

## Using Mathematics To Break Down Stereotypes

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*The Middle East Children's Association facilitates Israeli and Palestinian teachers working together to encourage tolerance, mutual respect and open dialogue. We were the leaders of a group of elementary school mathematics teachers. This paper describes our experiences during the school year 2000-2001 with our teachers, and their feelings about each other.*

The Middle East Children's Association (MECA) was established in 1996 jointly by Israeli and Palestinian educators who seek to make the peace process a stable reality for both peoples. While policy makers decide on borders, water supplies, and security measures, the civil society has the responsibility for creating a solid, lasting and just peace between peoples. MECA was created as a response to this obligation by focusing on the education systems of the two communities. MECA works with leaders in the educational systems, teachers, and students, and provides them with a time and a place to explore tolerance, difference, human rights, democracy, and mutual respect.

### **Goals of MECA:**

- Establishment a framework for widespread participation of schools, teachers and students in educational programs that encourage tolerance, mutual respect and open dialogue.
- Creation of a professional-based component of the Palestinian-Israeli dialogue, on the basis of interpersonal relationships and a forum of honest, open communication between individuals.
- Active, ongoing involvement in the development of educational programs and new curricula for schools.
- Advancement of the role of educators throughout the region as promoters of a culture of peace and tolerance.
- Creation of a model organization of Palestinians and Israelis which upholds the importance of equal participation, equal decision making, and equal governing to assure that sensitivities and perspectives of both sides are recognized and taken into account (Abdullah & Shapiro).

In January, 2001, MECA decided to start a group for elementary school mathematics teachers. We were chosen to be the facilitators of this

group. Since we both live in Jerusalem, we were easily able to meet (not all facilitators had this privilege). Our first task was to create an Action Plan for our group. This plan had two main goals:

**Goal 1: Coping with the situation**

We feel that mathematics is an international agreed language and by concentrating on teaching and learning mathematics, we can try to avoid most political conflicts.

**Goal 2: Educational outcomes**

1. Fostering tolerance, respect and understanding in mathematics class for **all** students (all levels, all social classes, all religions, etc.).
2. Making mathematics class more interesting for **all** students.
3. Making it possible for **all** students to succeed in mathematics class.

These educational goals were chosen based on the reality of both Israeli and Palestinian teachers today who often need to deal with very heterogeneous classes. Teaching in the spirit of reform mathematics (see, for example, Burton, 1996; DfEE, 1999; NCTM, 2000; Steen, 1990; Steen, 1997), we felt that teachers needed tools to cope with these classes. We looked for goals which would interest the uni-national groups too – that is, a professional reason the teachers would want to meet, and not that they should just meet for “peace purposes”. There are many resources which discuss effective professional development (see, for example, Friel & Bright, 2001; Loucks-Horskey, Hewson, Love & Stiles, 1998; Nesbit, DiBiase, Miller & Wallace, 2001; Wilson & Berne, 1999).

We planned several bi-national meetings with uni-national meetings between them. The idea was that in uni-national meetings the teachers would prepare activities and then in bi-national meetings would share these activities. The sorts of activities we were talking about at this stage were games and/or number puzzles which allowed for maximum student participation. Resources for good activities for heterogeneous groups are often based on solving a common problem. (Cesar, 1998; Erickson, 1989; Robinson & Taizi, 2000). We planned a product which would be a booklet of mathematical games and/or activities in both Hebrew and Arabic. Like for students, for “bonding” a heterogeneous group of teachers, a joint product is crucial.

Questions which we planned to address with the teachers were:

1. How can we motivate students?
2. How can I manage a class with lots of different levels?
3. How do I work with students to practice skills (like multiplication tables)?
4. How do I teach mathematics for understanding?
5. Which games / activities have value – are worth doing in class time?

These are basic questions which connected ideas of reform mathematics to the realities of our current situations.

These were good plans – but the political situation was such that there were no bi-national meetings. The uni-national groups each met several times, although it was hard to motivate the teachers without the bi-national meetings. Also, the Palestinian situation was such that travel problems made uni-national meetings almost impossible for them.

At the end of March, MECA decided that each group of teachers would participate in an overseas seminar in the summer, in order to enable them to work together. Thus we needed to plan for this week. This gave us a purpose which encouraged the teachers.

We were continually conscious that we had two goals: (1) to meet “the other” and (2) to progress professionally. Our summer seminar plans tried to integrate these two goals. We knew that the way people meet is by having a common purpose, and so we always planned a common product. We also knew that one way to eliminate stereotypes was by enabling teachers to meet on a common professional level, so we planned time for workshops on similar problems, like student assessment (Albert, 2001) and ways for effective whole class teaching (Fielker, 1997). (See summer seminar program at the end of the article.)

We decided to talk to the uni-national groups about their feelings before the summer seminar. We wanted to see what they thought and what their stereotypes of the other were. We planned to ask similar questions after the seminar. We asked the teachers three questions:

1. What effect does the situation have on the daily math learning?
2. What is different in the Israeli-Jewish school from the Palestinian school?
3. What are the aims of the summer seminar for you?

### **What effect does the situation have on the daily math learning?**

Israeli teachers who work in schools whose neighborhood is being shelled reported that the children quickly became accustomed to the situation, and the lessons progressed as before. Sometimes the teachers held a special lesson to discuss what had happened the previous evening, to let the children express their fears, but otherwise the school lessons were normal. They felt that maybe there would be long-term rather than immediate effects on the pupils, and that these would not be especially in mathematics but rather in their pupils’ general emotional growth.

The Palestinian teachers’ comments dealt with three main issues: (1) student achievements, (2) the irrelevance of school and (3) increasing student self-esteem.

The Palestinian teachers reported that student achievement had suffered. Lessons were often canceled or shortened, which meant that there was no time for practice and drill, for review, or for dealing with individual student difficulties. The result was that weak students were often just left behind.

They said that students' motivation was low. The students complained of the lack of connection between mathematics and their "real life". They had problems concentrating. They did not feel safe. They were under stress. They tended not to do homework or to practice skills to make up for lost lessons. The general feeling was that school was irrelevant – not just mathematics lessons.

The third main issue was the students' increasing self-esteem and courage, their feeling of independence. This led on the one hand to disrespect for teachers and authority in general, and on the other hand to increasing cooperation among the students. The students were more willing to help each other. This self-esteem also resulted in increased mathematical thinking, in an improved ability to solve problems.

However, the situation sorted the students into two groups – the excellent ones who benefited from working alone and the weak ones who were ignored.

### **What is different in the Israeli-Jewish school from the Palestinian school?**

The Israeli teachers thought that Palestinian schools were not necessarily democratic. Also, they thought that the teachers let, or even encourage, the students demonstrate, even on school time.

The Israeli teachers thought that the Palestinian pupils would be much more politically aware than Israeli pupils. They felt that the curfews and the economic problems would have to affect the pupils' lives. In addition, they thought, although they said they did not really know, that the school system was affected by the political situation – for example, the textbooks and the curriculum.

They felt that the two cultures were quite different, and talked about the value placed on an individual person's life. The teachers were very affected by the suicide bombers in Israel, and thought that all Palestinians accepted this.

The Palestinian teachers thought that there were large differences between their schools and Israeli ones. Israeli schools would have modern equipment and more extra-curricular activities. In general, they would have more freedom.

The Palestinian schools all have the same curriculum and textbooks. Teachers are given a year plan and must follow it. They felt that the system was very centralized. They felt they had no professional

freedom to make adaptations, no way to express their philosophy, even if they were more educated than those who wrote the plan.

Yet this centralization can lead to good things too. For example, throughout the country on the same day, all math teachers teach only three hours and then attend weekly workshops.

Many of the problems of this system are a result of organizational ones relating to not enough math education leaders to allow different things to happen (there are only three math education leaders for all the math education in the whole country).

### **What are the aims of the summer seminar for you?**

The Israeli teachers wanted to get to know the “others”. They felt that peace could be started “from the bottom”. They said that there were Palestinians around them, but they had never met and talked with them as colleagues. They had many ideas about “how Palestinians think about things” and wanted to check whether these were true or not.

The Palestinian teachers also wanted to get to know the “others”, but they expressed more of a need to compare professional aspects. They wanted to know about the Israeli teachers’ math knowledge, and to discuss common teaching problems. They wanted to know about the culture of Israeli schools. Some felt that this professional discussion could lead to a true dialogue.

### **Conclusion**

The day before we were to leave for our summer seminar, the political situation worsened and the seminar had to be canceled. At this point, we are continuing to meet and hope that the bi-national group will be able to meet soon.

We are sorry that the summer seminar did not occur. We feel that the only real way to remove stereotypes is by face-to-face meetings. Having teachers meet and realize how similar their teaching situations and problems are can lead to a real dialogue which then can continue into other more personal subjects.

Mutual respect, so necessary for true peace can come only after people really know one another. The first step in this direction is easier when people have common interests.

After getting to know someone, which is based on continued contact, then even when formal frameworks break down, relationships can continue. We are all human beings!

## References

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**Mathematics Seminar**  
**Palestinian and Israeli Teachers of the**  
**Middle East Children's Association (MECA)**  
**2 August to 9 August 2001**

**Thursday, August 2<sup>nd</sup>**

- 18:30 Departure from Ben Gurion Airport in Tel Aviv
- 19:40 Arrival of delegation at Antalya Airport; Journey to Grand Hotel Adonis
- Tel: 242-323-4444
- Fax: 242-323-1031
- Esk Lara Cad, Antalya, Turkey

**Friday, August 3<sup>rd</sup>**

- 08:00 Breakfast
- 09:00 **Welcoming Remarks:** presented by Intisar and Jeanne
- 10:00 **First Game**
- 11:00 **Goals and Expectations**
- 12:00 Lunch & Excursion to Local Site of Interest
- 16:00 **Work Session 1:** Play two math games; discuss before, after, variations, math involved. Plan exactly what we will write, how we will divide the work, etc.
- 19:00 Dinner
- 20:00 **Group Dynamics 1**
- 22:00 Feedback about Day's Activities

**Saturday, August 4<sup>th</sup>**

- 08:00 Breakfast
- 09:00 **Group Dynamics 2**
- 12:00 Lunch & Excursion to Local Site of Interest
- 16:00 **Work Session 2:** Talk about our classrooms, how we use games, challenge problems, etc. (Fielker, 1997)
- 19:00 Dinner
- 20:00 Feedback about Day's Activities
- 20:30 Free Evening

### **Sunday, August 5<sup>th</sup>**

- 08:00 Breakfast
- 09:00 Plan for morning work
- 09:30 **Work Session 3** – work in pairs on writing up games
- 12:00 Lunch break
- 15:00 **Uni-national meetings**
- 16:00 **Work Session 4** – assessment seminar on TIMSS
- 19:00 Dinner
- 20:00 **Work Session 5** – present products from this morning, revise working plan
- 22:00 Feedback about Day's Activities

### **Monday, August 6<sup>th</sup>**

- 08:00 Breakfast
- 09:00 Plan for morning work
- 09:30 **Work Session 6** – work in pairs on writing up games
- 12:00 Lunch
- 13:00 **Uni-national meetings**
- 14:00 **Work Session 7** – present products from this morning
- 16:30 **Work Session 8** - more discussion on assessment and/or more talk about our classrooms, how we use games, etc.
- 19:00 Dinner
- 20:00 **Group Dynamics 3**
- 22:00 Feedback about Day's Activities

### **Tuesday, August 7<sup>th</sup>**

- 08:00 Breakfast
- 09:00 Plan for morning work
- 09:30 **Work Session 9** – work in pairs on writing up games
- 12:00 Lunch
- 13:00 **Uni-national meetings**
- 14:00 **Work Session 10** – long presentations, comments, finalize plans
- 17:30 Excursion to Local Site of Interest
- 20:30 Dinner
- 21:30 Feedback about Day's Activities

### **Wednesday, August 8<sup>th</sup>**

- 08:00 Breakfast
- 09:00 Plan for morning work
- 09:30 **Work Session 11** – work in pairs on writing up games
- 12:00 Lunch
- 13:00 **Uni-national meetings**
- 14:00 **Work Session 12** - final revisions
- 19:00 Dinner
- 20:00 **Work Session 13** – summary, plan for next year
- 22:00 Feedback about Day's Activities

### **Thursday, August 9<sup>th</sup>**

- 08:00 Breakfast
- 09:00 Evaluation
- 12:00 Lunch
- 12:30 Departure for Airport in Antalya
- 14:40 Flight to Israel
- 15:50 Arrival in Ben Gurion Airport