

TRUE ACCESS and the First2 Network: Building and sustaining higher education collaboration across states

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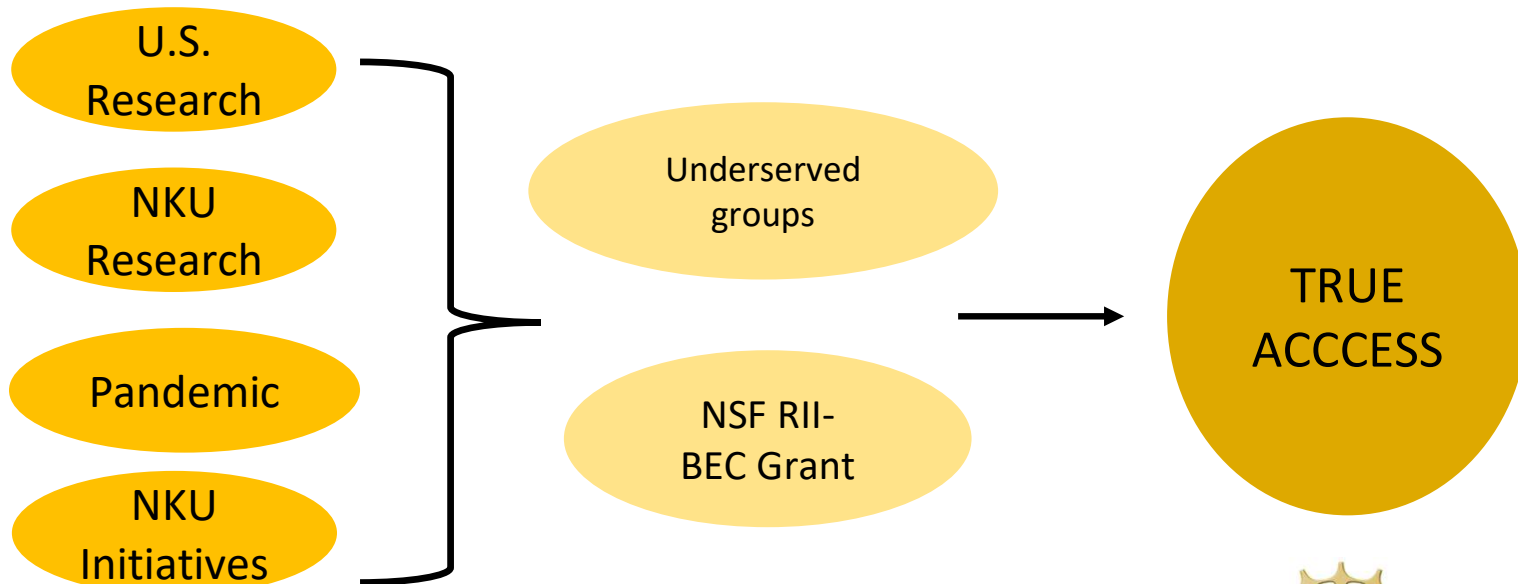




TRUE ACCESS

TRansfer & Underrepresented group Experiences for Autonomy, Competence, Connection, and Careers: Enhancing Systemic change in STEM

The TRUE ACCESS Proposal



TRUE ACCESS + First2 Partnership



**TRUE
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**FIRST2
NETWORK**

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EXPANDING THE FIRST2 STEM SUCCESS NETWORK, award numbers HRD-1834586, HRD-1834595, HRD-1834601, HRD-1834575, HRD-1834569

Timeline

Aug 2021: Erica & Madhura met at INCLUDES Conf in small group session

Sept 2021: Erica Madhura spoke about possible collaboration at time when Jade was trying to put together EPSCoR group

March 2022: NKU put in TRUE ACCESS proposal for NSF EPSCoR RII-BEC with First2 as collaboration partner

May 2022: NKU collaborators brought to First2 Conf

Aug 2022: TRUE ACCESS proposal funded, formalizing relationship

May 2023, 2024, 2025: TRUE ACCESS team members have attended First2 Conf every year since + other collaboration

Oct 2024: INCLUDES Connector Proposal

TRUE ACCESS So Far...

Cohort 1a- Started Fall 2023

- Enrolled 27 Fellows
- 8 fellows remaining

Cohort 1b- Started Spring 2024

- Enrolled 12 Fellows
- 5 fellows remaining

Cohort 2a- Started Fall 2024

- Enrolled 25 Fellows
- 21 fellows remaining

Cohort 2b- Started Spring 2025

- Enrolled 10 Fellows
- 9 fellows remaining

Original Plan (1 yr)

~50 in fall

~20 in spring



Revised plan (2+ yrs)

~25 in fall

~10 in spring



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Commonalities

- Both seek to promote institutional change to enhance recruitment, retention and transition to careers among undergraduate STEM majors.
- Student voice is a core feature of both projects
- Both funded by NSF
- Both learning projects
- Food, fun, & fellowship



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Differences

- Focus on students from underrepresented groups and transfer students
 - Initial goal of increasing faculty/staff autonomy, competence and relatedness
 - Adopted improvement science approach later
 - Used 4C model from beginning
- Focus on rural, first generation and low-income students
 - Emerging focus on research related to impact on faculty
 - Used improvement science approach to systems change from beginning
 - Adopted 4C model for student involvement later
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FIRST2 Theory of Change

AIM: Over the next 10 years, double the college graduation rate of rural, first-generation, low-income and other underrepresented STEM students.

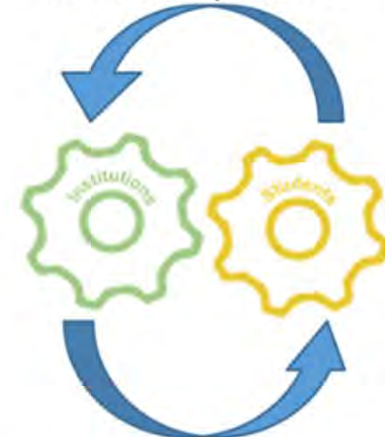
STEM students **succeed academically.**

STEM students are **meaningfully connected** with faculty, staff, and peers in ways that promote belonging (fit), wellness, resilience, and financial stability.

STEM students feel **connected to STEM research**, understand STEM career options and feel competent enough to pursue them.

STEM students engage in **leadership experiences** that identify systemic issues impeding students' success in STEM, and **co-create new solutions** to these issues.

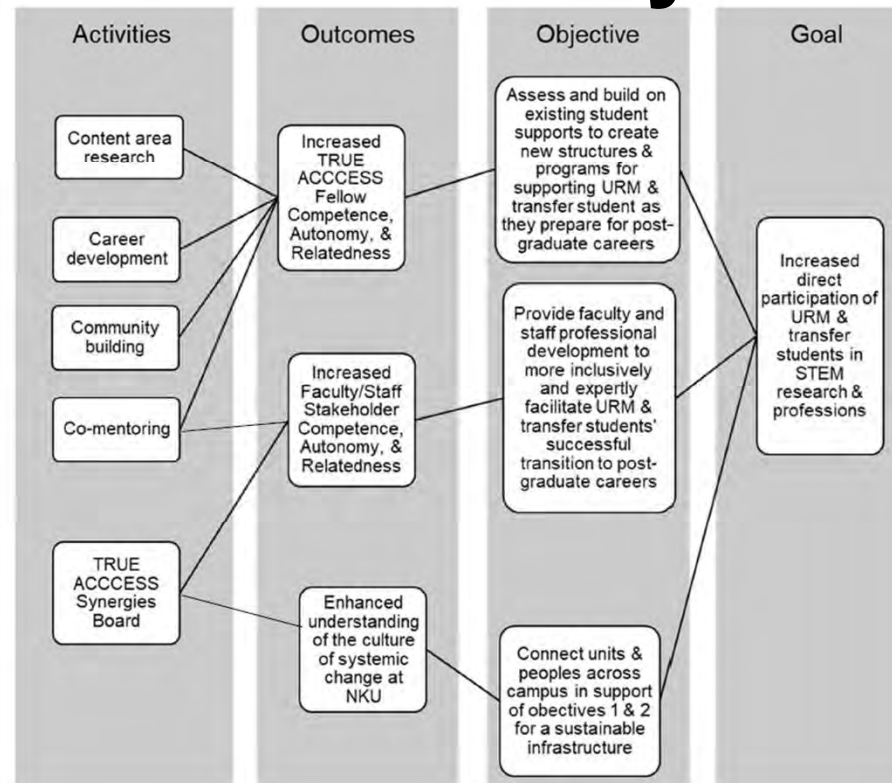
Institutional practices



Student experiences

TRUE ACCESS Theory of Change

Addressing systemic barriers & pre-inequities experienced by STEM URG & transfer students at NKU will improve their retention, graduation & transitions to careers



self-determination theory

HUMAN BEINGS HAVE THREE BASIC NEEDS:

COMPETENCE

People need to gain mastery and control of their own lives & their environment.
Essential to wellness.

AUTONOMY

People need to feel in control of their own life, behaviours and goals. This is about choice.

RELATEDNESS

People need to experience a sense of belonging and connection with other people.

*Feeling cared for by others
& to care for others.*

Based on the work of Richard Ryan and Edward Deci.

Goal & Objectives

Overall Goal: To design, implement, and assess a structure and programming to increase direct participation of URG and transfer students in STEM research and professionalization as measured using several metrics including retention, graduation, and transition to careers

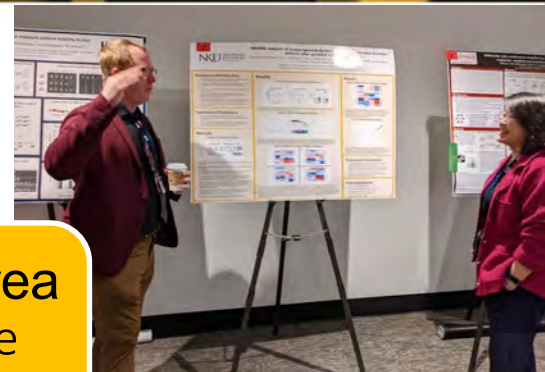
1. Assess and build on existing student supports to create new structures and programs for supporting URG and transfer students as they prepare for post-graduate careers

2. Provide faculty professional development to more inclusively and expertly facilitate URG and transfer students' successful transitions to post-graduate careers

3. Connect units and people across campus in support of objectives 1 & 2 into a sustainable infrastructure



"I was able to **interact with other students and some of the neuroscience & biology faculty** as well as student wellness...which helps me build community with people who are also interested in the brain."



"We talked about **different careers one could pursue with a bachelors** in mathematics. It helped build autonomy because **I was given the reins** throughout the meeting to explore and talk about the things I liked."

Career
Development

Content-Area
Experience

4 C
Model

Community
Building

Co-
mentoring

"This experience strengthened my passion for **becoming a scientist**. I feel like...I can make a real **contribution** to a very real-world problem."



"There were a variety of disciplines and students who attended this event. **I felt very at home with this group**. I have become more competent at making connections with people."

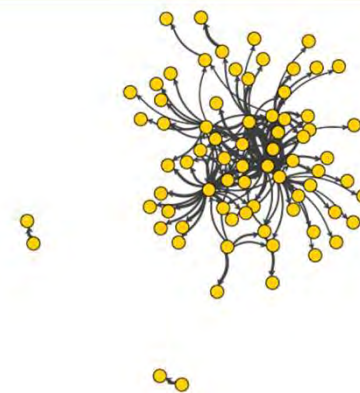


Collaboration between First2 and TRUE ACCESS

Social Network Analysis

Student voice

4C model



First2 Student Directors' PDSA cycle -> TA Fellows

Challenges relating to state-wide organizing of PUIs

INCLUDES Connector



CO- MENTORING DEFINED

“A form of collaborative learning that is **reciprocal, mutual and supportive**. It gives a name to a process which is social, active, and **appreciative of differences** among individuals in terms of their backgrounds, talents, and learning styles”
(Bona et al, 1995, p. 119).

Co-mentoring Vs. Traditional Mentoring

SIMILARITIES

- Relational
- Developmental
- Context-specific
- Action-oriented

DISTINCTIONS

- Non-Hierarchical and Non-dichotomous
- Multi-directional
- Presumed assumption of expertise, experience and capability
- 1:1 is not required
- Process vs. production-driven
- Mutual support

Challenges

Recruitment and scholarship awarding process is extremely onerous for this volume of offers

Fellows with families, athletic team responsibilities and full-time jobs had difficulty meeting the 4C requirements

Fellows who work full-time or live longer distances from campus struggled to find appropriate content-area research activities

Fellows often deferred to faculty to lead most discussions during co-mentoring meetings

Successes

Developed a new report with offices of Financial Assistance and IT that is now being used by others at the university as well. Changed recruitment process.

Added weekend co-mentoring meetings

Created process to allow on-the-job experiential learning, reframed requirement to “content-area experience”

Faculty received additional training on the co-mentoring model



INCLUDES Connector Proposal: "Bluegrass Connector"



Goal: We aim to connect First2 Network and members of Kentucky's post-secondary STEM education and workforce preparation ecosystem to build an equitable collective impact network framework that benefits Kentucky's students in alignment with the Kentucky Science and Technology Plan, Vision 2030.



INITIATIVES	Build relationships and partnerships among members of the undergraduate STEM education ecosystem across Kentucky (starting, but not ending, with the named parties) to start connecting institutions and industry partners toward a Kentucky-wide collaborative.	Establish shared vision, aligned with the First2 Network, through interrogation of existing systems in Kentucky and co-creation of specific goals for and next steps toward a state-wide collaborative with representatives-including students-of named and other KY higher education-related institutions.	Co-design and test infrastructure and collaborative mechanisms--- including backbone function, leadership, and communications--that will center student experience in a new CI framework for collaboration across Kentucky with the First2 Network.	Co-develop goals and metrics and prioritize strategic areas of emphasis and resource alignment for coordinated change that drives shared learning, scaling, and sustainability to increase numbers of STEM graduates and improve career outcomes.
STRATEGIES	In-person meetings: Capacity-building meetings for core team at First2 Network Conference, in person summits at the named KY institutions and/or industry partners' facilities, and partner development at KAS.	Ongoing communications: Host opportunities for ongoing collaboration through virtual meetings and communication triad complements in-person sessions.	Partner engagement: Connect and partner with additional higher education and industry partners to build out a KY-wide collaborative in support of STEM student success.	Capacity building: Expose members to new ideas and best practices from First2 Network to build capacity to recruit, retain and graduate more and more diverse STEM majors and support them into STEM careers.
OUTCOMES	Repository of materials; Exposure of members to untapped resources, ideas and practices to recruit, retain and graduate more diverse STEM majors and support them into STEM careers - from existing and new efforts in KY and within West Virginia through the First2Network; Equitable network framework for continued collaboration, including sustainable backbone functionality, common metrics and data, and enduring mechanisms to share learnings and strengthen relationships.			
EVIDENCE	(Co)Authored grant submission or publication records; Session/meeting evaluations; Social network Analysis; Focus groups, surveys; program records; White papers, abstracts, and any presentations that document findings or include change ideas being implemented; Introduce group to improvement science through development of change ideas (pitfalls and lessons learned)			

Discussion Prompts – Small Groups

Pick a prompt and discuss, then share out:

1. How might the TRUE ACCESS-First2 collaboration inspire a new tier/type of collaboration to accelerate systemic change in First2 Network?
2. How is the 4C model working?

Thank you!

"In times like today, when there is volatility in the STEM community and when students from disadvantaged backgrounds continue to face barriers that some may never have to think about, institutions like NKU have never mattered more. This university has proven that when you invest in people—not just their grades or GPAs, but their stories, their struggles, their potential—you don't just change lives. You change generations. But that kind of transformation doesn't happen by accident. It happens through bold, deliberate commitment. So NKU, I urge you to keep being that place. Double down on it. Be relentless in your support of vulnerable students. Because when you create space for the most underestimated among us—you don't just open doors. You build new ones entirely." - *Brandon Brooks-Patton, TRUE ACCESS Fellow, in his awards & commencement speeches*

