

# The Math Solidarity Platform

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On February 6, 2023, a magnitude 7.8 earthquake struck southern and central Türkiye and parts of Syria, followed by a 7.5 event. The destruction was geographically vast: tens of thousands of lives were lost, universities were shut down, and students were thrown into uncertainty. The question that haunted me was how could I help those who were affected.

As a pure mathematician, my first response was a form of helplessness. I was not a doctor, nurse, cook, or professional relief worker. I could not clear rubble or repair cell towers. Yet it is a mistake to equate “immediate material necessity” with “the whole space of necessity.” Human beings do not survive solely by calories and shelter; they also survive by reasons to keep a day structured, by the option of thinking beyond the next hour, and by experiencing being addressed as a human rather than merely as a victim. My only reliable resource was my mathematical expertise and a network of people who shared it.

The project that eventually emerged – *Matematik Dayanışma Platformu* (the Math Solidarity Platform) – began from that narrow but genuine premise: if we could restore even a small piece of continuity for affected students, we might offer something that is not food or medicine, but is still a lifeline.

A precursor of this platform was a program that already existed. Before the earthquake, I had been participating in the Directed Reading Program (DRP) Türkiye: an independent, online initiative run by volunteer graduate students and early-career researchers. DRP Türkiye pairs undergraduates in Türkiye with mentors around the world to read a piece of mathematical research together during summer months, typically on topics not covered in standard undergraduate courses. The program’s implicit philosophy is that mathematical growth is not only additive (more techniques) but also exploratory (new objects, new questions, new styles of thinking), and that mentorship can make such exploration possible.

After the disaster, two of DRP Türkiye’s founding members, Şefika Kuzgun and Feride Ceren Köse, asked a practical question that was almost a moral one: could this network, built for intellectual exploration, be repurposed – quickly and responsibly – into a form of disaster support? They reached out to me, and together with Tekin Karadağ we met to think concretely about what could be done that was neither symbolic nor naïve. That conversation

produced the first iteration of the Math Solidarity Platform. Later Şefika Kuzgun, Zeynep K., and I ran a second iteration. We were all graduate students or early-career researchers at the time and voluntarily acted on this initiative.

We set two operational principles that were simple but, under the circumstances, nontrivial. First, we recruited mentors as broadly as possible: undergraduate and graduate students, post-docs, and faculty from different institutions. The variety mattered, because some students needed careful remediation while others needed companionship or actual help in problem-solving. Second, we adopted an open-acceptance policy for mentees. We accepted applicants from across Türkiye without interrogating their “degree of need,” and we did not restrict participation by region, since displacement meant that “affected areas” were not a stable category. If a student applied, we treated the application itself as sufficient evidence that support was desired.

At this point, an uncomfortable constraint became obvious. We understood mathematics; we did not understand trauma response. If the platform was to be safe rather than purely well-intentioned, it had to be built with an explicit awareness of vulnerabilities: intimidation, withdrawal, shame about falling behind, and the ordinary unpredictability of life after catastrophe. To address this, we arranged a training session with a professional psychologist, and we required all mentors to attend. This was not a ceremonial add-on. It provided mentors with practical guidance on maintaining a welcoming environment, avoiding inadvertent harm, and recognizing that “participation” might look irregular even when the student’s interest was genuine. The training also gave us permission to ask questions we had been afraid to ask and to admit what we did not know.

Our initial goal was to support university students affected by the earthquake in their basic mathematics courses. The aim was both to support students in their coursework and to help them return to their pre-earthquake lives as quickly as possible. For this platform, learning mathematics is a means rather than an end. Accordingly, meetings were not regarded as the primary site of mathematical instruction, but rather as a form of academic support, comparable to study sessions or office hours. Central to this approach was creating an environment where students felt comfortable expressing themselves.

The continuity between the DRP and the new platform was not merely logistical. It was structural: the basic unit was still the relationship between a student and a mathematically engaged mentor, but the aim shifted from enrichment to stabilization.

We moved toward group study, pairing small groups of students with a mentor. The reasoning was not simply pedagogical: a group lowers the activation energy required to speak, ask questions, and admit confusion. In a one-to-one setting, a student may feel watched. In a group the student can feel accompanied. Meetings were held online at times determined by each group. Despite severe infrastructure damage, mobile networks in affected areas recovered sufficiently quickly that some students were able to join intermittently via phone connections.

The practical focus of the meetings was usually homework support, but we repeatedly emphasized to mentors that the deeper aim was restoration of normality: allowing students, even briefly, to step away from the disaster and rebuild familiar routines. In other words, we wanted students to regain agency over their lives through learning. We believe that when a student can articulate an idea in their own words, they are no longer merely receiving aid but participating in a shared practice.

We urged mentors not to solicit stories about the earthquake, while remaining attentive and respectful listeners when students chose to share their experiences voluntarily. Our platform is brought together through mathematics education and instruction. Confusion may arise if the roles of scholarship provider or financial or psychological support counselor are combined with instructional or mentoring roles. Therefore, we recommend that mentors maintain their role as instructors and avoid assuming the additional roles mentioned above.

The program ran in two rounds, Spring 2023 and Fall 2023, in which approximately one hundred and sixty students applied, respectively. One fact surprised us: in the first round, we had more mentors than students.

One mentor expressed what we gradually came to believe was the platform's central benefit: *"The point was not that students needed assistance with assignments, but that they were able to talk about mathematics with fellow students and with people who remained passionate about the subject. That conversation functioned as a bridge to 'normal times,' a way to preserve continuity with the selves they had been before the disaster. In one hour of a weekly discussion where 'I can still think' becomes believable again."*

To prevent the program from collapsing into a single narrow function, we created auxiliary social structures. For mentees, we organized weekly social meetings with intentionally nontechnical topic – books, films, hiking and nature, culture, music – so that participants could relate to one another as whole people rather than only as problem-solvers. For mentors, we organized informal "tea hours" to exchange experiences, share tips, and monitor the health of the mentoring environment. These meetings also

produced an unanticipated benefit: they strengthened connections within the Turkish mathematical community, domestically and abroad, precisely because participants came from many countries and professional stages.

No honest account would omit the difficulties. Motivation and attendance were fragile. Some students registered but did not attend; others attended partially; some disappeared. This was not a mystery once one considered the surrounding constraints: housing insecurity, food scarcity, internet disruptions, damaged cell towers, closed schools and universities, and the psychological labor of processing loss. In such a context, consistency is not a virtue that can be demanded. The lesson for future efforts is not that students are unreliable, but that any support program must be designed with the expectation of irregular attendance.

One of the platform's values is to show how mathematics can function as a source of motivation, and joy, as well as a tool for maintaining self-respect. This viewpoint matches my own experience as a mathematician coming from an underprivileged background. Şefika Kuzgun, who personally experienced the devastating 1999 earthquake, similarly understands the power of studying and receiving support when the world becomes unstable. None of this romanticizes catastrophe. It simply rejects the false dictum that "in a crisis, only material needs count and intellectual pursuits are a luxury." For many people, intellectual pursuits – music, art, literature, mathematics – are part of what makes life livable.

We acknowledged that our platform had its own limitations in the aftermath of the earthquake. The hope was not that such a platform would "solve" anything. The hope was more modest and realistic: that it offered a small but genuine form of continuity, one conversation at a time.

I would like to sincerely thank my amazing friends and co-organizers: For the first round (Spring 2023): Tekin Karadağ, Feride Ceren Köse, Şefika Kuzgun. For the second round (Fall 2023): Zeynep K. and Şefika Kuzgun. I also thank all of our participants – students and mentors – for their effort, care, and hope.

For reference, the platform's website (in Turkish) is: <https://sites.google.com/view/matematikdayanisma>

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