

## KEY POINTS

- Measure of effective teaching may help explain achievement gaps within and between countries.
- Among several measures of effective teaching, Classroom Assessment Scoring System (CLASS) is increasingly used in developing countries in part due to multiple validity studies verifying its relevance across country contexts, consistent links to student achievement, and aligned professional development that can improve teaching quality and learning outcomes.
- Teachers with higher levels of instructional support as measured by CLASS can reduce the achievement gap between children of mothers with high levels of education and children of mothers with low levels of education.
- Teachers with higher levels of emotional support as measured by CLASS can reduce the achievement gap between children with high functional risk and children with low functional risk in classrooms.

## The Classroom Assessment Scoring System as a Measure of Effective Teaching to Address the Learning Crisis

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### MEASURING TEACHER EFFECTIVENESS

Despite the remarkable progress in access to education, the learning crisis in South Asia continues to be a serious concern. To explore solutions, the Asian Development Bank organized a knowledge sharing workshop on improving education quality through supporting teaching activities and teacher assessment in Dhaka, Bangladesh, on 6 November 2017.

The workshop focused on teacher professional development since teachers' role is the most significant in-school factor impacting student achievement.<sup>2</sup> Yet, literature also demonstrates that traditional signifiers of teacher quality such as education level, training, age, contract status, and years of experience have been poor predictors of teachers' influence on student learning in developing countries.<sup>3</sup> Therefore, measuring effective teaching is critical to understanding why some students learn more than other students.

The workshop discussed how the Classroom Assessment Scoring System (CLASS) could be used to measure effective teacher–student interactions through emotional support, classroom organization, and instructional support. Potential uses of CLASS include teacher professional development, monitoring, and evaluation.

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<sup>2</sup> B. Bruns and J. Luque. 2015. *Great Teachers: How to Raise Student Learning in Latin America and the Caribbean*. Washington, DC: World Bank.

<sup>3</sup> P. Glewwe, E. Hanushek, S. Humpage, and R. Ravina. 2011. *School Resources and Educational Outcomes in Developing Countries: A Review of the Literature from 1990 to 2010*. *NBER Working Paper*. No. 17554. Cambridge: National Bureau of Economic Research.

## FINDINGS FROM MEASURES OF EFFECTIVE TEACHING STUDY

The Measures of Effective Teaching (MET) study funded by Bill & Melinda Gates Foundation investigated the validity and reliability of classroom observations of effective teaching.<sup>4</sup>

- (1) Validity asks, “Do the selected classroom observations measure what it is teachers do with students around the content that is linked to student achievement gains?”
- (2) Reliability asks, “If so, could these classroom observations consistently measure teaching practices linked to student achievement across multiple observers?”

An analysis of classroom teaching videos from 3,000 teachers across grades 4–9 in the United States was conducted using the following five classroom observation instruments:

- (1) Classroom Assessment Scoring System (CLASS)
- (2) Danielson Framework for Teaching (FFT)
- (3) Mathematical Quality of Instruction (MQI)
- (4) Protocol for Language Arts Teaching Observations (PLATO)
- (5) UTeach Teacher Observation Protocol (UTOP)

All classroom observation instruments used were positively associated with student achievement gains. However, CLASS was the only instrument that had multiple randomized controlled trial (RCT) impact evaluations demonstrating its link to both student socio-emotional development and academic outcomes. It is also the only instrument, to date, with multiple RCTs demonstrating effective professional development that can reliably improve teaching practices and increase student learning.

## INCREASING USE OF CLASS IN DEVELOPING COUNTRIES

CLASS is increasingly used in developing countries to measure teaching practices and help address the learning crisis. The World Bank and Inter-American Development Bank have supported the use of CLASS in the People’s Republic of China (PRC) and the

Kyrgyz Republic as well as in Lebanon, Trinidad and Tobago, Chile, Dominica, Ecuador, Grenada, Saint Vincent and the Grenadines, and Saint Lucia. Preference for CLASS as an instrument may be due to the sheer volume of studies that link CLASS to (i) student socio-emotional development and academic outcomes, (ii) effective professional development, and (iii) validity studies confirming its construct relevance and/or predictive relevance to learning across seven countries.

**Student outcomes.** An impact evaluation provided evidence that teachers with higher levels of instructional support as measured by CLASS can reduce the achievement gap between students whose mothers have higher levels of education and students whose mothers have lower levels of education.<sup>5</sup> Likewise, the study demonstrated that an increase in emotional support as measured by CLASS can reduce the achievement gap between functional risk students and non-functional risk students. Functional risk is defined in the study as a composite measure consisting of four indicators: ability to sustain attention, externalizing problem behaviors, social skills, and academic competence. These findings could be relevant to countries facing the learning crisis while aiming for more equitable learning outcomes.

**Professional development.** Studies have shown that professional development that provides CLASS-aligned feedback to teachers and strength-based coaching can improve teaching practices and student achievement outcomes on state-standardized test. For instance, an RCT of My Teaching Partner, a professional development program that uses CLASS-aligned feedback with strength-based coaching, was conducted across 2,237 classrooms in 78 middle schools across rural districts in the United States. The results showed 9 percentage point gains in end-of-year standardized achievement tests in My Teaching Partner classes relative to classes in a randomly assigned control group.<sup>6</sup> Similar results were obtained in a 2015 replication study that used a more urban and racially diverse sample of high school classrooms.<sup>7</sup> Consequently, CLASS-aligned professional development programs offer insights into how we might reduce the learning gap between rural and urban schooling contexts, and between students of different socioeconomic and cultural backgrounds.

**Cross-country validation studies.** CLASS has been validated as a construct of teaching quality across seven countries in four regions—findings support both construct and predictive validity of teaching quality as measured by CLASS in Chile,<sup>8</sup> Ecuador, Finland,<sup>9</sup> Germany,<sup>10</sup>

<sup>4</sup> T. J. Kane and D. O. Staiger. 2012. *Gathering Feedback from Teaching: Combining High Quality Observations with Student Surveys and Achievement Gains*. Bill & Melinda Gates Foundation.

<sup>5</sup> B. K. Hamre and R. C. Pianta. 2005. Can Instructional and Emotional Support in the First-grade Classroom Make a Difference for Children at Risk of School Failure?. *Child Development*. 76. pp. 949–967.

<sup>6</sup> J. P. Allen, R. C. Pianta, A. Gregory, A. Y. Mikami, and J. Lun. 2011. *An Interaction-Based Approach to Enhancing Secondary School Instruction and Student Achievement*. *Science*. 333 (6045), pp. 1034–1037.

<sup>7</sup> J. P. Allen, C. A. Hafen, A. C. Gregory, A. Y. Mikami, and R. Pianta. 2015. Enhancing Secondary School Instruction and Student Achievement: Replication and Extension of the My Teaching Partner–Secondary Intervention. *Journal of Research on Education Effectiveness*. 8(4): pp. 475–489.

<sup>8</sup> D. Leyva, C. Weiland, M. Barata, H. Yoshikawa, C. Snow, E. Trevino, and A. Rolla. 2015. Teacher–Child Interactions in Chile and Their Associations with Prekindergarten Outcomes. *Child Development*. 86(3). pp. 781–799.

<sup>9</sup> E. Pakarinen, M. Lerkkanen, A. Poikkeus, N. Kiuru, M. Siekkinen, H. Rasku-Puttonen, and J. Nurmi. 2010. A Validation of the Classroom Assessment Scoring System in Finnish Kindergartens. *Early Education and Development*. 21(1). pp. 95–124.

<sup>10</sup> A. Von Suchodoletz, A. Fasche, C. Gunzenhauser, and B. K. Hamre. 2014. A Typical Morning in Preschool: Observations of Teacher–Child Interaction in German Preschools. *Early Childhood Research Quarterly*. 29. pp. 509–519.

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Portugal,<sup>11</sup> and the PRC.<sup>12</sup> Of these countries, Ecuador has the weakest capacity, with evidence showing that an increase in the CLASS score is associated with relatively large increase in student learning.<sup>13</sup> These findings in Ecuador have provided further reason to consider the use of CLASS in developing countries.

**Features of CLASS in developing countries.** The wider use of CLASS in developing countries may be attributed to the following characteristics:

- (1) does not require the observer to have a high level of content or pedagogical knowledge, i.e., an observer with no teaching or teacher training experience can be certified on the tool;
- (2) measures teaching quality across all grades and content material;
- (3) training is readily provided across 3 days in developing countries;
- (4) training is accompanied by a video library that links specific dimensions of teaching quality to video clips for visualizing best practices; and
- (5) measures can be used to produce localized video libraries that link CLASS teaching quality dimensions to specific

teaching practices within a given country and provide a basis of comparison to other countries.

## WAY FORWARD

CLASS is a measure of effective teaching that has yet to be implemented across developing Asia. It has been applied in the People's Republic of China and the Kyrgyz Republic. Other Asian countries may also consider utilizing measures of effective teaching in their education systems to address the learning crisis. In fact, the Asian Development Bank has initiated discussions on using measures of effective teaching in Bangladesh and Sri Lanka. For example, in Bangladesh, teaching seems to be the last choice of college graduates. Yet, once they become teachers and start teaching students, school leaders need to find effective ways to improve teaching effectiveness through observation and feedback. Even Sri Lanka, where the literacy rate is quite high, is considering the use of measures of effective teaching to address less-than-desired student achievement in math. Taken together, these countries are taking actions to identify effective teaching and improve it in ways that have the potential to address the learning crisis in Asia.

<sup>11</sup> J. Cadima, T. Leal, and M. Burchinal. M. 2010. The Quality of Teacher–Student Interactions: Associations with First Graders' Academic and Behavioral Outcomes. *Journal of School Psychology*. 48. pp. 457–482.

<sup>12</sup> B. Hu, C. Gu, J. LoCasale-Crouch, and N. Yang. 2016. Profiles of Chinese Kindergarten Classrooms and Associated Structural Features: Implications for Policy Reform. *Early Childhood Research Quarterly*. 37(4). pp. 58–68.

<sup>13</sup> M. C. Araujo, P. Carneiro, Y. Cruz-Aguayo, and N. Schady. 2014. *A Helping Hand? Teacher Quality and Learning Outcomes in Kindergarten*. Washington, DC: Banco Interamericano de Desarrollo. Unpublished.

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