

Student-Centered Active Learning and Teaching (SCALT) Method in Jordan

The findings presented in this brief have stimulated an ongoing policy discussion about the extent to which teachers should use the progressive Student-Centered Active Learning and Teaching (SCALT) methodologies in Jordan. The results of a recent baseline evaluation study featured in this brief (and the full report) suggest that while Jordanian teachers have much room for improvement in using SCALT, clear progress has been made—particularly with respect to women teachers, in liberal arts and social sciences, and in the higher grades. Creating policies that replicate SCALT practices through the modeling of teaching mechanisms that foster the transfer of learning and exchange of experiences between and within directorates and schools may be critical to expanding the impact of SCALT in Jordan. This Policy Brief is an amended and updated version of one that was produced in early 2012 by a team of researchers and analysts from World Education, Inc., Jordan’s National Center for Human Resource Development (NCHRD), and Jordan’s Ministry of Education.

INTRODUCTION

There has been significant debate in Jordan over the last decade about how to improve children’s language, math, and science scores during late primary and secondary school years. One comprehensive teaching technique that has been actively adopted in Jordan—and earlier and in an ongoing fashion in countries as varied as Finland, Singapore, and the US—is the “Student-Centered Active Learning and Teaching,” or SCALT methodology. SCALT is regarded as a progressive teaching approach that facilitates students’ critical thinking, problem solving, analytic inquiry, team work, and project-based learning skills. SCALT is also linked with students’ acquisition of 21st century knowledge and skills.

In Jordan, World Education, Inc., and the National Center for Human Resource Development (NCHRD), with support from the USAID-funded Monitoring and Evaluation Partnership (MEP) project, conducted a 2011 national baseline study on teachers’ application of SCALT methodologies in Jordanian classrooms. As a result of the pedagogical reform instituted by the Education Reform for Knowledge Economy (ERfKE II) in 2009, the majority of Jordanian teachers have now been trained to use SCALT methodologies.

For this baseline study, World Education and NCHRD randomly selected and observed 852 Arabic, Math, and Science teachers in grades 5, 9, and 11 in 300 schools during the spring of 2011. The team developed a classroom observation checklist

specifically for this study; this list consisted of 26 distinct items that were used to develop an overall SCALT composite index for measuring teaching behavior in the classroom. Factor analysis and reliability test results demonstrated that the instrument had valid and reliable psychometric properties.

The findings presented in this policy brief have stimulated a policy-level discussion about the importance of the extent to which teachers use SCALT methodologies in Jordan. The Ministry of Education (MOE) and the research team also plan to conduct a further analysis to find out how teachers' application of SCALT correlates with student National Assessment for the Knowledge Economy (NAfKE) scores in Arabic, Math, and Science in 5th, 9th, and 11th grades. This study should conclude in 2014.

FINDINGS OF BASELINE STUDY

World Education developed the SCALT index to measure where teachers stand in terms of their in-class use of this progressive teaching methodology. Some of the 26 questions asked in the index included: Does the teacher organize formal group discussions? Does s/he encourage students to ask questions of the teacher (or of others)? Are students allowed to speak up and voice their opinions?

Overall, SCALT methodologies have been applied variably across schools in Jordan. Based on the 26-item SCALT composite index, only 16% of teachers ranked as

excellent SCALT practitioners (scoring 19 points or higher), while 64% scored somewhere in the middle, and 20% ranked as poor performers (scoring 7 points or lower). Teachers with high SCALT composite scores were more likely to ask questions, organize discussions, and facilitate group work. They engaged in more "active" and "student-centered" practices, lectured less often, and eschewed rote-learning approaches in the classroom.

In addition, there was a great deal of variation in teachers' application of SCALT methodologies between and within field directorates (districts) in Jordan. While many directorates varied on the overall average practice of SCALT methodologies, there may also have been both good and poor performing teachers within them. There was no significant difference between urban and rural teachers in their SCALT composite scores, however, an unexpected finding because most educators in Jordan thought that teachers in urban schools were more progressive and student-centered than their counterparts in rural schools.

Among different kinds of teachers, application of SCALT methodologies varies significantly. Teachers from the Education Reform Support Program (ERSP) were significantly better in applying SCALT methodologies than other school teachers.* ERSP teachers' scores were on average 9% better than those of private school teachers, nearly 15% better than Ministry of Education (MOE) non-intervention (non-SCALT) schools, and almost 23% better than the schools under the Ministry of Defense

* The Education Reform Support Program (ESRP) is a USAID-funded activity implemented in Jordan.

(MOD). These findings suggest that SCALT methodologies can be taught and promoted as the ERSP has demonstrated.

Burrowing down into the details of these findings, one can see that gender contributed most significantly to the variation in SCALT scores. Female teachers scored substantially better than their male counterparts in applying SCALT methodologies in classrooms, all things being equal. Female teachers achieved SCALT composite scores an average of three points higher than their male colleagues. Although it is only speculation and not empirically proven at this time, several sources and observers believed that, based on their observations, female teachers are generally more open to progressive teaching methodologies.

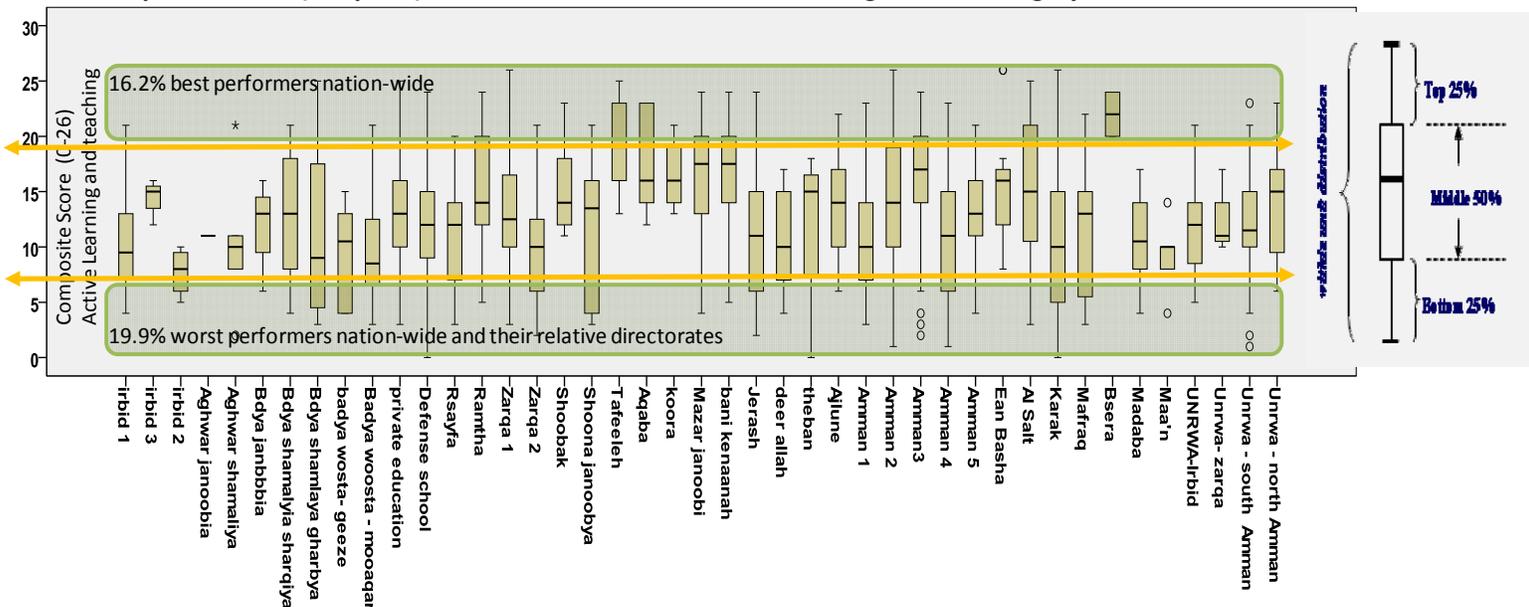
In addition, permanent teachers' scores in the use of SCALT were, on average, four percent higher than non-permanent teachers' scores. Similarly, years of experience were associated with higher scores in the SCALT composite index.

More experienced teachers also scored almost one point higher on average than less experienced teachers.

Significantly and quite telling was the evidence that math teachers were less likely to apply SCALT methodologies than teachers who taught Arabic and science. Given the nature of SCALT methodologies like cooperative learning, critical thinking, and group discussion, a number of education experts and observers, including World Education and NCHRD education researchers thought that the courses in literature, language arts, and science were naturally more conducive to progressive teaching methodologies than math. What that might mean for strategies to teach math more progressively is a subject still in need of more thorough examination.

Finally, the study found that there was no correlation between 5th grade teachers' classroom application of SCALT methodologies and their students' NAfKE scores in Arabic, math, and science.

Composite Score (Boxplots) of Student-Centered Active Learning and Teaching by Directorates



Among 9th graders, only science scores were positively associated with teachers' utilization of SCALT. However, the study also revealed a positive and significant correlation between 11th grade teachers' utilization of SCALT and their students' NAfKE scores in all three subjects: Thus, the higher the teachers' scores in SCALT, the higher the students' scores in math, science, and Arabic. These findings suggest that SCALT might indeed have a more positive impact on student learning in higher grades, and may entail further analysis.

POLICY OPTIONS AND IMPLICATIONS

Based on the above findings, the following policy options are suggested:

Foster exchanges of SCALT methodologies and learning techniques.

The study result implied that teachers in Jordan need to be continuously encouraged and trained to apply SCALT methodologies in order to foster critical thinking and problem solving, particularly in the higher grades. Given the fact that most schools and districts have their own high performing teachers in SCALT, it is critical to replicate SCALT practices through model teaching mechanisms. These might include incentives to foster learning and exchange of experiences both between and within field directorates, and between project intervention schools and non-intervention schools. Model teaching could also be an efficient way to replicate and scale up the SCALT methodologies and provide assistance to all teachers in Jordan. Related

to the model teaching, it would be beneficial to empower female teachers and the teachers from ERSP schools to mentor and train less experienced or less successful teachers in effectively utilizing SCALT methodologies—as well as share their knowledge more generally.

Continue efforts to encourage longer periods of service in the teaching profession and to reduce the number of temporary teachers.

The study examined job status and years of experience and found that teachers who were permanent and more experienced tended to be slightly (4%) more likely to use SCALT teaching methodologies than teachers who were temporary and/or less experienced. Boosting the retention of experienced teachers in schools, therefore, could have a positive impact in improving teachers' willingness and ability to practice the SCALT methodologies and techniques.

Apply SCALT trainings more effectively across subjects and grades.

It was not surprising to learn that Arabic language teachers, and to some extent, science teachers, seemed more likely to apply SCALT methodologies than math teachers. However, the finding also provides an opportunity for SCALT trainers to think of different ways to teach or train teachers in the application of progressive teaching methodologies according to subject when developing future trainings in government schools. There may well be different tools and knowledge to use SCALT in math classes from those used in Arabic,

science, or other social science and language subjects.

Draw from the experiences of successful female teachers to foster improved teaching practices among their male counterparts.

Female teachers significantly surpassed their male counterparts in nearly all measures of this study. It would be useful to identify the reasons why female teachers scored higher so that their male counterparts could learn from them.

Encourage SCALT in higher grades and further investigate the impacts of SCALT in lower grades.

A clear positive correlation between the utilization of SCALT and better NAFKE scores in Arabic, Math, and Science in the higher grades—grade 11—suggests that at this level, the more SCALT methodologies used by teachers, the better students performed. This would imply that the MOE might wish to prioritize SCALT training for teachers in the higher grades as well as conduct further studies to determine why the lower grades have not responded as positively to SCALT.

CONCLUSIONS

The results of the baseline study suggest that Jordanian teachers have much room for improvement in utilizing SCALT. In summary, the key implications of the study are:

1. Teachers in 10th grade and higher should be employing SCALT to boost

critical thinking, problem solving, and communications skills in all subjects.

2. SCALT methods should be applied differently by different subject teachers.
3. SCALT-related training programs need to be more tailored to each subject and grade level.
4. An in-depth study is needed to determine why female teachers perform consistently better than males under this program.
5. We also need to examine why ERSP teachers score significantly better in applying the SCALT methodology.
6. In addition, the Ministry of Education might consider developing and mandating policies that replicate SCALT practices through model-teaching mechanisms—with incentives to foster learning and the exchange of best practices between and within directorates and schools.

Given these findings, it is not surprising that the utilization of SCALT has yet to be fully translated into better student performance across all grades and subjects. We can now confirm, however, that teachers in the higher grades in Jordan are more likely to use SCALT methodologies effectively, and that their students tend to perform better on the national standardized test, or NAFKE. Also at this time, the effects of SCALT on student performance vary significantly by grades and subjects. Therefore this policy study hypothesizes that a blend of progressive and conventional methodologies may produce more effective

results across subject areas as well as by various grades.

Several positive changes in the Ministry's approach to and views of SCALT methodologies have changed since this report was issued last year. First, the MOE has developed new action plans based on the classroom observation study to address the weaknesses described in the analysis. Follow-up studies of the same subjects are now planned for 2014 to determine if there has been any significant improvement in classroom learning. In addition, several highly-related studies should be released in April 2013. These will include the National Student Assessment results, KG (end-of kindergarten) teachers study, school management study, and TIMSS (Trends in International Mathematics and Science Study). Last but not least, the policy briefs that World Education, NCHRD, and the Ministry of Education have jointly produced have created an in-depth policy dialogue and significant M&E interest among Ministry policy makers, staff and other stakeholders in Jordan. Such discussions continue interest, and upcoming policy studies will hopefully stimulate this kind of internal analyses in the future.

KEY ACRONYMS

- SCALT: Student-Centered Active Learning and Teaching
- NCHRD: National Center for Human Resource Development
- USAID: United States Agency for International Development
- MEP: Monitoring and Evaluation Partnership (USAID supported)
- ERfKE II: Education Reform for Knowledge Economy
- NafKE: National Assessment for the Knowledge Economy
- MOE: Jordanian Ministry of Education
- ERSF: Education Reform Support Program
- TIMSS: Trends in International Mathematics and Science Study
- KG: End-of-Kindergarten TIMSS: Trends in International Mathematics and Science Study

SUCCESS STORY: *Policy briefs spur education action plans*

What are these upper and mid-level management staff from the Jordanian Ministry of Education (and related departments) concentrating on in such a focused way? Actually, it is a presentation by the authors of this brief (and the policy study) just two months ago in Amman -- which is fostering many different, but related discussions on: policy planning; monitoring and evaluation; student assessment; and teacher assessment and management.



Policy briefs like the one featuring classroom observation study spur much of the discussions about "where do we go from here?" How do they determine their action plan?

Although the vehicle for the debate is a power point presentation, there are many questions and lots of brainstorming. For example, does SCALT really enhance learning, and if so, only in certain subjects and at certain grade levels? How can they improve the teaching capacities of those who to date have not demonstrated willingness or ability to use the methodology? Is flexibility in applying SCALT one of the key variables, and what does this mean from policy standpoint? All around the table are eagerly awaiting the national student assessment scores which will be released and TIMSS results later this year and will show how students have or haven't improved scores under (or without) SCALT, and from the previous years.

One thing that is certain: these policy briefs have caught the attention of ministry officials, teachers, teacher supervisors, and other stakeholders to an extent that has stipulated new rounds of policy dialogues. It is likely that such in-depth analyses and policy information product like policy briefs will continue to serve as an important vehicle for open discussions and more demand for data evidence and policy recommendations for positive changes. World Education is pleased to see that MoE is already planning new studies on kindergarten teachers and early child learning and school management.

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This series of technical briefs highlights program approaches that are breaking new ground and achieving results for populations where implemented.



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