J-CASP CONVERSATIONS

Dr. Uri Treisman: Five Decades of Postsecondary Innovation

Arun Raman, *J-CASP Assistant Editor, Texas State University*

Jonathan Lollar, *J-CASP Assistant Editor, Texas State University*

ABOUT DR. PHILIP URI TREISMAN

Philip Uri Treisman *is a University Distinguished Teaching Professor, professor of mathematics, and professor of public affairs at The University of Texas at Austin. He is the founder and executive director of the Charles A. Dana Center, an organized research unit in the College of Natural Sciences that works to ensure that all students, regardless of their life circumstances, can access—and succeed—in rigorous mathematics and science education. Dr. Treisman is active in numerous organizations working to improve American mathematics education. He is a founder and member of the governing board of Transforming Post-Secondary Education in Mathematics (also known as TPSE-Math). He is a representative of the American Mathematical Society to the American Association for the Advancement of Science (Education, Section Q) and is a senior advisor to the Conference Board of the Mathematical Sciences Research Advisory Group. In addition, he is a member of the Roundtable on Data Science Postsecondary Education with the National Academies of Sciences, Engineering, and Medicine.*

Dr. Treisman has served as a Distinguished Senior Fellow at the Education Commission of the States since 2013. He is also chairman of the Strong Start to Finish Campaign (and its expert advisory board), a joint initiative of the Bill & Melinda Gates Foundation, The Kresge Foundation, and Ascendium Education Group that works nationally to ensure that all students get a strong start in their first year of college and finish with the skills they need to thrive. Treisman has served on the STEM working group of the President's Council of Advisors on Science and Technology, the 21st-Century Commission on the Future of Community Colleges of the American Association of Community Colleges, and the Commission on Mathematics and Science Education of the Carnegie Corporation of New York and the Institute for Advanced Study. Treisman's research and professional interests span mathematics and science education, education policy, social and developmental psychology, community service, and volunteerism.

J-CASP: Can you begin by talking about how students in a 1975 UC Berkeley undergraduate calculus course inspired you to create the Emerging Scholars Program?

Uri Treisman (U.T.): I noticed that students who fell behind, or who fail, almost never got back on track. And what struck me was that, in an elite institution, high achievement programs all focused on the student's supposed weaknesses. The assumption was that students of color would automatically need help. But these students were the best from their high schools, and they were exceptional in many ways.

There was a mismatch between the way students of color were understood and supported and the way that students in general were supported. I knew from my background in social theory that whenever you may have a mismatch of this type, it reflects deep societal issues. Essentially, it was structural racism.

I also saw that African American and Latino students were being forced to deal with difficult questions of identity right away, which distracted them from their academic work. Many stated in interviews that in high school, they had separated their academic lives from their social lives. Looking back, these students still believed that this separation was the only way they were able to get into college. Although this type of individualistic self-reliance worked for them in the K–12 setting, in higher education, it worked against them.

Corresponding Author

Jonathan Lollar, Doctoral Student, Developmental Education
Texas State University
601 University Drive | San Marcos, TX 78666
Email: jel111@txstate.edu

Because they had no way of figuring out what their peers really knew, it struck me then that whatever program my colleagues and I developed, students would need to be in a learning environment that encouraged them to check their work and their understanding with that of their peers. I wanted to develop a culturally respectful model—which was originally known as the mathematics workshop model, and then by a myriad of other locally determined names, including, prominently, the Emerging Scholars Program. This program model would also create opportunities for students to pursue leadership roles within and across their communities. I also needed to ensure that the program, while still supporting the institution's mission, would leverage student strengths and not their weaknesses.

J-CASP: From your work at UC Berkeley and then with the Emerging Scholars program, you then founded the Charles A. Dana Center. Can you tell us more about the establishment of the center, its history, and its current mission?

U.T.: When I moved to Austin in 1991, the plan was for the Charles A. Dana Center, based in the College of Natural Sciences, to be a center for the dissemination of programs like Emerging Scholars, which we did for two or three years. We shifted our primary focus to K–12, however, for about a decade before extending our focus to include the transition to and through higher education, with work like the New Mathways Project (now the Dana Center Mathematics Pathways) and, more recently, the Launch Years initiative.

At that time, what we observed in higher education was that despite the dedication and skill of individual practitioners and departments, developmental education (DE) writ large was not meeting its highest aspirations. We began working with the Carnegie Foundation for the Advancement of Teaching to develop a new approach to remediation, not just in elite institutions, but also in community colleges and comprehensive regional institutions.

What we saw throughout higher education was the same kinds of remedial programs, with very low success rates. The instructors deeply cared about student success, but they knew that they were getting only 20% of their students through DE. It was the failure of a model, and the instructors who worked their hearts out for students knew it. We knew it, and we really worked hard to make clear to instructors that it was not a failure of individuals.

J-CASP: One of the ways you took action from that focus was through creating new math pathways. The Dana Center Mathematics Pathways (DCMP) provides equitable secondary and postsecondary math education. The pathways align students' goals with college-level math requirements, accelerate students' progress by having them complete their first college-level math requirement within the first year of college, integrate learning support, and use rigorous, evidence-based curriculum and pedagogy.

Can you speak to the ease or difficulty in convincing faculty members from postsecondary institutions across the United States to support pathway-specific mathematics courses to replace college algebra as the standard for degree completion? I imagine that was a difficult mission for a lot of places you visited.

U.T.: People were committed to the programs they already had, and that's understandable. There were people wedded to the existing methods who had labored all their lives trying to make them work. There are good ideas—great ideas—that don't get implemented because the time simply isn't right. With the New Mathways Project, however, the time was right; higher education began to prioritize *outcomes* rather than just access, and *completion* rather than just admission.

It took national research to make it work. The CCRC [Community College Resource Center] played a significant role in this, as well as CAPR [the Center for the Analysis of Postsecondary Readiness]. Then several major foundations—Gates, Kresge, Lumina, and others—chose math pathways as a focus, and that helped.

Eventually, the data became overwhelming, and leaders in the field of developmental education began to acknowledge that existing DE programs were not helping enough of the students that they were supposed to be serving. Frankly, I believe that leadership in elite institutions ultimately pushed the field towards acceptance of the math pathways model. Now we clearly see the math pathways model spreading very quickly. It's amazing.

J-CASP: The partnerships the Dana Center has with various foundations and organizations are certainly invaluable. How does the Dana Center select collaborators?

U.T.: So, the Dana Center is unusual in that it relies on faculty members taking advantage of what you can do as a professor in many university settings.

As long as you bring in money and enhance the reputation of an institution, you are typically given more or less free rein to experiment and innovate. On the other hand, when you work at scale—the Dana Center works on its issues at scale—you have to ask yourself, "Who are the people who should be doing this, and who will support what you do if you're successful?" We always work with organizations that have a broader reach and standing than we do.

We're also always looking into who has standing in a given field, who has broad reach, and which institutions and organizations we'd like to join or endorse a project. Then we work together to ensure that the math pathways model becomes an essential piece of the discipline's responsible practices and standards. Whatever constituencies need to be involved to get something done, that's who we work with. That's how we choose partners.

J-CASP: Texas House Bill 2223 introduced the use of corequisite models of instruction into developmental education back in 2017. Now, according to TEX. EDUC. CODE ANN. § 4.62 (2012/2020), by the 2021–2022 academic year, all non-exempt students needing to enroll in developmental math, as well as other developmental courses, must be placed into corequisite models of instruction. What are your thoughts on corequisite instruction and other recent developments or education reforms?

U.T.: So, I support the general direction. The idea of a corequisite is that the first order of business in the corequisite model is to do what you can to make sure students never fall behind. Don't slow them down. Don't put them in preparatory courses. If there was any way they can succeed in the regular course, provide the support to make that happen. That's what corequisites should be about.

And I think that we've seen about two-thirds of the students placed in D.E. corequisite models have a shot at succeeding if the supports and time are provided to help them succeed in the actual course. It's clear that not all students can do this, and I am worried that corequisite education will take the focus off the students who are not able to succeed using a corequisite model.

> Much of the equity work that people do is trying to retrofit solutions to systems that were not designed for equity.

We need to work to identify these students better. We do not need to go back to the old models because those were already terrible for that one-third of students. Instead, we need to continue the development of new models to serve students who may not succeed with corequisites.

J-CASP: The bill also allows for you to use learning support as your corequisite, for example, pairing a course with tutoring rather than paired coursework. This probably seems more ideal for that one-third of students that might not succeed in corequisite. Have you been seeing a push towards that alternative type of corequisite at all?

U.T.: When the Dana Center was developing math pathways with our colleagues at Carnegie [Foundation for the Advancement of Teaching], we did a lot of field interviews and spent time on campuses. If you are working with a first-generation student who is having trouble in math, it may take two or three weeks for the student to figure out that they are in trouble and another week or two for them to find the tutoring center. If you are four weeks behind in math, then you need a faith healer, not a tutor.

In some states, like Georgia, the core idea of corequisites is to narrow the distance between student supports and student instruction. We're seeing increased student success in places that provide tutors the first few weeks in the classes and make the class the locus for student support. What we've learned by working more closely with faculty and advisors is which crises occur during which weeks. We need to know what it takes to help students pass a course and how we can redeploy personnel to keep students progressing on time and on track.

When advisors and faculty work together, students do better. That is the big principle, not the technique. The technique is going to depend on the local particulars of the institution, the students, the traditions. The mission is to reduce the gap—the distance between students and supports. The more salient and connected the supports are, the better for the students who struggle.

We must understand, though, that some students enter postsecondary education needing more academic skills support than corequisites can provide. We need to develop new models that will better serve those students.

J-CASP: What I hear you saying is that what seems to be the future of the corequisite model is active and conscious interaction and intervention by proactively anticipating points where there may be trouble and then providing focused student supports at those points. Is that correct?

U.T.: Yes. It's about the optimum deployment of student support resources and how students can immediately take advantage of them. Also imperative is a shift from a deficit-based focus to an asset-based focus.

You cannot help students unless you know their strengths. You have to focus on their hopes and strengths. The early models—many of the early mastery learning models—focused on addressing student weaknesses, and they rarely got students to be successful. Basically, students need both academic supports and cultural supports. Even though it's not part of the formal curriculum, non-academic supports are vital for student success. Successful corequisite programs always figure that out.

J-CASP: That makes it sound as though some programs are adept at recognizing equity issues and that institutions, on a macro level, are less adept at doing so. You've always fought for greater equity and access within developmental mathematics with more urgent calls to address systemic inequity in education and beyond. You are aware of the barriers that exists for students of color and other underserved populations. What else must be done to support the students who are underrepresented and underserved in STEM and non-STEM courses?

U.T.: I think right now we see that a lot of equity-focused organizations are supporting education on individuals' personal awareness of culture, respectfulness, and microaggressions. Of course, that is important, but it is more important to deal with structural racism rather than insensitivity or unawareness.

Higher education has its prejudices. The challenge of racism is not that people need more data. You don't need more data to understand racism. If you need more data, then you're totally disconnected. If you are in a classroom, you see it all around you. Much of the equity work that people do is trying to retrofit solutions to systems that were not designed for equity. We need to learn from past failures to create structures that promote equity. We need to shift, to construct new systems that have equity accelerants in corequisite courses. That is where we can build in equity strategies.

For example, in many 4-year institutions, students get to register for new classes according to the number of units they have. Students with the most units go first. Seniors should get preference because they have to get first shot at the courses they need to graduate. That process got generalized, but now you see that students coming in with several AP credits get the best first-semester courses. Policies like that systematically work against newcomers to higher education. We must look at every institutional practice and forget about its intentions. Instead, we must ask, "Who, in fact, is the policy benefiting? And who is being left behind?"

J-CASP: Unfortunately, we are not in the classroom at the moment due to COVID-19. How has your research, your teaching, your policy work, and your advocacy work been affected by this large-scale shift to remote?

U.T.: I am teaching [Spring 2020 semester] 250 first-year students remotely, three-quarters of whom are ethnic minorities, and you can see the contrasts even on day one. The first week, before COVID-19, students try to diminish these contrasts, by, for example, wearing the same clothes. When you are teaching online, and students see each other, it accentuates the differences in students. This year, I was working with a group of six students, and three of them had two beds in their rooms. They were taking care of their younger brothers and sisters. I also have a student in Singapore whose personal maid brought him some tea during class. That's how vast the differences are online, and the students see it. It is hard for them to connect with each other, so you have to think of new strategies to build community and working groups—new strategies for dealing with massive deficiencies in resources. It is very hard work.

As a good teacher, a real teacher—and not just someone going through the motions of lecturing—you depend on being able to see your students thinking. Learning how to check in with students online is much more challenging. You can use clickers and polls, but it is not as powerful as looking over a student's shoulder to see them think through a problem. It is very hard. And I find myself learning every day.

You see students really struggling. You can see the downward mobility. Before the recession, you could inspire students through messages of hope with Martin Luther King Jr., or Barack Obama. Today, African American wealth and Latino wealth have been massively reduced. The students have to question the value of higher education. Some students say, "My dad has a community college degree, but he's unemployed."

A lot of my students are out of hope. Their parents have been laid off. We need a pedagogy that speaks to students who are downwardly mobile as well as to students who are upwardly mobile. It's hard. It requires more than ever that you listen to your students talk about themselves and that you find ways to help them understand that in the long run, education will matter enormously for their circumstances. But it's much more difficult than it was 13 years ago. I'm struggling with it.

J-CASP: I wanted to ask if there are any other suggestions for Texas developmental educators that you want to leave us with?

U.T.: I think this is the time to rethink the transition from high school to community college and from the workplace back to community college. We are seeing a dramatic reduction in the number of low-income students going into higher education, which is the exact opposite of what happens in most recessions. You have to ask questions such as, "How can students start higher education earlier? How can we develop different relationships with our major employers to smooth and plan our cycle of going in and out of the workplace?"

The Dana Center is working on exactly those kinds of issues. We're asking questions like "How can we better shape our education system around the actual needs and lives of our students?" We are beginning to brainstorm, to meet with our partners, and to figure it out.

J-CASP: It sometimes seems overwhelming to try to better shape our system for our students. Do you have any advice for how educators can, I guess, become more involved in better and more efficient ways? It seems that most of the advice that the Dana Center has to offer is big scale options, and we need this systemic change. Do you have advice for how we, as educators and graduate students, can help push that along? I imagine there is a lot of work that we can do to help organizations like the Dana Center with that mission.

U.T.: This is my fifth decade of teaching first-year students in mathematics in some form or another. When I'm in the classroom, I'm confronted with the real issues. So as a teacher, I have learned how to do my best to control what happens in my classroom. But there can be things that forces outside my classroom shape—things that may negatively affect my students. So, as an individual teacher, you must first check what you can do in your classroom. Then you ask, "What can I do to influence what happens outside my classroom? For example, how might I influence policy in or through my professional organizations?"

For the directors of programs, there is a similar trajectory. What can you do at your institution with your staff? What are you doing to connect with other groups who also work with or influence your students? You have to ask, "How much, at this point in time, can we control?" Then you have to ask, "What's next?" Working with partners can give you greater control. That's how I look at it. I am always surprised how far away from home we have to go to address some of the core problems faced by my students.

J-CASP: Thank you so much for your time. It's been extremely helpful.

Disclosure Statement

No potential conflict of interest was reported by the authors.

About the Authors:

Arun Raman, MA, joined Texas State University's Developmental Education Graduate Program as part of the 2020 doctoral cohort. During his time in the program, Arun served as a research assistant and an assistant editor for the J-CASP. He will be awarded a posthumous doctoral degree in developmental education in August of 2021.

Jonathan Lollar, MA, is a doctoral student in Texas State University's Developmental Education Graduate Program, where he is currently a research assistant and an assistant editor for the *J-CASP*. His main focuses for research include developmental education policy, professional development models, learning frameworks course interventions, and correctional education.