

Fostering Belonging

Summary of the Literature

Fostering belonging in the classroom means creating a learning environment in which each student feels welcomed to learn. When a student feels like they belong, they are more motivated and have a greater capacity to engage with course material and contribute to class activities, all of which supports more effective student learning and success.

In practice, fostering belonging in the classroom includes recognizing and affirming the various identities of our students and demonstrating that we value and care about students as individuals and as learners. This can include: learning student names, pronouns, interests, and goals; relating learning goals and activities to topics students care about; explicitly acknowledging and valuing diverse perspectives within a course; explicitly acknowledging student anxieties and fears related to the course; providing personalized, supportive, and culturally-sensitive feedback on student work; and providing safe opportunities for students to give feedback and report concerns. Such efforts require faculty self-awareness of their own identities and how those identities may affect students within their classroom.

Additionally, course design can foster belonging by giving students agency within the learning environment. For example, providing students with choices in what and/or how they learn or demonstrate their learning and engaging students in dialogue that is meaningful to them both support student agency. Courses can be designed to foster collaborative learning through the use of class discussion and group work and by engaging peer mentoring or support. Finally, belonging in the classroom is enhanced by a learning environment and course structure that supports a growth mindset where mistakes are viewed as opportunities for growth and improvement.

Annotated Bibliography

Sense of Belonging in College Freshmen at the Classroom and Campus Levels

Freeman, Tierra M., Lynley H. Anderman, and Jane M. Jensen. "Sense of belonging in college freshmen at the classroom and campus levels." *The Journal of Experimental Education* 75.3 (2007): 203-220.

Keywords

- Belonging
- Motivation
- Undergraduate students
- Academic self-efficacy
- Intrinsic motivation
- Task value
- Instructor characteristics
- Pedagogical caring

Fostering Belonging

Summary

The study investigates the relationship between college freshmen's sense of belonging at both the classroom and campus levels and their academic motivation. The authors found that a strong sense of class belonging correlates with higher academic self-efficacy, intrinsic motivation, and task value. Positive perceptions of instructor characteristics, such as warmth, openness, encouragement of participation, and organization, enhance students' sense of belonging in class. Additionally, social acceptance and pedagogical caring are significant for fostering a sense of belonging at the university level.

Practical Actions Recommended

- 1. Enhancing Instructor-Student Interactions:**
 - a. Warmth and Openness: Instructors should create a welcoming classroom environment.
 - b. Example: Greet students warmly, use inclusive language, and show genuine interest in their well-being.
 - c. Encouraging Participation: Promote active student engagement and discussions.
 - d. Example: Use open-ended questions, group discussions, and peer feedback to involve students.
- 2. Improving Classroom Organization:**
 - a. Clear Structure: Maintain organized and well-prepared class sessions.
 - b. Example: Provide detailed syllabi, clear instructions for assignments, and timely feedback.
- 3. Fostering Peer Relationships:**
 - a. Collaboration and Support: Encourage cooperative learning and mutual respect among students.
 - b. Example: Design group projects and peer mentoring programs to build a supportive community.
- 4. Promoting Social Acceptance:**
 - a. Inclusive Environment: Create a campus culture that values diversity and acceptance.
 - b. Example: Support student organizations and events that celebrate cultural diversity and inclusivity.
- 5. Pedagogical Caring:**
 - a. Caring about Learning: Demonstrate concern for students' academic success and personal growth.
 - b. Example: Offer regular office hours, provide additional help when needed, and recognize students' efforts.

Implementing these practices can enhance students' sense of belonging, which is closely linked to their motivation and academic success.

Belonging, Success, Access, and Disruption: Physics Faculty Goals for Inclusive Learning Environments

Robertson, Amy D., W. Tali Hairston, Rachel E. Scherr. "Belonging, Success, Access, and Disruption: Physics Faculty Goals for Inclusive Learning Environments." *American Journal of Physics* 364 (2017): 10.1093/femsle/fnx179.

Fostering Belonging

Keywords

- Inclusive teaching
- Physics education
- Faculty development
- Systemic oppression
- Student success
- Marginalization

Summary

The article "Belonging, Success, Access, and Disruption: Physics Faculty Goals for Inclusive Learning Environments" explores various goals of physics faculty in creating inclusive learning environments. Based on interviews with 18 faculty members, the study identifies four primary goals: ensuring all students feel welcome, facilitating student success, providing access to physics culture, and disrupting systemic oppression in the classroom. These goals reflect different understandings of inclusion, ranging from interpersonal actions that foster a welcoming environment to systemic changes that address structural inequities. The study emphasizes the importance of aligning faculty development with these diverse goals to promote meaningful and sustainable inclusion in physics education.

Practical Actions Recommended

- 1. Creating a Welcoming Environment**
 - **Example:** Use inclusive language and ensure correct pronunciation of students' names.
 - **Action:** Adopt gender-neutral phrases such as "you all" instead of "you guys" and learn to pronounce all students' names correctly.
- 2. Supporting Student Success**
 - **Example:** Develop mentoring programs and provide personalized support.
 - **Action:** Implement structured mentoring programs where senior students guide junior students and offer advice on course selection and research advisor fit.
- 3. Providing Access to Physics Culture**
 - **Example:** Use shared experiences in teaching to bridge social capital gaps.
 - **Action:** Incorporate hands-on lab experiences and collaborative activities that do not assume prior knowledge or shared experiences outside the classroom.
- 4. Disrupting Systems of Oppression**
 - **Example:** Address microaggressions and promote equity in classroom interactions.
 - **Action:** Call out and address sexist or racist comments and behaviors in the classroom to create a safer and more inclusive environment.
- 5. Transforming Physical and Social Environments**
 - **Example:** Make study spaces more accessible and inviting to all students.
 - **Action:** Redesign physical study environments to be transparent and open, ensuring all students feel they belong and can access these resources.
- 6. Encouraging Collaborative Learning**

Fostering Belonging

- **Example:** Shift from competitive to collaborative consensus-building in classroom discussions.
- **Action:** Emphasize collaborative sense-making and community-building in classroom activities rather than competitive argumentation.

7. Promoting Intercultural Knowledge

- **Example:** Use diverse examples and discussions in physics content.
- **Action:** Include multicultural examples in teaching materials and engage students in discussions about who is represented in STEM fields and whose voices are heard in classroom interactions.

The Role of Equitable Classroom Cultures for Supporting Interest in Science

Singleton, C., Deverel-Rico, C., Penuel, W. R., Krumm, A. E., Allen, A.-R., & Pazera, C. 2024. The role of equitable classroom cultures for supporting interest in science. *Journal of Research in Science Teaching* 61(5), 998-1031.

Keywords

- Caring environments
- Classroom culture
- Collective enterprise
- Science
- Science interest

Summary

The study investigates how equitable classroom cultures in middle school science classes influence students' interest in science. The researchers used data from 847 students across 34 classrooms, implementing the OpenSciEd curriculum. They found that classrooms characterized by collective enterprise (collaborative scientific sensemaking) and care (students feeling valued and respected) support higher levels of student interest in science. These findings are particularly significant for students from historically marginalized populations. The study emphasizes the importance of classroom culture and relational aspects in fostering student interest in science.

Practical Actions Recommended

1. Foster Collective Enterprise:

- **Collaborative Learning:** Encourage students to work together to develop explanations for scientific phenomena.
 - *Example:* Use group activities where students share and critique each other's ideas to build a collective understanding.
- **Student Agency:** Allow students to generate questions and decide on investigation methods.

Fostering Belonging

- *Example:* Implement activities where students prioritize their questions and determine the steps to investigate them.
- **Discussion Norms:** Establish norms that promote respectful debate and value diverse contributions.
 - *Example:* Use protocols where students must connect their ideas to others' contributions during discussions.
- 2. **Cultivate a Caring Environment:**
 - **Respect and Value:** Create a classroom atmosphere where all ideas are respected, and students feel their contributions are valued.
 - *Example:* Implement routines where the teacher consistently acknowledges and builds on student ideas.
 - **Empathy and Support:** Show empathy towards students' struggles in understanding new concepts and offer help as needed.
 - *Example:* Provide additional support and encouragement to students who need it, ensuring equitable participation.
 - **Fair Treatment:** Ensure that all students are treated fairly and feel included in the classroom community.
 - *Example:* Regularly check in with students to ensure they feel their voices are heard and valued.
- 3. **Promote Critical Caring:**
 - **Identity-Affirming Pedagogies:** Use teaching methods that affirm students' identities and cultural backgrounds.
 - *Example:* Integrate culturally relevant examples and case studies into the science curriculum.
 - **High Expectations:** Maintain high expectations for all students while providing the necessary support to help them succeed.
 - *Example:* Set challenging goals for all students and offer scaffolding to help them achieve these goals.
- 4. **Support Professional Learning:**
 - **Teacher Training:** Provide teachers with professional development on fostering collective enterprise and caring environments.
 - *Example:* Engage teachers in workshops where they experience and practice the collaborative and caring strategies they will use with students.
 - **Reflective Practices:** Encourage teachers to reflect on their classroom practices and make adjustments to enhance equity and student interest.
 - *Example:* Use teacher journals or peer observation feedback to identify areas for improvement in classroom culture.

Scientist Spotlight Homework Assignments Shift Students' Stereotypes of Scientists and Enhance Science Identity in a Diverse Introductory Science Class

Schinske, Jeffrey N., et al. "Scientist spotlight homework assignments shift students' stereotypes of scientists and enhance science identity in a diverse introductory science class." *CBE—Life Sciences Education* 15.3 (2016): ar47.

Fostering Belonging

Keywords

- Science Identity
- Stereotype Threat
- Diversity in STEM
- Counterstereotypical Scientists
- Metacognitive Homework
- Community College

Summary

The study investigates the impact of "Scientist Spotlights," a series of metacognitive homework assignments designed to feature counterstereotypical examples of scientists in an introductory biology course at a diverse community college. These assignments aimed to enhance students' ability to personally relate to scientists and to shift their perceptions of scientists from stereotypical to more diverse representations. The results demonstrated that students who completed these assignments exhibited a significant shift towards counterstereotypical descriptions of scientists and an improved ability to relate to scientists, both immediately after the course and six months later. These changes were associated with increased interest in science and improved course grades, suggesting that incorporating diverse scientist profiles in coursework can enhance science identity and academic success among students from diverse backgrounds.

Practical Actions Recommended

Integrate Counterstereotypical Scientist Profiles:

- Example: Include profiles of scientists from diverse backgrounds (e.g., different races, genders, socioeconomic statuses) in homework assignments.
- Action: Select scientists who match weekly course topics and whose stories highlight diverse pathways and personal challenges.

Promote Relatability through Personal Stories:

- Example: Share the personal histories of scientists alongside their scientific contributions.
- Action: Use multimedia resources like interviews, podcasts, and TED Talks to provide a comprehensive view of the scientists' lives.

Encourage Reflection and Metacognition:

- Example: Assign reflective writing prompts that ask students to connect with the personal and professional aspects of the featured scientists.
- Action: Prompt students to discuss what they found interesting, confusing, or inspiring about the scientists' stories.

Highlight Diverse Career Paths:

- Example: Feature scientists who discovered science later in life or through a non-traditional path
- Action: Include examples of scientists who initially pursued other careers or had different interests, demonstrating that passion for science can develop at any stage.

Address Social Inequities in Science:

- Example: Include scientists who have worked on issues of equity and diversity in science.
- Action: Select profiles that discuss scientists' efforts to address gender gaps, racial disparities, and other social justice issues within the scientific community.

Use Longitudinal Follow-Ups:

- Example: Conduct surveys and follow-ups to assess the lasting impact of these assignments on students' perceptions and interests.
- Action: Evaluate students' attitudes towards scientists and science identity at multiple

Fostering Belonging

points during and after the course to measure long-term effects.

Constructive Criticism: The Role of Student-Faculty Interactions on African American and Hispanic Students' Educational Gains

Cole, Darnell. "Constructive criticism: The role of student-faculty interactions on African American and Hispanic students' educational gains." *Journal of College Student Development* 49.6 (2008): 587-605.

Keywords

- Constructive criticism
- Student-faculty interactions
- Educational gains
- African American students
- Hispanic students
- Academic performance
- Educational satisfaction

Summary

The article by Darnell Cole explores the impact of constructive criticism from faculty on the academic performance and educational satisfaction of African American and Hispanic college students. Using a longitudinal sample of 1,422 students, the study finds that faculty support and encouragement significantly improve both GPA and educational satisfaction for these minority groups. Constructive criticism, which includes positive feedback alongside critical remarks, was shown to foster a supportive learning environment, enhancing students' intellectual and academic development. The study highlights the importance of culturally sensitive feedback and supportive faculty-student interactions in promoting academic success and satisfaction among underrepresented students.

Practical Actions Recommended

Enhancing Faculty-Student Interactions:

- 1. Timely and Specific Feedback:**
 - Provide immediate, specific feedback related to students' performance and skills.
 - Ensure feedback is actionable, offering clear strategies for improvement.
- 2. Balancing Positive and Negative Feedback:**
 - Combine critical feedback with positive reinforcement.
 - Focus on students' potential and progress, not just deficiencies.
- 3. Promoting Mastery Learning:**
 - Encourage a growth mindset by framing challenges as opportunities for learning.
 - Set high expectations while providing the support needed to meet them.

Culturally Responsive Teaching Practices:

- 1. Affirming Student Belonging:**
 - Create an inclusive classroom environment where all students feel they belong.
 - Acknowledge and value diverse perspectives and experiences.

Fostering Belonging

2. **Providing Intellectual Challenge and Support:**
 - Challenge students with rigorous academic work.
 - Offer emotional and intellectual support to help them meet these challenges.
3. **Developing Study Skills:**
 - Assist students in developing effective study habits and skills.
 - Provide resources and guidance tailored to individual student needs.

Faculty Development:

1. **Training in Constructive Criticism:**
 - Train faculty on how to provide constructive criticism that supports minority students.
 - Emphasize the importance of culturally sensitive feedback.
2. **Encouraging Reflective Practice:**
 - Encourage faculty to reflect on their teaching practices and student interactions.
 - Foster a continuous improvement mindset among educators.
3. **Building Relationships:**
 - Promote frequent, meaningful interactions between faculty and students.
 - Encourage faculty to act as mentors and role models, especially for underrepresented students.

The Significance of Students: Can Increasing “Student Voice” in Schools Lead to Gains in Youth Development?

Mitra, Dana L. "The significance of students: Can increasing “student voice” in schools lead to gains in youth development?." *Teachers college record* 106.4 (2004): 651-688.

Keywords

- Student Voice
- Youth Development
- Agency
- Belonging
- Competence
- School Reform
- Teacher-Student Relationships
- Educational Equity

Summary

The article explores the impact of incorporating student voice in school decision-making on youth development. By grounding the study in a sociocultural perspective, Mitra investigates how student voice initiatives contribute to key developmental outcomes such as agency, belonging, and competence among students, particularly in low-income high schools. The research highlights that when students are actively involved in shaping school policies and practices, they develop greater self-confidence, establish meaningful relationships with adults and peers, and acquire new skills. The article underscores that the structure of student voice efforts and the nature of adult-student relationships are critical in determining the effectiveness of these initiatives.

Fostering Belonging

Practical Actions Recommended

1. Increasing Student Agency

- **Articulating Opinions:** Encourage students to share their opinions and ensure their views are respected.
 - *Example:* Organize focus groups where students can discuss issues affecting their school experience.
- **Constructing New Roles:** Enable students to take on roles as change-makers within the school.
 - *Example:* Students collaborate with teachers to develop and implement new curriculum strategies.
- **Developing Leadership:** Foster leadership skills among students by involving them in school governance.
 - *Example:* Students participate in professional development sessions with teachers to provide feedback on teaching methods.

2. Fostering a Sense of Belonging

- **Building Relationships with Adults:** Create opportunities for students to develop supportive relationships with teachers and other adults.
 - *Example:* Assign mentors to students who can provide both academic and personal guidance.
- **Improving Student-Teacher Interactions:** Promote mutual respect and understanding between students and teachers.
 - *Example:* Implement programs where students and teachers engage in activities outside the classroom to build rapport.
- **Enhancing School Attachment:** Encourage students to become more involved in school activities and develop pride in their school.
 - *Example:* Students lead school tours or participate in public discussions about the school's reputation and culture.

3. Developing Competence

- **Critical Thinking:** Teach students to critique their environment and identify areas for improvement.
 - *Example:* Facilitate discussions on social justice and equity issues within the school context.
- **Problem-Solving Skills:** Engage students in solving real-world problems and making decisions that affect their peers.
 - *Example:* Students develop and run a peer tutoring and translation program to assist fellow students.
- **Public Speaking and Facilitation:** Provide opportunities for students to speak publicly and facilitate group discussions.
 - *Example:* Students present their findings and recommendations at school board meetings or educational conferences.

Navigating Learning and Teaching in Expanding Culturally Diverse Higher Education Settings

Markey, Kathleen, Margaret M. Graham, Dympna Tuohy, Jane McCarthy, Claire O'Donnell, Therese Hennessy, Anne Fahy, Brid O'Brien. "Navigating learning and teaching in expanding culturally diverse higher education settings." *Higher Education Pedagogies* 8.1 (2023): 2165527.

Fostering Belonging

Keywords

- Cultural Diversity
- Higher Education
- Postgraduate Nursing Programmes
- Culturally Responsive Pedagogies
- Intercultural Learning
- Culturally Responsive Teaching

Summary

This article explores the challenges and opportunities in teaching and learning within culturally diverse postgraduate nursing programs in Ireland. Through a qualitative descriptive study, the authors examine the experiences of both domestic and international students, as well as teaching faculty. The findings highlight three main themes: early apprehension, cautious engagement, and shared acceptance, revealing the complexities of adapting to and navigating a culturally diverse educational environment. The study underscores the importance of culturally responsive pedagogies in fostering intercultural understanding and respect, and suggests that proactive planning and support structures are essential for enhancing the learning experience in diverse settings.

Practical Actions Recommended

- 1. Early Apprehension:**
 - Acknowledge and address initial anxieties of students and faculty regarding cultural diversity.
 - Example: Provide orientation sessions that discuss cultural differences and expectations to help ease the transition for new students and faculty.
- 2. Cautious Engagement:**
 - Encourage gradual integration and engagement among students from different cultural backgrounds.
 - Example: Design group activities that require collaboration and promote intercultural dialogue, helping students build confidence and trust.
- 3. Shared Acceptance:**
 - Foster a learning environment where cultural differences are respected and valued.
 - Example: Include cultural competence training for faculty to better understand and respond to the diverse needs of their students.
- 4. Support Structures:**
 - Implement strategic support systems to assist students and faculty in navigating culturally diverse classrooms.
 - Example: Create peer mentoring programs where experienced students guide new international students, facilitating smoother cultural integration.
- 5. Inclusive Communication:**
 - Use clear and inclusive communication methods to ensure all students understand and can participate fully.
 - Example: Provide lecture notes and guided reading materials in advance, and use visual aids and demonstrations to support understanding.

Fostering Belonging

6. Reflective Practice:

- Encourage faculty to engage in reflective practice to continuously improve their teaching strategies in culturally diverse settings.
- Example: Conduct regular faculty workshops on culturally responsive pedagogies and share best practices for inclusive teaching.

7. Intercultural Learning Opportunities:

- Make intercultural learning outcomes explicit and incorporate them into program and module learning objectives.
- Example: Integrate assignments that require students to explore and present on cultural perspectives related to their field of study.

Increasing Persistence of College Students in STEM

Bibliographic Information:

Graham, M. J., Frederick, J., Byars-Winston, A., Hunter, A.-B., & Handelsman, J. 2013. Increasing Persistence of College Students in STEM. *Science* 341(6153), 1455-1456.

Keywords

- STEM persistence
- Self-efficacy
- Active learning
- Learning communities
- Early research experiences

Summary

The article introduces a persistence framework designed to increase the retention of college students in STEM (science, technology, engineering, and mathematics) fields. This framework integrates psychological and educational research to address factors influencing students' motivation and confidence, key determinants of persistence. The authors emphasize three main interventions: early research experiences, active learning in introductory courses, and the formation of STEM learning communities. Successful implementation of these strategies has been demonstrated by several programs, such as the Meyerhoff Scholars Program and the Biology Scholars Program, which have significantly improved retention rates among underrepresented groups. The article highlights the need for institutions to adopt evidence-based strategies, provide faculty training, and create inclusive learning environments to enhance student persistence in STEM.

Practical Actions Recommended

1. Early Research Experiences:

- **Implement Research Courses:** Introduce research opportunities for students in their first two years of college to engage them early and sustain their interest in STEM fields.

Fostering Belonging

- *Example:* Design courses where students can participate in authentic research, such as the HHMI–Science Education Alliance (SEA) PHAGES program, where freshmen discover new bacteriophages.
2. **Active Learning in Introductory Courses:**
 - **Engage Students Actively:** Incorporate active learning techniques in introductory STEM courses to make them more engaging and reduce attrition rates.
 - *Example:* Use brief lectures interspersed with problem-solving activities that require every student to think, create, or apply their knowledge.
 3. **Membership in STEM Learning Communities:**
 - **Facilitate Study Groups:** Create learning communities where students can work together, learn from each other, and build a sense of belonging.
 - *Example:* Establish study groups, online discussion forums, or science-based residential communities to encourage collaboration and support.
 4. **Faculty Training and Support:**
 - **Train Instructors:** Provide training for faculty on evidence-based instructional methods to improve teaching effectiveness and student engagement.
 - *Example:* Participate in programs like the National Academies Summer Institutes on Undergraduate Science Education to learn and implement active learning techniques.
 5. **Curriculum and Institutional Support:**
 - **Revise Curricula:** Departments should review and adjust curricula and reward structures to incentivize effective teaching practices, such as early research and active learning.
 - *Example:* Align department goals to support the introduction of research courses and active learning modules in introductory classes.
 6. **Promote Inclusive Practices:**
 - **Ensure Inclusion:** Address unintentional biases and encourage all students, especially those from underrepresented groups, to join and form study groups.
 - *Example:* Discuss the benefits of group work in class and actively facilitate the formation of inclusive study groups.
 7. **Resource Allocation:**
 - **Advocate for Resources:** Institutional leaders should advocate for and allocate resources to support changes in classroom practice, providing opportunities for faculty to learn new teaching techniques.
 - *Example:* Secure funding and institutional support for initiatives that promote active learning and early research experiences.

Ecological-Belonging Activity for Physics

Binning, K. R., Kaufmann, N., McGreevy, E. M., Fotuhi, O., Chen, S., Marshman, E., Kalender, Z. Y., Limeri, L., Betancur, L., & Singh, C. (2020). Changing Social Contexts to Foster Equity in College Science Courses: An Ecological-Belonging Intervention. *Psychological Science*, 31(9), 1059-1070.

Fostering Belonging

Keywords

- Belonging
- Inclusive teaching
- Student engagement
- Physics education
- Transition to college

Summary

The Ecological-Belonging Activity for Physics is an intervention designed to support students in their transition to college, particularly in introductory physics courses. The activity aims to foster a sense of belonging among students by addressing common challenges and concerns they face. It includes writing exercises, sharing personal experiences, and group discussions to normalize struggles and build community. The activity was implemented at the University of Pittsburgh, where it helped students feel more connected and supported. The approach emphasizes the importance of understanding and addressing students' psychological and social needs to enhance their academic success and overall college experience.

Practical Actions Recommended

- 1. Implement Writing Exercises:**
 - **Reflect on Experiences:** Encourage students to write about their challenges and experiences since starting college.
 - *Example:* Have students spend ten minutes writing anonymously about their difficulties and how they have begun to improve over time.
- 2. Facilitate Group Discussions:**
 - **Share and Normalize Experiences:** Conduct small group discussions where students share their writing and reflect on common themes.
 - *Example:* Form groups of 3-4 students to discuss the common challenges they face and why it is normal to experience such struggles.
- 3. Provide Upper-Level Student Quotes:**
 - **Use Peer Examples:** Share quotes from upper-level students who have successfully navigated similar challenges.
 - *Example:* Read quotes from seniors about their initial struggles and eventual successes in physics courses to demonstrate that overcoming difficulties is common and achievable.
- 4. Train Facilitators:**
 - **Develop Facilitator Skills:** Ensure that facilitators are trained to lead the activity effectively and empathetically.
 - *Example:* Conduct a 90-minute training session for graduate student leaders that includes an overview of the activity, participation in the activity, and role-playing exercises.
- 5. Create a Supportive Environment:**
 - **Encourage Open Communication:** Foster an environment where students feel comfortable discussing their concerns and seeking help.

Fostering Belonging

- *Example:* Use nonverbal cues and supportive language to keep students engaged and respectful during discussions.
6. **Incorporate Follow-Up Activities:**
- **Reinforce Belonging:** Include follow-up writing prompts in subsequent class sessions to reinforce the sense of belonging and continuous reflection.
 - *Example:* In the next recitation, have students write a paragraph advising future freshmen on how to succeed in the course, drawing from their own experiences and the discussions they had.

Creating Inclusive Environments: The Mediating Effect of Faculty and Staff Validation on the Relationship of Discrimination/Bias to Students' Sense of Belonging

Hurtado, Sylvia, Adriana Ruiz Alvarado, and Chelsea Guillermo-Wann. 2015. Creating Inclusive Environments: The Mediating Effect of Faculty and Staff Validation on the Relationship of Discrimination/Bias to Students' Sense of Belonging. *Journal Committed to Social Change on Race and Ethnicity* 1(1) 60-80.

Keywords

- Inclusive environments
- Faculty validation
- Staff validation
- Discrimination and bias
- Sense of belonging
- Student engagement

Summary

This study examines the impact of faculty and staff validation on students' sense of belonging, particularly in the context of discrimination and bias on college campuses. Using data from the Diverse Learning Environments Survey, the researchers analyzed responses from 20,460 students across various institutions. The findings highlight that positive validation experiences from faculty and staff significantly enhance students' sense of belonging and can mitigate the negative effects of discrimination and bias. The study underscores the critical role of faculty and staff in creating inclusive environments that support student integration and success, especially for underrepresented groups.

Practical Actions Recommended

1. **Enhance Academic Validation:**
 - **Provide Constructive Feedback:** Faculty should regularly offer feedback that helps students assess their progress and feel valued in the classroom.
 - *Example:* Implement regular check-ins where students receive personalized feedback on their academic performance.
2. **Promote General Interpersonal Validation:**

Fostering Belonging

- **Show Interest in Development:** Faculty and staff should take an active interest in students' overall development and achievements.
 - *Example:* Establish mentorship programs where faculty and staff guide students in their academic and personal growth.
- 3. **Address Discrimination and Bias:**
 - **Create Supportive Policies:** Develop and enforce policies that address discrimination and provide support for affected students.
 - *Example:* Implement anonymous reporting systems for students to report incidents of discrimination and bias.
- 4. **Foster a Sense of Belonging:**
 - **Inclusive Campus Activities:** Organize campus events and activities that promote inclusivity and community building.
 - *Example:* Host cultural awareness events and inclusive workshops that celebrate diversity and encourage student participation.
- 5. **Train Faculty and Staff:**
 - **Professional Development:** Offer training sessions for faculty and staff on culturally responsive teaching and validation practices.
 - *Example:* Conduct workshops on effective communication strategies and building supportive relationships with students.
- 6. **Monitor and Assess Campus Climate:**
 - **Regular Surveys:** Conduct regular surveys to assess the campus climate and gather student feedback on their experiences.
 - *Example:* Use the Diverse Learning Environments Survey to collect data on student perceptions of validation and sense of belonging.

Inclusive Teaching

Dewsbury, Bryan, Cynthia J. Brame. 2019. Inclusive Teaching. CBE—Life Sciences Education, 18, 1-5.

Keywords

- Inclusive teaching
- STEM education
- Classroom climate
- Self-awareness
- Empathy
- Pedagogical choices
- Network leverage

Summary

This article by Dewsbury and Brame outlines the importance of inclusive teaching practices in STEM education. It introduces an online, evidence-based teaching guide designed to help faculty develop inclusive teaching practices that address differences in race, ethnicity, and gender. The guide emphasizes the need for self-awareness and empathy among instructors,

Fostering Belonging

fostering a positive classroom climate, and making pedagogical choices that support students' sense of belonging, competence, and interest. The authors argue that true inclusivity requires a community effort and leveraging both local and national networks. The guide includes actionable steps and resources to help instructors create more inclusive learning environments.

Practical Actions Recommended

1. **Develop Self-Awareness:**
 - Reflect on personal and social histories to understand biases.
 - Recognize the impact of one's identity on teaching practices.
 - Explore literature on the history of higher education and class.
2. **Cultivate Empathy:**
 - Engage in dialogue with students to understand their backgrounds.
 - Incorporate students' voices and experiences into the curriculum.
 - Use activities that allow students to articulate their personal contexts.
3. **Foster a Positive Classroom Climate:**
 - Demonstrate warmth and respect for students.
 - Establish norms of mutual respect and support among students.
 - Address stereotype threat by creating an identity-safe environment.
4. **Make Intentional Pedagogical Choices:**
 - Choose activities that promote students' sense of belonging and self-efficacy.
 - Reflect on the appropriateness of pedagogical choices based on student context.
 - Integrate identity development into the learning process.
5. **Leverage Networks:**
 - Connect classroom practices with broader campus inclusive initiatives.
 - Invite campus service providers to engage with students in the classroom.
 - Engage with supportive networks and organizations for faculty development.

By following these recommendations, instructors can work towards creating more inclusive and effective learning environments that support the diverse needs of all students.

The Development of the Personal Self and Professional Identity in Learning to Teach

Rodgers, Carol R., and Katherine H. Scott. "The development of the personal self and professional identity in learning to teach." *Handbook of Research on Teacher Education*. Routledge, 2008. 732-755.

Fostering Belonging

Keywords

- Teacher Identity
- Professional Development
- Constructive-Developmental Theory
- Reflective Practice
- Emotional Labor
- Narrative Identity

Summary

The article by Rodgers and Scott explores the complex relationship between the personal self and professional identity in the context of learning to teach. It emphasizes that teacher identity is formed and continually reshaped through interactions with social, cultural, political, and historical contexts. The authors argue that teacher education should address the development of the self by encouraging teachers to become aware of these contextual forces and to author their own professional identities. The paper highlights the role of emotions, relationships, and narratives in shaping identity and underscores the importance of reflection and self-awareness in teacher education. Constructive-developmental theory is proposed as a framework for understanding the varying capacities of teachers to navigate and integrate these influences into their professional identities.

Practical Actions Recommended

- 1. Encourage Reflection:**
 - Teachers should engage in regular reflective practices to understand their experiences and the contextual forces shaping their identities.
 - Example: Maintain reflective journals documenting interactions, feelings, and professional growth.
- 2. Promote Self-Awareness:**
 - Programs should foster self-awareness among teachers about their own beliefs, values, and biases.
 - Example: Use autobiographical writing and storytelling to explore personal and professional histories.
- 3. Create Supportive Environments:**
 - Develop "holding environments" that provide both support and challenge to foster growth.
 - Example: Establish mentoring systems where experienced teachers guide new teachers through reflective dialogues.
- 4. Integrate Constructive-Developmental Theory:**
 - Apply constructive-developmental principles to understand and support the varying developmental stages of teachers.
 - Example: Tailor professional development activities to meet teachers at their current stage and help them progress.
- 5. Facilitate Collaborative Learning:**
 - Encourage collaboration and dialogue among teachers to share experiences and insights.
 - Example: Organize teacher study groups and reflective practice communities.
- 6. Acknowledge Emotions:**

Fostering Belonging

- Recognize and address the emotional aspects of teaching and identity formation.
- Example: Discuss emotional challenges openly in professional development sessions and provide strategies for managing them.

7. Focus on Context:

- Help teachers understand the impact of social, cultural, and political contexts on their professional identity.
- Example: Conduct workshops on the politics of identity and the role of teachers in society.

By implementing these practices, teacher education programs can support the development of well-rounded, reflective, and self-aware educators who are capable of navigating the complexities of their professional identities

Academic Mentoring in College: The Interactive Role of Student's and Mentor's Interpersonal Dispositions

Bernier, Annie, Simon Larose, and Nathalie Soucy. "Academic mentoring in college: The interactive role of student's and mentor's interpersonal dispositions." *Research in Higher Education* 46 (2005): 29-51.

Keywords

- Attachment
- Relational Style
- Academic Mentoring
- Interpersonal Dispositions
- Student-Mentor Relationship
- Academic Achievement
- Emotional Adjustment

Summary

This study investigates how the interaction between college students' attachment orientations and mentors' relational styles influences students' behaviors and perceptions in academic mentoring, as well as their academic performance. The research found that students tend to perform better academically and have more positive mentoring experiences when their attachment styles contrast with their mentors' relational styles. Specifically, students with dismissing attachment tendencies benefited more from mentors with a relationally ambivalent style, while preoccupied students thrived with mentors who had an avoidant style. The study underscores the importance of considering both student and mentor interpersonal dispositions in mentoring programs to enhance student academic success and emotional adjustment.

Practical Actions Recommended

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1. **Match Contrasting Relational Styles:**
 - **Example:** Pairing students with dismissing attachment styles with mentors who value relationships and dependency.
 - **Example:** Pairing preoccupied students with mentors who emphasize autonomy and self-reliance.
2. **Promote Self-Awareness in Mentors:**
 - **Example:** Encourage mentors to understand their own relational styles and adapt to meet the needs of their mentees.
 - **Example:** Training mentors to recognize and gently challenge their mentees' attachment tendencies to promote growth.
3. **Provide Structured Support:**
 - **Example:** Mentors should offer a structured approach to help preoccupied students organize their concerns rather than become overwhelmed.
 - **Example:** Encourage dismissing students to explore personal issues in a supportive environment.
4. **Monitor Mentoring Relationships:**
 - **Example:** College administrators should assess the quality of mentoring relationships early to ensure a positive interpersonal atmosphere.
 - **Example:** Use feedback mechanisms to adjust mentor-mentee pairings as needed.
5. **Emphasize Personal Traits in Mentor Selection:**
 - **Example:** Consider interpersonal traits such as empathy, flexibility, and availability in selecting mentors.
 - **Example:** Focus on mentors' ability to build trust and communicate effectively with students.
6. **Provide Ongoing Training and Support:**
 - **Example:** Offer regular training sessions for mentors on attachment theory and effective mentoring strategies.
 - **Example:** Establish peer supervision and consultation opportunities to support mentors' development.

Guide for Inclusive Teaching at Columbia

Center for Teaching and Learning at Columbia University, including Christine Simonian Bean, Amanda M. Jungels, Lucy Appert, Amanda Irvin, Suzanna Klaf, and Mark Phillipson. (2020). Guide for Inclusive Teaching at Columbia. Columbia University, Center for Teaching and Learning.

Keywords

- Inclusive teaching
- Equity in education
- Student belonging
- Classroom climate
- Universal Design for Learning (UDL)
- Reflective practice

Fostering Belonging

Summary

The "Guide for Inclusive Teaching at Columbia" is a comprehensive resource aimed at helping faculty create more inclusive and supportive learning environments. The guide is structured around five principles: establishing and supporting a class climate that fosters belonging, setting explicit student expectations, selecting course content that recognizes diversity and acknowledges barriers to inclusion, designing all course elements for accessibility, and reflecting on one's beliefs about teaching to maximize self-awareness and commitment to inclusion. Each principle is supported by practical strategies and evidence-based practices designed to promote equity and inclusion in the classroom. The guide emphasizes the importance of intentionality and reflection in teaching, urging educators to consider the diverse identities and experiences of their students to enhance learning outcomes for all.

Practical Actions Recommended

1. **Establish and Support a Class Climate that Fosters Belonging:**
 - **Build Instructor-Student Rapport:**
 - Learn students' names and personal interests.
 - Share your own learning process and struggles.
 - **Build Student-Student Rapport:**
 - Use icebreakers and small group activities.
 - Encourage dialogue about learning experiences.
 - **Treat Each Student as an Individual:**
 - Avoid assumptions about demographic groups.
 - Respect students' self-identifications and pronouns.
 - **Address Challenging Classroom Moments:**
 - Handle microaggressions and offensive comments promptly.
 - Facilitate reflective discussions to maintain a respectful environment.
 - **Monitor Course Climate:**
 - Collect and act on student feedback about the classroom environment.
2. **Set Explicit Student Expectations:**
 - **Articulate Assessment Criteria:**
 - Provide clear rubrics and timely feedback.
 - Offer multiple lower-stakes assessments.
 - **Establish Community Agreements:**
 - Create discussion guidelines with student input.
 - Address classroom tensions and turn them into learning opportunities.
 - **Provide Examples of Exemplary Work:**
 - Show previous students' work to clarify expectations.
 - **Model Expected Behavior:**
 - Adhere to community agreements and demonstrate desired behaviors.
3. **Select Course Content that Recognizes Diversity:**
 - **Diverse Perspectives:**
 - Include readings and materials from various authors and viewpoints.

Fostering Belonging

- **Critical Evaluation:**
 - Address problematic content in assigned readings.
 - Encourage students to critique and discuss course materials.
- **Representation:**
 - Discuss contributions by underrepresented groups.
 - Use inclusive examples and case studies in teaching.
- 4. **Design All Course Elements for Accessibility:**
 - **Multiple Means of Representation:**
 - Provide materials in various formats (e.g., transcripts for videos).
 - Use accessible presentation guidelines.
 - **Multiple Means of Action and Expression:**
 - Offer different ways for students to demonstrate learning.
 - Ensure digital tools meet accessibility standards.
 - **Multiple Means of Engagement:**
 - Create supportive and engaging class environments.
 - Allow students to choose topics and methods for assignments.
- 5. **Reflect on One's Beliefs About Teaching:**
 - **Positionality and Bias:**
 - Reflect on your own identities and biases.
 - Take implicit bias tests and adjust behaviors accordingly.
 - **Handling Challenges:**
 - Identify and manage triggers and strong emotions in teaching.
 - **Classroom Space and Activities:**
 - Consider how physical space and activity types influence inclusion.
 - Vary class activities to engage different learning styles.

Practical Pointers for an Inclusive and Culturally Responsive Classroom

Global Diversity & Inclusion, Portland State University. (2020). Practical Pointers for an Inclusive and Culturally Responsive Classroom. Portland State University.

Keywords

- Inclusive teaching
- Culturally responsive pedagogy
- Equity in education
- Classroom climate
- Student engagement
- Reflective practice

Summary

The guide "Practical Pointers for an Inclusive and Culturally Responsive Classroom" by the Global Diversity & Inclusion team at Portland State University offers actionable strategies to

Fostering Belonging

create more inclusive and supportive learning environments. It emphasizes the importance of conscious choices and classroom moments that define the culture and climate of educational settings. The guide highlights the significance of embracing diversity, equity, and inclusion not just in theory but through everyday practices. It provides practical tips on pre-class preparation, creating an inclusive syllabus, handling classroom dynamics, and addressing challenging moments. The goal is to foster a classroom environment where all students feel valued, supported, and able to engage fully in their learning journey.

Practical Actions Recommended

1. Pre-Class Preparation:

- **Name Affirmation:** Contact students before classes begin to confirm the names they prefer to use, acknowledging those who may use a name different from their legal name.
- **Physical Accessibility:** Arrange classroom spaces to accommodate varied physical abilities, ensuring inclusivity from the outset.
- **Pronoun Usage:** Include gender pronouns in introductions and use gender-neutral pronouns as a standard practice.
- **Diverse Resources:** Use images, references, and resources that reflect diverse communities and perspectives.

2. Creating an Inclusive Syllabus:

- **Accessible Materials:** Prepare accessible materials before classes start, viewing accessibility as a cornerstone of an inclusive classroom.
- **Diverse Authorship:** Select course materials authored by scholars from diverse backgrounds, and address any lack of diversity in the field directly.
- **Classroom Culture:** Include statements in the syllabus about the classroom culture and climate to set clear expectations for an inclusive environment.

3. Classroom Dynamics:

- **Participation:** Provide multiple ways for students to participate, valuing all voices, not just the loudest.
- **Assignment Flexibility:** Allow multiple approaches to assignments to cater to different learning styles and needs.
- **Office Hours Communication:** Clearly communicate the purpose and benefits of office hours to dispel misconceptions and encourage use.
- **Bias Awareness:** Be aware of and address any implicit biases, understanding that students may perceive you differently based on their identities.

4. Handling Challenging Moments:

- **Pause and Reflect:** Take a pause to gather thoughts and encourage students to do the same during difficult classroom moments.
- **Immediate Response:** Sometimes, a well-prepared immediate response grounded in course material is necessary.
- **Proactive Scenarios:** Prepare for potential conflicts related to course content by thinking through responses in advance.
- **Societal Events:** Acknowledge and discuss significant societal events that may impact the classroom environment.

5. Student Feedback and Self-Care:

Fostering Belonging

- **Early Feedback:** Create mechanisms for meaningful student feedback before end-of-term evaluations.
- **Self-Care Encouragement:** Promote a classroom culture where self-care is respected and encouraged, allowing students to take breaks when needed.

Effect of Syllabus Tone: Students' Perceptions of Instructor and Course

Harnish, Richard J., and K. Robert Bridges. "Effect of syllabus tone: Students' perceptions of instructor and course." *Social Psychology of Education* 14 (2011): 319-330.

Keywords

- Syllabus Tone
- Classroom Climate
- Instructor Perception
- Student Engagement
- Course Evaluation
- First Impressions

Summary

The study by Harnish and Bridges investigates how the tone of a course syllabus affects students' perceptions of their instructor and the course itself. The experiment manipulated the syllabus tone to be either friendly or unfriendly and measured students' reactions. Results indicated that a friendly syllabus tone led to perceptions of the instructor as warmer, more approachable, and more motivated to teach. Conversely, an unfriendly syllabus tone resulted in perceptions of the instructor as colder and the course as more difficult. These findings suggest that the initial tone set by the syllabus can significantly influence students' attitudes and engagement in a course.

Practical Actions Recommended

1. **Use Friendly Language**
 - **Positive Language:** Write the syllabus in a warm and welcoming tone.
 - *Example:* Use phrases like "I welcome you to contact me outside of class hours" instead of "If you need to contact me outside of office hours."
 - **Humor and Personal Experiences:** Incorporate light humor and share personal experiences to make the syllabus more relatable.
 - *Example:* "This course is a bit like a restaurant. My job is like the chef in the restaurant. I want to serve you the most appetizing and nutritious food I can."
2. **Provide Rationale for Assignments**
 - **Explain Purpose:** Clearly explain the purpose of assignments and how they contribute to learning goals.
 - *Example:* "These activities will help you become a critical consumer of information about mental processes and behavior."

Fostering Belonging

3. Convey Compassion and Enthusiasm

- **Show Understanding:** Acknowledge that students may face challenges and offer support.
 - *Example:* "If you find yourself not understanding the assigned readings, please set up an appointment with me."
- **Express Enthusiasm:** Demonstrate excitement and passion for the subject matter and teaching.
 - *Example:* "I hope you actively participate in this course because it makes the lectures more fun."

4. Set Clear Expectations

- **Transparent Policies:** Clearly communicate course policies, expectations, and available resources.
 - *Example:* Outline the attendance policy with understanding, such as "Extenuating circumstances arise that can make attendance difficult. Please let me know if you cannot attend a class."

5. Encourage Engagement

- **Active Participation:** Promote active participation as a key part of the learning process.
 - *Example:* "Come prepared to actively participate in this course. This is the best way to engage you in learning the material."