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School Climate and Citizenship Skills

Muhammad Faour

FEBRUARY 2012

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Summary

The youth of the Arab world have driven much of the popular upheaval that has overtaken the region in the last year. Calling for fundamental political and economic change, they seek to remake their societies into more open, global players. But if that grassroots momentum is to be solidified, real societal reform must take place.

In burgeoning democracies such as Tunisia, Egypt, and Libya, schools can be change agents and effective elements in the development of long-lasting democratic skills and values such as freedom, equality, social justice, and respect for diversity and basic human rights. With more than 40 percent of people in the Arab world under the age of eighteen, schools are key social and political actors that can strongly impact the process of democratization.

A growing body of research has shown that a positive school climate is imperative to ensuring progress on this front. The character and quality of school life, which reflects values, goals, organizational structure, interpersonal relationships, and teaching and learning practices, can either promote or hinder a student's education and future success.

Unfortunately, in much of the Arab world school climates are generally negative. Indexes that combine data from three international studies and measure schools' safety, teaching, learning, and institutional environments in fourteen Arab countries paint a picture that is far from rosy. Many students do not feel safe physically, socially, and emotionally in schools. Substantial percentages of teachers entered their profession with deficient academic preparation and pre-service training and do not receive adequate and appropriate professional development during service. Reliance on rote memorization of facts, student and teacher absenteeism, classroom overcrowding, and limited resources all contribute to the problem as well.

Much needs to be done. First and foremost, decisionmakers must find the political will to endorse serious comprehensive education reforms that target the entire school culture. All Arab countries should improve the status and qualifications of their teachers, and establish systems of good governance at both the local and central levels along with transparency and public accountability. Absent a good education environment, there is little room for the Arab world's youth to turn into responsible citizens who can consolidate and stimulate social transformation to bring about more prosperous and free societies.

Introduction

The Arab world is embarking on a long journey of political, social, and economic transformation. The principal agents of this transformation are the youth, who will play an integral, active role in public life. More than 40 percent of people in the Arab world are under the age of eighteen,[1] and most of them are either in or about to enter the K–12 school system.

With their direct connections to these students during their formative years, schools become key social and political actors that can strongly impact the process of democratization, particularly its cultural component. In burgeoning democracies such as Tunisia, Egypt, and Libya, schools can be change agents and effective elements in the development of democratic skills and values such as freedom, equality, social justice, and respect for diversity and basic human rights. Though cultural transformation takes longer than political or economic transformation, it is well worth the effort. Targeting people's values and norms, this cultural change addresses deep preferences, leanings, and emotions, and can have a more lasting effect as a result.

Though cultural transformation takes longer than political or economic transformation, it is well worth the effort.

As part of education reform efforts in various countries, schools are no longer expected to restrict their mandate to students' acquisition of knowledge and intellectual development. They foster social and emotional development as well. Mission statements of schools in various regions of the world underscore the role of these educational institutions in raising responsible citizens within a positive school climate.

A growing body of research has shown that a positive school climate promotes students' academic achievement in reading, mathematics, and the sciences,[2] as well as in citizenship knowledge and skills.[3] It also reduces the frequency and intensity of violence in schools.[4] The school climate—the character and quality of school life which reflect values, goals, organizational structure, interpersonal relationships (among students, staff, and between students and teachers), and teaching and learning practices[5]—is so pivotal that it can either promote or hinder education reform.

Countries of the Arab world would do well to learn from this growing body of knowledge. Teaching young students what it means to be citizens who participate in and contribute to their societies rather than subjects of the state who are taught what to think and how to behave is key to democratic progress. And for any new school reform initiative that emphasizes this education for citizenship in an Arab country, a positive school environment is imperative.

Therefore, prior to recommending a new citizenship education program in a specific Arab country, it is essential to study the school climate in that country. School climate data are vital to policy development; they can be used to measure learning as well as support it. These data guide planners to enhance the social, emotional, and citizenship skills and values that contribute to students' success in school and in life.[6]

To get to the heart of the matter, school climate must be approached from various angles. Do students in a given country have a sense of belonging to their schools? Is there respect for diversity, equality, and freedom of expression? Are teachers adequately prepared to teach their students twenty-first-century skills, including civic competence? Do schools offer their students social and emotional security? What is the nature of the relationship between principals and teachers in schools, and between teachers and students—is it authoritarian or democratic, cooperative or exclusionary? Are parents involved in school activities and decisions? Are schools equipped with adequate learning resources? All of these questions will help policymakers gauge true school climate and develop plans for education reform in the Arab world.

Understanding School Climate

Virtually all researchers agree that school climate has four basic dimensions (figure 1). First is safety, which involves implementing rules and norms about violence and abuse, as well as the mechanisms for enforcing those rules. It includes both physical safety and social and emotional security. Second, interpersonal relationships shape school climate. The level of respect for diversity, of social support among adults and students, and of adult support for students, both academic and personal, all play a part. Third is the degree of support for teaching and learning, including social and civic learning. And the fourth dimension is the broader institutional environment. Students' sense of belonging to a school, the quality of facilities and resources available, and the involvement of the family and community in learning and school activities all influence social climate.[7]

Figure 1. Dimensions of School Climate

Aspects of these four dimensions were investigated in international comparative tests of student achievement in reading, mathematics, and science. The data in this paper come from the 2007 Trends in International Mathematics

and Science Study (TIMSS), the 2006 Progress in International Reading Literacy Study (PIRLS) test on reading achievement, and the 2009 Program for International Student Assessment (PISA) test on reading, mathematics, and science. As of this writing, more recent data were not available; the results of TIMSS 2011 and PIRLS 2011 will not be released before 2013, and the next PISA cycle will be in 2012. Nevertheless, the data analyzed in this study remain timely and relevant as school climates do not change significantly in four years, particularly in the Arab world. Furthermore, Arab countries that participated in these tests did not make use of the findings on school climate from TIMSS 2007, PIRLS 2006, or PISA 2009 to guide their education policies.

TIMSS 2007 collected data on the following school climate variables relating to teachers: highest level of education attained, working conditions, professional development, teaching and assessment methods used in classrooms, and teachers' perceptions of school climate. In addition, there are data on perceptions of safety and parental involvement. The PIRLS 2006 study has data on parental involvement and library use. The PISA 2009 study collected information on teacher-student relations, extracurricular activities, and library use (table 1).

Fourth grade students from seven Arab countries and eighth grade students from fourteen Arab countries participated in the TIMSS 2007 test. Fourth grade students from only three Arab countries sat for the PIRLS 2006 test,[8]

Table 1. Selected School Climate Variables in International Tests

Test	Safety	Teaching and Learning	Interpersonal Relationships	Institutional Environment
TIMSS 2007 Grades 4 & 8	Students' perceptions of safety	Teachers' educational attainment, working conditions, professional development, perceptions of school climate, teaching & assessment methods; student absenteeism		Class size; availability of resources; parental involvement
PIRLS 2006 Grade 4	Students' perceptions of safety			Library use; parental involvement
PISA 2009 Fifteen-year-old students			Student-teacher relations	Library use; extracurricular activities

Sources: I. V. S. Mullis et al., 2008, *TIMSS 2007 International Mathematics Report, M. O. Martin et al., 2008, TIMSS 2007 International Science Report*, I. V. S. Mullis et al., 2007, *PIRLS 2006 International Report, PISA 2009 Results*, vol. IV.*

* Sources of the table are: (1) I. V. S. Mullis, M. O. Martin, and P. Foy (with J. F. Olson, C. Preuschoff, E. Erberber, A. Arora, and J. Galia), 2008, *TIMSS 2007 International Mathematics Report: Findings from IEA's Trends in International Mathematics and Science Study at the Fourth and Eighth Grades*, Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Boston College, chapters 6, 7, 8; (2) M. O. Martin, I. V. S. Mullis, and P. Foy (with J. F. Olson, E. Erberber, C. Preuschoff, and J. Galia) 2008, *TIMSS 2007 International Science Report: Findings from IEA's Trends in International Mathematics and Science Study at the Fourth and Eighth Grades*, Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Boston College, chapters 6, 7, 9; (3) I. V. S. Mullis, M. O. Martin, A. Kennedy, and P. Foy, 2007, IEA's Progress in International Reading Literacy Study in Primary School in 40 Countries, *PIRLS 2006 International Report*, Chestnut Hill, MA: TIMSS & PIRLS International Study Center, Boston College, Chapter 6; (4) Program for International Student Assessment, *PISA 2009 Results: What Makes a School Successful? Resources, Policies, and Practices*, vol. IV, OECD, chapters 3 and 4.

Table 2. Arab Countries or States that Participated in the International Tests

Test	Arab country
TIMSS 2007 Grade 4	Algeria, Dubai, Kuwait, Morocco, Qatar, Tunisia, Yemen
TIMSS 2007 Grade 8	Algeria, Bahrain, Dubai, Egypt, Jordan, Kuwait, Lebanon, Morocco, Oman, Palestinian Authority, Qatar, Saudi Arabia, Syria, Tunisia
PIRLS 2006 Grade 4	Kuwait, Morocco, Qatar
PISA 2009 Fifteen-year-old students	Dubai, Jordan, Qatar, Tunisia

and students fifteen years of age from four Arab countries took the PISA 2009 test.[9] See table 2 for a full list of participating countries.

School climate data from these tests were collected for the purpose of studying achievement of students in reading, mathematics, and science. Yet, they do offer insight into the factors that enhance citizenship learning in Arab countries, given the robustness of their measures, the representativeness of the samples, and the number of Arab countries that participated. This paper investigates the status of school climate in the Arab countries that participated in these international tests. It examines the four dimensions of school climate that are likely to influence citizenship education: safety, teaching and learning, institutional environment, and interpersonal relationships.

Safety in Schools

A safe, secure, and caring school climate fosters attachment to educational institutions, thereby improving social, emotional, and academic learning.[10] Physical safety, which refers to feelings of safety from injury or harm due to physical abuse such as bullying, punching, pushing, and beating, is one aspect of this, covering safety measures in classrooms, playgrounds, and other school facilities. Safety includes social and emotional security as well, which refers to the absence of verbal abuse, harassment, and social exclusion.

Historically, corporal punishment and other measures of humiliation have been commonly used by teachers and administrators in Arab schools to discipline an unruly or low performing child or to harden a soft child to the harsh realities of the abrasive world. Available studies indicate that corporal punishment remains common in schools, even in those Arab countries that have laws against it such as Algeria, Egypt, and Morocco. In countries that do not have clear legal provisions that ban physical punishment in schools, such as Palestine and Yemen, this method of punishment is acceptable as a tool of discipline.[11] Other widespread forms of violence against students by teachers and administrators in Arab schools include insults, ridicule, and exclusion. Furthermore,

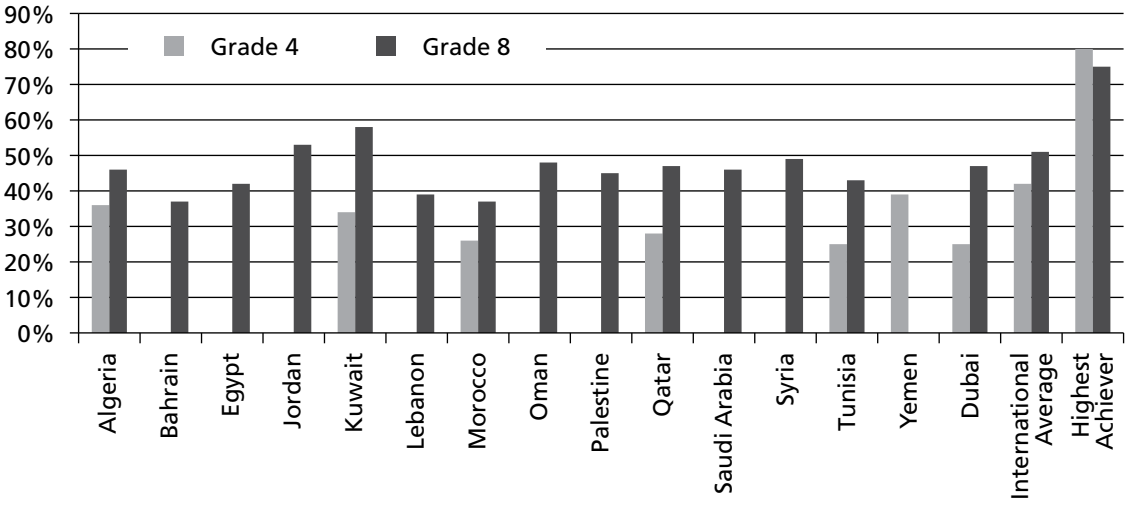
many students suffer from bullying, and experience physical fights with other students, theft of personal property, and harassment by other students.[12]

TIMSS 2007 collected data on the perceptions of physical safety and of social and emotional security among fourth and eighth grade students, presenting the data in a three-point index of safety. A high score on the index refers to maximum safety. The tests asked students to report whether any of the following five situations occurred in the month that preceded the survey: (1) their personal property was stolen, (2) they were hurt by other students, (3) they were made to do things they did not want to do by other students, (4) they were made fun of or called names, and (5) they were left out of activities by other students.

Survey results show that in most participating Arab countries, less than half of eighth grade students felt very safe in their schools. In twelve out of fourteen Arab countries that participated in TIMSS, 37 to 49 percent of students did not experience any incidents of physical harm or emotional insecurity during a recent month (figure 2). The comparable international percentage was 52 percent. By contrast, the overwhelming majority of eighth graders in countries like Sweden, Japan, Armenia, and Russia felt very safe in their schools. Only one Arab country (Kuwait) had a significantly higher than average percentage of students who perceived their schools as very safe, two Arab countries (Jordan and Syria) had a similar percentage to the international average, and all the rest had significantly lower percentages.[13]

A majority of fourth graders in all seven Arab countries that participated in TIMSS 2007 did not have high perceptions of being safe in their schools. The percentage of fourth grade students who felt very safe ranged between the lowest value of 23 percent in Tunisia and the highest value of 39 percent in Yemen, as compared to the international average of 42 percent (figure 2). In

Figure 2. Percentage of Students Who Felt Very Safe in School



Source: *TIMSS 2007 International Mathematics Report*, Exhibit 8.14: Index of Students' Perception of Being Safe in School

the countries that ranked high on perceptions of safety such as Sweden and Kazakhstan, the percentage of fourth graders who felt very safe was above 60 percent. This indicates the presence of a safety problem in the fourth grade in all the Arab countries that participated in TIMSS and in the eighth grade for most Arab schools.

The existence of a safety problem in many Arab schools was affirmed in the PIRLS 2006 study which also investigated the state of safety in schools for fourth graders. It used an index with high, medium, and low levels. The high level indicates that the student (1) felt safe at school, (2) had no incident happen to her/him, and (3) had not more than one incident happen to a classmate in the month preceding the survey date. The percentage of students who scored high on the index of safety in the three Arab countries that participated in the survey ranged from 31 to 38 percent. This percentage is low in comparison with the international average of 51 percent. And in Norway, Sweden, and Denmark, over 67 percent of students felt very safe.

Perceptions of insecurity and a lack of safety in schools lead to less effective learning. In fact, in all the Arab countries that participated in TIMSS 2007, students in the fourth grade who had high perceptions of being safe in school scored significantly higher in mathematics and the sciences than those whose perceptions of safety were low. This positive association between safety and achievement was also noted for eighth graders in all Arab countries with the exception of Tunisia, where there is no statistically significant correlation.

Teaching and Learning

A positive school climate requires a classroom environment that is both supportive and productive. This environment allows teachers and students to interact in a learning atmosphere that values diversity and different perspectives and encourages discussion and experimentation with a variety of ideas and opinions. For civic and citizenship education, open discussion and active learning have been shown to be far more effective teaching approaches than the didactic, lecture-based approach.[14]

For civic and citizenship education, open discussion and active learning have been shown to be far more effective teaching approaches than the didactic, lecture-based approach.

In a supportive learning atmosphere, students work in groups on problems or projects, formulate plans and arguments, and develop their creativity and critical thinking. Students feel free to challenge the views of their teachers and fellow students and are equally prepared to be challenged by others without feeling disrespected or insulted. Teachers offer their students constructive feedback and individual attention.[15] Teaching and learning in a positive school climate supports the development of social and civic knowledge along with skills and values such as active listening, conflict resolution, problem solving, social responsibility, and ethical decisionmaking.[16]

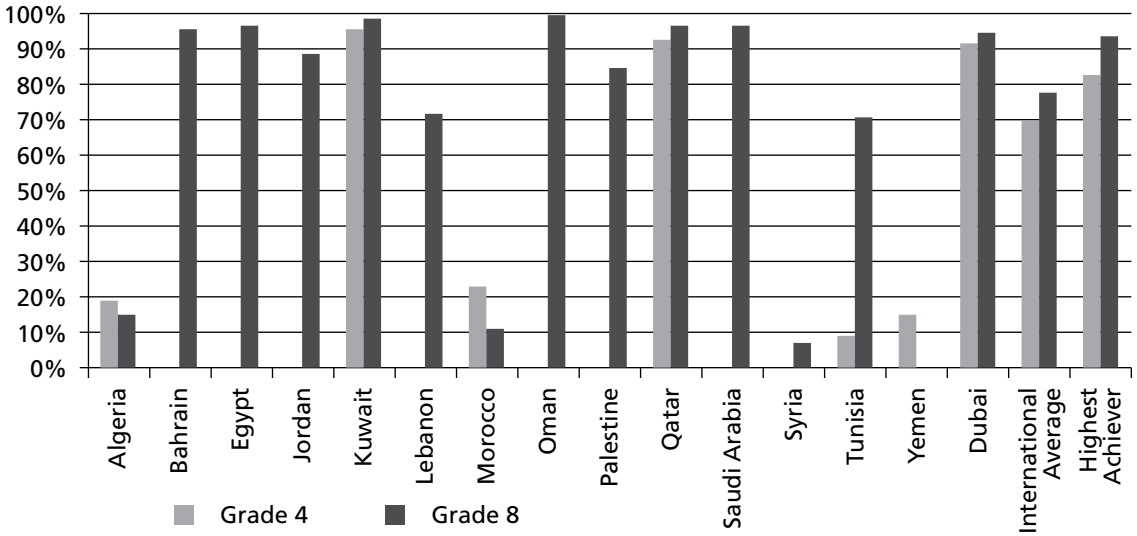
To create such a productive learning environment, an education system needs highly qualified teachers. Many educators and policymakers agree that teacher quality has a very powerful influence on students' academic achievement.[17] Teachers strongly contribute to the development and nurturing of their students' skills and values including those related to citizenship. But are teachers in the Arab region qualified to play this role? Do they possess the appropriate academic knowledge and skills? Do they receive appropriate or adequate professional training during their service? Do they have positive perceptions of the school climate?

Deficient Teacher Preparation and Development

At the core of a student's education is the education of his or her teacher. Unfortunately, in the Arab world many teachers are underprepared. They neither have college degrees nor teaching certifications. How can a teacher with limited knowledge of a subject impart accurate and rich information on that topic to students or promote their critical thinking? In class, these types of teachers recite the material in textbooks and require students to memorize it in order to pass their exams. They leave no room for open discussion or different interpretations of the subject matter, partly because they lack the depth of knowledge and self-confidence to manage classrooms that entertain a diversity of opinions. More seriously, in the absence of quality control measures, some of these teachers give their students incorrect or outdated information about the subject matter being taught.[18]

TIMSS 2007 results show that the overwhelming majority of eighth grade mathematics teachers in Algeria, Morocco, and Syria, which have a total combined population of over 85 million, do not hold a university degree (figure 3),

Figure 3. Mathematics Teachers With University Degrees



Source: *TIMSS 2007 International Mathematics Report*, Exhibit 6.2: Highest Educational Level of Mathematics Teachers

as is also the case with a large percentage of teachers in Lebanon and Tunisia. These teachers include a group that did not complete upper secondary school; another that did complete upper secondary school; and a third group that completed postsecondary but not university-level education, that is, they spent one or more years at college but did not graduate with a university degree.

However, a university degree by itself is not a satisfactory indicator of adequate preparation for the teaching profession. For teachers of various subjects including citizenship education, their training in teaching skills or pedagogy is particularly important. Professional development of teachers is necessary for improving their skills and staying abreast of recent advances in the subject matters they teach.

Teaching also requires general knowledge of classroom dynamics and possession of a host of social skills relating to dispute resolution, motivation, and group management. Teachers of citizenship education should be trained how to discuss in class emotion-laden topics such as religion, war, and racism, which requires self-confidence and expertise in facilitating open discussion and debate in a democratic setting.[19]

Substantial proportions of teachers in most Arab countries at all school levels lack pre-service training and readiness for the challenges of a changing society.

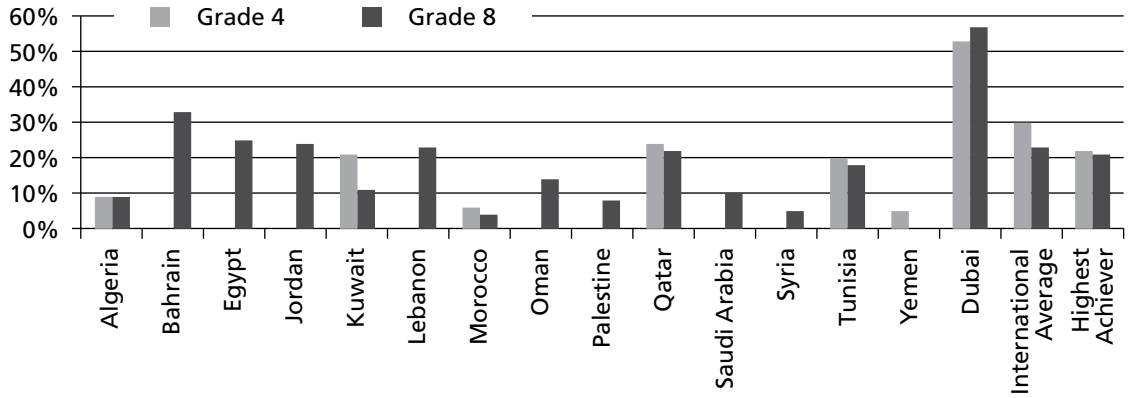
Though precise data is not available on teachers' skills in these more social areas, studies indicate that Arab countries are not faring well on the teacher-development front. The United Nations Education, Scientific, and Cultural Organization (UNESCO) estimates that about half the Arab countries for which there are adequate data are experiencing a shortage of trained primary school teachers.[20] Substantial proportions of teachers in most Arab countries at all school levels lack pre-service training and readiness for the challenges of a changing society.[21]

Similarly, TIMSS 2007 indicates that in the fourth grade, except for the benchmarking emirate of Dubai, the percentage of students whose mathematics teachers had professional development in improving teaching skills in the two years that preceded the study date was below the international average of 30 percent. The lowest percentage was 5 percent for Yemen and the highest was 24 percent for Qatar (figure 4).

For eighth grade, seven out of fourteen participating Arab countries did not provide adequate professional training on improving teaching skills to the teachers of mathematics and science in the two years that preceded the survey date. In four of those countries—Algeria, Morocco, Palestine, and Syria, whose combined population totaled about 90 million—only 6.5 percent of eighth graders, on average, were taught by teachers who had professional training on how to improve their teaching skills during the two years preceding 2007. Even in three rich Gulf countries that have allocated relatively more funds to basic education than other Arab countries—Saudi Arabia, Kuwait, and Oman—just 12 percent of students, on average, were taught by teachers who had professional development (figure 4).

Only in Bahrain, Dubai, Lebanon, and Qatar did the percentage of eighth grade students whose teachers had professional training exceed the international average of 23 percent (figure 4). Still, the performance of eighth grade students from these countries in mathematics and science is well below the international average. One explanation is that attending a professional development program on improving teaching skills by no means ensures that a teacher receives adequate training in pedagogy. Other important factors, such as content of the program, its duration, and its method of assessment, determine how much a teacher would benefit from such a program.

Figure 4. Percentage of Students in Schools Where Most (76–100 percent) Teachers Had Professional Development in Improving Teaching Skills in the Two Years That Preceded the Survey Date



Source: *TIMSS 2007 International Mathematics Report*, Exhibit 8.10: Schools' Reports on Teachers' Mathematics and Science Professional Development

Unsatisfactory Working Conditions for Teachers

In addition to deficient academic preparation and inadequate professional development, most teachers in the Arab region suffer from poor working conditions. Conditions such as lack of workspace and unsafe facilities influence teachers' ability to teach effectively, which in turn impact school climate and student achievement. TIMSS 2007 asked teachers whether any of the following three problems existed in their schools: (1) buildings that need significant repair, (2) overcrowded classrooms, and (3) lack of workspace for teachers outside their classroom. The data were then used to gauge working conditions.

Findings from TIMSS reveal wide differences in teachers' working conditions from one country to another. A substantial percentage of fourth grade students in the rich Gulf countries of Kuwait, Qatar, and the emirate of Dubai have teachers who perceive their working conditions as good. The percentage of those students is higher than the comparable international average of

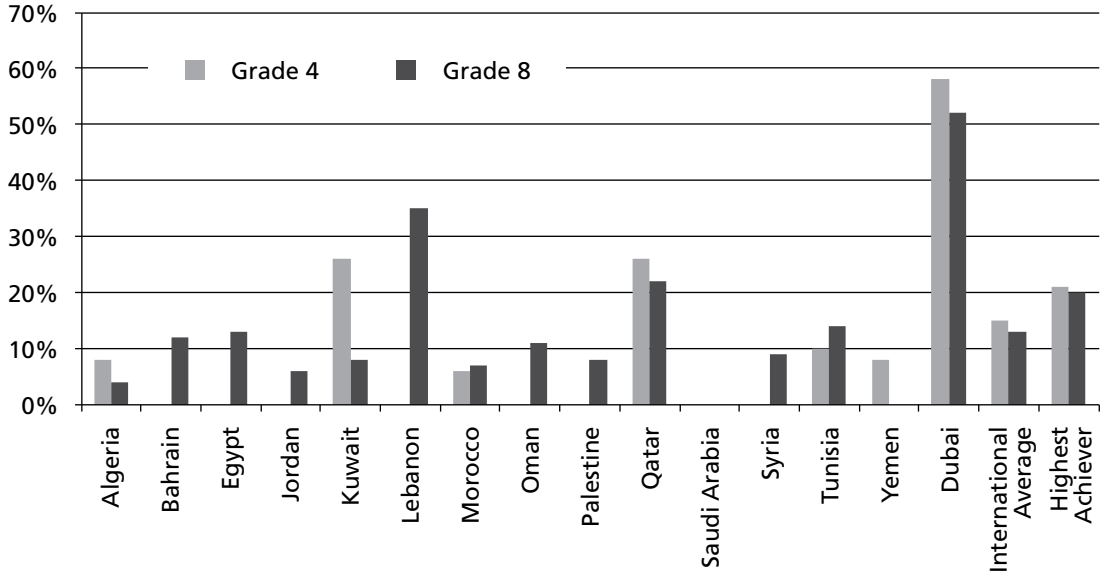
13 percent and even higher than the comparable percentage for Hong Kong (21 percent), the highest performer in mathematics for the fourth grade. This comes as no surprise in view of the generous funds allocated to primary education in these three countries.

For fourth graders in Algeria, Morocco, and Yemen, the percentage of students whose teachers had a high index of working conditions was significantly below the international average (figure 5). In those countries, teachers often find themselves teaching large classes with over 40 students crammed into rooms built to accommodate half this number. Oftentimes, these classrooms lack basic sanitary conditions and teachers' office spaces may be too small and noisy to allow them to work outside class hours.

For eighth graders, a very small percentage of students were taught by mathematics teachers who perceived the adequacy of their working conditions as high. Between 4 and 12 percent of students in eight Arab countries, which have a combined population of over 180 million, were taught by teachers with good working conditions. And only Lebanon, Qatar, Tunisia, and Dubai had above-average percentages of eighth grade students whose mathematics teachers were satisfied with their working conditions.

Thus, despite the country variations in working conditions for eighth grade teachers, poor conditions prevail in most Arab countries; this does not bode well for effective learning of any subject. In mathematics, for example, there is a positive association between teachers' working conditions and average achievement of eighth graders in Bahrain, Egypt, Jordan, Lebanon, Morocco,

Figure 5. Percentage of Students Whose Index of Teachers' Adequate Working Conditions Is High



Source: *TIMSS 2007 International Mathematics Report*, Exhibit 8.9: Index of Teachers' Adequate Working Conditions (TAWC)

and Palestine. Student achievement was significantly greater when the index of Teachers' Adequate Working Conditions was high than when it was low.

Another aspect of the school climate pertaining to teachers is their socio-economic status. One useful measure of this is salary and benefits. In spite of continuous efforts to improve teacher salaries in the Arab region, they remain low by international standards.[22] Teachers' social status/prestige varies from one country to another, and oftentimes between urban and rural areas within the same country. Interviewing selected experts on education in seven Arab countries, one study found the status of teachers to be low in Algeria and Jordan, and declining in Egypt, Oman, and Tunisia. In contrast, teaching is a relatively prestigious profession in Yemen and rural Iraq, although teachers still do not enjoy the same level of prestige as some other professionals, such as physicians and engineers.[23]

When teachers suffer from poor working conditions, low salaries, and declining social status, they are likely to resort to negative behavior such as low-quality teaching and absenteeism.[24] Teacher absenteeism is common in a number of Arab countries such as Egypt, Morocco, Palestine, Saudi Arabia, and Tunisia. In Morocco, for example, 13.4 days of instructional time out of 204 days in the school calendar are lost to teacher absenteeism.[25] The absence of teachers from school reduces the instructional time for students, which in turn is related to education quality, learning outcomes, and student achievement.[26] Results of PISA 2009 suggest that teacher absenteeism, according to principals of schools from 65 countries, including four Arab countries, hinders learning.[27]

Negative Perceptions of School Climate by Teachers

The teaching and learning dimension of school climate can be described in terms of concrete measures as well as subjective perceptions. Teachers perceive the school climate in ways that may not necessarily reflect its actual status or theirs. Yet, teachers' perceptions of the school climate are likely to influence their performance in class, which in turn tends to affect students' achievement, according to the OECD. Teachers' positive evaluation of the school climate thus plays an important role for both effective education and teachers' psychological well-being.[28] And in the Arab world, most mathematics and science teachers have negative perceptions of the school climate.

To measure mathematics teachers' perceptions of the degree of support provided by their school environments, TIMSS 2007 developed an index based on teachers' ratings of each of the following indicators:

- Teachers' job satisfaction
- Teachers' understanding of the school's curricular goals
- Teachers' degree of success in implementing the school's curriculum
- Teachers' expectations for student achievement
- Parental support for student achievement

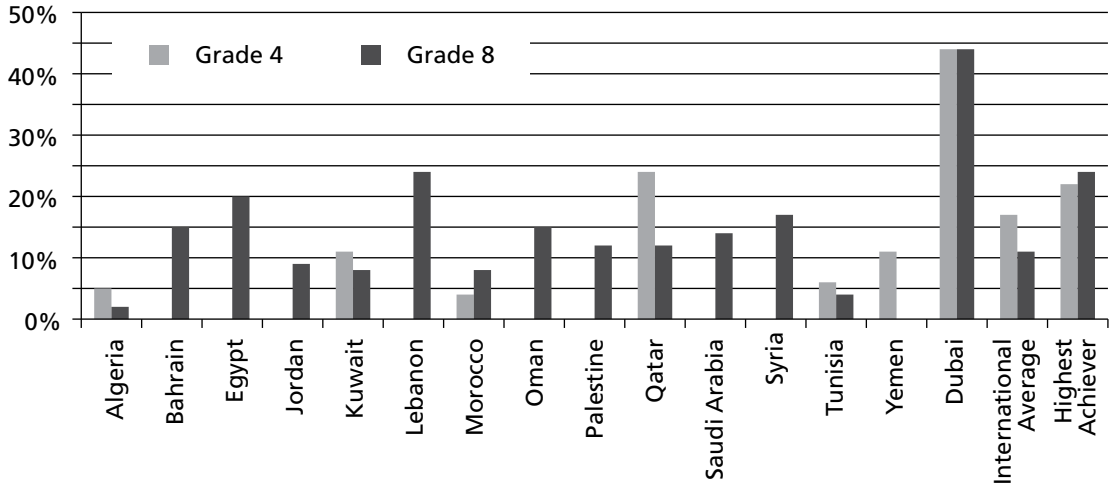
- Parental involvement in school's activities
- Students' regard for school property
- Students' desire to do well in school

Students whose teachers had an average score of "high" or "very high" were assigned to the high level of the index. When the average score of teachers was "low" or "very low," students were assigned to the low level of the index.

One way to assess these TIMSS results is to focus on that high level of the index, which can be viewed as a proxy for positive school climate. At one end of the spectrum, only Lebanon and Dubai have schools where a substantial percentage of eighth grade mathematics teachers view their school climate as positive (figure 6). Dubai stands out with an exceptionally high percentage (44 percent) that surpasses the best achieving country, due to Dubai's impressive facilities, higher salary scale, good learning support systems, and high quality of student services at many of its private schools, which compose 65 percent of the TIMSS eighth grade sample.[29] For fourth grade, the percentage of private schools in the Dubai sample is even higher—80 percent—reflecting the predominance of the expatriate population there.[30]

On the other end of the spectrum, in Algeria, 2 percent of eighth grade students had teachers who assessed their school climate positively. And in the Maghreb countries of Algeria, Morocco, and Tunisia, and in Jordan and Kuwait, only 6 percent of eighth grade students, on average, had mathematics teachers that perceived their school climate as positive. This indicates a serious problem in schools in those five countries, with the potential to impact effectiveness of learning and student achievement.

Figure 6. Percentage of Students Whose Mathematics Teachers' Perception of School Climate Is High



Source: *TIMSS 2007 International Mathematics Report*, Exhibit 8.12: Index of Mathematics Teachers' Perception of School Climate with Trends

Likewise, only a small percentage (between 5 and 11 percent) of fourth grade students in five out of seven participating Arab countries had mathematics teachers whose perceptions of school climate were positive. Thus, TIMSS results show the prevalence of negative perceptions of school climate among a majority of mathematics teachers in the Arab world. Results for science teachers are similar. Most likely, teachers of other subjects also share these perceptions.

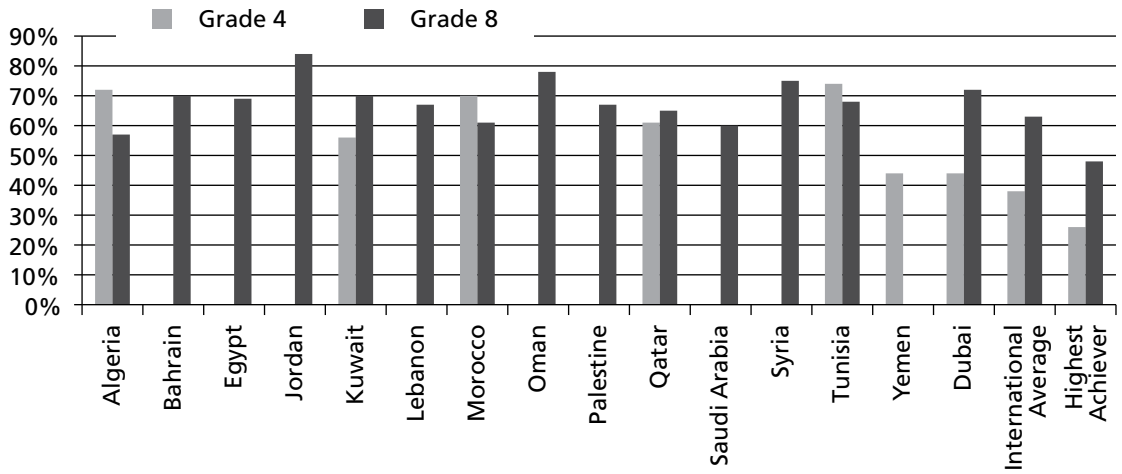
Problems in Classroom Climate

Classroom climate or atmosphere, also referred to as learning environment, ranges from hostile to welcoming. It is the perceived state of quality of learning in the classroom. Research suggests that classroom climate is significantly correlated with such matters as student participation, behavior, self-efficacy, achievement, social and emotional development, and overall quality of school life.[31]

Promoting a positive classroom climate requires changing some characteristics of instruction, such as pursuing a curriculum that fosters analytical and critical thinking, creativity, and problem-solving capacity instead of rote learning. For example, in most Arab countries, the activities teachers use to improve students' problem-solving abilities in mathematics emphasize memorization of formulas and procedures and do not promote a true understanding of the principles involved.

TIMSS asked both teachers and students about the frequency of using memorization in teaching problem solving in mathematics. Arab students generally reported much more emphasis than teachers on this method. The overwhelming majority of Arab eighth graders said that they memorized formulas and procedures in about half their mathematics lessons or more. Their high percentage varied between 57 percent in Algeria and 84 percent in Jordan as compared to

Figure 7. Percentage of Students Who Reported Memorizing Formulas and Procedures in About Half of the Mathematics Lessons or More



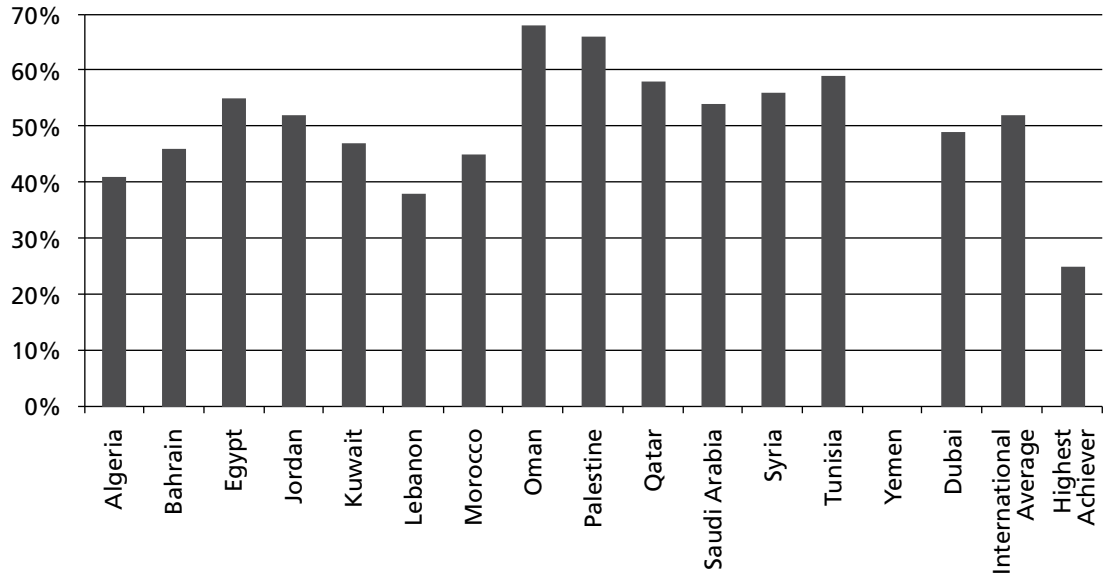
Source: *TIMSS 2007 International Mathematics Report*, Exhibit 7.6: Students' Reports on Learning Activities in Mathematics Lessons

63 percent, the international average, and 48 percent for Chinese Taipei, the best performing country in TIMMS 2007 in mathematics (figure 7). In eleven out of fourteen Arab countries, two-thirds of students or more memorize formulas and procedures in mathematics as a main learning activity in class.

Student assessments in mathematics in most Arab countries strongly rely on recalling definitions, facts, and concepts and on applications rather than the ability to think critically. Findings from TIMSS 2007 confirm this conclusion obtained from other studies.[32] Figure 8 reveals that in eight out of fourteen countries, teachers reported assessing the mathematics performance of a majority of eighth graders based on recall of facts and procedures always or almost always. The lowest percentage of students (38 percent) whose performance assessment was based on this method was reported in Lebanese schools, while the highest percentage of comparable students (68 percent) was reported in Omani schools. The international average, by comparison, was 52 percent, and the percentage for the best performing country was 25 percent.

Classroom climate in several Arab countries is characterized by student absenteeism. Students do not just stay home because they are sick; they skip classes because of disinterest in the subject, inability to understand the material, boring teachers, or family obligations. This is a school discipline problem and is indicative of a negative school climate.[33] Low classroom attendance can disrupt continuity of learning and reduce learning time, thereby impacting student achievement.[34]

Figure 8. Percentage of Eighth Grade Students Whose Mathematics Test Questions Are Based on Recall of Facts and Procedures Always or Almost Always



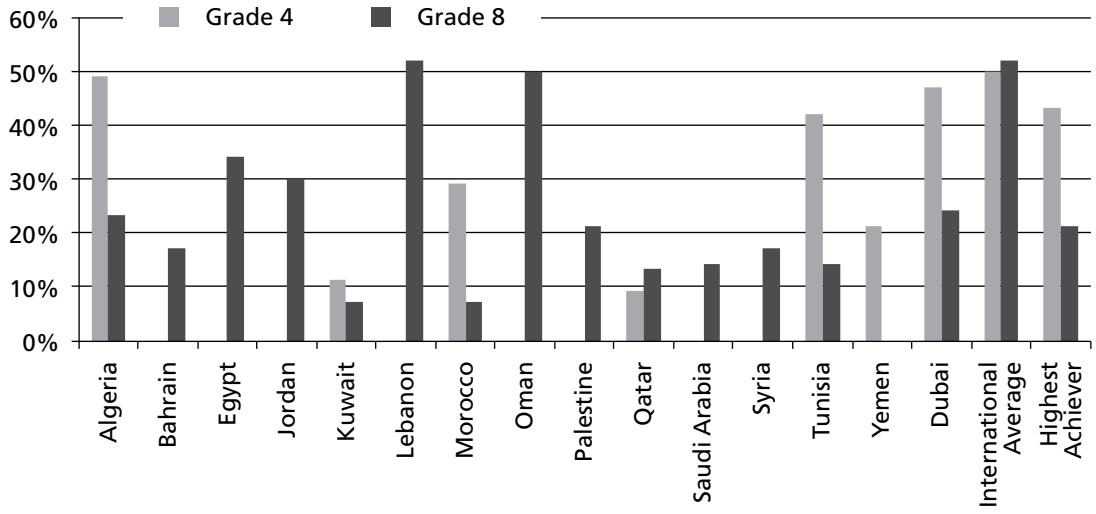
Source: *TIMSS 2007 International Mathematics Report*, Exhibit 7.18: Types of Questions on Mathematics Tests

TIMSS developed an index of Good Attendance at School, comprising three indicators that assess schools' perceptions of the seriousness of the problems associated with students' absenteeism, arriving late to school, and skipping class. The index has low, medium, and high levels. The high level indicates that none of these three types of behavior poses a problem at the school, while the low level indicates that at least two of these types of behavior comprise a serious problem at the school.

When looking at the high level of the index—that is, the level at which attendance problems are not considered serious—among the Arab countries, eighth grade students' perceptions varied widely from one country to another. In Kuwait and Morocco, only 7 percent of students reported that none of those three types of behavior poses a problem. The situation was much better in Lebanon, where 52 percent fell on the high end of the index. That compares to an international average of 21 percent. Seven Arab countries had a lower than average percentage of students at this level. In other words, student attendance in those countries is below the international norm, yet not by a substantial margin.[35] This suggests that student absenteeism is a problem in these countries, yet not as serious as in Kuwait and Morocco (figure 9).

It is worth noting that the general TIMSS finding of a negative association between student absenteeism and achievement in mathematics does not apply to all Arab countries. In some states, such as the Gulf countries of Kuwait and Qatar, there is no significant relationship between absenteeism and achievement due to the prevalence of private tutoring. When families hire private tutors for their children, oftentimes their own school teachers, students find no strong reason to go to school every day. They go occasionally to socialize with

Figure 9. Percentage of Students Whose Index of Good Attendance at School Is High



Source: *TIMSS 2007 International Mathematics Report*, Exhibit 8.3: Index of Good Attendance at School (GAS)

friends and to take exams for which they have been prepared by their private tutors, but the achievement level of students in these cases will not depend on their school attendance rate.

More seriously, TIMSS data show that the average achievement in mathematics for eighth grade students increases with student absenteeism in Saudi Arabia and Syria. The Saudi case is mainly due to the prevalence of private tutoring, while the Syrian case is more likely due to the teaching role of parents at home.

Primarily, parents know that most schools do not offer high quality education, and even when the few good schools do, teachers require parents to help out with their children's homework, projects, and exam preparation. Middle- and upper-class parents can afford to hire private tutors to do those tasks. Typically in Gulf Cooperation Council countries, parents hire their children's teachers to ensure that the students get high grades, often because they know the exact questions on the exam in advance. The lower-class parents either have to help their children or go to charitable institutions that provide tutoring services to low-performing, needy students. In a way, the education system in the Gulf has incorporated corruption: Many teachers do not do their job satisfactorily in order to force parents to hire them as private tutors; this leads to boosting their generally low income with bonuses and favors from wealthy and influential parents.

The education system in the Gulf has incorporated corruption: Many teachers do not do their job satisfactorily in order to force parents to hire them as private tutors.

Results of TIMSS 2007 on students' absenteeism were confirmed by the results of the PISA 2009 study. PISA requested that school principals report whether they have a student absenteeism problem that hinders student learning. Of the four Arab countries that participated in the study, three experienced that problem: Jordan, Qatar, and Tunisia. The percentage of students that experiences this problem varied between a low value of 50 percent for Qatar and a high value of 69 percent for Tunisia. Thus, student absenteeism is widespread in most Arab countries that participated in TIMSS but its impact on achievement in mathematics and sciences is not consistent across those countries.

Institutional Environment

Institutional environment encompasses a number of components. It involves the physical environment of schools, referring to the state of school facilities such as classrooms, laboratories, and sports and extracurricular spaces. Are they kept clean and well maintained? Are the equipment and learning resources adequate for achieving the learning outcomes stated in the schools' missions? Are they continuously upgraded or replaced with new and more advanced versions?

The environment also encompasses student engagement and connectedness—the students' sense of belonging to the school or lack thereof. That

feeling is nurtured through various means, such as participation in the school's extracurricular activities.

And then there are the social and political contexts in which education takes place, which include the families of students and the community at large. What kind of relationship exists between a school and parents, and between a school and the local community in which it is operating? What is the nature of parental involvement in schools' affairs? All of these factors influence student achievement.

Shortcomings in the Physical Environment

Promoting a positive school climate requires, among other things, a healthy physical environment that is attractive to students and teachers and conducive to effective learning.[36] In several Arab countries, a large number of public schools are either not attractive to students and teachers alike due to their architectural design and inadequate resources or are not safe or healthy to stay in every day for several hours due to their old, dilapidated condition or poor construction. In Lebanon, for example, there are reports about school buildings in rural areas with cracking roofs, falling bricks, and water dripping on the floors from walls, windows, and ceilings.[37]

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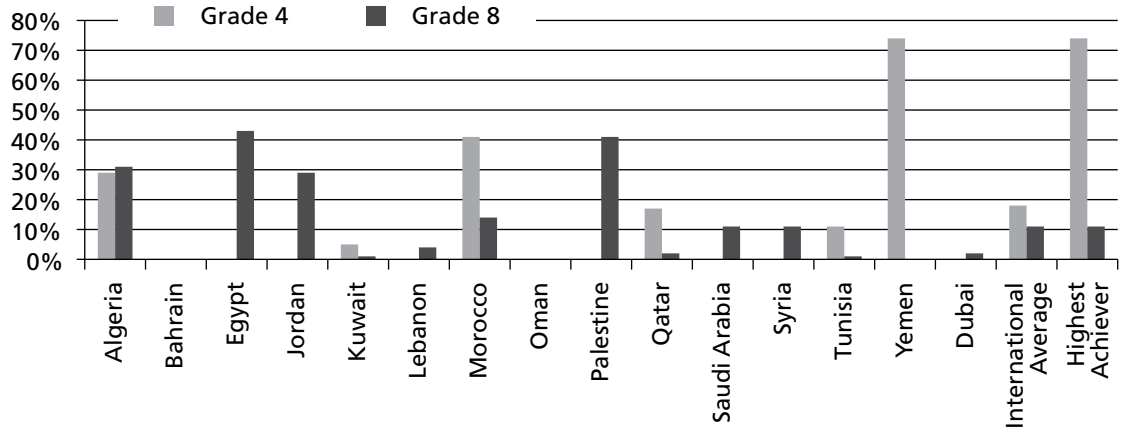
In Saudi Arabia and Oman, cultural values contribute to the physical structure of schools, at times in ways that have negative effects on learning. Public school buildings look like prisons with very small windows and high fences.[38] The purpose is to prevent intruders from watching children from neighboring buildings and to bar students from viewing the physical and social surroundings of the school. Students in those buildings have restricted areas for movement and cannot go from one building to another, or even from one floor to another, unless accompanied by an adult staff member or parent. The situation is worse for girls than for boys; their movement is much more restricted and girls are under the constant surveillance of teachers and other school staff to ensure that no communication or interaction takes place between female students in the school and males from outside the school.

Overcrowding in classes is a problem in some Arab countries, notably Egypt, Morocco, Syria, and the Palestinian Authority. While a large class size need not be indicative of ineffective learning, as the experience of some Asian countries demonstrates, classrooms with over 40 students, limited resources, and a single teacher with deficient qualifications tend to be unlikely to promote a positive learning environment. Figure 10 shows that an average of 36 percent of eighth grade students in Egypt, Jordan, Morocco, Syria, and the Palestinian Authority study mathematics and science in classrooms with 41 students and above. For fourth grade, the largest class size in TIMSS 2007 in mathematics

Figure 10. Overcrowding in Mathematics Classes*



* Overcrowding refers to mathematics class size of 41 students and above for eighth grade and to class size of 33 students and above for fourth grade.

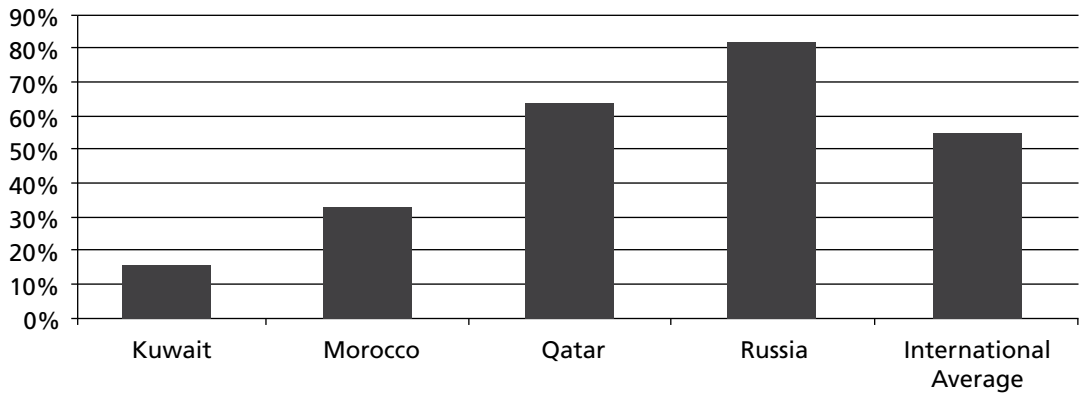
Source: *TIMSS 2007 International Mathematics Report*, Exhibits 7.1 and 7.2: Class Size for Mathematics Instruction with Trends

and science is 33 students and above. Classes of this size can be designated as overcrowded, a situation that exists in three out of six participating Arab countries (figure 10).

Libraries represent an essential component of the school's physical and learning environments. They provide students with information that is necessary in a knowledge-based global society. Research from various countries has clearly demonstrated the significant contribution of school libraries to student learning. Regardless of the socioeconomic or educational level of parents and the community, and using more than one recognized measure of achievement, libraries with adequate learning resources and certified staff have a positive impact on student achievement.[39] Although, according to UNESCO, all schools must have at least one main library,[40] many Arab schools lack one. And when a school has a library, it is not always accessible to all students. Surprisingly, in Kuwait, a rich state, findings from the PIRLS 2006 study show that only 14 percent of fourth graders are permitted to borrow books from their school library to take home, as compared to the international average of 55 percent (figure 11).

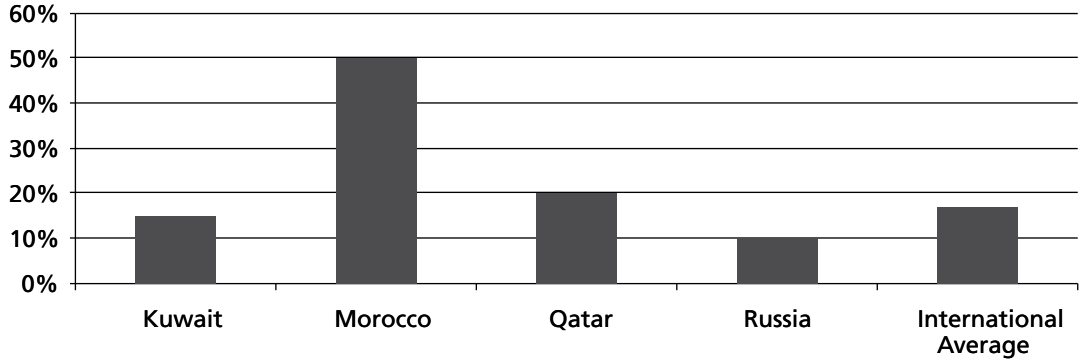
Furthermore, when libraries allowed students to withdraw books, a significant percentage of fourth graders from the three Arab countries that participated in the PIRLS study opted not to. This level reached a high of 50 percent in Morocco (figure 12), while the international average is 17 percent. Because of the crucial importance of libraries for schools, the low percentage of students who use them in those three Arab countries should be of concern to school principals as well as policymakers.

Figure 11. Percentage of Students Who Can Borrow Books From Their Classroom Library to Take Home



Source: *PIRLS 2006 International Report*, Exhibit 6.20

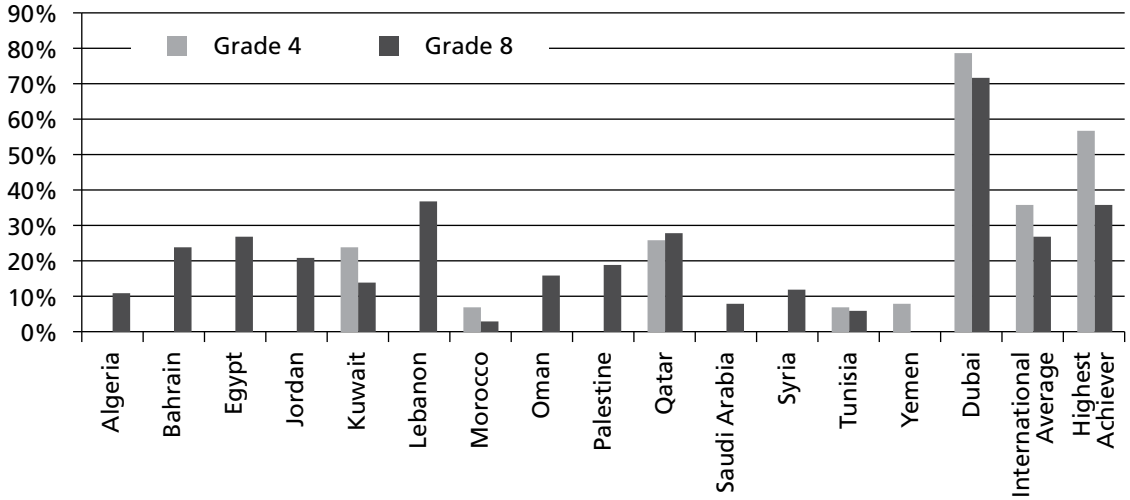
Figure 12. Percentage of Students Who Never or Almost Never Borrowed Books From School or Local Library



Source: *PIRLS 2006 International Report*, Exhibit 6.21

Closely related to library access and usage is the availability of learning resources and materials; those resources and materials comprise an important part of the school's physical and learning environment. TIMSS 2007 computed an index of availability of mathematics and science resources that is strongly and positively related to student achievement in mathematics and the sciences. This index incorporates the physical-environment aspects of the school climate that could impact the learning of any subject, including citizenship, such as shortage of or inadequacies in budget for supplies (like pencils and paper), buildings and grounds, heating/cooling and lighting systems, and instructional space (classrooms, for example). It also includes items and resources that are particular to mathematics or science instruction such as specialized computer software.

Figure 13. Percentage of Students Whose School's Index of Availability of School Resources for Mathematics Instruction Is High



Source: *TIMSS 2007 International Mathematics Report*, Exhibit 8.7: Index of Availability of School Resources for Mathematics Instruction.

Figure 13 shows that only an average of 10 percent of eighth grade students in most of the Arab countries that participated in TIMSS 2007 enjoy high availability of mathematics resources. (Lebanon and Dubai stand out; a large percentage of students there have access to math resources, even larger than the international average.) Less than 20 percent of eighth grade students in most Arab countries scored high on the index of availability of science resources at their schools, compared to an international average of 32 percent. For the fourth grade, only Dubai had better than average availability of science resources (figure 14). This can be attributed to the predominance of private schools in the Dubai sample; learning resources are abundant in many of them.[41]

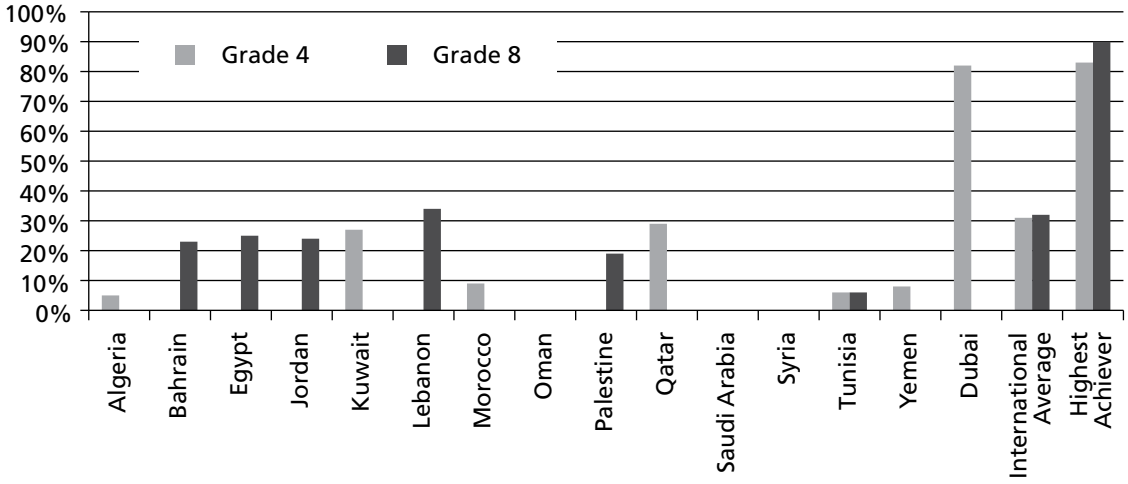
Student Engagement: Signs of Change

Students develop the sense of belonging to their school and raise their level of connectedness to it through a variety of extracurricular activities. These activities take many forms, including sports, art, and music. Skills such as independence, cooperation, teamwork, and diligence are developed in the process, thereby contributing to the success of students in school and in life.[42]

The availability of extracurricular activities in schools for fifteen-year-old students was evaluated by PISA 2009. Principals reported whether any of a long list of activities, such as a school play, a musical, and a newspaper, was offered in their schools. An index of extracurricular activities was computed whereby a higher level on the index indicates greater availability of these activities.[43]

Among the four Arab countries that participated in the PISA 2009 study, Qatar showed greatest availability of extracurricular offerings in its schools. Its

Figure 14. Percentage of Students Whose School's Index of Availability of School Resources for Science Instruction Is High



Source: *TIMSS 2007 International Science Report*, Exhibit 8.7/8.8: High Index of Availability of School Resources for Science Instruction

level was above the average for the countries of the Organization for Economic Cooperation and Development (OECD) and above that of Dubai, which has a good array of extracurricular activities. And in Tunisia and Jordan, despite their overall lower ranking on the index, there was wide variation among schools with regard to extracurricular activities.

Limited Family Involvement

The learning environment is partly shaped by parents. By getting engaged in their children's education, school activities, and committees, parents become an additional valuable component of schools' resources.[44] Effective school-family partnerships support students' learning, achievement, and health development.[45] Research shows that when parents are involved, students' grades are higher, their school attendance is better, their motivation and self-esteem are greater, and their violent behavior declines.[46] Increased parental involvement also raises parent and teacher satisfaction and improves school climate.[47]

But such a strong and strategic alliance between school and family does not exist in most Arab countries. Many Arab schools do not encourage parents to get involved in school affairs. Some do not even allow parents to speak directly to their children's teachers. Instead, parents speak to school administrators who serve as the communication link between parents and teachers. The school-parent relationship is often formal and restricted to certain areas such as attendance of special events (for example, concerts, sports tournaments, and science fairs) and volunteering for school projects, programs, and trips.[48]

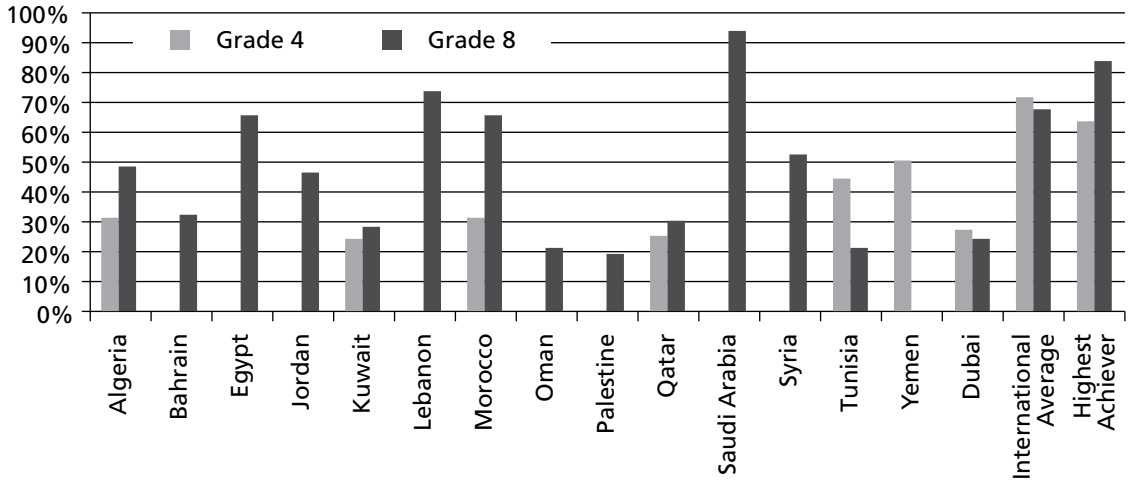
In most Arab countries, schools do not ask parents to serve on any of their committees. These committees are entrusted with such tasks as the selection

The effective school–family partnership that is present in many non-Arab countries is virtually absent in the Arab region. This has negative implications for the school climate as well as student achievement.

of school personnel, review of school finances, or planning of school activities. Less than half of eighth grade students in ten out of fourteen Arab countries that participated in TIMSS 2007 have parents who were asked to serve on their school's committees (Figure 15). By contrast, parents of the majority of students in the participating countries (67 percent) have been requested to serve on school committees; in the best performing country in mathematics, the comparable percentage is even higher: 83 percent. For fourth grade, none of the Arab countries, including Dubai, reached the international average for the percentage of students whose parents were requested to serve on their schools' committees (figure 15).

Clearly, despite variations between Arab countries and among schools within the same country, parental involvement in school affairs in most of the Arab world remains formal and limited in scope. The effective school–family partnership that is present in many non-Arab countries is virtually absent in the Arab region. This has negative implications for the school climate as well as student achievement.

Figure 15. Percentage of Students Whose Schools Reported That They Ask Parents to Serve on School Committees



Source: *TIMSS 2007 International Mathematics Report*, Chapter 8, Exhibit 8.6: School's Encouragement of Parental Involvement

Interpersonal Relationships

Of the variety of interpersonal relationships within schools, positive teacher-student relations are crucial for enhancing learning. This enhancement may be due to the creation of an environment that facilitates the transmission of social capital and to the promotion of norms conducive to learning.[49]

Teacher-student relations are significantly linked to the ability of teachers to stimulate students' reading engagement.[50] Research shows that although the uninterested complete assignments, students who are interested in what they are being taught learn better than those who are not. Furthermore, student engagement with reading or other subjects increases with greater student-teacher interaction in the classroom, an interaction that requires more than recitation of knowledge.[51] It requires that teachers ask their students questions that challenge them to give different interpretations of texts or to take new approaches to social and political issues or math problems.

The PISA 2009 study assessed the status of teacher-student relations in participating countries by asking students about their extent of agreement with the following statements:

1. I get along well with my teachers.
2. Most of my teachers are interested in my personal well-being.
3. Most of my teachers really listen to what I have to say.
4. If I need extra help, I will receive it from my teachers.
5. Most of my teachers treat me fairly.

A composite index of these variables was created, with higher values indicating better student-teacher relations.

Results for the four Arab countries that participated in PISA 2009 show that the average value of the index of student-teacher relations is not far from the OECD average, which suggests that students are generally satisfied with the quality of relations with their teachers. However, one has to be cautious in interpreting students' self-reports about their relations with authority figures in a culture that is characterized by authoritarianism, fear of authority, and reluctance to express true opinions in public or to external interviewers.

Also of note, the positive response by most students to each of the above statements varied significantly from one statement to another. For example, the percentage of students in Qatar and Dubai who declared that teachers really listen to their opinions was the lowest relative to the percentage agreeing with any of the other statements. Furthermore, only 51 percent of students in Tunisia believed that their teachers were interested in their well-being. Though the final number may be high, the component results are not necessarily positive.

Overall School Climate: Far From Positive

To offer a clear means of comparison, the author developed a composite index of school climate for eighth grade students for the fourteen Arab countries that participated in TIMSS 2007. It is a summary statistic that encompasses the three dimensions of school climate covered by the test: safety, teaching and learning, and institutional environment. The variables included are only those that had a significant association with mathematics achievement.

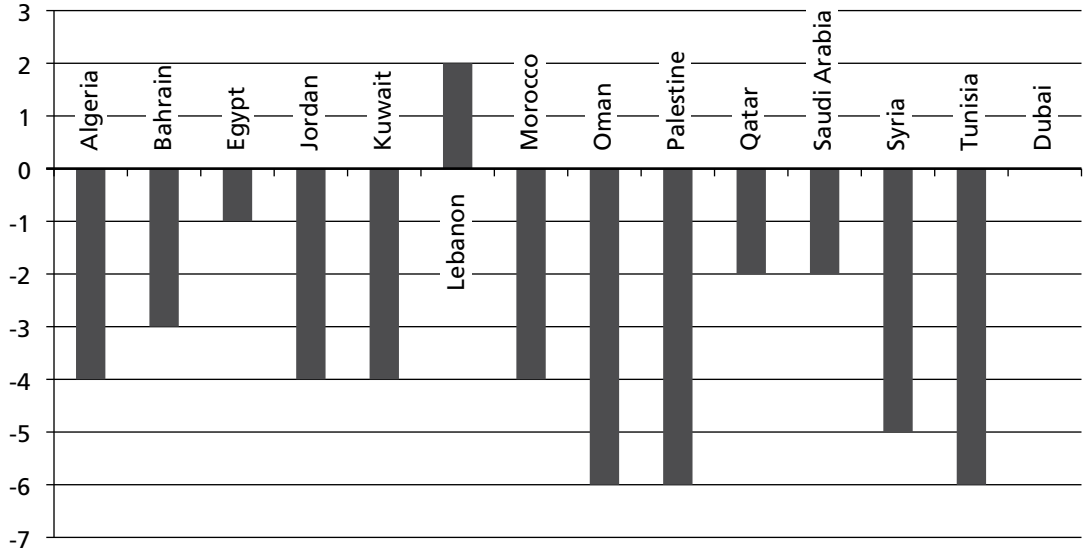
This summary index is based on the addition of the values of three-point indices of each selected variable for every Arab country. For example, with regard to the safety dimension, TIMSS presents the percentage of students whose index of safety is very high (that is, students feel very safe in school). For each Arab country, a new index of safety was computed such that a value of (-1) indicates a level of safety below the international average, a value of (0) indicates similarity to international average, and (+1) indicates better than average safety.[52]

By summing up the values of the various indices for each country, an overall composite index of school climate is created. Taking the international average as a benchmark or reference point, the positive values of the index indicate a positive school climate, negative values indicate negative climate, and zero indicates similarity with the international average.

The summary index includes the following variables:

1. *Safety*: A positive value indicates better than average safety.
2. *Teachers' professional development on improving teaching skills in the two years that preceded the survey*: A positive value indicates that a higher-than-average percentage of students have teachers who had professional development.
3. *Teachers' Working Conditions*: A positive value indicates that a higher-than-average percentage of students have teachers with satisfactory working conditions, measured in terms of a high level of the index of Teachers' Working Conditions.
4. *Students' learning method*: A positive value indicates that a higher-than-average percentage of students do not use memorization of formulas and procedures in more than half of the math lessons.
5. *Learning resources*: A positive value indicates that a higher-than-average percentage of students are in schools with high availability of math resources.
6. *Parental involvement*: A positive value indicates that a higher-than-average percentage of students are in schools that ask parents to serve on the schools' committees.

Figure 16. Overall Index of School Climate



Source: Computations by author based on data from *TIMSS 2007 International Mathematics Report*, Exhibits 7.6, 8.6, 8.7, 8.9, 8.10, 8.14.

The index of school climate in the Arab countries that participated in TIMSS 2007 varies between (-6) and (+6). All the countries but Lebanon and Dubai had negative index values, indicating an overall negative school climate. Dubai's index value is zero, indicating similarity to the international average. Only Lebanon's index value was positive (+2), indicating better than average school climate (Figure 16).

Lebanon and Dubai have an edge over other Arab countries with regard to school climate due to the predominance of private schools, many of which follow international standards. Furthermore, private schools in Lebanon were established well before their counterparts in Dubai and exhibit greater parental involvement in their affairs.

Conclusion

While acknowledging the presence of significant differences between and within countries, the school climate in the Arab states that participated in TIMSS 2007, PIRLS 2006, and PISA 2009 was generally negative. Except for Kuwaitis, most students in the Arab countries that participated in TIMSS did not feel safe physically, socially, and emotionally in their schools. Substantial percentages of teachers entered their profession with deficient academic preparation and pre-service training and did not receive adequate and appropriate professional development during service. Only in Bahrain, Dubai, Lebanon, and Qatar did the percentage of eighth grade students whose teachers had professional training on improving teaching skills exceed the international

average. For most teachers, social and economic status was either low or declining, and they had negative perceptions of their working conditions in ten out of fourteen countries. Exceptions were Lebanon, Qatar, Tunisia, and Dubai, where above-average percentages of eighth grade students had mathematics teachers who were satisfied with their working conditions.

In mathematics instruction, memorization of formulas and procedures were emphasized in all Arab states. Several Arab countries are struggling with the problems of student absenteeism, overcrowding of classrooms, low availability of learning resources in mathematics and sciences, and limited parental involvement in school affairs. However, for Dubai, Jordan, Qatar, and Tunisia, which participated in PISA, teacher-student relations compared favorably with OECD countries.

A summary index that measures the three dimensions of school climate from TIMSS—safety, teaching and learning, and institutional environment—in fourteen Arab countries paints a picture that is far from rosy. Only Lebanon and Dubai portray a more positive assessment of the school climate, but the shortcomings in their education systems remain serious. While they both performed satisfactorily in teacher training, working conditions of teachers, access to and availability of mathematics and science resources, they need to work hard to improve the conditions of physical safety and of social and emotional security for students. Dubai should strive to overcome the problem of student absenteeism and to find ways to increase the involvement of parents in the affairs of its schools.

A more positive school climate is imperative if emerging democracies in the Arab world plan to teach young adults citizenship skills and values.

Much needs to be done to reform the education systems in various Arab countries particularly with regard to changing the approach to citizenship education. Beyond the limitations of the TIMSS data, all Arab countries should improve the status and qualifications of their teachers and establish systems of good governance at both the local and central levels along with transparency and public accountability. A more positive school climate is imperative if emerging democracies in the Arab world plan to teach young adults citizenship skills and values. But the first necessary step is not of a technical nature. Rather, it is the political will of decisionmakers to endorse serious comprehensive education reforms that target the entire school culture, not only the physical infrastructure.

Arab students, like all students, deserve to learn in a school climate that respects their opinions, freedoms, and human dignity, and provides them with the opportunity to participate in decisionmaking within their schools and in their outside communities as well. Such a school climate has proven conducive to the effective learning of various subjects, including citizenship. Absent that climate, there is little room for young, creative, open minds to grow, and for the youth to turn into responsible citizens who can consolidate social transformation and stimulate it further to create more prosperous and free societies.

Notes

1 Author's estimate based on: United Nations Economic and Social Commission for Western Asia (ESCWA), "Population and Development: The Demographic Profile of the Arab Countries," table 6. www.escwa.un.org/popin/publications/new/DemographicprofileArabCountries.pdf.

2 For studies on the impact of contextual variables on student achievement in math and sciences, see, for example, Murad Jurdak, "The Impact of Contextual Variables on Science Achievement in the Arab Countries: Results from TIMSS 2003," in S. BouJaoude & Z. Dagher, eds., *The World of Science Education: Arab States* (Rotterdam, The Netherlands: Sense Publishers, 2009), 27–40; Theresa M. Akey, 2006, *School Context, Student Attitudes and Behavior, and Academic Achievement: An Exploratory Analysis,* New York: MDRC, www.mdrc.org/publications/419/full.pdf; Janet C. Quint, Theresa M. Akey, Shelley Rappaport, and Cynthia Willner, "Instructional Leadership, Teaching Quality, and Student Achievement: Suggestive Evidence from Three Urban School Districts," December 2007, www.mdrc.org/publications/470/print.html.

3 See, for example, *The Progress of Education Reform October 2010*, vol. 11, no. 5, 3, www.ecs.org/per; Wolfram Schulz et al., *ICCS 2009 International Report: Civic Knowledge, Attitudes, and Engagement Among Lower Secondary Students in 38 Countries*. IEA 2009, 251, http//www.iea.nl; Kaya Yilmaz, "Learner-Centered Instruction as a Means to Realise Democratic Education: The Problems and Constraints Confronting Learner-Centered Instruction in Turkey," *Studies in Learning, Evaluation, Innovation and Development* 4(3): 15–28 (December 2007).

4 See, for example, "School climate research summary," Center for Social and Emotional Education, 2007, http://nscc.csee.net/effective/school_climate_research_summary.pdf, ; J. Cohen, "Social, Emotional, Ethical, and Academic Education: Creating a Climate for Learning, Participation in Democracy, and Well-Being," *Harvard Educational Review*, 76, 2 (2006): 201–237; J. Cohen, L. McCabe, N. M., Michelli, & T. Pickeral (forthcoming), *School Climate: Research, Policy, Practice, and Teacher Education*, Teachers College Record.

5 Jonathan Cohen, Terry Pickeral, and Molly McCloskey, "The Challenge of Assessing School Climate," *Educational Leadership*, vol. 66, no. 4, December 2008/January 2009, www.ascd.org/publications/educational-leadership/dec08/vol66/num04/The-Challenge-of-Assessing-School-Climate.aspx.

6 J. Cohen et al., 2008/2009; Adelman & Taylor, *The School Leader's Guide to Student Learning Supports: New Directions for Addressing Barriers to Learning* (Thousand Oaks, CA: Corwin, 2005).

7 J. Cohen et al., 2008/2009.

8 TIMSS and PIRLS results by country are available at http://timss.bc.edu.

9 PISA results by country are available at http://dx.doi.org/10.1787/9789264091559-en.

10 See R. W. Blum, C. A. McNeely, and P. M. Rinehart, *Improving the Odds: The Untapped Power of Schools to Improve the Health of Teens* (Minneapolis: University of Minnesota, Center for Adolescent Health and Development, 2002); K. F. Osterman, "Students' Need for Belonging in the School Community," *Review of Educational Research*, 70 (2000): 323–67.

11 *UN Study on Violence Against Children*, Regional Report, Middle East and North Africa Region, June 2005, 16.

12 For example, in Riyadh of Saudi Arabia, a journalist in 2008 reported a sharp rise in violent incidents in schools including clashes among students, stealing, and sexual harassment (see Mutab Abu Dhuhair, *AlRiyadh*, February 7, 2008, local issues). In Jordan, the Ministry of Education set up a telephone hotline in 2009 to receive complaints of school violence. In Lebanon, *Annahar* (December 22, 2011) cited a study that found teachers' mistreatment of students in public schools to be the main reason for them to drop out of school.

13 Statistical significance of the differences between each Arab country and the international average was computed at the 0.01 level of significance, using the one-sample Z test. Data are based on TIMSS 2007 results, Exhibit 8.14.

14 A study of ninth graders throughout the United States found that students who experience interactive, discussion-based civic education score the highest on twenty-first-century competencies, including working with others and knowledge of economic and political processes. Those who experience neither interactive nor lecture-based civic education have the lowest scores on these competencies. See *The Progress of Education Reform October*, 3. More importantly, findings from the International Civic and Citizenship Education Study of 2009, the largest international study on civics and citizenship ever conducted in 38 countries (none from the Arab region), show that the classroom climate most conducive to high levels of civic knowledge is characterized by openness to discussion of political and social issues. See Schulz et al., 251.

15 See, for example, classroom climate guidelines at Carleton College on http://apps.carleton.edu/curricular/aiseminars/cedi/cediclas.

16 Cohen et al., 2008/2009.

17 National Academies, 2007, *Study of Teacher Preparation Programs in the United States*, www.nationalacademies.org/teacherprep.

18 Observations by the author in several Arab countries, which are confirmed by some of his colleagues.

19 Katherin Covell, R. Brian Howe, and Justin K. McNeil, "'If there's a dead rat, don't leave it.' Young Children's Understanding of their Citizenship Rights and Responsibilities," *Cambridge Journal of Education,* vol. 38, no. 3 (September 2008): 322.

20 For 2008, of eleven Arab countries with data on PreK teachers, only five countries had all their teachers trained. At the primary school level, of twelve countries with data, only seven countries had all their teachers trained. At the secondary level, of six countries with data, only three countries had all their teachers trained (UNESCO Institute for Statistics, *Global Education Digest 2010: Comparing Education Statistics across the World* (Arabic version), tables 1, 3, and 6.

21 Ibid.; see also UNDP, The Arab Human Development Report 2003: Building a Knowledge Society, 53–54; UNESCO, EFA Global Monitoring Report 2009, Regional Overview: Arab States, 9.

22 UNESCO, 2010, table 23 has data on teachers' salaries in USD PPP (parity purchasing power) for 44 countries including three Arab countries: Egypt, Jordan, and Tunisia. The table shows that the starting salary for Egyptian teachers in primary school is the second lowest (2,854) after Indonesia. Jordan and Tunisia have much higher salaries, but they are far below Western salary scales. They are also lower than salaries in two other Middle Eastern states: Turkey and Israel.

23 David W. Chapman and Suzanne L. Miric, "Education Quality in the Middle East," *International Review of Education*, 55 (2009): 337.

24 Studies of reasons for teacher absenteeism in Egypt, Jordan, Saudi Arabia, Palestine, and Oman are cited in Salha Issan et al., "Omani Teachers Absenteeism from School in the Light of Some Demographic Variables," *Jordanian Journal in Educational Sciences*, (in Arabic) vol. 7, no. 1 (2011).

25 Helen Abadzi, "Absenteeism and Beyond: Instructional Time Loss and Consequences," Policy Research Working Paper, World Bank, October 2007, 23, http://ddp-ext.worldbank.org/EdStats/BRAprwp07a.pdf.

26 Abadzi, "Absenteeism and Beyond," Abstract and 13.

27 PISA 2009 Results, Vol. IV, Figure IV.4.5.

28 Andreas Schleicher, *Building High Quality Teaching Profession: Lessons from Around the World* (OECD, 2011), 30.

29 For more details, see Government of Dubai, Knowledge and Human Development Authority, Dubai School Inspection Bureau, *Annual Report 2009*, 24, 27, 60, www.khda.gov.ae/CMS/WebParts/TextEditor/Documents/DSIBenglishreportfinal.pdf.

30 For representation of private and public schools in the TIMSS sample of Dubai, see www.khda.gov.ae/CMS/WebParts/TextEditor/Documents/TIMMS_EducatorsReport_eng.pdf, 11.

31 H. S. Adelman and L. Taylor (in press), "Classroom Climate," in S. W. Lee, P. A. Lowe, and E. Robinson, eds., *Encyclopedia of School Psychology* (Thousand Oaks, CA: Sage), 2, http://smhp.psych.ucla.edu/publications/46%20classroom%20climate.pdf.

32 UNESCO, *EFA 2009*, 9.

33 J. DeJung and K. Duckworth, *High School Teachers and their Students' Attendance: Final Report* (Eugene: University of Oregon Center for Education Policy and Management, College of Education, 1986); S. Purkey and M. Smith, "Effective Schools: A Review," *The Elementary School Journal*, 83(4), (1983): 427–52; K. Reid, "Retrospection and Persistent School Absenteeism," *Educational Research*, 25 (1982): 110–15.

34 *TIMSS 2007*, chapter 8, 326.

35 The difference between the international average and any of the seven countries does not exceed 8 percentage points. In the case of Kuwait and Morocco, the percentage of students is one-third the international average.

36 Adelman and Taylor (forthcoming), 3.

37 Report based on a field visit by a journalist from the Arab daily *Al-Hayat* to some public schools. For details, see Veroniq Abu-Ghazaleh, "The School Environment in Lebanon Is Cracking," *Al-Hayat*, September 29, 2011, www.dar-alhayat.com.

38 There is a strict building code for schools that is reinforced by the ministries of education.

39 For details, see the website of the International Association of School Librarianship, www.iasl-online.org/advocacy/make-a-difference.html.

40 See UNESCO/IFLA School Library Manifesto, www.unesco.org/webworld/libraries/manifestos/school_manifesto.html.

41 See Knowledge and Human Development Authority, Dubai School Inspection Bureau, *Annual Report 2009*, ibid.

42 See, for example, E. Covay and W. Carbonaro, "After the Bell: Participation in Extracurricular Activities, Classroom Behavior, and Academic Achievement," *Sociology of Education*, vol. 83, no. 1 (2009): 20–45; Farkas, 2003.

43 The list of activities is the following: a band, an orchestra or choir, school plays or musicals, a school yearbook, a newspaper or magazine, volunteering or service activities, a book club, a debating club or debating activities, a school club competition for foreign language, math or science, an academic club, an art club or art activities, a sport team or sports activities, lectures and/or seminars, collaboration with local libraries, and collaboration with local newspapers. For more information see *PISA 2009*, vol. IV, 81.

44 *PISA 2009*, vol. IV, 88.

45 E. N. Patrikakou, R. P. Weissberg, S. Redding, and H. J. Walberg (eds.), *School-Family Partnerships for Children's Success* (New York: Teachers College Press, 2005).

46 Michigan Department of Education, www.michigan.gov/documents/Final_Parent_Involvement_Fact_Sheet_14732_7.pdf, 1.

47 See Safe and Responsive Schools website of Indiana University, www.indiana.edu/~safeschl/ParentInvolvement.pdf.

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50 *PISA 2009*, Figure IV.4.7, 101.

51 A. Nystrand and M. Gamoran, "Instructional Discourse, Student Engagement and Literature Achievement," *Research in the Teaching of English*, vol. 25, no. 3 (1991): 261–90.

52 For each index, the assessment of whether the percentage of students is significantly lower, higher, or not different from the international percentage is based on the statistical one-sample Z test at the 0.01 level of significance.

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