

From Circle Time to Prime Time

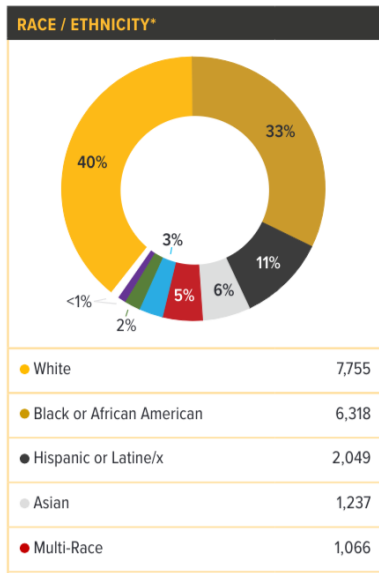
A partnership with student affairs at Towson University

Nathan McNew
with Mike O'Leary, Alexei Kolesnikov
Towson University

Joint Mathematics Meetings 2025
TPSE Session on Transformation Models for Inclusive Student Experiences
Seattle, WA January 8th 2025

Towson University - at a glance

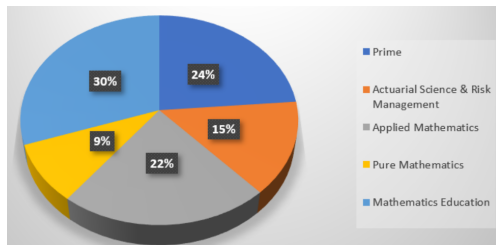
- Public, master's granting institution, nearing R2 status.
- Undergraduates:
2018: 19,800 **2024:** 16,300
- Graduate Students:
2018: 3,100 **2024:** 3,100
- Racial and ethnic demographics are comparable to the state of Maryland
- No achievement gap: Black students graduate at higher rates (74%) than overall (73%) Has held for $\approx$ 8 years.
- 1,500–2,000 transfers to TU each year, mostly from community college.



The TU Math Major

- Undergraduates: **2018**: 19,800 **2023**: 16,500
- Math Majors: **2018**: 226 **2024**: 103
- Offer a BS in Mathematics

- **Prime**: No concentration
- Actuarial Science
- Applied Mathematics
- Mathematics Education
- Pure Mathematics



- MS in Applied & Industrial Mathematics, Actuarial Science & Predictive Analytics, Mathematics Education

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- Pandemic recovery:
 - Students are struggling: Mental health challenges, work obligations, frayed social structures.
 - Habits picked from online courses do not translate to face-to-face courses.
 - Total number of math majors continues to trend downward.

Creating community

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- Putnam Prep/Pizza and Problems.
- 1-credit seminar courses on "How to be a math major" and "Career skills/how to get a job as a math major".

Collaboration with Student Affairs

- Reached out to **Romy Hübler**, Director, Office of Civic Engagement and Social Responsibility at TU.
- Office supervised by the Dean of Students, part of the Division of Student Affairs.
- Student Affairs is a natural partner for activities beyond course content.



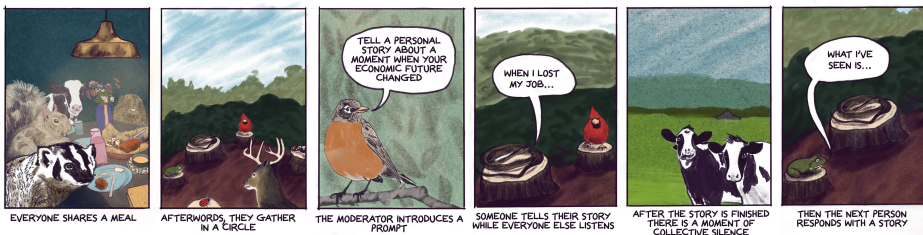
Story Circles

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Story circles originated in rural grassroots theater in the '60s. Developed by [John O'Neal](#) and the African American ensemble **Junebug Productions** and then popularized by **Roadside Theater** in the Appalachian coalfields.



Story Circles: Further development

After being popularized by the theater community, a variety of groups have further refined the story circle techniques for specific purposes.

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In our initial conversations with student affairs we noted that some students' experiences in abstract math courses (discrete math, abstract algebra, real analysis) have aspects of a "community trauma" response.

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Story Circles: Theoretical basis

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Also wanted a theoretical framework of “community” for our analysis. Followed the definition of **community** given by [McMillan](#) and [Chavis](#), 1986 who define four key aspects of community:

- 1 Membership
- 2 Influence
- 3 Integration and Fulfillment of Needs
- 4 Shared Emotional Connection

Membership and Influence

Membership: A feeling of belonging or personal relatedness.

- **Boundaries:** Defines who belongs.
- **Sense of Belonging and Identification:** "It is my group."
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Influence: A sense of mattering—both to the group and as an individual.

- Members must feel they influence the group.
- The group must exert influence on members to maintain cohesion.
- Mutual reinforcement of shared values and norms.

Fulfillment of Needs and Shared Emotional Connection

Fulfillment of needs: The group's ability to meet individual and collective needs.

- Reinforcement binds individuals to the group.
- Shared values enhance cohesion.
- **Mutual Assistance:** Members help each other to achieve goals.

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Shared Emotional Connection: The commitment and belief in shared experiences and future togetherness.

- **Shared History:** Real or perceived connection to past events.
- **Interaction Quality:** Positive, meaningful exchanges.
- **Shared significant events:** Collective experiences (e.g., crises).

Implementing a Story Circle

Rules and Procedures:

- **Everyone participates:** There are no spectators.
- **Facilitator gives prompt/rules:** Minute of silence to think about it.
- **Participants take turns speaking:**
 - One person speaks at a time, in order around the circle to the left.
 - Passing is allowed; speakers can return in the next round.
 - Share brief (3-5 minute) personal stories; gentle nudges if they run long.
 - Stories respond to previous ones, aren't prepared beforehand.
 - Active listening. Not thinking about our answers or checking phones.
- **Reflection:** (AKA cross-talk) Once everyone has told their story, the facilitator gives some concluding questions to the group. People can respond as they wish, not everyone needs to reflect.

Our Prompts for “Circle Time”

We have now run 3 separate story circle events.

Fall 2023 (Welcome back event)

*In story form, share an **experience that meaningfully impacted your academic career**. This experience can be either in a mathematics or general setting.*

Spring 2024 (Year end celebration/awards)

What is something academic or mathematical that you learned this year, and why is it significant to you? Who (other than your instructor) helped you learn this?

If the person who helped you learn this is in the room, feel free to thank them.

Fall 2024 (Welcome back event)

*Tell us about a time when you felt you were in a supportive mathematics community that **helped you grow as a mathematician**. How did students and faculty **speak, listen**, and behave to each other in that community?*

Observations

- This activity is well outside math majors' typical comfort zone.
 - Some students felt “tricked” into participating the first time, haven't want to come to future circle time events.
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- Productive way to get feedback on things like physical spaces in the department, relationships between concentrations and majors.



Preliminary Results

- **Membership:**

- Students liked the smaller size of the math major.
- Some explained that they changed from other majors to mathematics because of the sense of community

- **Influence:**

- Students saw their achievements celebrated.
- Students got to participate in discussing community standards/suggest changes around department.

- **Integration and Fulfillment of Needs:**

- Students reflected during the cross-talk that they were now more comfortable with folks being vulnerable or anxious.
- Students said that they could rely on each other to pick each other up.

- **Emotional Connection:**

- Many students expressed similar challenges/hardships and bonded during the circles over these common experiences.

Prime Time: Peer-Led Community Building Sessions

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To further foster community during the semester we have been running “prime time” sessions in the undergraduate math lounge.

- Peer-led, collaborative problem-solving sessions.
- Graduate student (or senior) mentors act as coaches, not tutors.
- Encourages self-organization, teamwork, and collaborative learning.
- Refreshments (coffee/tea/snacks) are offered to bring students in.

Prime Time: Insights and Results

● Implementation:

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● Observations:

- Collaborative, inclusive, and welcoming space.
- Focus on problem-solving without hierarchy.
- Attendance gradually increasing (Often 4-8 attendees in Fall '24).
- Offering pizza didn't seem to substantially improve attendance.
- Doesn't seem to depend on personality/charisma of facilitator.
- Weak evidence links attendance to higher grades.

Acknowledgements

This work was supported by the National Science Foundation through grant NSF-DUE-2031345.

Questions?

Thank you!