Equity-Focused Teaching Strategies that Build Community and Ensure Students are Learning

Jon Iuzzini Director of Teaching & Learning Achieving the Dream





# What's Our Challenge?

- Higher education reform movements work hard to make change
- Have not fundamentally moved the needle on equity, student success
- A key gap: most reform movements overlook faculty and the quality of teaching and learning
- ATD focusing new attention on teaching, learning and the support faculty need to create transformational learning experiences

"Creating greater urgency for teaching and learning is long overdue.... But the onus cannot be solely on faculty to do more. They need support and time for more reflective practice...and collaborative professional development."

- Karen Stout, President & CEO



# A Culture of Teaching & Learning Excellence



A Research-Based Guide to Building a Culture of Teaching & Learning Excellence



**T** Full-time and adjunct faculty use evidence-based instructional practices to foster student learning. 2 Collaborative partnerships link faculty and Student Affairs professionals in shared efforts to cultivate learning and support student success.

4 The institution embraces professional learning for continuous improvement, realigning related expectations in hiring, evaluation, promotion.

**3** Educators join students as active learners in an accessible, empowering, personalized, and supportive academic community.

# Equity-Building Practices

## What Works?

- Active Learning
- Inclusive & Cu Pedagogy
- Holistic Pedag
- Constructivist
- Inquiry Learni
- Collaborative
- Experiential Letter

**High-Impact Practices** 

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## Key Common Elements:

Faculty design learning experiences where:

- A) Students actively explore ideas, ask questions and solve meaningful problems
- B) Students can make connections between academic experiences and lived experiences – community, culture, personal, career, etc.



Prepared by Chris O'Neal and Tershia Pinder-Grover, Center for Research on Learning and Teaching, University of Michigan

# Achieving the Dream™

"Active Learning Narrows Achievement Gaps for Underrepresented Students in Undergraduate STEM."

-- Proceedings of the National Academy of Sciences

- Meta-analysis, reviewing results of hundreds of studies from colleges nationwide
- Faculty who employed active learning strategies showed higher outcomes for all students (measured by exam scores, course pass rates, etc.)
- African American, Latinx and Native American students benefited the most, reducing equity gaps by 30-45%.





## Faculty Play an Essential Role in Student Success

## Figure 2: Academic Outcomes for HIP Participants and Non-Participants



Source: TBR data. n=18,850. All differences between HIP participants and non-participants are significant at p<.05.

\*Fall-Fall retention data is only available for Fall 2018 students and is restricted to this cohort.

Percentages represent average marginal effects from regressions that control for gender, age, race/ethnicity, Pell receipt, English and math gatekeeper course enrollment, learning support course enrollment, enrollment intensity, prior credits earned, institution, and start term.

## Faculty Play an Essential Role in Student Success

# Table 2: Academic Outcomes for HIP Participants and Non-Participants, for Black and Hispanic Students

	Black students (n=5,718)		Hispanic students (n=1,616)			All students (n=18,850)			
		No HIP	HIP		No HIP	HIP		No HIP	HIP
Fall-Spring retention	+ <b>8%</b>	59%	67%	+ <b>6%</b>	73%	79%	+ <b>7%</b>	66%	73%
Fall-Fall retention*	+ <b>8%</b>	35%	43%	+4%	50%	54%	+7%	42%	49%
Earned 12 credits in first term	+10%	25%	35%	+ <b>8%</b>	46%	54%	+7%	40%	47%
Earned 24 credits in first year	+5%	12%	17%	+4%	31%	35%	+ <b>6%</b>	25%	31%
Complete GK math in first year	+7%	22%	29%	+ <b>6%</b>	39%	45%	+7%	32%	39%
Complete GK Eng. in first year	+11%	40%	51%	+13%	51%	64%	+10%	43%	53%
Complete Both GK Eng. & Math	+5%	18%	23%	+7%	30%	37%	+6%	23%	29%

#### Source: TBR data

With the exception of coefficients in italics among Hispanic students, all differences between HIP participants and non-participants are significant at p<.05. \*Fall-Fall retention data is only available for Fall 2018 students and is restricted to this cohort.

Percentages represent average marginal effects from regressions that control for gender, age, race/ethnicity, Pell receipt, English and math gatekeeper course enrollment, learning support course enrollment, enrollment intensity, prior credits earned, institution, and start term.

"Our results support calls to replace traditional lecturing with evidence-based active-learning course designs across the STEM disciplines and suggest that innovations in instructional strategies can increase equity in higher education."

- Elli Theobald and colleagues

## Evidence-Based Pedagogy & Practice

Excellence Cornerstone I: Full-time and adjunct faculty use evidence-based instructional practices to foster student learning

To improve student learning and success, higher education must value and support quality teaching. Research has confirmed this common sense yet often overlooked idea. Study after study shows that what faculty do in the classroom makes a difference to shaping the student learning experience, building achievement and increased persistence to graduation. "Instructional quality," found one major review of the research literature, "is positively correlated with student learning amolivation, retention, course pass rates, and subsequent interest in a subject, all of which have the potential to decrease course retake and time to the degree." As Lorelle Espinosa wrote after studying the success of women of color in STEM fields at 135 colleges, "Simply stated, pedagagy matters."<sup>2</sup>

contexts, and effectively putting them into use at scale. This

chapter seeks to help teams prepare for that process, highlight-

ing salient evidence-based practices that faculty and institutions

should consider as they work to advance a culture of teaching

In recent years, research on learning and teaching has exploded.

Cognitive researchers have deepened our understanding of how

the brain functions and the science of learning, Building on

the magisterial 2000 synthesis How People Learn: Brain, Mind,

Experience and School,3 thousands of new studies have examined

Research, Pedagogy, and

and learning excellence.

Practice

This chapter discusses the best new research, which helps us understand what kinds of pedagogies and practices make a difference. When 'done well,' active learning pedagogies uch as inquiry and collaborative learning build student achievement and help to close equiry gaps, as do High-Impace Practices such as First-Vars Eminars and learning communities. Inclusive pedagogy and active learning strategies for using digital tools such as Electronic Student Portfolio (ePortfolios) and Open Education Resources also help build student learning and success.

None of these pedagogies and practices work without skilled and insightful faculty. To achieve success with evidence-based strategies, ATD believes that colleges must support full- and part-time faculty—and engage them as respected partners in learning about these approaches, adapting them to specific

<sup>3</sup> Bransford, J. D., Brown, A. L., & Cocking, R. R. (Eds.). (2000). How people learn: Brain, mind, experience, and school. Washington, DC: National Academy Press.



<sup>1</sup> Brown, J., & Kurzweil, M. (2018). Instructional quality, student outcomes, and institutional finances. Washington, DC: American Council on Education. https://www.acenet.edu/Documents/Instructional-Quality-Student-Outcomes-and-Institutional-Finances.pdf

<sup>2</sup> Espinosa, L. (2011). Pipelines and pathways: Women of color in undergraduate STEM majors and the college experiences that contribute to persistence. Harvard Educational Review, 87(2), 209–241. https://doi.org/10.17763/hoar.81.2.92315/ww15765683u

## **Key Evidence-Based Pedagogies**

The literature on evidence-based pedagogy is vast, making any summary list inevitably flawed. Moreover, many pedagogies are interrelated and intersect with High-Impact Practices. With those caveats in mind, here is one possible list of major categories of evidence-based pedagogies to consider in developing strategies for advancing student learning and success. For each item listed, we've offered one scholarly source and one more accessible "Getting Started" source (often web based).

#### Active Learning/Learner Centered Pedagogy:

Engaging students in active processes of gathering, considering, applying, and demonstrating knowledge.

- Getting Started: Active Learning. Resource page created by Cynthia J. Brame, Vanderbilt University Center for Teaching. https://cft.vanderbilt.edu/guides-sub-pages/active-learning
- Scholarly Source: Active Learning: Creating Excitement in the Classroom, by Charles C. Bonwell & James A. Eison. Published in 1991 by Jossey-Bass.

Holistic Pedagogy: Recognizes the complex interplay between the cognitive and affective dimensions of learning and calls on faculty to address "the whole student."

- Getting Started: Holistic Education: A Comprehensive Guide, by Becton Loveless. Published in The Education Corner. https://www.educationcorner.com/holistic-education.html
- Scholarly Source: Teaching to Promote Holistic Learning and Development. Baxter Magolda, M. B. (2000). New Directions for Teaching and Learning, 82, 88-98. https://doi.org/10.1002/tl.8209

Inclusive and Culturally Responsive Pedagogies:

Forms of constructivist an social capital and cultura bring to the learning expe that everyone can learn a • Getting Started: Fosterii by Amy Buddie. https://cetl.kennesaw.ec

 Scholarly Source: Cultu Brain: Promoting Authen Culturally and Linguistic Hammond. Published in

Constructivist Peda bring pre-existing knowled ing happens as students g experiences, integrating it that involves taking owner making.

 Getting Started: Constra and Learning, by Saul M SimplyPsychology.org. https://www.simplypsych
Scholarly Source: Evolu Chen, I. J. (2010). Conte Research, 3 (4), 63-66. https://files.eric.ed.gov/f Inquiry and Problem-Centered Learning: A form of active learning where students engage in structured processes of gathering and analyzing evidence to solve complex, discipline-based and/or "real-life" problems.

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 Getting Started: What Is Inquiry Learning? 7 Benefits and Strategies You Need to Know. https://www.prodigygame.com/ blog/inquiry-based-learning-definition-benefits-strategies

 Scholarly Source: Science as Subject Matter and as Method, by John Dewey. In R. D. Archambault (Ed.), John Dewey On Education: Selected Writings (pp. 182-195). Published in 1964 by University of Chicago Press.

**Collaborative Learning:** Student active learning processes take place in structured groups with an emphasis on dialogue and carefully constructed shared tasks.

 Getting Started: Collaborative Learning: A Handbook for College Faculty (2nd ed.), by Elizabeth F. Barkley, Claire Howell Major, & K. Patricia Cross. Published in 2014 by Jossey-Bass.

 Scholarly Source: Collaborative Learning: What Is It? Laal, M., & Laal, M. (2012). Procedia - Social and Behavioral Sciences, 31, 491-495. https://www.sciencedirect.com/science/article/ pii/S1877042811030217

- Experiential Learning: A variant of active learning that stresses hands-on experiences, often outside the walls of the classroom. Often used to describe the pedagogy behind service learning, internships, study-abroad, and co-curricular activities.
- Getting Started: Experiential Learning. Resource page created by University of Texas's Faculty Innovation Center. https://facultyinnovate.utexas.edu/experiential-learning

 Scholarly Source: Experiential Learning: Experience as the Source of Learning and Development (2nd ed.), by D.A. Kolb. Published in 2014 by Pearson.

CHAPTER 1

Integrative Learning: Seeks to help students make connections across courses and learning experiences, building capacity to transfer and apply learning and developing new identifies as students and emerging professionals.

- Getting Started: Integrative Learning, by Hillary Steiner. <u>https://cetl.kennesaw.edu/integrative-learning</u>
- Scholarty Source: Integrative Learning: Mapping the Terrain, by Mary Taylor Huber & Pat Hutchings. Published in 2004 by the Association of American Colleges and Universities and the Carnegie Foundation for the Advancement of Teaching. http://gallery.carnegiefoundation.org/lp/uploads/mapping-terrain.pdf.

Writing to Learn: A social pedagogy that posits the act of writing as thinking process and emphasizes scatfolded and lowstakes writing processes to help students build cognitive and communication skills.

- Getting Started: What Is Writing to Learn? WAC Clearinghouse, Colorado State University. https://wac.colostate.edu/resources/wac/intro/wtl
- Scholarly Source: Writing as Learning through the Curriculum. Knoblauch, C. H., & Brannon, L. (1983). *College English*, 45, 465-474.

2 Espinosa, L. (2011). Pipelines and pathways: Women of color in undergraduate STEM majors and the college experiences that contribute to persistence. Haward Educational Review, 81(2), 209–241. https://doi.org/10.1776/3/hoar.81.2.92315ww157656k3u

Bransford, J. D., Brown, A. L., & Cooking, R. R. (Eds.). (2000). How people learn: Brain, mind, experience, and school Washington, DC: National Academy Press.

TEACHING & LEARNING TOOLKIT . ACHIEVING THE DREAM



#### SPOTLIGHT • SIDEBAR 1

## Validated High-Impact Practices

As designated by George Kuh and Association of American Colleges & Universities<sup>17</sup>

First-Year Experience: First-Year Seminar and extended co-curricular programs for new students that engage ther in critical inquiry, frequent writing, and collaborative learn working with faculty and other educators.

Learning Communities: Pairs or clusters of linked courses that encourage integration and engagement with questions" across disciplines.

ePortfolios: Deployed with integrative social pedagogy ePortfolios help students reflect on their learning across courses, building metacognitive skills and supporting processes of identity development or purposeful self-authors Also used to support authentic assessment processes.

Writing-Intensive Courses: Courses in multiple dis plines that engage students in recursive, scaffolded writin projects with an emphasis on "writing to learn."

Collaborative Projects: Engaging students in wellstructured shared projects that require students to listen th and depend on each other, working together to pool rese and multiple perspectives to address substantial issues.



Common Intellectual Experiences: Common readings and other thematic approaches to curricular and vricular learning.

## RESOURCE GUIDE • SIDEBAR 1.3

## **Promising Evidence-Based Practices**

In addition to the validated list of 11 High-Impact Practices, other combinations of pedagogical and curricular innovation are showing promise for improving student learning and success. The list of salient promising practices includes:

Accelerated Remediation: Integrating basic skills students and remedial content into credit-bearing courses in English and mathematics has been shown to help students exit remediation, accumulate credit, and pass key gateway courses. Mathematics Pathways are related to accelerated remediation but extend to courses throughout the student's college career; these are "developmental and college-level course sequences that align to a student's academic and career goals. Research demonstrates that these intentionally designed pathways accelerate student completion of a gateway college-level math course."<sup>19</sup>

- Getting Started: Accelerated Learning Program Pushes the Envelope. Morris, C. (2015, May 5). *Diverse Issues in Higher Education*. <u>https://diverseeducation.com/article/72451</u> For resources, tools, and impact reports related to Mathematics Pathways, visit:
- Dana Center Math Pathways:

https://www.utdanacenter.org/our-work/higher-education/ dana-center-mathematics-pathways

- Carnegie Math Pathways: https://carnegiemathpathways.org

• Scholarly Source: New Evidence of Success for Community College Remedial English Students: Tracking the Outcomes

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Cho, S-V (CCRC V to be successful in the classroom." The digital versions of these textbooks are available to download for free, or you can order a print version at minimal cost. For an additional *A Top-De Matherr* Moussa

Commu https://c wide-ch Open Educational Sources: The Impact of Open Educational Resources on Various Student Success Metrics. Colvard, N. B., Watson, C. E., & Park, H. (2018). International Journal of Teaching and Learning in Higher Education, 30(2), 262-276. http://www.isell.org/jitthe/pdf/JJTLHE3386.pdf

 On textboc together te available
Getting
Adaptive Digital Learning Tools: Taking advantage of digital capacities and learning science, adaptive learning tools provide feedback and personalize the pace and content of learning, ensuring that students master crucial content while freeing instructor time for group projects and other active learning processes.

 Getting Started: A Guide for Implementing Adaptive Courseware: From Planning through Scaling. Vignare, K., Lammers Cole, E., Greenwood, J., Buchan, T., Tesene, M., DeGruyter, J., Carter, D., Luke, R., O'Sullivan, P., Berg, K., Johnson, D., & Kruse, S. (2018). Joint publication of Association of Public and Land-grant Universities and Every Learner Everywhere. https://www.aplu.org/library/o-guide-for-implementing-adaptive-courseware-from-planning-through-scaling/File  Scholarly Source: Next Generation Courseware Challenge Evaluation: Final Report. House, A., Means, B., Peters Hinton, V., Boyce, J., Wetzel, T., & Wang, S. (2018, December). Menlo Park, CA: SRI International.

Transparency Framework: Links High-Impact Practices and Problem-Based Learning with a structured approach that helps students understand clearly articulated learning goals and their relationship to lifelong success.

- Getting Started: Visit TILT Higher Ed at <a href="https://tilthighered.com">https://tilthighered.com</a> com for examples, tools, and resources.
- Scholarly Source: A Teaching Intervention that Increases Underserved College Students' Success. Winkelmes, M., Bernacki, M., Butler, J., Zochowski, M., Golanics, J., & Weavil, K. H. (2016). Peer Review, 18 (1/2). https://www.aacu.org/ peerreview/2016/winter-spring/Winkelmes

Growth Mindset: Research by Carol Dweck and others shows that small interventions by faculty help students shift to a growth mindset, where struggles are seen as opportunities for learning rather than enduring indictments of potential. Related activities focus on resilience and belongingness, addressing the affective elements of learning and success.

- Getting Started: Mindset: The New Psychology of Success, by Carol S. Dweck. Published in 2016 by Ballantine Books.
- Scholarly Source: Visit Mindset Scholars Network at https://mindsetscholarsnetwork.org for a library of research resources.

#### SPOTLIGHT • SIDEBAR 1.4

## **Open Educational Resources**

Enhancing content engagement and student learning experiences within courses is critical to improving student success. A growing number of faculty nationwide are adopting Open Educational Resources (OER), defined as "digital materials that are free and openly licensed, allowing instructors and students to adapt, use, and share them."<sup>23</sup> OER can be any type of learning content from assessments, articles, lesson plans, videos, textbooks, and images to entire courses; faculty select, combine, and revise high-quality course materials that best support their course objectives and reflect their students' interests. The process of redesigning a course using OER can also introduce valuable instructional design techniques and reflective practices.

From 2016–2019, ATD led the OER Degree Initiative, a project that helped educators at 38 community colleges adapt and use OER materials for courses in high-enrollment degree programs such as criminal justice, business, and social sciences. Nearly 2,000 faculty took part in the initiative, adapting OER materials from the growing catalog of high-quality, openly licensed resources shared on the web.

Over the two and a half years of the project, approximately 160,000 students enrolled in over 600 new OER courses, saving "at least \$10.7 million in instructional material costs,"<sup>24</sup> according to a project evaluation. Data showed that many students used the savings to enroll in additional courses, speeding their progress toward graduation. Sixty percent of the students found OER courses to be of comparable or higher quality than their non-OER courses and "appreciated that the materials were closely aligned with what instructors wanted them to learn and were well organized and easy to navigate. Some commented that the course content was more up to date and relevant."

When using openly licensed materials, faculty can create opportunities for students to contribute to course content. Using Open Pedagogy, "instructional practices that are made possible through the use of openly-licensed course materials,"<sup>26</sup> educators can "remix" their courses by having students contribute their own open content such as test bank questi problem sets, or case studies, resources that can be used t peers in future courses. Open pedagogy positions students creators of knowledge, as learner/leachers, building motivo and enriching the learning process for all.

"Open Pedagogy invites us to focus on how we can increas access to higher education, and how we can increase acce to knowledge, both its reception and its creation,"<sup>27</sup> write R DeRosa and Rajiv Jhangiani. From their perspective, the pe gogical aspect of OER is particularly valuable, "as a process designing architectures and using tools for learning that er students to shape the public knowledge commons."

In the ATD project a significant majority of faculty reported that students responded well to OER courses, coming to clo better prepared and more engaged in course discussions projects. "Students are more engaged, and with that engag ment comes better grades and more completion," reported Reynolds, who taught an OER-based Astronomy Course at t Florida State College at Jacksonville, one of the 38 college ATD's OER Degree Initiative. "These students are non-science major students, and they're coming to Astronomy Club mee ings, going out on observations with the Astronomy Club. The getting engaged beyond the classroom."

While OER projects typically require an up-front institutiona investment (to compensate faculty to develop OER course materials and acquire needed technical infrastructure), ATE evaluation found that campuses recouped this investment several semesters. The evaluation further demonstrates tha strategic OER initiatives can not only reduce costs and incr access but also help faculty invigorate their classroom prad and more deeply engage their students.

Those interested in considering OER can learn more at ATD website on the OER Degree Initiative.<sup>28</sup>



#### OER at Scale: The Academic and Economic Outcomes of Achieving the Dream's OER Degree Initiative

Winter 2020

**SRI** Education"

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# Professional Learning is Vital

- 1) Stronger professional learning leads to
- 2) improved teaching and learning, which is essential to
- **3) better student outcomes** and greater equity.





# Landmark Research on Professional Learning

- Do faculty participants in sustained faculty development learn the intended new skills and approaches? YES
- ✓ Do participants in sustained faculty development then make the desired changes in their teaching practice? YES
- ✓ Is this improved teaching associated with improved student outcomes? YES

"Well-designed faculty development yields great value...The connections between changes faculty make in assignments and changes in student learning are clear."

Faculty Development and Student Learning: Assessing the Connections

# Bronx Community College: HIPs Done Well

	FYS Pass Rates	1 <sup>st</sup> Sem. Credit	Next Semester
FYS faculty engagement level	Student n = 3,589	Accumulation	Retention
<b>Robust</b> professional development	82.3%	7.26 Credits	82.2%
Minimal professional development	72.0%	5.86 Credits	76.5%
Difference	10.3 percentage points	1.4 Credits	5.7 percentage points

"The critical implication is that intensive professional development is worth the investment of money and time, as it helps an institution not only improve retention and graduation rates, but also deepen students' learning and improve their long-term professional and personal success."



- Focus on key gateway courses
- Change at scale has supported Faculty Learning Communities engaging more than 300 full- and part-time faculty.
- In 2016-18, worked with faculty teaching 29 gateway courses.
  - Significantly reduced the DFW rate in 21 of the 29 courses.
- The most student-centered courses saw the greatest gains.

See ATD Teaching & Learning Toolkit, p. 72-73

# Advance Equity-Building Practices

# Research shows that professional learning, done well, advances quality and scaling:

- ✓ Helps faculty learn about and adapt new approaches to their courses
- ✓ Supports faculty as they test new approaches in practice
- ✓ Advances change at scale by engaging all faculty, full- and part-time
- ✓ Stimulates the growth of a culture of teaching and learning excellence







## Engaging Inquiry & Reflection

High-impact professional learning supports a sustained and recursive inquiry process, linking exploration, planning, testing, reflection and exchange.

<u>Toolkit Examples</u>: Bronx CC, Purdue IMPACT, State University of New York (SUNY)

ATD Toolkit, p. 78-79

# Reflection + Small Group Discussion

- Think of a new practice you have introduced in your teaching over the past 2-3 years.
  - In what ways has it positively impacted your students' learning?
  - How did colleagues support you in learning about/testing/implementing this new practice? (e.g., professional development workshop or institute; conversations with colleagues in your department; peer classroom observation)



"Early in Calculus 2, we started getting into really difficult things and I suddenly began having these feelings like I didn't belong in this class, that my education, what I was trying to achieve, wasn't possible. I went to Professor Arco to say that I might have to drop out ..."

- Joshua Rodriguez,

student at Oakton Community College





"He told me, Joshua, I don't want you to do the homework tonight. I want you to look up 'imposter syndrome' and then come talk with me. I did that, and I learned that it is extraordinarily common among students. That interaction bolstered my confidence to realize that I'm not alone in this, that everyone has these feelings. I went from contemplating dropping out to getting tutoring help, and then getting an A in the course."

EDUCATION HOW HUMAN CONNECTIONS DRIVE SUCCESS IN COLLEGE PETER FELTEN AND LEO M. LAMBERT

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- Joshua Rodriguez, student at Oakton Community College

## Thank you!

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