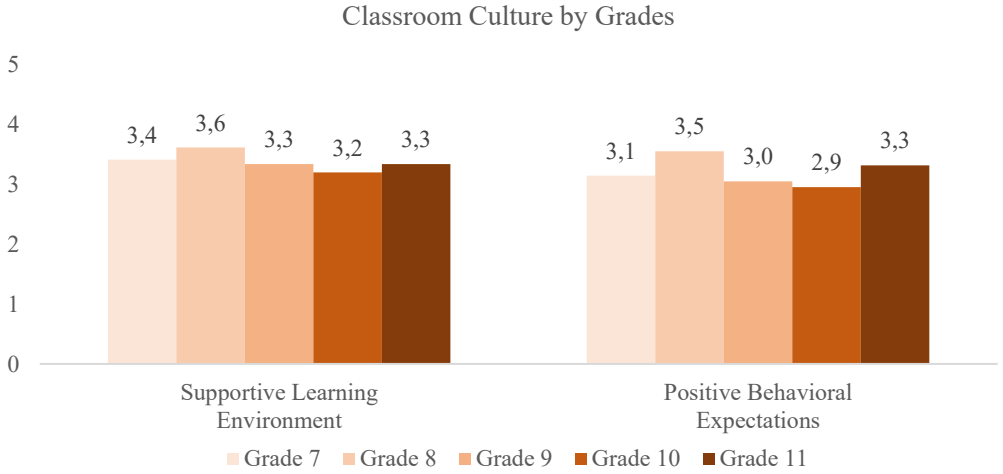


Figure 3.6b: Classroom Culture by Grade Level for Control Schools



Area 2: Instruction Results

Instruction measures whether the teacher instructs in a manner that deepens student understanding and encourages critical thinking and analysis. The focus here is not on content-specific methods of instruction, but rather the extent to which the teacher: (i) **facilitates the lesson** to promote comprehension by explicitly articulating lesson objectives that are aligned to the learning activity, explains the content using multiple forms of representation, and connecting the learning activity to other content knowledge, students' experiences or real-world issues, and by modeling the learning activity through enacting or thinking aloud; (ii) does not simply move from one topic to the next but **checks for understanding** by using questions, prompts, or other strategies to determine students' level of understanding, by monitoring students during group and independent work, and by adjusting his/her teaching to the level of students; (iii) gives **feedback** by providing specific comments or prompts to help clarify students' misunderstandings or identify their successes; and (iv) encourages students to **think critically** by asking open-ended questions and providing students with thinking tasks that require them to actively analyze content. Students exhibit critical thinking ability by performing thinking tasks, explaining their thinking to the teacher or asking open-ended questions.

Overall, teachers in both project and control schools performed moderately in Instruction. On average, they score 3.0 points out of the 5 points possible in this area. They were most effective at facilitating the lesson and checking for students' level of understanding, and only somewhat effective at providing feedback and working on critical thinking skills (see ***Figures 3.3a and 3.3b***).

Lesson Facilitation. On average, teachers from project and control schools score 3.1 points out of the 5 points possible in this element (***Figures 3.3a and 3.3b***). ***Figures 3.7a and 3.7b*** show the distribution of teachers' scores for the lesson facilitation element and the respective behaviors.

Half of project teachers (49%) and 46% of control teachers clearly state the lesson objective. For example, the teacher might say, "Today we are going to learn about the flight patterns and habitat of native birds to our country."

The majority of teachers in project and control schools (67% and 63%, respectively) explain lesson content using two forms of representation, with one quarter of the teachers (24% and 25%, respectively) using three or more forms of representation. An example of the teacher using multiple forms of representation in the classroom would be in a biology lesson, when the teacher verbally explains the function of a microscope and its different parts. The teacher then demonstrates how to use a microscope using a real-life instrument. Later in the lesson, the teacher points to a diagram of a cell on the board.

Furthermore, half of project teachers (50%) and control teachers (49%) make superficial or unclear connections during the lesson to previous content learned, the students' daily lives, or real-world issues. However, it should be noted that more than one third (37%) of both teacher groups do not try to make any connections with the current lesson content. In the classroom, an example of the teacher making a superficial connection to a real-world issue would be when the chemistry teacher describes different causes of air pollution, by saying, "Exhaust gases from vehicles are one cause of air pollution that can cause many other problems." The connection to students' lives or real-world issues is superficial and nonspecific.

Lastly, over half of project teachers (55%) at least partially model learning activities, while 46%

of project teachers do the same. These totals include 17% of project teachers and 16% of control teachers who completely model learning activities during their lessons. For example, if students are calculating the area of a circle, the teacher fully models by showing each step (full demonstration of a procedure) with visual diagrams or other local materials and says what he is thinking at each step.

Examples of the various behaviors and associated scores for ***Element 3: Supportive Learning Environment*** can be found in ***Table A1.3*** in the Appendices.

Figure 3.7a: Lesson Facilitation for Project Schools

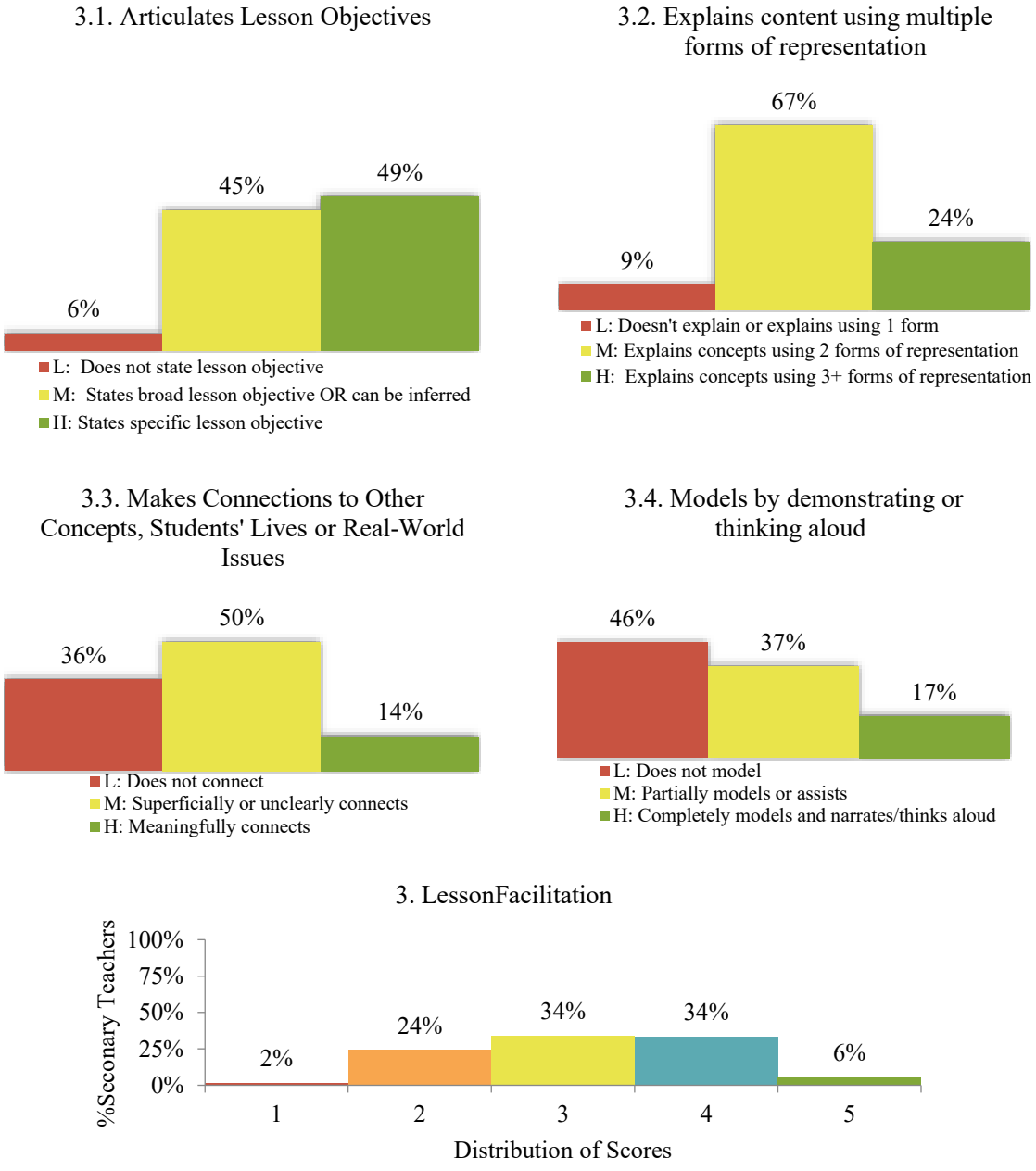
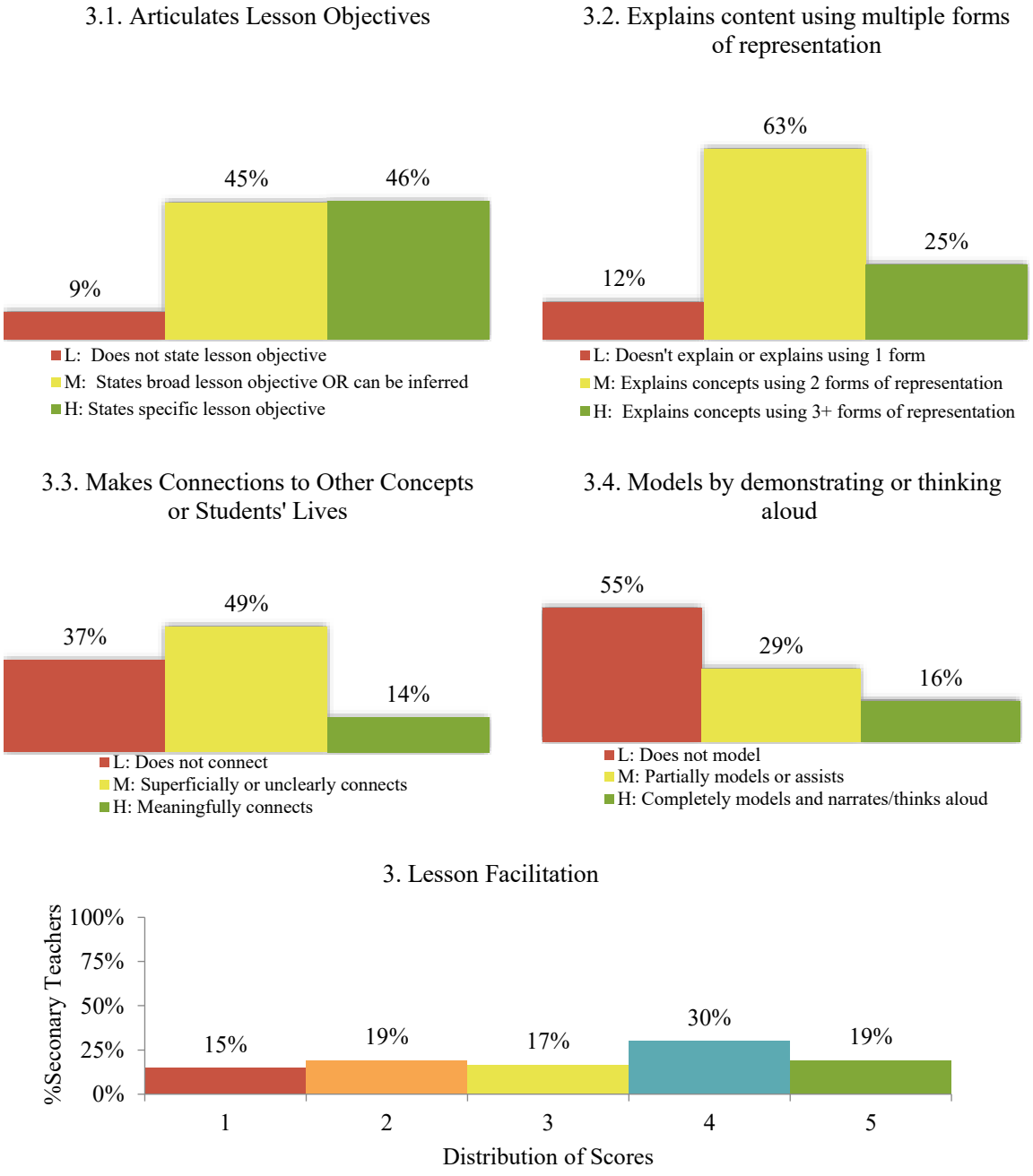


Figure 3.7b: Lesson Facilitation for Control Schools



Check for Understanding. On average, project and control teachers score 3.1 points out of the 5 points possible in this element (***Figures 3.3a and 3.3b***). ***Figures 3.8a and 3.8b*** show the distribution of teachers' scores for the checks for understanding element and its respective behaviors.

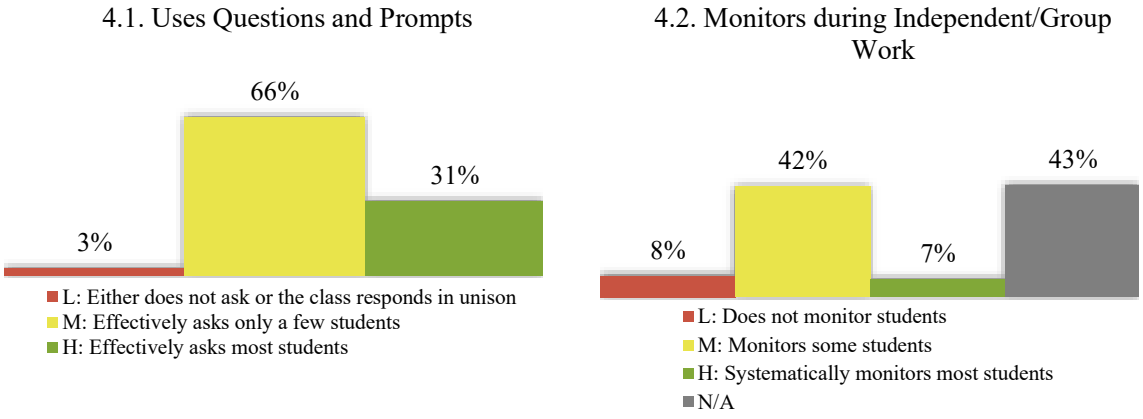
More than 6 out of 10 teachers in project schools (66%) and control schools (63%) use questions and other strategies to determine the level of understanding of some students, but not most of them. This behavior is exemplified in the classroom by the teacher asking, "Who can give me an example of a reflex angle?" Only a few students respond by raising their hands, a group from which the teacher calls on one or two students to provide an answer.

When independent or small group work is provided, approximately 4 out of 10 teachers from project schools (42%) and control schools (38%) monitor some students' levels of understanding by observing students' work for accuracy, listening to some small group discussions, clarifying concepts, or asking questions.

Approximately 7 out of 10 project teachers (68%) and 6 out of 10 control teachers (63%) slightly adjust their lessons to provide more opportunities to learn, but these adjustments are brief and superficial. For instance, when the teacher asks a student to explain the function of the central human skeleton and that student struggles to recall this fact, the teacher simply tells the student to refer to a section in their textbook without spending more time on the topic to clarify it further for the student.

Examples of the various behaviors and associated scores for ***Element 4: Checks for Understanding*** can be found in ***Table A1.4*** in the Appendices.

Figure 3.8a: Checks for Understanding for Project Schools



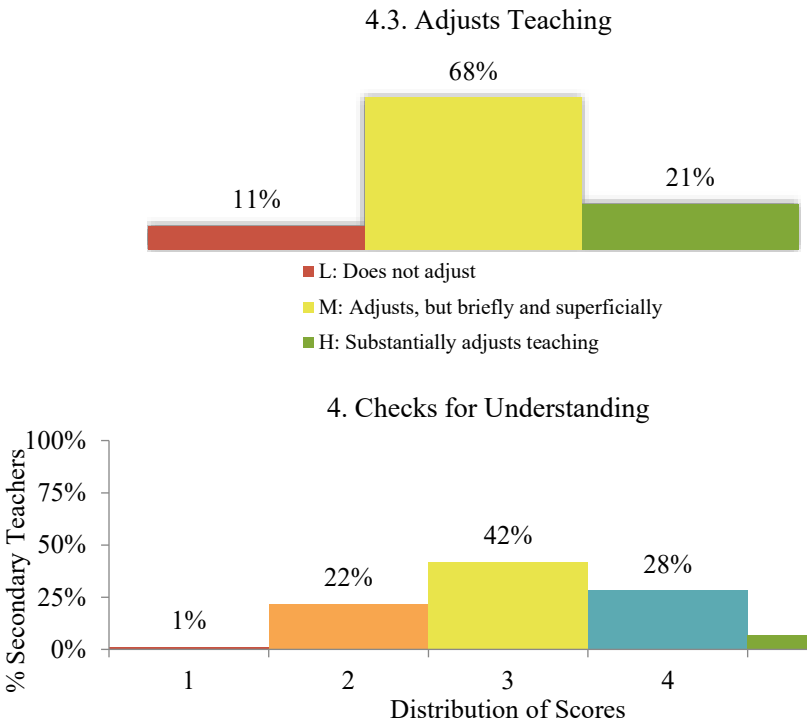
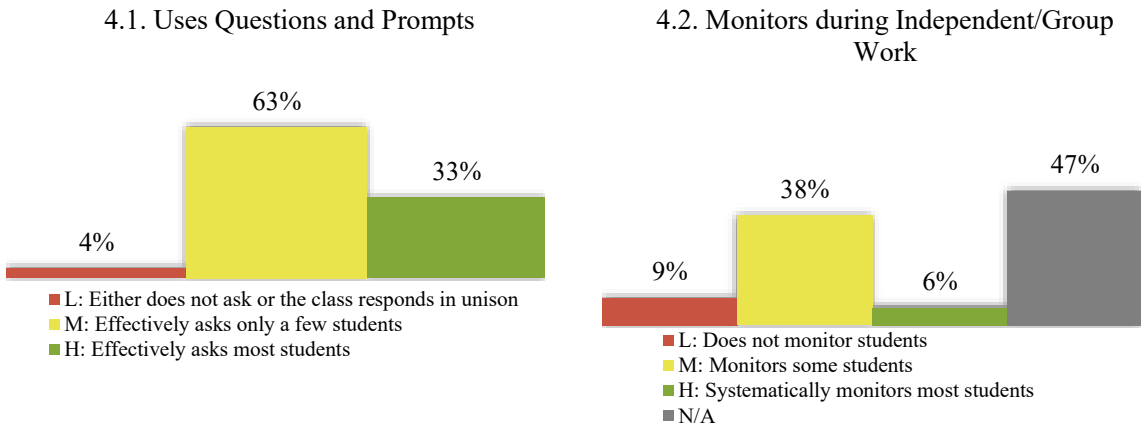
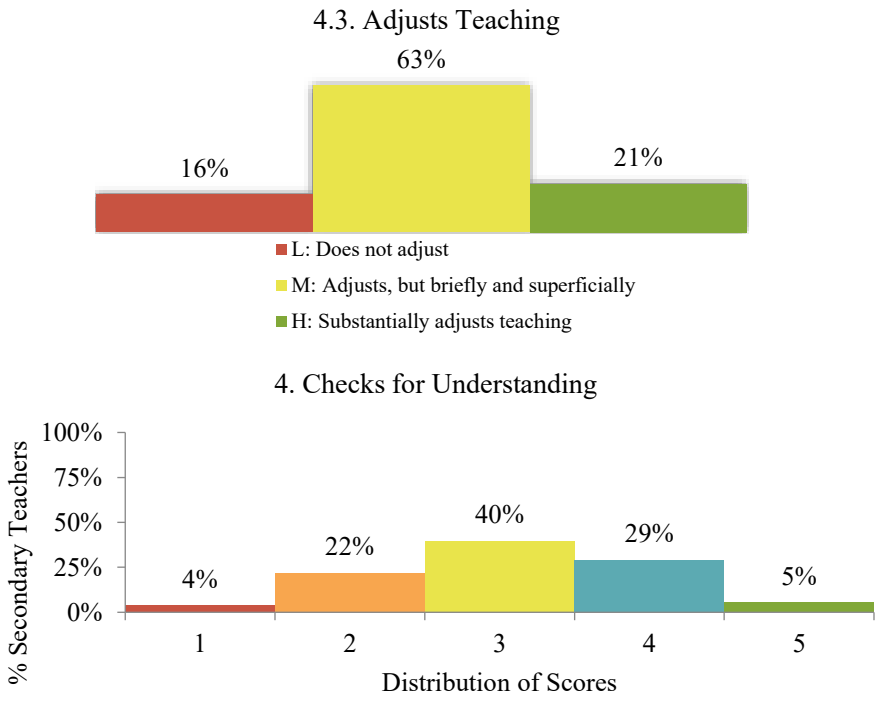


Figure 3.8b: Checks for Understanding for Control Schools





Feedback. On average, project and control teachers score 3.0 points out of the 5 points possible in this element (***Figures 3.3a and 3.3b***). ***Figure 3.9a and 3.9b*** show the distribution of teachers' scores for the feedback element and its respective behaviors.

More than two thirds of both project teachers (61%) and control teachers (65%) provide students with general or superficial comments about their misunderstandings (i.e., mistakes, incorrect answers, etc.). This behavior can be observed in the classroom when, in a math class, the teacher says to a student, "You forgot to include the negative sign," without providing further information or clarification.

Moreover, over half of project and control teachers (56% and 53%, respectively) provide students with general or superficial comments about their successes (i.e., giving the correct answer, performing well on a quiz, etc.). For example, a math teacher may say to a student who is drawing a bar graph, "Good job on your bar graph," or "Your bar graph is well organized," without specifying what that particular student did well.

Examples of the various behaviors and associated scores for ***Element 5: Feedback*** can be found in ***Table A1.5*** in the Appendices.

Figure 3.9a: Feedback for Project Schools

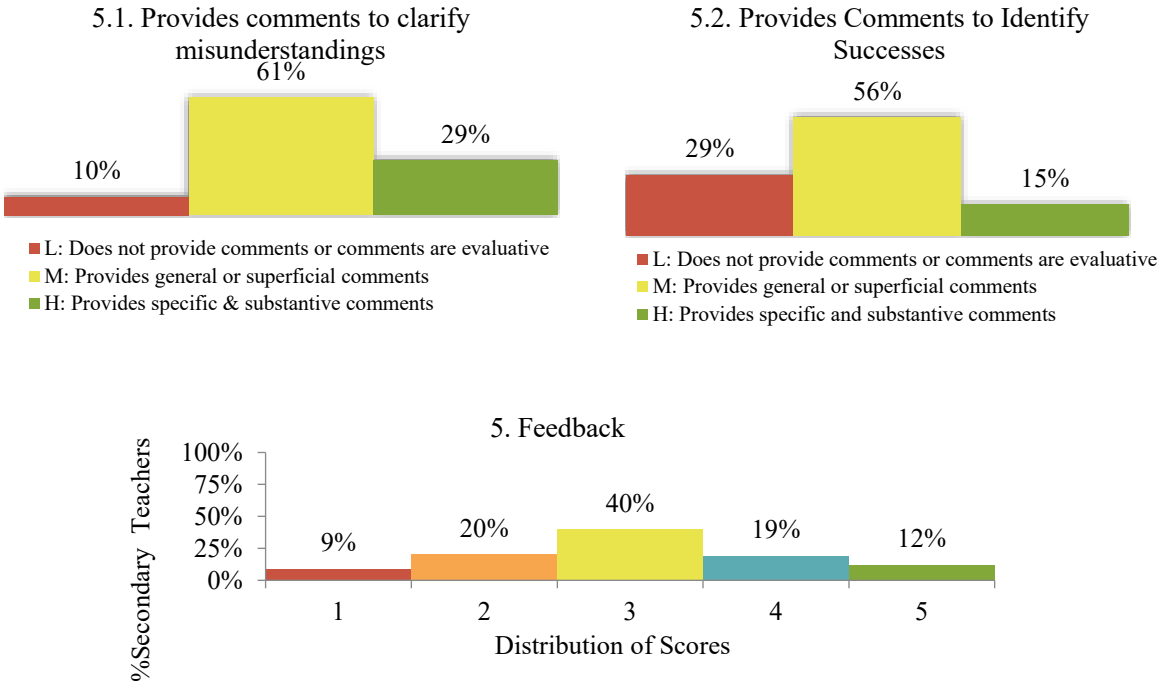
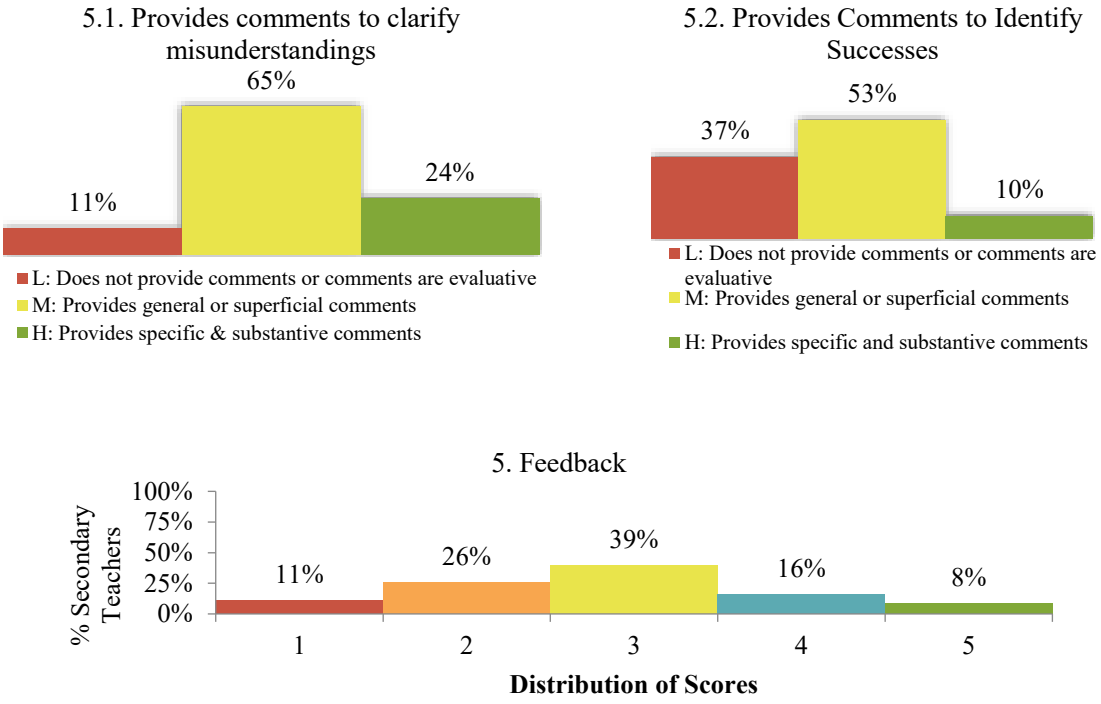


Figure 3.9b: Feedback for Control Schools



Critical Thinking. On average, teachers from Project schools and control schools score 2.7 points out of the 5 points possible in this element (***Figures 3.3a and 3.3b***). ***Figures 3.10a and 3.10b*** show the distribution of teachers' scores for the critical thinking element and its respective behaviors.

In Project schools, half of teachers (49%), ask students two or more open-ended questions, but they do not follow up on those responses or they only follow up on one student's response. While in control schools, 43% of teachers show evidence of the same behavior. An example of this during a chemistry lesson would be when the teacher asks, "How might we approach setting up this science experiment?" Later in the lesson, the teacher inquires, "What do you think will happen in this experiment?" After a student responds, the teacher follows up by asking, "Why do you think that?"

Most teachers in both groups (65% of project schools and 61% of control schools) provide superficial thinking tasks to their students. Evidence of this behavior in a mathematics classroom would be after the teacher shows all the steps for solving a line equation and plotting the line on a graph, the teacher gives a similar problem for the students to work on independently at their desks. Additionally, when provided with a thinking task, most students in project schools (60%) and control schools (56%) perform the tasks the teacher gives them.

In both school groups, well over half of students (55% in project schools and 61% in control school) do not explain their thinking or ask open-ended questions to the teacher. They respond to questions or contribute to discussions briefly by saying "Yes" or "No" or by offering a simple fact. For instance, in a science lesson, the teacher says, "What are the three temperature scales that are in use today?" A student answers, "Celsius, Kelvin and Fahrenheit" but does not explain why different scales are applied.

Examples of the various behaviors and associated scores for ***Element 6: Critical Thinking*** can be found in ***Table A1.6*** in the Appendices.

Figure 3.10a: Critical Thinking for Project Schools

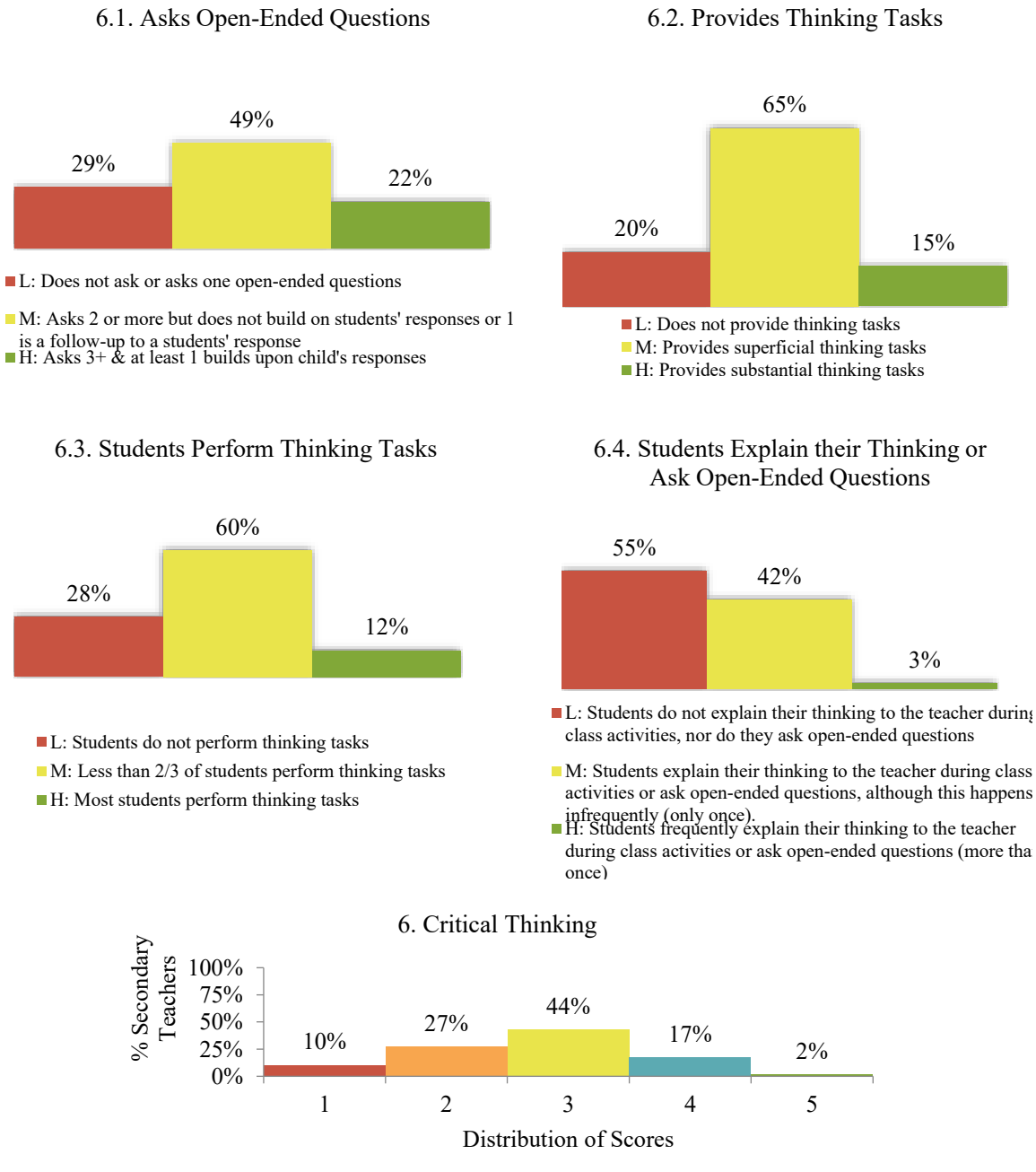
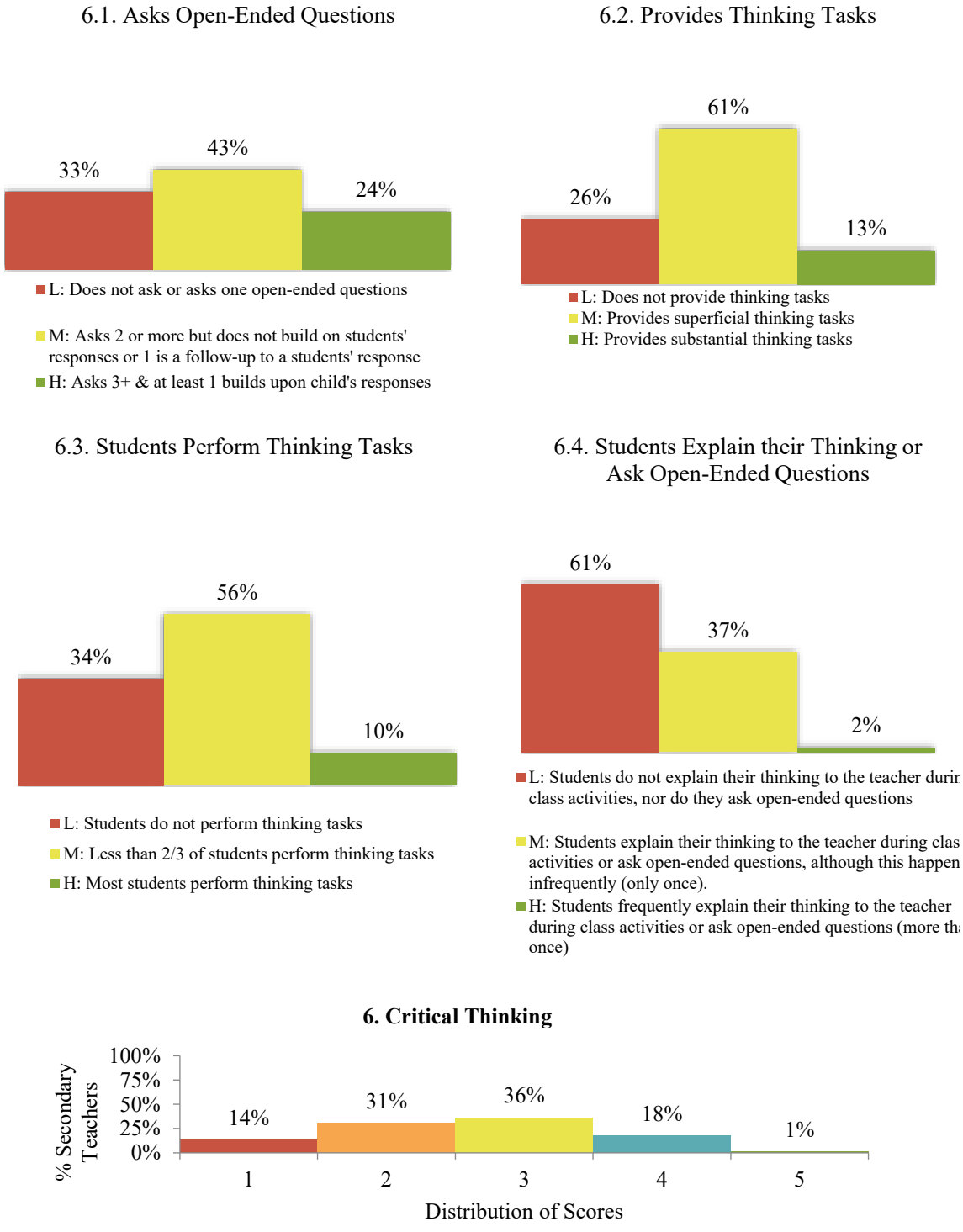


Figure 3.10b: Critical Thinking for Control Schools



Instruction: Results by Grade Level

Figures 3.11a and 3.11b show the average scores across the four elements that constitute Instruction for project and control schools broken down by grade level.

In Project schools, there are some differences among teachers responsible for different grade levels in the Area of Instruction. Teachers in Grade 7 do slightly better than most of their colleagues in the higher grades in facilitating their lessons, checking for students' levels of understanding, and providing feedback to their students. However, Grade 7 teachers, along with Grade 9 teachers, are the lowest performers at providing students with opportunities to develop their critical thinking skills.

In control schools, when considering the Area of Instruction, there are more noticeable differences between teachers of different grade levels. Grade 8 teachers perform better than their colleagues of other grade levels in three of the four elements contained in this Area: facilitating their lessons, checking their students' levels of understanding, and helping students develop their critical thinking skills. In providing feedback to students, Grade 8 teachers (3.0) were only slightly outperformed by teachers in Grade 11 (3.1). On the other hand, Grade 9 and Grade 10 teachers are the lowest performers in all four elements (i.e., facilitating lessons, checking for students' understanding, providing feedback to students, and giving chances for students to develop their critical thinking skills), scoring noticeably lower than the best performances by the teachers in Grade 8.

Figure 3.11a: Instruction by Grade Level for Project Schools

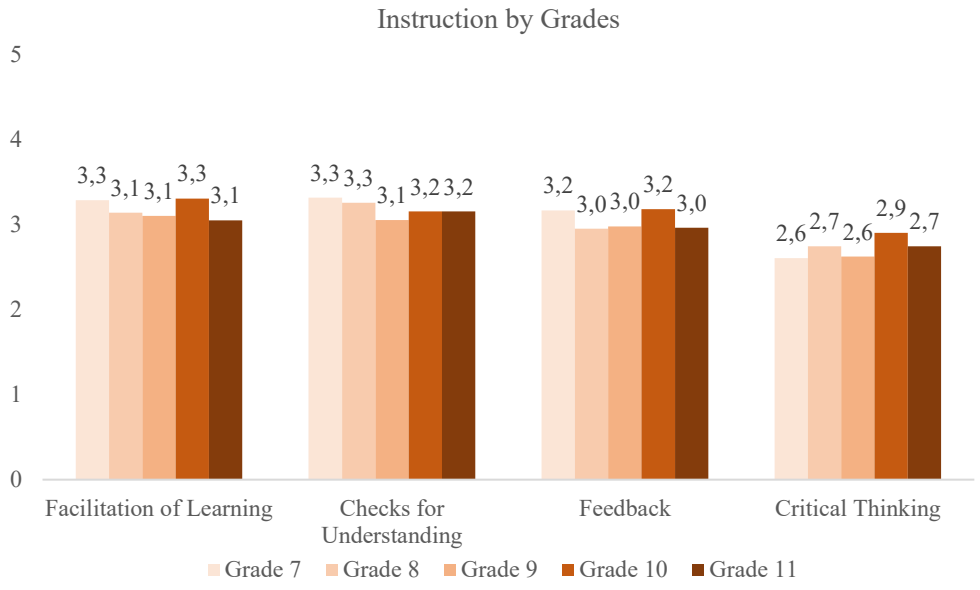
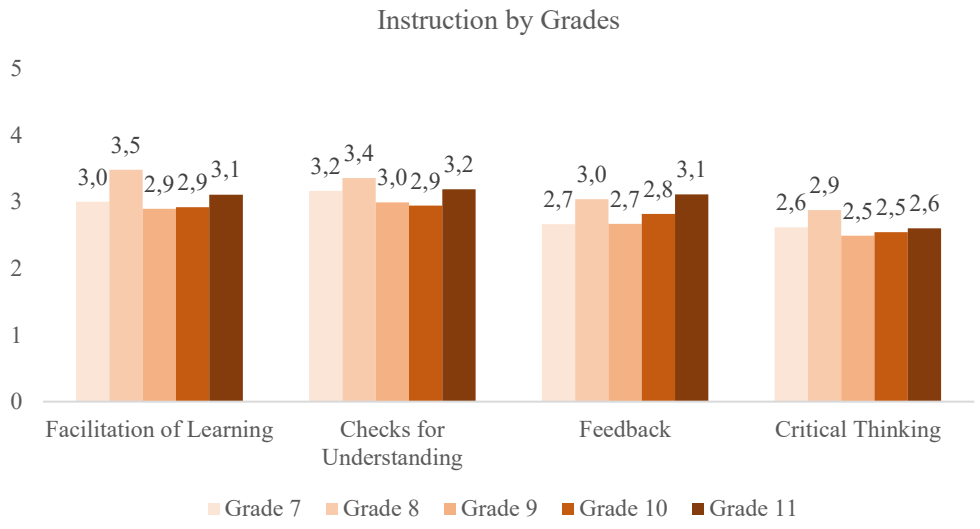


Figure 3.11b: Instruction by Grade Level for Control Schools



Area 3: Socio-emotional Skills Results

Socio-emotional Skills measures whether the teacher fosters the social and emotional skills that encourage students to succeed both inside and outside the classroom. To develop these skills, the teacher (i) instills **autonomy** by providing students with opportunities to make choices and take on meaningful roles in the classroom. Students exhibit their autonomy by volunteering to participate in classroom activities; (ii) promotes **perseverance** by acknowledging students' efforts, rather than focusing solely on their intelligence or natural abilities, by having a positive attitude toward students' challenges by framing failure and frustrations as part of the learning process, and by encouraging students to set short- and long-term goals; and (iii) fosters **social and collaborative skills** by encouraging collaboration through peer interaction and by promoting interpersonal skills, such as perspective taking, empathizing, emotion regulation, and social problem solving. Students exhibit social and collaborative skills by collaborating with one another through peer interaction.

Overall, teachers in Project schools and control schools performed moderately with Socio-emotional Skills. On average, both groups of teachers score 2.3 points out of the 5 points possible in this area. Teachers in both school groups were ineffective at promoting social and collaborative skills, and only somewhat effective at providing students with opportunities to develop their autonomy and perseverance (see ***Figures 3.3a and 3.3b***).

Autonomy. On average, teachers in project and control schools score 2.7 points and control teachers score 2.6 points out of the 5 points possible in this element (***Figures 3.3a and 3.3b***).

Almost half of project teachers (45%) and control teachers (48%) explicitly provide students with at least one superficial choice that is not related to the learning objective. Evidence of this behavior in the classroom would be when the teacher allows students to choose the order in which to complete activities (e.g., complete a set of mathematical equations or independently practice timetables) or to choose their own partner when asked to write an essay.

Most teachers in project schools (70%) and in control schools (65%) give their students opportunities to take on limited roles in the classroom. Examples of limited roles include when the teacher asks students to take attendance, pass out materials, write on the board, recite their answers to a question at the front of the class, as well as housekeeping tasks, such as wiping the board or collecting exercise books.

In 6 – 7 out of every 10 classrooms in project schools (68%) and in control schools (66%), only a few students (less than two thirds of the class) volunteer to participate by expressing their ideas and taking on roles. Examples of students volunteering in the classroom include when the teacher asks a question, only a few students put their hands up to answer; and later when the teacher asks another question, the same few students put their hands up.

Examples of the various behaviors and associated scores for *Element 7: Autonomy* can be found in *Table A1.7* in the Appendices.

Figure 3.

Figures *3.12a and 3.12b* show the distribution of teachers' scores for the autonomy element and its respective behaviors.

Almost half of project teachers (45%) and control teachers (48%) explicitly provide students with at least one superficial choice that is not related to the learning objective. Evidence of this behavior

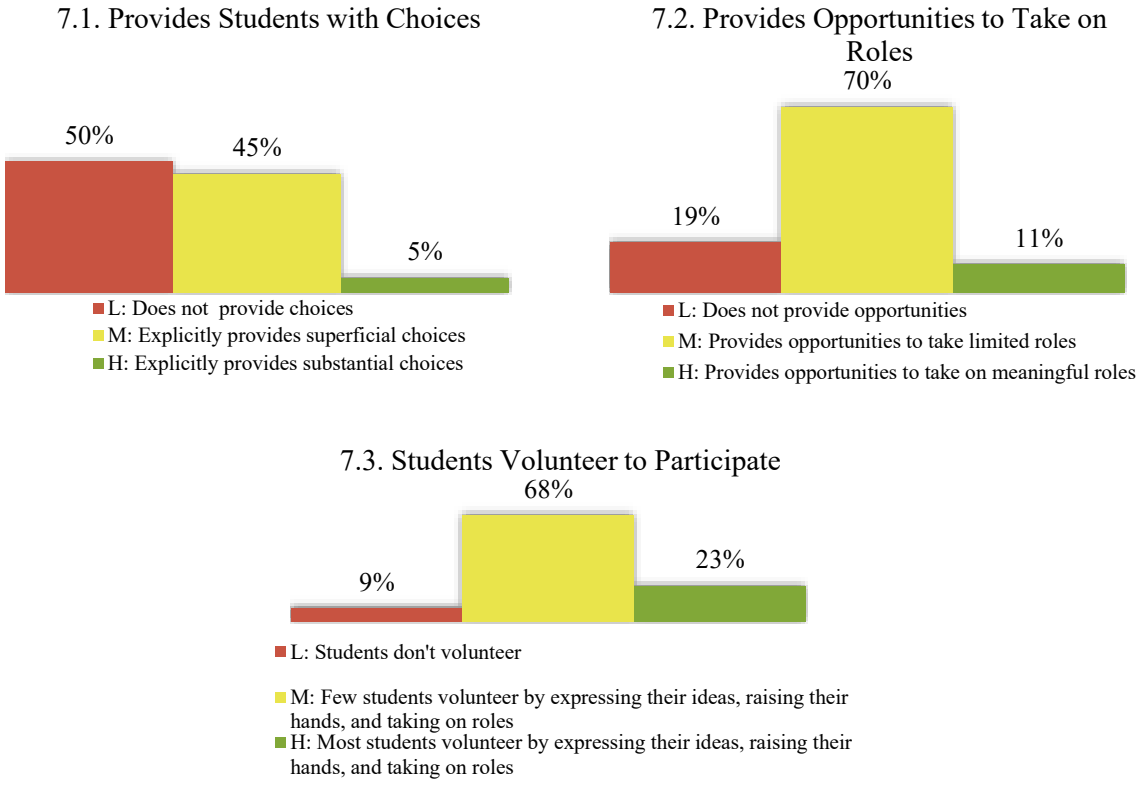
in the classroom would be when the teacher allows students to choose the order in which to complete activities (e.g., complete a set of mathematical equations or independently practice timetables) or to choose their own partner when asked to write an essay.

Most teachers in project schools (70%) and in control schools (65%) give their students opportunities to take on limited roles in the classroom. Examples of limited roles include when the teacher asks students to take attendance, pass out materials, write on the board, recite their answers to a question at the front of the class, as well as housekeeping tasks, such as wiping the board or collecting exercise books.

In 6 – 7 out of every 10 classrooms in project schools (68%) and in control schools (66%), only a few students (less than two thirds of the class) volunteer to participate by expressing their ideas and taking on roles. Examples of students volunteering in the classroom include when the teacher asks a question, only a few students put their hands up to answer; and later when the teacher asks another question, the same few students put their hands up.

Examples of the various behaviors and associated scores for ***Element 7: Autonomy*** can be found in ***Table A1.7*** in the Appendices.

Figure 3.12a: Autonomy for Project Schools



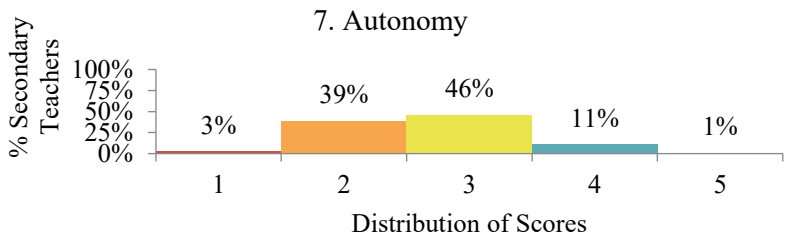
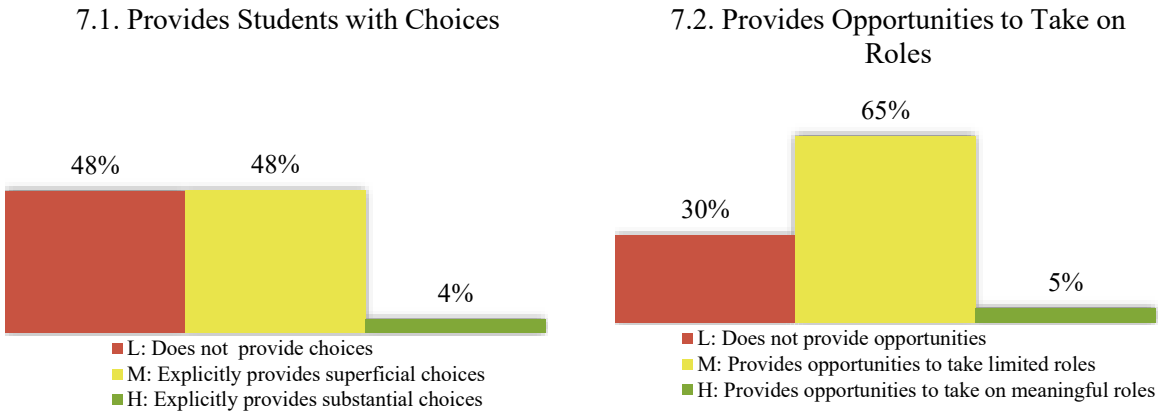
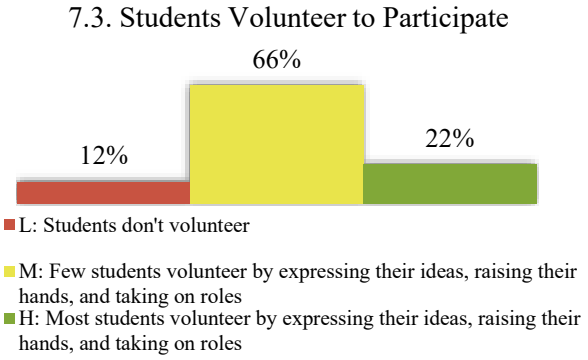
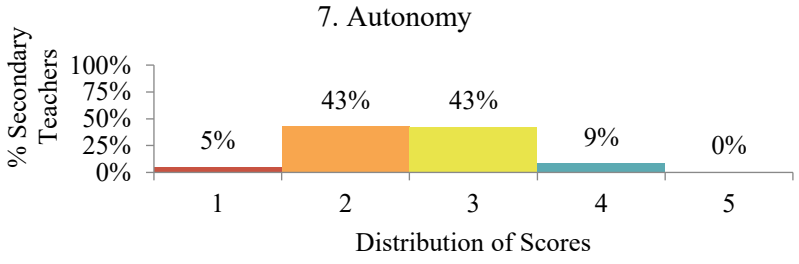


Figure 3.12b: Autonomy for Control Schools







Perseverance. On average, project teachers score 2.3 points and control teachers score 2.2 out of the 5-points possible in this element (***Figures 3.3a and 3.3b***). ***Figures 3.13a and 3.13b*** show the distribution of teachers' scores for the perseverance element and its respective behaviors.

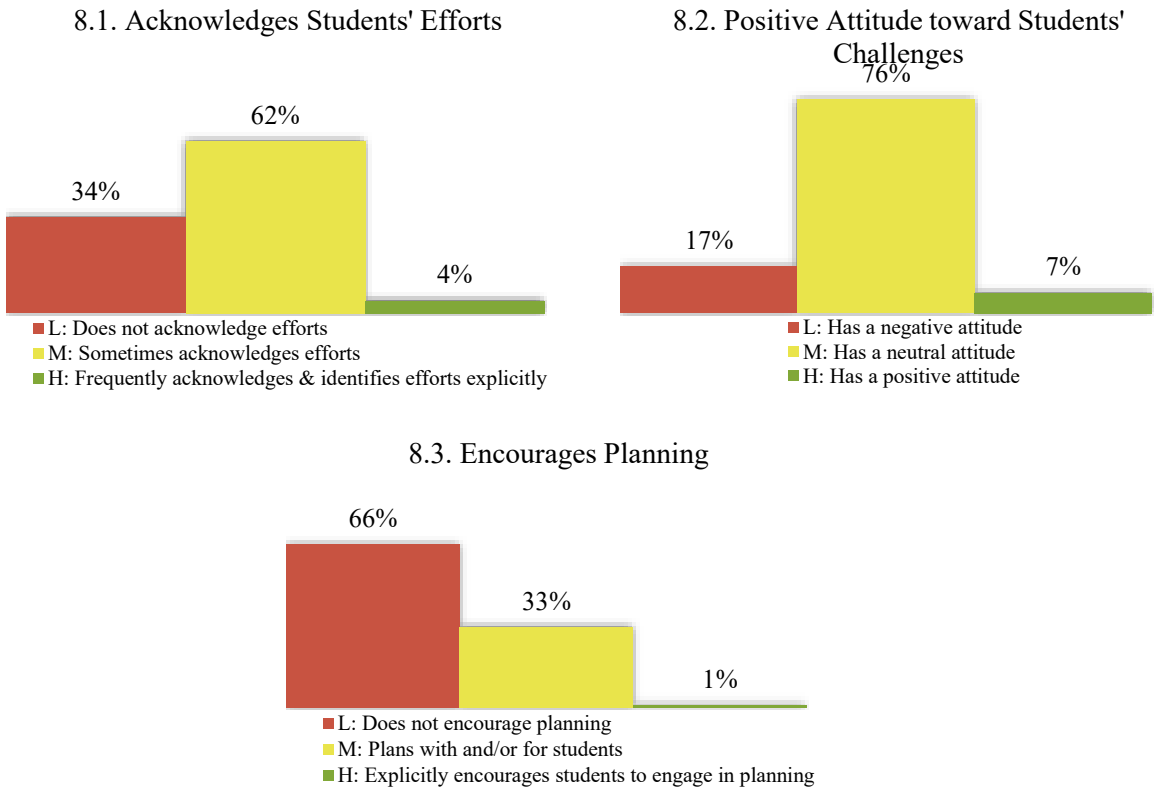
Six out of 10 teachers (62%) at project schools and half of teachers (50%) at control schools sometimes acknowledge students' efforts, but most praise is focused on student intelligence. Evidence of this behavior in the classroom would include when a student does well on a test, the teacher says, "Good effort," or when a student attempts to answer a question but is incorrect, the teacher says, "Well tried" but does not explicitly identify what these efforts involved.

Approximately three quarters of project teachers (76%) and control teachers (72%) have neutral attitudes toward students' challenges. Moreover, although these teachers do not penalize students for making mistakes or struggling with new concepts, they do not make it clear that failure and frustration are normal parts of the learning process. For instance, when a student makes an error when solving a math equation on the board, the teacher simply gives the student the correct answer in a neutral manner (i.e., not in an angry or impatient manner).

The majority of teachers at project schools (66%) and control schools (69%) do not encourage students to set short- or long-term goals (e.g., planning how many chapters of a book to read per week or discussing what the students want to be when they are adults).

Examples of the various behaviors and associated scores for ***Element 8: Perseverance*** can be found in ***Table A1.8*** in the Appendices.

Figure 3.13a: Perseverance for Project Schools



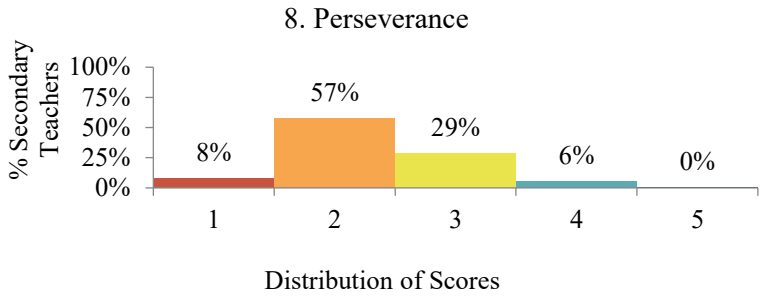
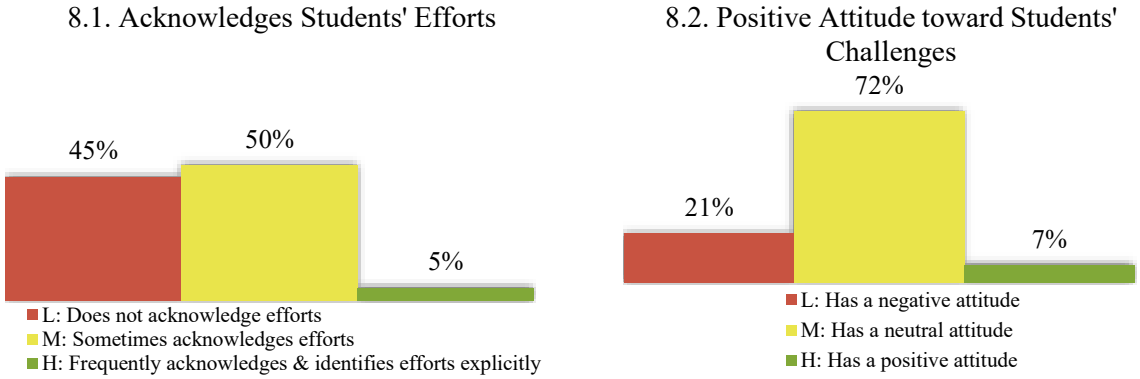
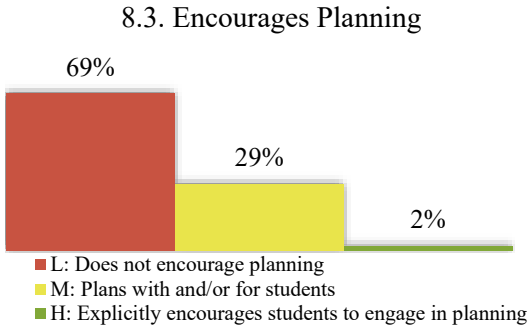
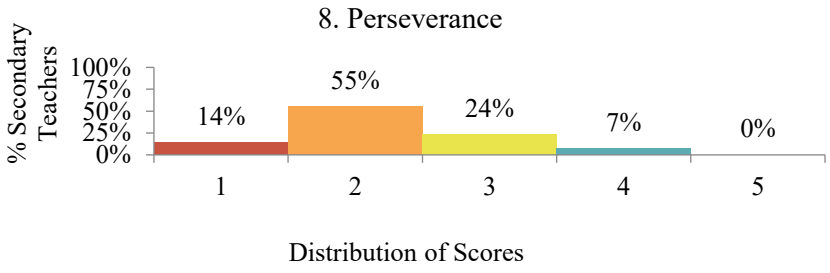


Figure 3.13b: Perseverance for Control Schools







Social & Collaborative Skills. On average, teachers from project schools score 1.9 points and teachers from control schools score 1.8 points out of the 5 points possible in this element (***Figures 3.3a and 3.3b***). ***Figures 3.14a and 3.14b*** show the distribution of teachers' scores for the social and collaborative skills element and its respective behaviors.

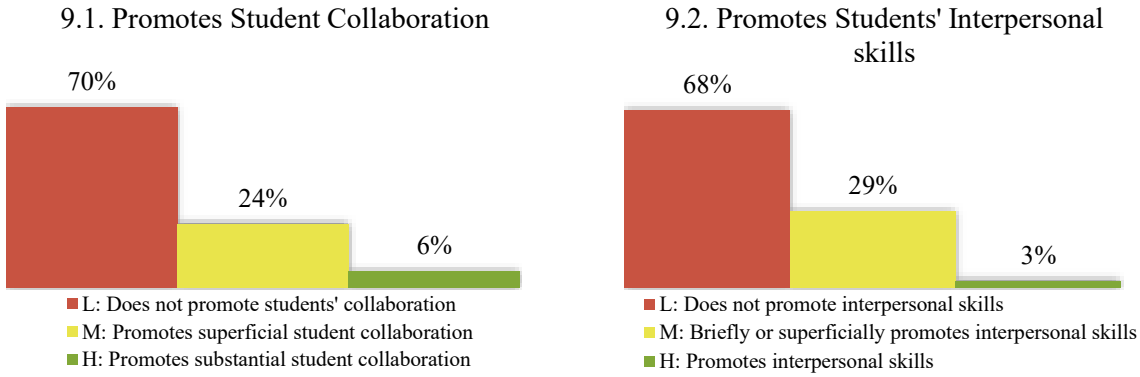
Most teachers in project and control schools (70% and 74%, respectively) do not promote collaboration among their students. Examples of collaborative activities in the classroom include the teacher asking students to work in small groups to complete an experiment and to write up the results together. At a superficial level, collaboration can be seen when the teacher asks students to share their textbooks or to mark a partner's work.

The majority of teachers in both school groups (68% of project teachers and 73% of control teachers) do not promote interpersonal skills at all. Only 3 out of 10 project teachers (29%) and one quarter of control teachers (25%) promote interpersonal skills in a superficial manner. This behavior can be observed in the classroom when the teacher tells students to "help each other," asks a student to respect the ideas of other classmates or encourages students to contribute equally during a group activity. However, the teacher does not explain why these behaviors are important.

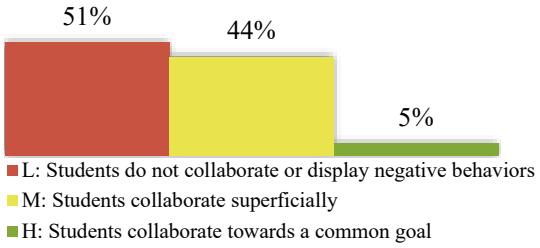
In project schools and control schools, over half of the students (51% and 57%, respectively) do not collaborate with each other, or when they do, they behave negatively. Evidence of this behavior in the classroom includes when students do not interact with their peers and work independently after the teacher asks them to pick partners for an activity. Students may also display negative behaviors such as pushing, bullying, or purposefully excluding one or more of their peers.

Examples of the various behaviors and associated scores for ***Element 9: Social and Collaborative Skills*** can be found in ***Table A1.9*** in the Appendices.

Figure 3.14a: Social and Collaborative Skills for Project Schools



9.3. Students Collaborate



9. Social & Collaborative Skills

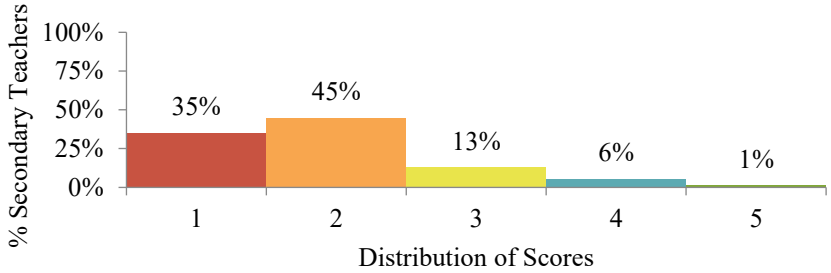
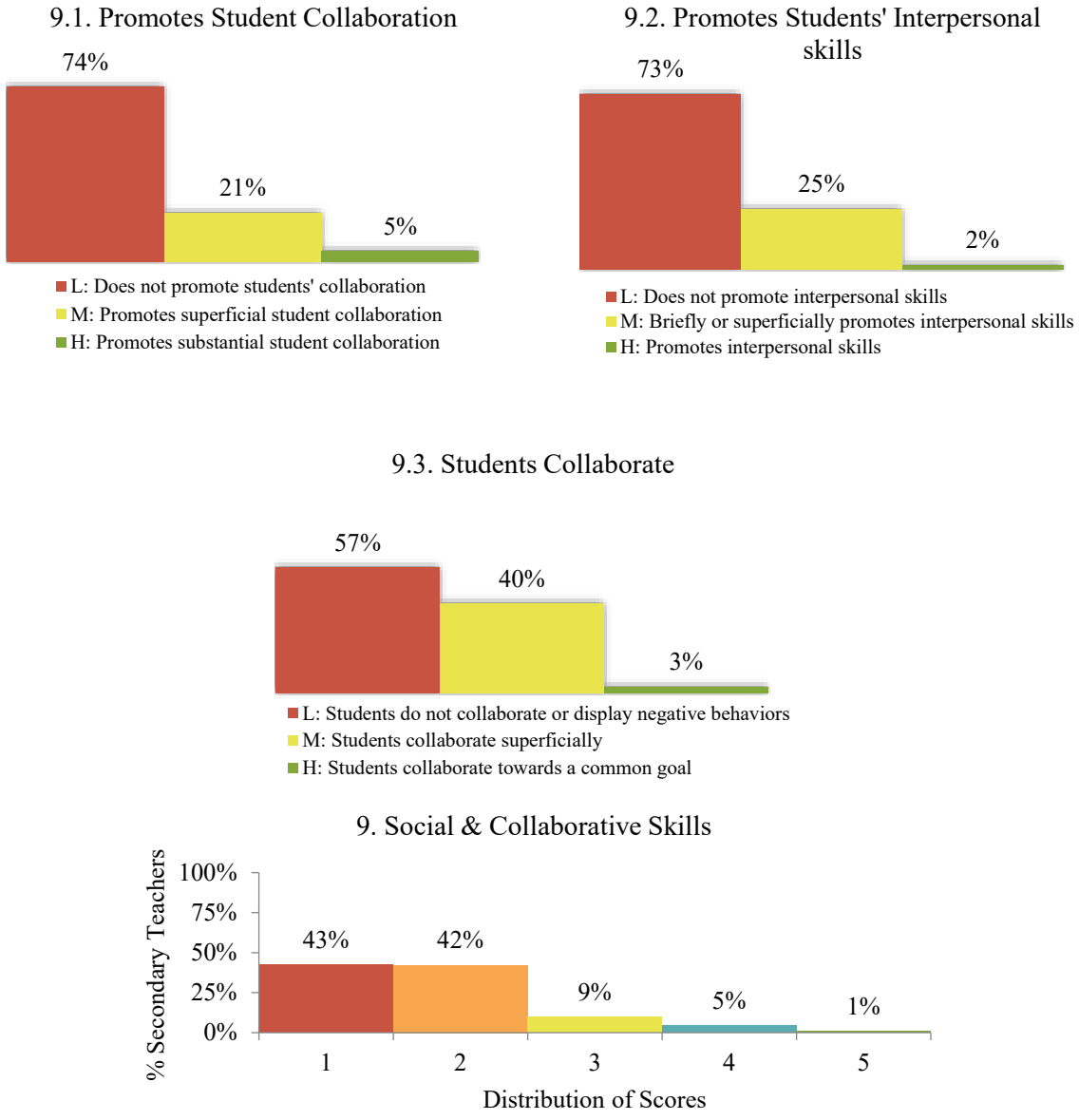


Figure 3.14b: Social and Collaborative Skills for Control Schools



Socioemotional Skills: Results by Grade Level

Figures 3.15a and 3.15b show the average scores across the three elements that constitute the Area of Socio-emotional Skills. This information is broken down by grade level.

In Project schools, there is no difference among teachers responsible for different grade levels in providing their students with opportunities to develop their autonomy; all grade level teachers scored 2.7 out of 5 possible points for this behavior. Teachers in Grade 7 perform noticeably better (2.6) than their counterparts at the higher-grade levels at fostering perseverance in their classrooms. However, Grade 7 teachers are among the lowest level performers, second only to Grade 9 teachers, in promoting social and collaborative skills.

In control schools, teachers in Grade 8 perform the best in all three elements in this area, namely providing chances for students to develop their autonomy, fostering perseverance, and promoting social and collaborative skills, when compared to their colleagues in other grade levels. Teachers at all grade levels show a rapid drop in performance when comparing the elements Autonomy, Perseverance, and Social and Collaborative Skills, with Grade 10 teachers scoring 1 full point lower between Autonomy (2.6) and Social and Collaborative Skills (1.6).

Figure 3.15a: Socioemotional Skills by Grade Level for Project Schools

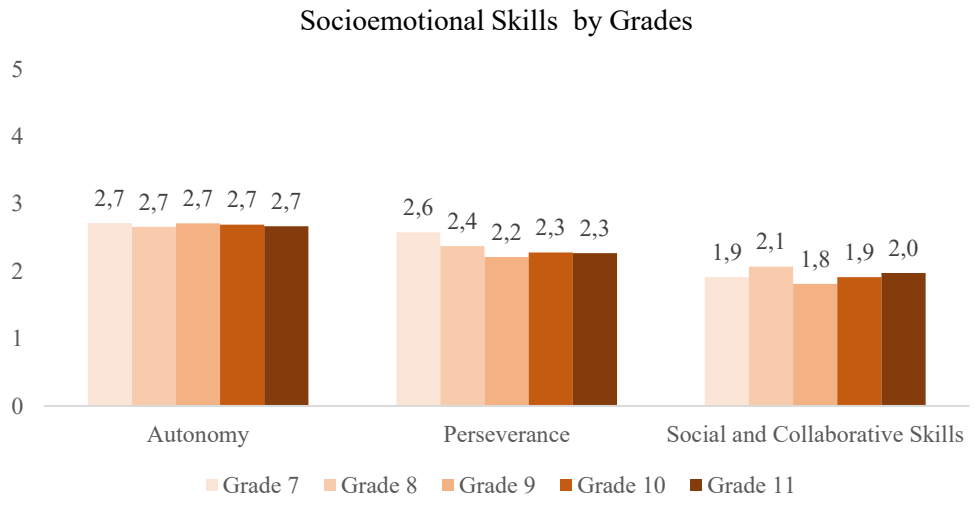
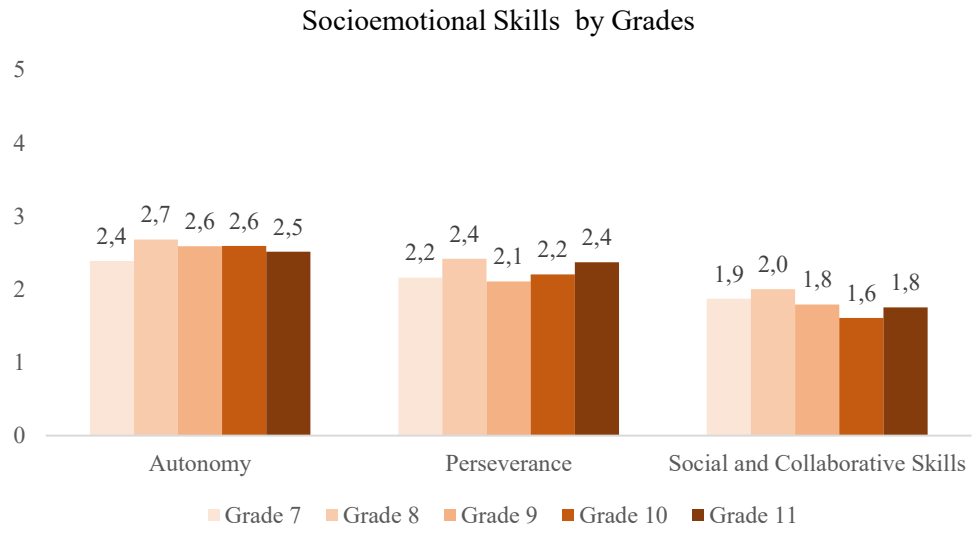


Figure 3.15b: Socioemotional Skills by Grade Level for Control Schools



Gender Analysis by Element

This section contains figures that show results across all three Areas of the *TEACH Secondary* Tool (Classroom Culture, Instruction, and Socioemotional Skills) broken down by gender.

Classroom Culture

Figures 3.16a and 3.16b show the scores for the Project schools and control schools for the two elements (Supportive Learning Environment and Positive Behavior Expectations) that constitute the Area of Classroom Culture.

For Project schools, the data shows that female teachers do not differ significantly from male teachers at creating a supportive learning environment for their students (3.3 and 3.4, respectively) or at setting positive behavioral expectations (3.3 and 3.4, respectively).

For control schools, both female and male teachers scoring moderately well achieving the same score of 3.4 for their ability to create a supportive learning environment. While there is no significant difference between female and male teachers at setting positive behavioral expectations (3.1 and 3.2, respectively).

Figures 3.16a: Classroom Culture by Gender Analysis for Project Schools

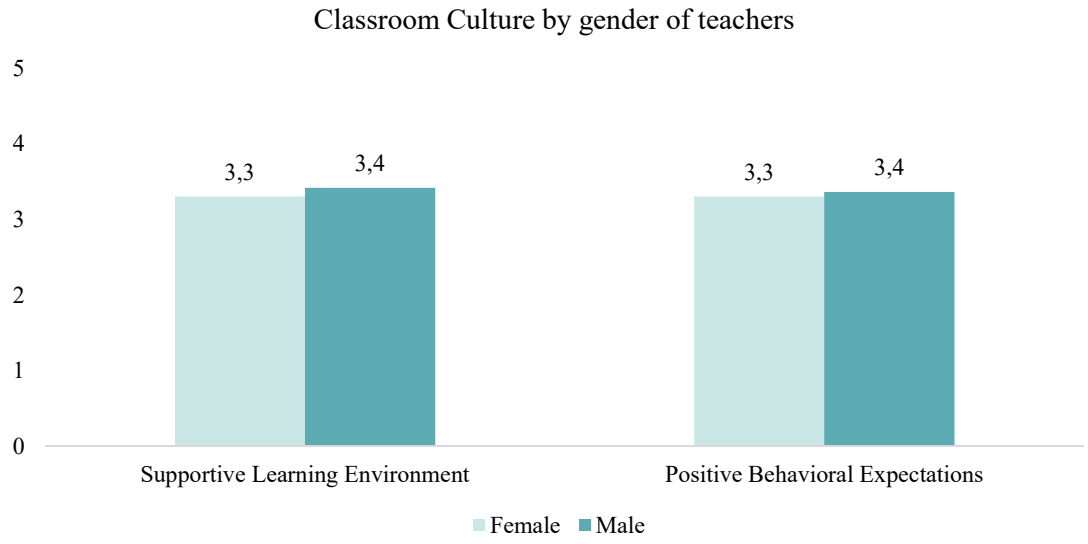
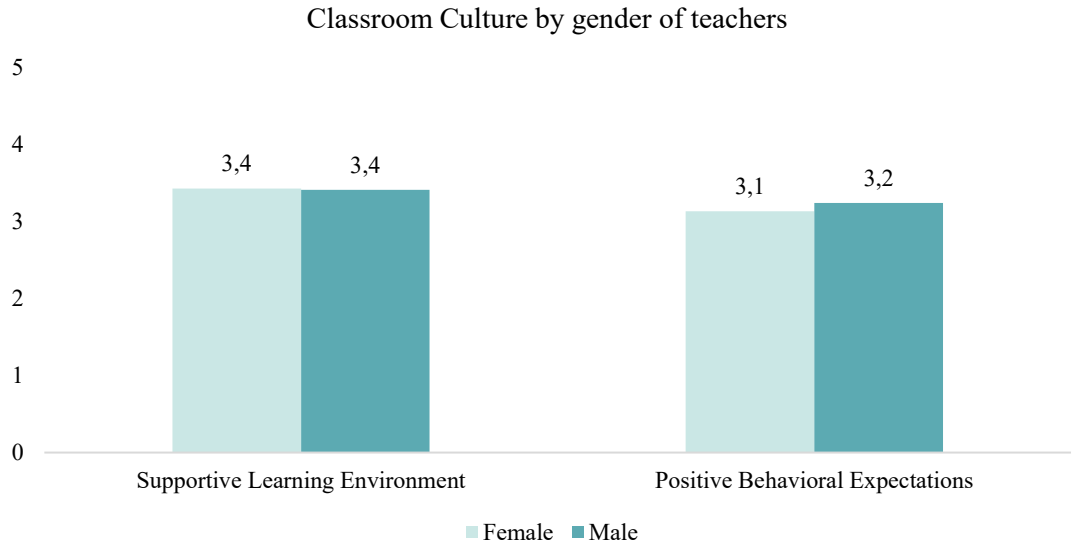


Figure 3.16b: Classroom Culture by Gender Analysis for Control Schools



Instruction

Figures 3.17a and 3.17b show the scores for the Project schools and control schools for the Area of Instruction consisting of the four elements Facilitation of Learning, Checks for Understanding, Feedback, and Critical Thinking.

When considering Project schools, the data reveals that female and male teachers have no significant difference in their scores for the four elements in the Area of Instruction scoring slightly above the medium range in facilitating their lessons (3.1 and 3.2, respectively), checking for students' understanding of the lesson content (3.2 and 3.1), and providing effective feedback on students' misunderstandings and successes (3.1 and 3.0). Female and male teachers have their lowest scores (2.7 for both) in providing opportunities for students to use critical thinking skills.

In looking at the data for control schools, there is more difference between the genders for this group of teachers. Female and male teachers perform equally (3.0 for both) with facilitation of their lessons, scoring slightly below the overall average score of 3.1. However, female teacher score noticeably higher (3.3) than male teachers (2.9) – and better than the overall average of 3.1 – when checking for their students' understanding of content. Conversely, male teachers score higher (2.9) than their female counterparts (2.7) when offering feedback to students, although both groups of teachers score lower than the overall average (3.0). Female and male teachers also perform below the overall average (2.7) for providing opportunities for students to use critical thinking skills, scoring 2.6 and 2.5, respectively.

Lastly, in considering the overall data, female and male teachers from project and control schools have medium level, or average skills, in facilitating their lessons and checking for their students' levels of understanding. However, although female and male teachers from project schools score at the medium level (3.1 and 3.0, respectively) for providing feedback to their students, female and male teachers from control schools have noticeably lower skills (2.7 and 2.9, respectively) in providing the same behavior. This data reveals that teachers in control schools do not spend much

time providing clarifying comments to students letting them know why they performed poorly or well on a learning activity. Moreover, female and male teachers in both schools have their lowest level scores in providing activities to develop students' critical thinking skills. In project schools, female and male teachers earn 2.7 points, while in control schools, female and male teachers score lower with 2.6 and 2.5 points, respectively. These results show that all teachers are poorly skilled in encouraging students to think critically by asking open-ended questions and providing students with thinking tasks that require them to actively analyze content. Because of a lack of exposure to critical thinking activities, only some students perform thinking tasks the teacher has provided, and most do not explain their thinking to the teacher or ask open-ended questions.

Figure 3.17a: Instruction by Gender Analysis for Project Schools

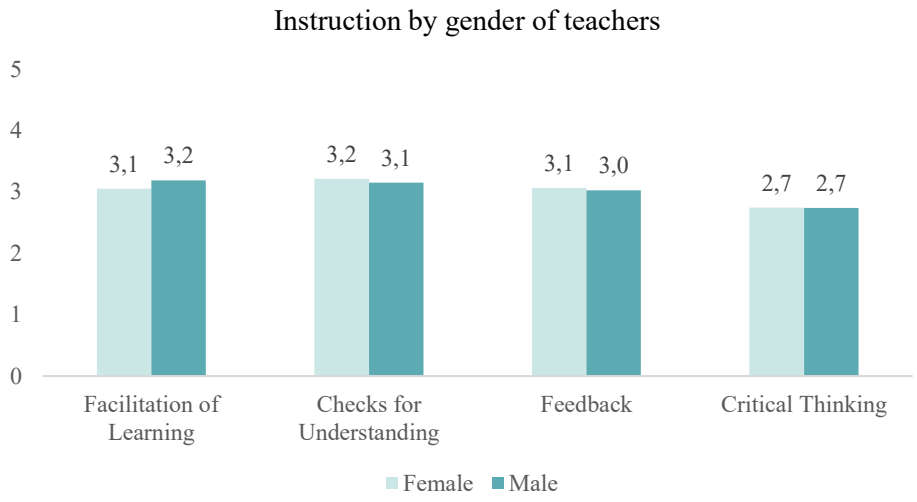
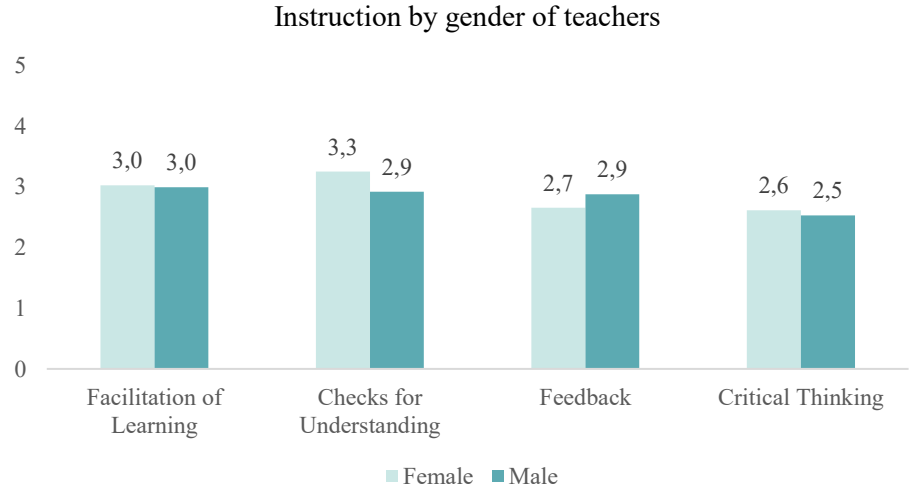


Figure 3.17b: Instruction by Gender Analysis for Control Schools



Socio-emotional Skills

Figure 3.18a and 3.18b show the scores for the project and control schools for the Area of Socio-emotional Skills consisting of the elements Autonomy, Perseverance, and Social & Collaborative Skills.

Female and male teachers in project schools have no significant difference in their scores across the three elements of Socio-emotional Skills. Both groups of teachers earned the same score of 2.7 in giving students opportunities to develop their autonomy during their lessons; although, this element score does show the teachers performing slightly better than the overall average of 2.6. Female and male teachers also have identical scores (2.3) at promoting activities to develop students' perseverance. This score also reveals that both groups of teachers perform below average with these behaviors. When considering teachers' abilities to provide opportunities for students to develop their social and collaborative skills, female teachers score better (2.1) than male teachers (1.9), as well as performing better than the overall average (1.9). However, in general, female and male teachers have poor skills with these behaviors.

In control schools, female and male teachers perform equally with a below average score of 2.6 in their ability to promote autonomy with their students in the classroom. There is no significant difference between these two groups of teachers in their ability to develop students' perseverance, although male teachers score slightly better (2.2) than female teachers (2.1), which shows that these teachers score below the overall average of 2.3 for this element. Lastly, female teachers score clearly higher (2.1) than their male colleagues (1.6), and noticeably better than the overall average (1.9), when providing opportunities for students to develop their social and collaborative skills.

Finally, when considering the overall data through the lens of gender for both project and controls schools, it is clear that female and male teachers equally have below average skills in the Area of Socio-emotional Skills. This means that female and male teachers have low level skills at giving students opportunities to make choices and take on roles in the classroom and do not spend much time acknowledging the effort their students put toward working on activities and mastering new concepts. Few comments are made by the teacher that remind students that frustration and failure are normal parts of the learning process and encouraging students to set academic goals. It is clear that teachers struggle to devote part of their lessons to collaborative activities where students work together to solve a problem and put little focus on promoting students' interpersonal skills.

Figure 3.18a: Socioemotional Skills by Gender Analysis for Project Schools

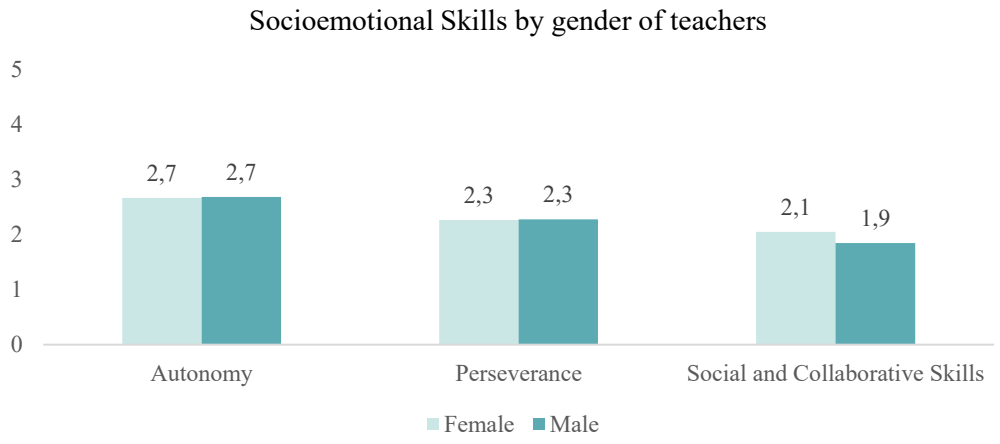
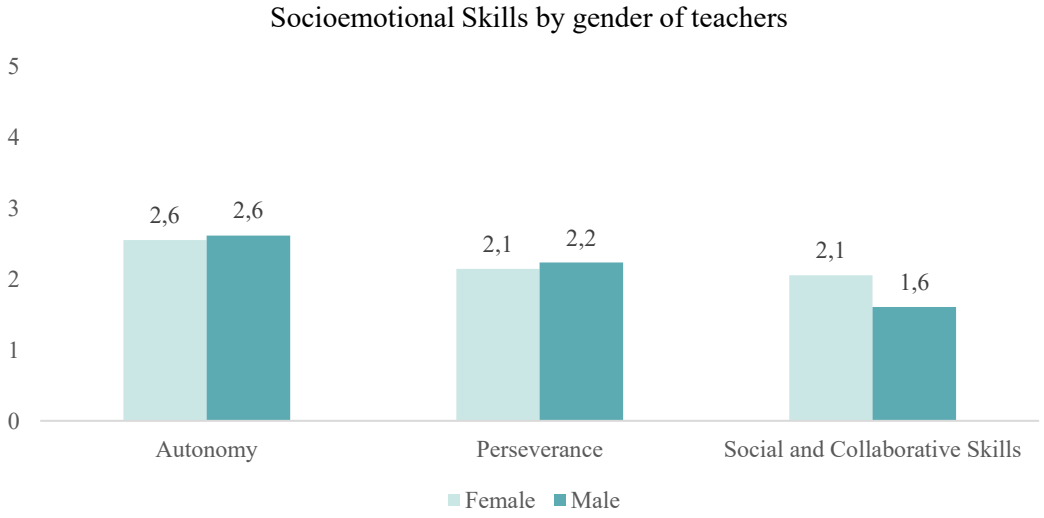


Figure 3.18b: Socioemotional Skills by Gender Analysis for Control Schools



Best Performance Project Schools

The following table shows the 15 Project schools with the best overall TEACH scores. The scores were derived by first finding the average score of each teacher that was observed during the survey. This was done by tallying up the 9 element scores from the first and second observation segment for a total of 18 scores. Then the average teacher score was found by dividing the total score by 18. Next, the Project schools were grouped into regions and districts. The average teacher scores from each observed teacher at each school were tallied and divided by the number of teachers observed at that school to create an average TEACH score for the school. These school scores were put in order from highest to lowest and the top 15 school TEACH scores were identified. ***Table 3.0*** shows the top 15 Project schools based on the overall average TEACH scores for each school.

Table 3.0. The 15 Best Performances by Project Schools

No.	REGION	DISTRICT	SCHOOL	AVG. TEACH SCORE
1	DRS	Tursunzoda	School #59	4.37
2	Sughd	Devashtich	School #51	3.71
3	Khatlon	Temurmalik	School #12	3.57
4	DRS	Rudaki	School #119	3.50
5	Khatlon	Temurmalik	School #39	3.48
6	Khatlon	Dangara	School #56	3.44
7	Khatlon	Hamadoni	School #18	3.37
8	Khatlon	Baljuvon	School #34	3.35
9	Khatlon	Farkhor	School #39	3.33
10	Khatlon	Dangara	School #26	3.31
11	Khatlon	Temurmalik	School #5	3.29
12	DRS	Vahdat	School #63	3.26
13	DRS	Varzob	School #40	3.25
14	Khatlon	Farkhor	School #56	3.25
15	DRS	Hisor	School #101	3.22

Conclusions and Recommendations

This report has shown that Tajikistan secondary school teachers in both the Project schools and control schools demonstrate a number of pedagogical strengths and weaknesses in their classrooms. Results from *TEACH Secondary* demonstrate that teachers have moderate ability in the Area of Classroom Culture ***(Figure 3.3)***, as characterized by the teacher creating a supportive learning environment and setting positive behavioral expectations. They also show moderate skills in the Area of Instruction, which is characterized by facilitating the lesson, checking for students' levels of understanding, providing feedback, and giving opportunities to develop critical thinking skills. They are the least effective, however, in the Area of Socio-emotional Skills, as characterized in *TEACH Secondary* by developing students' autonomy, promoting perseverance, and encouraging social and collaborative skills.

Recommendations

Based on the above findings, recommendations have been created for the MOES as action steps that can be included in the Learning Environment – Foundation of Quality Education Project (Project LEARN) to assist in achieving the objectives of the initiative to specifically improve the learning environment and quality of teaching practices at the secondary level. The Ministry and other stakeholders should only interpret these results as classroom-level suggestions based on findings from the tool that can be useful for professional development, planning, etc. The results from this report provide insights into how policymakers can begin to improve secondary teaching at the classroom level.

The following recommendations are presented to the MOES:

- **Focus resources on improving teachers' capacity to provide opportunities for students to build social and collaborative skills**. These are key skills that Secondary students need to be exposed to as they are essential for work readiness and being a productive member of society. This improvement is needed in all strata in the study, including both project and control schools, all grade levels, and male and female teachers.
- **Encourage teachers to promote student autonomy and perseverance** to nurture students' intrinsic motivation to learn and capacity to carry on despite challenges. This improvement is also needed in all strata included in the study as stated above.
- **Improve the ability of teachers to offer activities that develop students' critical thinking skills** by asking open-ended questions, which require opinions, predictions, analysis, etc.; encouraging students to ask open-ended questions; and providing activities that require higher level thinking skills. It is important to encourage this for teachers of all grade levels (i.e., Grade 7 – 11) in all secondary schools, but especially in Grades 9 and 10 in control schools.
- **Develop the capacity of teachers to provide feedback that allows students to understand why and when they were successful in class**, as well as remarks that clearly identify students' misunderstandings. This improvement is needed primarily in control schools with female teachers and teachers in Grade 7 and Grade 9.

- **Improve the capacity of all teachers to challenge stereotypes and biases related to gender and people with disabilities.** The vast majority of teachers in project and control schools treat boys and girls and those with disabilities equally and fairly in their classrooms. However, almost no teachers spent time during their lessons to work on dispelling negative stereotypes about boys, girls, or disabled people. These are missed opportunities for teachers to help students develop an understanding of the harm that stereotypes and biases can cause particular groups and the importance of treating all people fairly and with respect.

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Appendices

Annex 1. Examples and Descriptions of *Teach Primary* Behavior Scores by Element

Table A1.1: Examples of Supportive Learning Environment behavior scores

Score	1	2	3	4	5
Behavior quality range	Low		Medium		High
1.1 The teacher treats all students respectfully	The teacher does not treat all students respectfully. *For example: The teacher may yell at some students, scold them, shame/ridicule them, or use physical punishment to discipline them.*		The teacher treats all students somewhat respectfully. *For example, the teacher does not treat students disrespectfully (e.g., s/he does not yell at or ridicule students), but the teacher does not show outward signs of respect toward students either (e.g., call students by their names, say "please" or "thank you," or "sorry", or use greetings such as "good morning students" or other culturally relevant signs of respect).*		The teacher treats all students respectfully. *For example: The teacher uses students' names, says "please", "thank you," "good morning students," and "sorry," or shows some other culturally relevant sign of respect.*
1.2 The teacher uses positive language with students[2]	The teacher does not use positive language in his/her communication with students.		The teacher uses some positive language in his/her communication with students. *For example: The teacher may say "well done," "exactly," or "good", although does so infrequently. Alternatively, the teacher may use gestures such as clapping, thumbs up, or other culturally relevant signs of praise, although the teacher does son infrequently.*		The teacher consistently uses positive language in his/her communication with students. *For example: The teacher consistently uses encouraging phrases such as "Great job!" when students show their work, or "Very good!" or "Let's give Student A a round of applause." Alternatively, the teacher may use gestures such as clapping or other culturally relevant signs of praise. Students may also use encouraging phrases or gestures toward their peers.*
1.3 The teacher responds to students' needs[3]	The teacher is not aware of students' needs OR does not address the problem at hand. *For example: A student may be upset because of a bad grade, and the teacher ignores the student or is*		The teacher responds to students' needs but may not address the problem at hand. *For example: A student may be upset because of a bad grade. The teacher notices and asks the student if there*		The teacher promptly responds to students' needs in a way that specifically addresses the problem at hand. *For example: A student may be upset because of a bad*

	dismissive of the issue (e.g., the teacher tells the student to "get over it" or "pull yourself together"). Alternatively, a student may say to the teacher that s/he is struggling to see the text on the board, and the teacher ignores the student's comment and carries on with the lesson.	*is a problem, after which the student indicates that s/he is upset with his/her grade. The teacher then asks the student to speak with the teacher about it at another time, therefore not addressing the problem at hand. Alternatively, a student may say to the teacher that s/he is struggling to see the text on the board, and the teacher tells the student that s/he needs to remember to sit closer to the front next time.*	*grade. The teacher notices and asks the student of there is a problem, after which the student indicates that s/he is upset with his/her grade. The teacher then speaks quietly with the student at his/her desk, which appears to clam the student and resolve the issue. Alternatively, a student may be struggling to see written instructions on the board, so the teacher rewrites it in a larger text and/or provides an alternative way for the student to access the information (e.g., on a separate sheet or orally).*
1.4 The teacher does not exhibit bias and challenges stereotypes in the classroom[4]	The teacher exhibits bias or reinforces stereotypes in the classroom.	The teacher does not exhibit bias but does not challenge stereotypes either.	The teacher does not exhibit bias AND challenges stereotypes in the classroom.
1.4 a Gender	The teacher could show this by providing students with unequal opportunities to participate in classroom activities or by expressing unequal expectations for students' behaviors or capabilities. *For example: A teacher seats girls exclusively at the back of the classroom or only calls on boys to answer difficult questions.* Alternatively, the teacher calls equally on students of all genders to answer difficult questions, but only assigns girls to clean the blackboard or hand out learning materials (e.g., textbooks) to the class. *Other examples of gender bias are teachers scolding boys but not girls after incorrectly answering a question or misbehaving. Teachers also give praise to girls but not boys after*	The teacher provides students of all genders with equal opportunities to participate in the classroom and has similar expectations for all students. *For example: The teacher calls equally on all genders to answer difficult questions and praises both boys and girls after correctly answering questions. The teacher asks boys and girls to clean the blackboard and distribute learning materials (e.g., textbooks) to the class.*	The teacher provides students of all genders with equal opportunities to participate in the classroom, has similar expectations for all students, AND challenges gender stereotypes in the classroom. *For example: The teacher calls equally on all genders to answer difficult questions and praises both boys and girls after correctly answering questions. The teacher asks boys and girls to clean the blackboard and distribute learning materials (e.g., textbooks) to the class. In addition, the teacher uses examples and explanations that portray female rather than male scientists, doctors, and astronauts and/or encourages discussions with students about gender stereotypes and/or gender equality. The teacher may also actively encourage equal*

	correctly answering a question.		*participation through comments such as: "Let's hear more from the girls" or 'Now we have heard from a girl, let's hear from a boy."*
1.4 b Disability	The teacher may provide students with unequal opportunities to participate in learning activities, use stigmatizing terms, or express low expectations for student's behaviors or capabilities. *For example: The teacher seats students with disabilities separately from other students.* *The teacher may use stigmatizing terms about people with disabilities, in general, or express bias towards students with disabilities in the classroom through low expectations for their behavior or capabilities.*	The teacher provides students of all ability levels with equal opportunities to participate in the classroom and has similar expectations for all students. *For example: The teacher enables students with disabilities to work with other class members during group work, provides opportunities for students with disabilities to ask questions, and participate in whole class learning activities.* Alternatively, the teacher praises students with disabilities in the same manner as other students in the classroom	The teacher provides students of all ability levels with equal opportunities to participate in the classroom, has similar expectations for all students, AND challenges disability stereotypes in the classroom. *For example: The teacher has students with disabilities work with others during group work AND uses examples and explanations that portray people with disabilities in important positions.*
[3]This behavior is scored N/A if there are no observable emotional, material or physical needs.			
Source: Teach Secondary Observer Manual.			

Table A1.2: Examples of Positive Behavioral Expectations behavior scores

Score	**1**	**2**	**3**	**4**	**5**
Behavior quality range	**Low**		**Medium**	**High**	
2.1 The teacher sets clear behavioral expectations for classroom activities	The teacher does not set behavioral expectations for classroom tasks and/or activities. *For example: The teacher says, "Work on your reading comprehension skills," without providing instruction on what the expected behavior is for the activity.*		The teacher sets unclear or superficial behavioral expectations for classroom tasks and/or activities. *For example: The teacher says, "Please complete this assignment on your own," or "Let's discuss this as a group and don't talk all at once," without clarifying what such behavior would entail as students complete the activity.*	The teacher sets clear behavioral expectations throughout the lesson for classroom tasks and/or activities. *For example: The teacher says, "Please complete the assessment on your own. Keep your eyes on your own work, and do not speak to your neighbor during the assessment," before students begin to work independently. Upon introducing a group activity to the class, the teacher says, "Let's discuss this as a group, and don't talk all at once. Remember to speak*	

			one at a time, and to raise your hand if you would like to contribute." Alternatively, the teacher is not observed setting clear behavioral expectations, but students are well-behaved throughout the lesson.
2.2 The teacher acknowledges positive student behavior	The teacher does not acknowledge student behavior that meets or exceeds expectations.	The teacher acknowledges some students' behavior, but is not specific about their expected behavior. *For example: If a group is following behavioral expectations, the teacher says, "This group is working well together" or "This group is doing a good job," without clarifying why or how.*	The teacher acknowledges students' positive behavior that meets or exceeds expectations. *For example: If a group is following behavioral expectations, the teacher says, "I like how the students in Group A each shared their different strategies for finding the missing angle while the rest of the group listened and asked questions," "This group paid close attention to each step in the procedure," or "I like how responsibly your group handled the equipment during that experiment."*
2.3 The teacher redirects misbehavior and focuses on an expected behavior, rather than on the undesired behavior[5]	The teacher's redirection of misbehavior is ineffective and focuses on misbehaviors, rather than the expected behavior. *For example: If s/he notices a distracted student, the teacher stops lecturing and calls out the name of the student, asking her, "Why are you not paying attention in class?" Alternatively, the teacher continues to ignore the student who is distracted, but the distracted student begins to tease and argue with the peer sitting next to her. This shifts the focus of the entire class away from the lesson and onto those two students.*	The teacher's redirection of misbehavior is effective but focuses on misbehaviors rather than the expected behavior. Alternatively, redirection of misbehavior is somewhat effective and focuses on the expected behavior. *For example: Upon noticing that two students are talking loudly after finishing their partner activity, the teacher says, "You both need to stop talking now, you are making too much noise." This statement focuses on the disruptive students' negative behavior, rather than on what is expected of them. Consequently, the disruptive students quiet down. In another scenario, the teacher redirects the students by stating, "Now*	When a problem arises, the teacher's redirection of misbehavior effectively addresses the problem at hand and focuses on the expected behavior. *For example: Upon noticing that two students are talking loudly after finishing their partner activity, the teacher says, "Remember to speak quietly so others can concentrate on their work." Following this direction, the students lower the volume of their voices. In another scenario, the teacher says, "Now that you have finished, can you share your approach for solving the problem with Group A?" Following this request, students stop talking loudly*

		that you have finished, can you share your approach for solving the problem with group A? Even though the teacher focuses on the positive behavior expected from the students, for the most part, they continue to talk loudly to each other when joining Group A.	*to each other and begin to share their approach with the group next to them.* Alternatively, the teacher is not observed redirecting students' behavior, but the students are well-behaved throughout the lesson.
[5] A misbehavior occurs when a student causes a disruption in the classroom that either interferes with the flow of the lesson, distracts other students, or upsets the teacher			
Source: Teach Secondary: Observer Manual.			

Table A1.3: Examples of Lesson Facilitation behavior scores

Score	**1**	**2**	**3**	**4**	**5**
Behavior quality range	**Low**		**Medium**	**High**	
3.1 **The teacher explicitly articulates the objectives of the lesson and relates classroom activities to the objectives**	The teacher does not state or write on the board the lesson objective(s), nor can one be inferred from the lesson activities. *For example: For the entirety of the lesson students work independently in their notebooks. Nothing is visible on the board, and the teacher spends the class time circling and checking students' work. The teacher does not state a lesson objective, and it is difficult to infer a lesson objective from the activities.*		The teacher either explicitly states and/or writes a broad lesson objective OR the objective is not explicitly stated and/or written, but can be inferred from the lesson activities. *For example: The teacher says, "Today we are learning about statistics," or "We are focusing on writing," without further details.* *Alternatively, lesson activities may clearly focus on finding the mode of a data set, but the teacher does not explicitly articulate the objective.*	The teacher explicitly states and/or writes a specific lesson objective (i.e. a learning goal) and the lesson activities align to the stated objective. *For example: Near the beginning of class the teacher states, "Today we are going to learn how to find the mode of a data set." Each lesson activity is clearly related to this objective.*	
3.2 **The teacher explains content using multiple forms of representation**	The teacher **explains content using one form of representation** OR content is simply not explained**.** *For example: The teacher says, "To find the area of a circle, multiply pi by the square root of the radius", and does not provide written or visual representation of this process. Or in a biology lesson, a teacher verbally*		The teacher explains content using **two forms of representation**. *For example: While teaching the equation for finding the area of a circle, the teacher verbally explains that the radius is "half a circle" and provides a visual representation of this by drawing a diagram on the board. Or in a*	The teacher explains content using **three or more forms of representation**. *For example: While teaching the equation for finding the area of a circle, the teacher verbally explains and writes on the board that the radius is "half a circle." In addition, the teacher draws a diagram on the board*	

	explains the function of a microscope without using any written or other visual form of representation to facilitate students' understanding. *Alternatively, the teacher may not provide any explanation of content.*	*biology lesson, a teacher verbally explains the function of a microscope and its different parts. The teacher later points to a diagram showing the different parts of a microscope cell on the board.*	*showing the radius of a circle. Or in a biology lesson, a teacher verbally explains the function of a microscope and its different parts. The teacher then demonstrates how to use a microscope using a real-life instrument. Later in the lesson, the teacher points to a diagram of a cell on the board.*
3.3 **The teacher makes connections in the lesson that relate to other content knowledge, students' daily lives, or real-world issues**	The teacher does not connect what is being taught to other content knowledge, students' daily lives, or real-world issues. The teacher may use examples that may be related to other content, students' lives, or real-world issues, but the teacher does not attempt to connect them to the learning activity. *For example: During a chemistry lesson, the teacher describes different causes of air pollution but does not relate these to students' daily lives or to real-world issues.* *Alternatively, the teacher says, "Remember, yesterday we learned how to translate shapes? Today we are going to learn how to find the mode of a data set," without attempting to connect what is being taught to other content knowledge.*	The teacher may attempt to connect the lesson to other content knowledge, students' daily lives, or real-world issues, but the connections are superficial, confusing, or unclear. *For example: During a chemistry lesson, the teacher describes different causes of air pollution. The teacher says, "Exhaust gases from vehicles are one cause of air pollution that can cause many problems." The connection to students' lives or real-world issues is superficial and nonspecific.* *Alternatively, the teacher says, "Remember yesterday when we learned how to group data? Now we are going to find the mode of our data set." When explaining how to find the mode, the teacher does not relate the process to content in the previous lesson.*	The teacher meaningfully connects the lesson to other content knowledge, students' daily lives, or real-world issues. *For example: During a chemistry lesson, the teacher relates causes of air pollution to students' daily lives and real-world issues. The teacher says, "Exhaust gases from vehicles cause problems in our environment. In our city, diesel smoke pollutes our air, water, and soil." Connections between the lesson and content knowledge, students' daily lives, and/or real-world issues are clear.* *Alternatively, the teacher connects the lesson to content learned in a prior lesson on statistics by saying, "Remember yesterday when we collected data on what each student had for lunch, and we found the mean of the data? Today we are going to learn how to find the mode. The mode is another summary statistic that represents a typical value in our data set."*
3.4 **The teacher models by demostrating or thinking aloud[6]**	The teacher does not model. *For example: The teacher spends the entire class lecturing, and there are no procedural activities for the*	The teacher partially models the learning activity. *For example: For example: In a math class, the teacher demonstrates how to draw a*	The teacher completely models the learning activity by demonstrating all parts of the procedure OR by

	teacher to model, or the teacher assigns individual work but does not model for the students.	*bar graph but does not clarify how the data were extracted from the text to create the bar graph. Or in a language arts lesson, the teacher shows students how to write their address and date in a formal letter but does not model other rules or features of formal letter writing (e.g., use of a greeting).*	demonstrating the procedure AND thinking aloud. *For example: The teacher shows ways to solve a math problem (demonstrates a procedure) and while doing so, says what they are thinking at each step (thinks aloud). Or if students are calculating the area of a circle, the teacher shows each step (full demonstration of a procedure) with visual diagrams or other local materials and says what they are thinking at each step.*
[6] Modeling can take place at any time in the lesson (including at the end). If the learning activity is procedural in nature, modeling will include a demonstration of the procedure for students to observe; *however, if the activity focuses on developing a thinking skill, a complete model will include a think aloud. An action is considered modeling so long as the teacher demonstrates procedures or thinking processes related to the learning activity.*			
Source: Teach Secondary: Observer Manual.			

Table A1.4: Examples of Checks for Understanding behavior scores

Score	**1**	**2**	**3**	**4**	**5**
Behavior quality range	**Low**		**Medium**		**High**
4.1 The teacher uses questions, prompts, or other strategies to determine students' level of understanding	The teacher does not ask questions or prompt students at all OR when the teacher does so, the class responds in synchrony, which is accepted without further clarification for understanding. *For example: When explaining a concept, the teacher asks, "Do you all understand how to identify a reflex angle?" The students respond in unison, "Yes, we have." Or the teacher inquires, "This is a reflex angle, right?" after drawing an angle on the board. The class or an individual student replies, "Yes, it is."*		The teacher uses questions, prompts, or other strategies that are effective at determining only a few students' level of understanding. *For example: The teacher asks, "Who can give me an example of a reflex angle?" Only a few students respond by raising their hand, a group from which the teacher calls on 1 or 2 students to provide an answer.* *Alternatively, the teacher asks the question but does not ask students to raise their hands in response and simply allows students to*		The teacher uses questions, prompts, or other strategies that are effective at determining most students' level of understanding. *For example: The teacher says, "Please raise your hand if you agree with this statement: A reflex angle is one that is greater than 180 degrees." The teacher also asks students to demonstrate their knowledge by having all students share their answers (e.g., by having each student share their drawing of a reflex angle).*

		willingly volunteer their answers.	
4.2 The teacher monitors most students during independent/group work[7]	The teacher does not monitor students when they are working independently or in groups. *For example: The teacher sits at his/ her desk or remains standing in front of the class when students are working.*	The teacher monitors some students when they are working independently or in groups to check their understanding. *For example: The teacher observes some student work for accuracy, listens to some discussions when students work in groups, clarifies concepts, or asks questions.*	The teacher systematically monitors most students by circulating the classroom and approaching individual students or groups to check their understanding. *For example: When students are working, the teacher walks around the classroom, systematically approaching students or groups, to observe most students' work, listen to most group discussions, clarifies concepts, and/or asks questions.*
4.3 The teacher adjusts teaching to the level of students	The teacher does not adjust teaching for students and continues to follow the curriculum even when students indicate they are unable to keep up.[8]	The teacher slightly adjusts teaching, but this adjustment is brief and superficial. *For example: As students complete a series of equations involving multiplication of decimal numbers, the teacher notices they are not including decimal points in their answers. In response, the teacher briefly reminds the class to include decimal points in their answers. Or when a teacher asks a student to explain the function of the central (axial) human skeleton and a student struggles to recall this fact, the teacher tells the student to refer to a section in their textbook.*	The teacher substantially adjusts teaching for students by providing them with more opportunities to learn. The teacher may further present information in different ways to help students better understand the concept being taught. The teacher may also provide more challenging tasks for those who already have an advanced understanding. *For example: As students complete a series of equations involving multiplication of decimal numbers, the teacher notices they are not including decimal points in their answers. In response, the teacher briefly stops the activity and reviews the process for multiplying decimal numbers before continuing with the activity. Or when a teacher asks a student to explain the function of the central (axial) human skeleton and a student struggles to recall*

			this fact, the teacher uses a visual model or image to review its role in the human body. *Alternatively, if the teacher notices that a student has already successfully completed the activity, the teacher may give that student another more challenging activity to complete while waiting for the rest of the class.*
[7] This behavior is scored as N/A if there is no observable group or independent work. *[8] Even if there is no perceived need for adjusting, if the teacher does not adjust teaching, this behavior is scored as low.*			
Source: Teach Secondary: Observer Manual.			

Table A1.5: Examples of Feedback behavior scores

Score	**1**	**2**	**3**	**4**	**5**
Behavior quality range	**Low**		**Medium**		**High**
5.1 **The teacher provides specific comments or prompts that help clarify students' misunderstandings**	The teacher either does not provide students with comments/prompts about their *misunderstandings* OR the comments provided are simple, evaluative statements (e.g., "That is incorrect"). *For example: When a student answers a teacher's question incorrectly, the teacher responds by saying, "That is not the correct answer," and moves on.* Alternatively, the teacher does not acknowledge the student's incorrect answer and moves on to asking another student by saying, "No, someone else?" without providing feedback.		The teacher provides students with general or superficial comments/ prompts about their *misunderstandings.* *For example: In a math class, the teacher says, "You forgot to include the negative sign," without providing further information or prompts. In a language arts class, the teacher says, "Remember to use an apostrophe when writing the word 'Let's' in your sentence," without explaining why an apostrophe is needed.*		The teacher provides students with specific comments/prompts that contain substantive information that helps clarify students' *misunderstandings.* *For example: In a math class the teacher says, "Do you remember what happens when we multiply a positive and a negative number? Let's look at your notes. Now, let's look at your answer. What do you need to change to find the correct answer?" In a language arts class, the teacher says, "Look at the word 'lets' in your sentence. What does it mean? Do you remember what we need to do when we use contractions? What should you include?"*
5.2 **The teacher provides specific comments or prompts that help**	The teacher either does not provide students with comments/ prompts about their *successes* OR the comments provided are		The teacher provides students with general or superficial comments/ prompts about their *successes.*		The teacher provides students with specific comments/prompts that contain substantive

identify students' successes	simple, evaluative statements (e.g., "That is correct"). *For example: When a student answers a teacher's question correctly, the teacher responds by saying, "That is correct," and moves on. Alternatively, the teacher does not acknowledge the student's correct answer and moves onto asking another student a question without providing feedback.*	*For example: If students are drawing a bar graph, the teacher says, "Good job on your bar graph," or "Your bar graph is well organized," without specifying what that particular student did well.*	information that helps identify students' *successes.* *For example: If students are drawing a bar graph, the teacher says, "You did a good job on constructing this bar graph. Your horizontal and vertical axes are clearly marked, equally spaced, and correctly labeled." Or the teacher highlights one student's work and says to the class, "Look at the work of your classmate, see how this student used larger intervals on the horizontal axis to have fewer bars?" and then proceeds to explain how the student used larger intervals to more efficiently represent the data.*
[9] Prompts are pieces of information, such as guiding hints or questions, which are given by the teacher and encourage students to think through misunderstandings or identify successes.			
Source: Teach Secondary: Observer Manual.			

Table A1.6: Examples of Critical Thinking behavior scores

Score	**1**	**2**	**3**	**4**	**5**
Behavior quality range	**Low**		**Medium**		**High**
6.1 The teacher asks open-ended questions *that require reasoning, explanation, or generalization or have more than one correct answer*	The teacher does not ask open-ended questions OR asks only one open-ended question. The teacher may ask closed-ended questions that have a predetermined answer. *For example: In a math lesson, the teacher asks, "Which is greater, ¾ or 83%?" Or in a biology lesson, the teacher asks, "Who can tell me the name of the molecule that an enzyme reacts with?"*		The teacher asks students at least 2 open-ended questions but does not build on student responses, OR the teacher asks 2 open-ended questions and 1 of them is a follow-up to a student response. *For example: In a biology lesson, the teacher asks, "Why are enzymes important?" Later in the lesson the teacher inquires, "What factors affect enzyme activity?" Or in a language arts lesson, the teacher asks, "You have exams next week. What do you feel most worried about?" After*		The teacher asks students 3 or more open-ended questions AND at least 1 of them builds upon student responses by asking students to justify their reasoning, further explain, or clarify their ideas. *For example: In a chemistry lesson, the teacher asks, "How might we approach setting up this science experiment?" Later in the lesson, the teacher inquires, "What do you think will happen in this experiment?" After the student responds, the teacher follows up by asking, "Why do you think that?"*

		a student responds, the teacher follows up by asking, "What are you going to do this week to make sure you are prepared for the exam?"	
6.2 The teacher provides thinking tasks *that require students to actively analyze content, as opposed to simply receiving information or building fluency (i.e., rote learning)*	The teacher does not provide thinking tasks. Classrooms with no thinking tasks include those where students simply listen to the teacher or perform rote tasks.	The teacher provides superficial thinking tasks. Superficial thinking tasks are tasks such as matching sets of items, identifying concepts or key pieces of information, and comparing and contrasting characteristics. They also include applying learned information or techniques to tasks similar to those the teacher has already demonstrated.	The teacher provides substantial thinking tasks. Substantial thinking tasks are tasks such as making predictions, identifying patterns, explaining thinking, making connections, and interpreting information. They also include applying learned information or techniques to new tasks the teacher has not demonstrated, making inferences, evaluating, designing, or creating based on information learned.
6.3 The students perform thinking tasks	Students do not perform thinking tasks.	Less than two-thirds of students in the class perform thinking tasks.	Most students perform thinking tasks.
6.4 Students explain their thinking to the teacher or ask open-ended questions	Students do not explain their thinking to the teacher during class activities, nor do they ask open-ended questions. They respond to questions and/or contribute to discussions briefly by saying "Yes" or "No" or by offering a simple fact. *For example: In a math lesson the teacher says, "What is the probability of rolling two sixes when two dice are thrown?" The student answers, " 1/36" but does not explain how they worked out the answer. Or in a science lesson, the teacher says, "What are the three temperature scales that are in use today?" The student answers, "Celsius, Kelvin and Fahrenheit" but does not explain why different scales are applied.*	Students explain their thinking to the teacher during class activities or ask open-ended questions, although this happens infrequently (only once). *For example: A student explains how they worked out the answer to a math problem by stating, "I worked out that the probability of rolling two sixes when two dice are thrown is 1/36 by multiplying the probability of rolling a six when one dice is thrown by the same number. So, I multiplied 1/6 x 1/6 and this gave me the answer 1/36." Or during a science lesson, a student asks, "Why are there different scales for measuring temperature?"*	Students frequently explain their thinking to the teacher during class activities or ask open-ended questions (more than once). *For example: A student explains how they worked out the answer to a math problem by stating, "I worked out that the probability of rolling two sixes when two dice are thrown is 1/36 by multiplying the probability of rolling a six when one dice is thrown by the same number. So, I multiplied 1/6 x 1/6, and this gave me the answer 1/36." Another student then explains their approach to finding the answer by stating, "I worked this out by drawing a table which had all the possible outcomes of rolling two*

			dice. I worked out that there were 36 possible combinations, and that only one of these combinations was two sixes."
Source: Teach Secondary: Observer Manual.			

Table A1.7: Examples of Autonomy behavior scores

Score	1	2	3	4	5
Behavior quality range	Low		Medium		High
7.1 The teacher provides students with choices	The teacher does not explicitly provide students with choices. The teacher decides how learning activities should be completed, without providing different options for how students can approach the task. *For example: Students are asked to complete a set of mathematical equations following a prescribed set of steps. Alternatively, the teacher tells students to write an argumentative essay with a partner without providing any choice regarding the person with whom the student will work or the topic.*		The teacher explicitly provides students with at least one superficial choice that is not related to the learning objective. *For example: The teacher allows students to choose the order in which to complete activities (e.g., complete a set of mathematical equations or independently practice timetables) or to choose their own partner when asked to write an argumentative essay.* .		The teacher explicitly provides students with at least one substantive choice that is related to the learning objective. *For example: The teacher allows students to use their own methods for solving mathematical equations (e.g., by using concrete materials, diagrams, or written formulas) or lets students choose which mathematical problem to solve from several examples. Or the teacher allows students to choose the topic of their argumentative essay or choose between writing an essay, giving a talk, or doing a visual presentation*
7.2 The teacher provides students with opportunities to take on roles in the classroom	The teacher does not provide students with opportunities to take on roles in the classroom. *For example: The lesson is primarily lecture-based and highly structured, and students' participation is limited to copying down information. In this lesson, students never get the chance to come to the board or read a text aloud.*		The teacher provides students with opportunities to take on limited roles in the classroom. *For example: Students take attendance, assign tasks, pass out materials, or write on the board. Limited roles also include housekeeping tasks such as wiping the board.*		The teacher provides students with opportunities to take on meaningful roles in the classroom, in which they are responsible for parts of a learning activity. *For example: The teacher gives a student the opportunity to solve an equation on the board and explain to the class how the student tackled the main challenges of the problem. Or the teacher may assign a student the role of a peer tutor to help support another student's learning or the role of group leader*

			to help facilitate group discussion and participation.
7.3 The students volunteer to participate in the classroom	Students do not volunteer to participate in the classroom.	Only a few students volunteer to participate by expressing their ideas and taking on roles. *For example: When the teacher asks a question, only a few students put their hand up to answer; later when the teacher asks another question, the same few students put their hand up. Alternatively, when the teacher asks students to stand up if they would like to take part in a class debate, only a few students stand and state their arguments to the class.*	Most students volunteer to participate by expressing their ideas and taking on roles. *For example: When the teacher asks a question, many students put their hand up to share their answers. The students could also volunteer without the teacher asking (e.g., a student offers to share a related experience when the teacher is explaining a concept). Or when the teacher asks students to stand up if they would like to take part in a class debate, most students stand and state their arguments to the class.*
Source: Teach Secondary: Observer Manual.			

Table A1.8: Examples of Perseverance behavior scores

Score	**1**	**2**	**3**	**4**	**5**
Behavior quality range	**Low**		**Medium**		**High**
8.1 The teacher acknowledges students' efforts *rather than focusing only on results, intelligence, or natural abilities*	The teacher does not acknowledge student efforts. Although the teacher may praise students for "being smart" or "intelligent," the teacher does not focus on students' efforts or work. *For example: The teacher says, "Very good! You're the smartest student in the class" or "Well done! You're so smart!"*		In this classroom, the teacher sometimes acknowledges student efforts, but most praise is focused on outcomes or student intelligence. *For example: When a student does well on a test, the teacher says, Good effort," or when a student attempts to answer a question but is incorrect, the teacher says, "Well tried" but does not explicitly identify what these efforts involved.*		In this classroom, the teacher frequently acknowledges students' efforts toward mastering new skills or concepts, and identifies these efforts explicitly. *For example: When students solve a difficult problem they had been struggling with, the teacher praises and highlights the efforts they have made to solve it. The teacher says, "You have progressed so much in your understanding of algebra. If you keep practicing and using the strategies we learned in class, you'll master them all very soon!"*

8.2 The teacher has a positive attitude towards students' challenges[10]	The teacher has a negative attitude toward students' challenges. *For example: The teacher explicitly scolds students for making mistakes or becomes impatient with a student for taking time to understand a new concept.*	The teacher has a neutral attitude toward students' challenges. Although the teacher does not penalize a student for making mistakes or struggling with a new concept, the teacher does not make it clear that failure and frustration are normal parts of the learning process either. *For example: When a student is struggling to solve a math equation on the board, the teacher simply gives the student the answer in a neutral manner (i.e., not in an angry or impatient manner).*	The teacher has a positive attitude toward students' challenges, and helps students understand that failure and frustration are normal parts of the learning process. *For example: When a student makes a mistake solving an equation on the board, the teacher says, "Remember, it's okay to make mistakes and feel frustrated when we're trying to do something new! Let's think about how we can solve this equation." The teacher also encourages students to think through different resources they could turn to for help (e.g., asking a friend for advice, looking for answers in the textbook, using concrete materials or diagrams when solving math problems).*
8.3 The teacher encourages goal setting	The teacher does not encourage students to set short- or long-term goals.[11]	The teacher encourages students to set either short- OR long-term goals.[11] *For example: For short-term goal setting, the teacher says, "How many chapters of the book will you read this week?" or "How many elements of the Periodic Table will you memorize this week?". For long-term goal setting, the teacher says, "I want you to write down how much progress you've made on the goals we set at the start of the school year."* Alternatively, the teacher may talk about the importance of setting goals in a general way. *For example: The teacher says, "It's important to think about what you want to do when you finish school." Or the teacher highlights how characters in a book set a short- or long- term goal for*	The teacher encourages students to set short- AND long-term goals.[11] The teacher may reference both long- and short-term goals at the same time, particularly when encouraging students to set a short-term goal that would help them achieve a long-term goal. *For example: The teacher says, "Let's think about the goals we set for ourselves at the beginning of the school year. What is one thing you will do this week that will get you closer to that goal?" OR, the teacher talks about the short- and long-term goals separately (as in the examples for "Medium").*

		themselves and how they worked toward it.	

[10] These challenges may include making mistakes, scoring low on a test, or feeling frustrated when trying to understand a concept.
[11] Short-term goals are goals that students aim to achieve within a month or less, and long-term goals are goals that span a longer timeframe (e.g., over the school year, when they grow up).
Source: Teach Secondary: Observer Manual.

Table A1.9: Examples of Social and Collaborative Skills behavior scores

Score	**1**	**2**	**3**	**4**	**5**
Behavior quality range	**Low**		**Medium**		**High**
9.1 The teacher promotes students' collaboration through peer interaction	The teacher does not promote collaboration among students. *For example: The teacher does not provide any opportunities to work in groups or pairs.*		The teacher promotes superficial student collaboration through sharing opinions, materials, or ideas. *For example: The teacher asks students to share textbooks or swap their work with a partner for making*		The teacher promotes substantial student collaboration by asking them to work together to produce a product, solve a problem, complete a worksheet, or present a new idea. *For example: The teacher asks students to form pairs or groups to complete a task that requires collaboration, such as planning an experiment or collecting data and creating a graph. Alternatively, a teacher may ask a student with a good understanding of a concept to help another student who is having difficulty.*
9.2 The teacher promotes students' interpersonal skills, *such as perspective taking, empathizing, emotion regulation, and social problem solving*[12]	The teacher does not promote students' interpersonal skills.		The teacher promotes students' interpersonal skills in a brief or superficial manner. *For example: The teacher tells students to "Help each other", asks a student to respect the ideas of other classmates, or encourages students to contribute equally during a group activity. , . However, the teacher does not explain why these behaviors are important.*		The teacher promotes students' interpersonal skills by encouraging perspective taking, empathizing, emotion regulation, or social problem solving. *For example: When a student is mocked by other classmates for giving an incorrect answer, the teacher promotes empathy by reminding the class that everyone makes mistakes and/or to consider how they would feel if they were the ones being teased.*

			When a teacher notices that student are becoming competitive, the teacher promotes emotion regulation by saying, "We are not in a competition. Remember we are all a part of the same classroom and are supporting each other to learn and do our best." After reading a story about a character who is blind, the teacher asks students to imagine what it would be like if they couldn't see.
9.3 Students collaborate with one another through peer interaction	Students do not collaborate OR when students interact with one another, they display negative behaviors. *For example: When asked to pick partners for an activity, students do not interact with their peer and work independently. They may also display negative behaviors such as pushing, bullying or purposefully excluding one or more of their peers.*	Students collaborate superficially. There are no displays of negative behavior *For example: Students share materials among themselves in a group, but they complete the activity independently and do not collaborate with one another when solving a problem.*	Students collaborate with one another by working together to produce a product, solve a problem, complete a worksheet, or present a new idea. There are no displays of negative behavior. *For example: Students work in pairs or groups to complete a task that requires collaboration, such as planning an experiment or collecting data and creating a graph. Alternative, a student with a good understanding of a concept may help another student who is having difficulty.*
[12] Perspective taking: The ability to consider a situation from a different point of view. Empathizing: The ability to recognize and share another's emotions. Emotion regulation: The ability to effectively manage and respond to an emotional experience. Social problem solving: The process that an individual goes through to solve an interpersonal problem. This may involve applying aspects of perspective taking, empathizing, or emotion regulation to a social situation.			
Source: Teach Secondary: Observer Manual.			

Annex 2. TEACH Secondary's Development Process and Organizing Framework

WHAT IS *TEACH SECONDARY*?

TEACH Secondary is a free classroom observation tool that provides a window into one of the less explored and more important aspects of a student's education: what goes on in the classroom. The tool is intended to be used in secondary classrooms and was designed to help countries, in particular LMICs (Low- and Middle-Income Countries), monitor and improve teaching quality.

How was *TEACH Secondary developed?*

To finalize a working version of the tool, the *TEACH Secondary* development team rigorously researched, revised, and piloted different iterations of the tool over a two-year timeframe. The development of the tool began with testing an adapted version of *TEACH*, developed by researchers at the Research for Equitable Access and Learning (REAL) Centre and Laterite in collaboration with the World Bank's *TEACH* team, within 103 secondary mathematics classrooms in Rwanda as part of the Mastercard Foundation's Leaders in Teaching initiative (Carter & Rose, 2021). Based on this preliminary work, researchers from the REAL Centre joined as consultants with the *TEACH* team to support further development of *TEACH Secondary* for broader application across subjects and contexts.

The development team reviewed the theoretical and empirical evidence from LMICs to further assess both the relevance of the existing *TEACH* framework to the secondary level and additional classroom practices that were applicable to this stage of schooling but not captured in the existing tool. This review also included in-depth analyses of existing observation protocols that had been applied in secondary classrooms, with a focus on those used in the Global South.[3] This review was complemented by in-depth discussions with academics and education practitioners, including those specialized in inclusive education. This process led to further changes to the tool and resulted in an extended framework of 10 elements and 34 behaviors.

This extended framework comprised the first working version of the *TEACH Secondary* tool which was sent for internal review, a process involving numerous *TEACH* colleagues who were instrumental in the development of the original observation protocol and its adaptation to other levels of schooling. This process led to further revisions and constructive discussions on changes to *TEACH Secondary* that might also complement other versions of the tool. The preliminary *TEACH Secondary* tool was piloted through classroom video footage in Uganda, Tanzania, and Guyana. This process resulted in a revised tool comprised of 10 elements and 32 behaviors.

The development team convened a technical advisory panel, including Kwame Akyeampong, Lindsay Brown, Daniel Muijs, Herine Otieno-Menya, Albert Paulo Tarmo, and Pauline Rose, to provide written feedback on the tool. Their comments were compiled and addressed as part of a technical workshop, during which the experts clarified feedback points and advised the team on which issues to prioritize and how to incorporate the comments to further improve the tool.

As of late 2022, this updated version of *TEACH Secondary* has been applied in Andhra Pradesh, India and the Pacific Islands and discussions are taking place for use within a number of other contexts including the Philippines and Syria. These activities, along with feedback from the *TEACH Secondary* Expert Panel

[3] These included: Mathematical Quality of Instruction (MQI) (Hill et al., 2008); PLATO (Grossman et al., 2013): Classroom Assessment Scoring System-Secondary (CLASS-S) (Pianta et al., 2012); Teacher Instructional Practices and Processes System (TIPPS) (Seidman et al., 2018); the Stallings Classroom Snapshot (Stallings, 1976); International System for Teacher Observation and Feedback (ISTOF) (Teddlie et al., 2006); and, the UTeach Observation Protocol (Walkington & Marder, 2018).

Review, will help inform the TEACH Team of any further needed revisions to the instrument and ultimately provide an opportunity to ensure the tool's sustainability for LMICs.

Teach Secondary Process Quality

TEACH Secondary's organizing framework captures aspects of process quality. This section contains an overview of the *TEACH Secondary* Observation Tool (measuring process quality). Following this, we will present the evidence base behind the aspects of process quality captured in the Observation Tool. The manual, which includes the observation tool, can be found at the following **website.**

As part of the Observation Tool, which covers aspects of process quality, *TEACH Secondary* captures:

(i) Time on Learning: the time secondary teachers spend on learning activities, the extent to which students are on task, and the extent to which students are actively participating in their learning
(ii) Quality of Teaching Practices that help develop students' cognition and socioemotional development.

As part of the Time on Task component, three "snapshots" of 1–10 seconds are used to record the secondary teacher's actions, the number of students who are on task throughout the observation, and whether students are actively participating in learning.

The Quality of Teaching Practices component is organized into three primary areas: Classroom Culture, Instruction, and Socioemotional Skills. [4] These areas have nine corresponding Elements that point to twenty-nine behaviors. The behaviors are characterized as Low, Medium, or High, based on the evidence collected during the observation. These behavior scores are translated into a five-point scale that quantifies the Quality of Teaching Practices as captured in a series of two, fifteen-minute lesson observations.

Figure A4.1: TEACH Secondary Areas

[4] It should be noted that it is impossible to draw a clear line between teacher practices linked to academic versus socio-emotional learning. Many teacher practices included in common professional teaching frameworks do impact student's socio-emotional development, though are usually thought of in terms of academic rather than socio-emotional learning. Explicitly linking teacher practices with socio-emotional outcomes in measures used for assessment will serve to increase the salience of student's socio-emotional skills to teachers, as well as to other stakeholders and policymakers, thus ensuring a focus on both academic and socio-emotional learning in the classroom.

TEACH Secondary Areas

As described above, the Quality of Teaching component of *TEACH Secondary* is organized into three Areas. They provide a broad framework to measure the following:

Classroom culture: The focus of this area is on the teacher's creation of a culture that is conducive to learning. The focus here is not on the teacher's correction of students' negative behaviors but rather the extent to which the teacher creates a supportive learning environment and sets positive behavioral expectations.

Instruction: The focus of this area is on the teacher instructing in a way that deepens student understanding and encourages critical thought and analysis. The focus here is not on content-specific methods of instruction, but rather, the extent to which the teacher facilitates the lesson, checks for understanding, provides feedback, and encourages students to think critically.

Socio-emotional skills: The focus of this area is on the teacher fostering socio-emotional skills that encourage students to succeed both inside and outside the classroom. To develop students' social and emotional skills, the teacher instils autonomy, promotes perseverance, and fosters social and collaborative skills.

As *TEACH Secondary* was adapted from *TEACH Primary*, there exist core similarities between the two, such as a shared framework and the coding protocol. However, there are a number of differences between the two at every level of the tool which respond primarily to the different age ranges and educational environments being observed. The following highlights the differences between *TEACH Primary* and *TEACH Secondary* at tool-, area-, element-, and behavior-level. The main changes made to *TEACH Primary* and reflected in *TEACH Secondary* are:

1. **Developmental level**

Modified descriptions and examples to be more relevant and developmentally appropriate for secondary students and to reflect quality across a range of cultural contexts and different secondary teaching practices including teacher-centered, student-centered and peer learning activities.

2. **Greater emphasis on critical thinking**

Expanded critical thinking element to capture the greater cognitive demand of secondary classrooms and the importance of students being provided with opportunities to explain their thinking during lessons.

3. **Enhanced subject representation**

Extension of thinking tasks table and behavior examples to facilitate understanding of how the tool can be applied in different secondary school contexts. This includes examples beyond mathematics and language arts to capture learning that occurs within science subjects including physics, chemistry, and biology.

4. **Increased student agency**

Expanded Time on Learning Area to capture the extent to which students are actively participating in learning tasks. Modified several behaviors within the tool to capture student's increased agency in the classroom. Changes in response to student's growing autonomy and responsibility at the secondary level.

Annex 3. Detailed sampling of the study

Region	District/city	School No	Number of teachers			Number of students			Type of school
			general	male	female	general	male	female	
Sughd	Ayni	24	42	23	19	636	335	301	Project
Sughd	Ayni	40	41	26	15	579	281	298	Control
Sughd	Devashtich	51	44	4	40	562	267	295	Project
Sughd	Devashtich	14	38	11	27	402	191	211	Control
Sughd	Isfara	63	42	4	38	736	339	397	Project
Sughd	Isfara	60	20	13	7	270	131	139	Control
Sughd	Istaravshan	40	29	16	13	290	126	164	Project
Sughd	Istaravshan	46	42	16	26	701	322	379	Control
Sughd	J. Rasulov	17	70	7	63	1419	688	731	Project
Sughd	J. Rasulov	1	63	37	26	1715	1069	646	Control
Sughd	Mastchoh	10	27	25	2	467	256	211	Project
Sughd	Mastchoh	24	33	28	5	440	192	248	Control
Sughd	Panjakent	53	61	25	36	1031	535	496	Project
Sughd	Panjakent	35	18	10	8	282	158	124	Project
Sughd	Panjakent	60	28	16	12	364	192	172	Control
Sughd	Panjakent	116	21	15	6	185	82	103	Control
Sughd	Spitamen	13	69	19	50	1239	598	641	Project
Sughd	Spitamen	33	70	38	32	1467	736	731	Control
Khatlon	A. Jomi	1	56	10	46	1499	768	731	Project
Khatlon	A. Jomi	62	38	5	33	810	503	307	Control
Khatlon	Baljuvon	7	17	11	6	207	105	102	Project
Khatlon	Baljuvon	34	18	14	4	176	96	80	Project
Khatlon	Baljuvon	4	33	20	13	552	274	278	Control
Khatlon	Baljuvon	8	33	21	12	435	234	201	Control
Khatlon	Dangara	56	46	14	32	1031	519	512	Project
Khatlon	Dangara	26	32	14	18	590	269	321	Project
Khatlon	Dangara	2	68	17	51	2015	1040	975	Control
Khatlon	Dangara	20	48	19	29	956	449	507	Control
Khatlon	Dusti	10	63	13	50	1024	545	479	Project
Khatlon	Dusti	11	44	26	18	850	419	431	Control
Khatlon	Farkhor	56	26	14	12	368	200	168	Project
Khatlon	Farkhor	39	48	20	28	647	321	326	Project
Khatlon	Farkhor	28	22	10	12	355	181	174	Control

Region	District/city	School No	Number of teachers			Number of students			Type of school
			general	male	female	general	male	female	
Khatlon	Farkhor	53	34	17	17	387	198	189	Control
Khatlon	Hamadoni	5	32	12	20	555	279	276	Project
Khatlon	Hamadoni	8	57	34	23	1282	654	628	Project
Khatlon	Hamadoni	18	53	18	35	931	468	463	Project
Khatlon	Hamadoni	51	31	17	14	563	263	300	Project
Khatlon	Hamadoni	4	59	29	30	1244	643	601	Control
Khatlon	Hamadoni	7	77	45	32	1903	979	924	Control
Khatlon	Hamadoni	19	51	25	26	825	447	378	Control
Khatlon	Hamadoni	30	85	61	54	1865	960	905	Control
Khatlon	Jayhun	13	34	11	23	772	398	374	Project
Khatlon	Jayhun	15	36	17	19	1011	539	472	Control
Khatlon	Khoroson	5	28	13	15	1297	734	563	Project
Khatlon	Khoroson	14	49	29	20	1103	590	513	Control
Khatlon	Khovaling	3	42	24	18	574	277	297	Project
Khatlon	Khovaling	23	37	23	14	500	258	242	Project
Khatlon	Khovaling	12	29	16	13	322	158	164	Project
Khatlon	Khovaling	2	26	15	11	334	166	168	Control
Khatlon	Khovaling	4	27	14	13	450	222	228	Control
Khatlon	Khovaling	15	27	17	10	400	209	191	Control
Khatlon	Kulob	9	83	21	62	1313	677	636	Project
Khatlon	Kulob	53	102	22	80	2429	1259	1170	Project
Khatlon	Kulob	33	20	16	4	190	91	99	Project
Khatlon	Kulob	13	57	28	29	807	406	401	Control
Khatlon	Kulob	34	74	42	32	830	462	368	Control
Khatlon	Kulob	51	88	49	39	1340	665	675	Control
Khatlon	Muminabad	3	35	20	15	453	230	223	Project
Khatlon	Muminabad	14	39	27	12	578	304	274	Project
Khatlon	Muminabad	10	26	10	16	266	136	130	Control
Khatlon	Muminabad	25	20	11	9	226	109	117	Control
Khatlon	Panj	31	29	7	22	592	296	296	Project
Khatlon	Panj	29	17	9	8	234	102	132	Control
Khatlon	Shahritus	5	51	16	35	601	288	313	Project
Khatlon	Shahritus	48	35	16	19	410	205	205	Control
Khatlon	Temurmalik	39	30	11	19	442	222	220	Project
Khatlon	Temurmalik	5	41	21	20	870	480	390	Project
Khatlon	Temurmalik	12	20	11	9	281	149	132	Project

Region	District/city	School No	Number of teachers			Number of students			Type of school
			general	male	female	general	male	female	
Khatlon	Temurmalik	3	41	12	29	708	358	350	Control
Khatlon	Temurmalik	4	45	8	37	1012	524	488	Control
Khatlon	Temurmalik	21	16	10	6	199	93	106	Control
Khatlon	Vakhsh	3	70	15	55	1606	754	852	Project
Khatlon	Vakhsh	18	43	22	21	1023	548	475	Control
Khatlon	Vose	3	65	32	33	1416	727	689	Project
Khatlon	Vose	22	79	21	58	1711	889	822	Project
Khatlon	Vose	9	49	20	29	737	347	390	Project
Khatlon	Vose	33	60	15	45	1133	561	572	Project
Khatlon	Vose	38	45	13	32	551	261	290	Project
Khatlon	Vose	5	56	37	19	1010	520	490	Control
Khatlon	Vose	16	47	24	23	639	331	308	Control
Khatlon	Vose	23	61	32	29	1136	600	536	Control
Khatlon	Vose	44	27	14	13	326	183	143	Control
Khatlon	Vose	49	30	18	12	624	299	325	Control
Khatlon	Yovon	15	34	13	21	763	388	375	Project
Khatlon	Yovon	27	39	11	28	607	303	304	Project
Khatlon	Yovon	3	28	10	18	709	361	348	Control
Khatlon	Yovon	46	30	11	19	489	254	235	Control
GBAO	Darvaz	12	15	11	4	111	61	50	Project
GBAO	Darvaz	10	14	8	6	131	62	69	Control
GBAO	Roshkala	9	24	3	21	192	108	84	Project
GBAO	Roshkala	29	18	5	13	104	53	51	Project
GBAO	Roshkala	12	34	11	23	330	148	182	Control
GBAO	Roshkala	30	18	6	12	79	42	37	Control
GBAO	Rushan	4	20	2	18	150	69	81	Project
GBAO	Rushan	5	22	8	14	120	59	61	Control
GBAO	Shugnon	40	22	10	12	215	121	94	Project
GBAO	Shugnon	38	24	9	15	153	68	85	Control
DRS	Faizabad	33	24	18	6	566	313	253	Project
DRS	Faizabad	27	29	17	12	502	256	246	Control
DRS	Hisor	44	25	17	8	443	232	211	Project
DRS	Hisor	101	32	16	16	581	298	283	Project
DRS	Hisor	102	15	5	10	295	145	150	Project
DRS	Hisor	41	46	20	26	798	392	406	Control
DRS	Hisor	92	35	16	19	583	262	321	Control

Region	District/city	School No	Number of teachers			Number of students			Type of school
			general	male	female	general	male	female	
DRS	Hisor	100	11	6	5	72	33	39	Control
DRS	Nurabad	24	16	13	3	265	139	126	Project
DRS	Nurabad	40	18	13	5	323	167	156	Project
DRS	Nurabad	10	29	29	0	650	315	335	Control
DRS	Nurabad	31	11	5	6	312	175	137	Control
DRS	Rasht	15	22	21	1	424	216	208	Project
DRS	Rasht	16	20	14	6	247	128	119	Control
DRS	Rogun	21	12	10	2	179	88	91	Project
DRS	Rogun	20	9	7	2	120	64	56	Control
DRS	Rudaki	119	30	6	24	887	448	439	Project
DRS	Rudaki	13	56	11	45	1601	883	718	Project
DRS	Rudaki	12	50	21	29	1209	614	595	Control
DRS	Rudaki	118	30	12	18	773	394	379	Control
DRS	Shahrinav	43	14	5	9	146	75	71	Project
DRS	Shahrinav	27	22	15	7	485	254	231	Control
DRS	Tojikobod	9	28	25	3	396	194	202	Project
DRS	Tojikobod	5	18	13	5	335	177	158	Control
DRS	Tursunzoda	59	61	3	58	954	491	463	Project
DRS	Tursunzoda	57	11	5	6	177	64	113	Control
DRS	Vahdat	43	22	6	16	816	437	379	Project
DRS	Vahdat	63	13	8	5	252	131	121	Project
DRS	Vahdat	77	14	11	3	156	84	72	Control
DRS	Vahdat	134	25	14	11	642	338	304	Control
DRS	Varzob	40	49	7	42	1012	509	503	Project
DRS	Varzob	42	21	10	11	328	165	163	Control

Annex 4. Study observation tool

SCHOOL ID:	TEACHER ID:	CODER ID:	GRADE:	SUBJECT:	SEGMENT 1
CLASS SIZE: *girls* ____ *boys* ____		SCHEDULED TIME: ___ : ___ to ___ : ___		ACTUAL TIME: ___ : ___ to ___ : ___	SEGMENT LENGTH: ____ *min*

TIME ON TASK

	0. TIME ON LEARNING	*1st Snapshot (4m)*	*2nd Snapshot (9m)*	*3rd Snapshot (14m)*
0.1	Teacher provides learning activity to most students	Y N	Y N	Y N
0.2	Students are on task	N/A L M H	N/A L M H	N/A L M H
0.3	Students are actively participating in learning tasks	N/A Y N	N/A Y N	N/A Y N

QUALITY OF TEACHING PRACTICES

	Areas / Elements / Behaviors	*Scoring*		*Final Scores*
A.	**CLASSROOM CULTURE**			
1.	SUPPORTIVE LEARNING ENVIRONMENT		1 2 3 4 5	
1.1	The teacher treats all students respectfully		L M H	
1.2	The teacher uses positive language with students		L M H	
1.3	The teacher responds to students' needs	N/A	L M H	
1.4	The teacher does not exhibit bias and challenges stereotypes in the classroom	a. Gender L M H; b. Disability L M H; *Sub-scores* ▷ *Determine score* ▷	L M H	
2.	POSITIVE BEHAVIORIAL EXPECTATIONS		1 2 3 4 5	
2.1	The teacher sets clear behavioral expectations for classroom activities		L M H	
2.2	The teacher acknowledges positive student behavior		L M H	
2.3	The teacher redirects misbehavior and focuses on an expected behavior, rather than the undesired behavior		L M H	
B.	**INSTRUCTION**			
3.	LESSON FACILITATION		1 2 3 4 5	
3.1	The teacher explicitly articulates the objectives of the lesson and relates classroom activities to the objectives		L M H	
3.2	The teacher explains content using multiple forms of representation		L M H	
3.3	The teacher makes connections in the lesson that relate to other content knowledge, students' daily lives, or real-world issues		L M H	
3.4	The teacher models by demonstrating or thinking aloud		L M H	
4.	CHECKS FOR UNDERSTANDING		1 2 3 4 5	
4.1	The teacher uses questions, prompts or other strategies to determine students' level of understanding		L M H	
4.2	The teacher monitors most students during independent/group work	N/A	L M H	
4.3	The teacher adjusts teaching to the level of students		L M H	
5.	FEEDBACK		1 2 3 4 5	
5.1	The teacher provides specific comments or prompts that help clarify students' misunderstandings		L M H	
5.2	The teacher provides specific comments or prompts that help identify students' successes		L M H	
6.	CRITICAL THINKING		1 2 3 4 5	
6.1	The teacher asks open-ended questions		L M H	
6.2	The teacher provides thinking tasks		L M H	
6.3	Students perform thinking tasks		L M H	
6.4	Students explain their thinking to the teacher or ask open-ended questions		L M H	
C.	**SOCIOEMOTIONAL SKILLS**			
7.	AUTONOMY		1 2 3 4 5	
7.1	The teacher provides students with choices		L M H	
7.2	The teacher provides students with opportunities to take on roles in the classroom		L M H	
7.3	The students volunteer to participate in the classroom		L M H	
8.	PERSEVERANCE		1 2 3 4 5	
8.1	The teacher acknowledges students' efforts		L M H	
8.2	The teacher has a positive attitude toward students' challenges		L M H	
8.3	The teacher encourages goal setting		L M H	
9.	SOCIAL & COLLABORATIVE SKILLS		1 2 3 4 5	
9.1	The teacher promotes students' collaboration through peer interaction		L M H	
9.2	The teacher promotes students' interpersonal skills		L M H	
9.3	Students collaborate with one another through peer interaction		L M H	