

Incorporating Program Theory & Implementation Fidelity in CAS Self-Study

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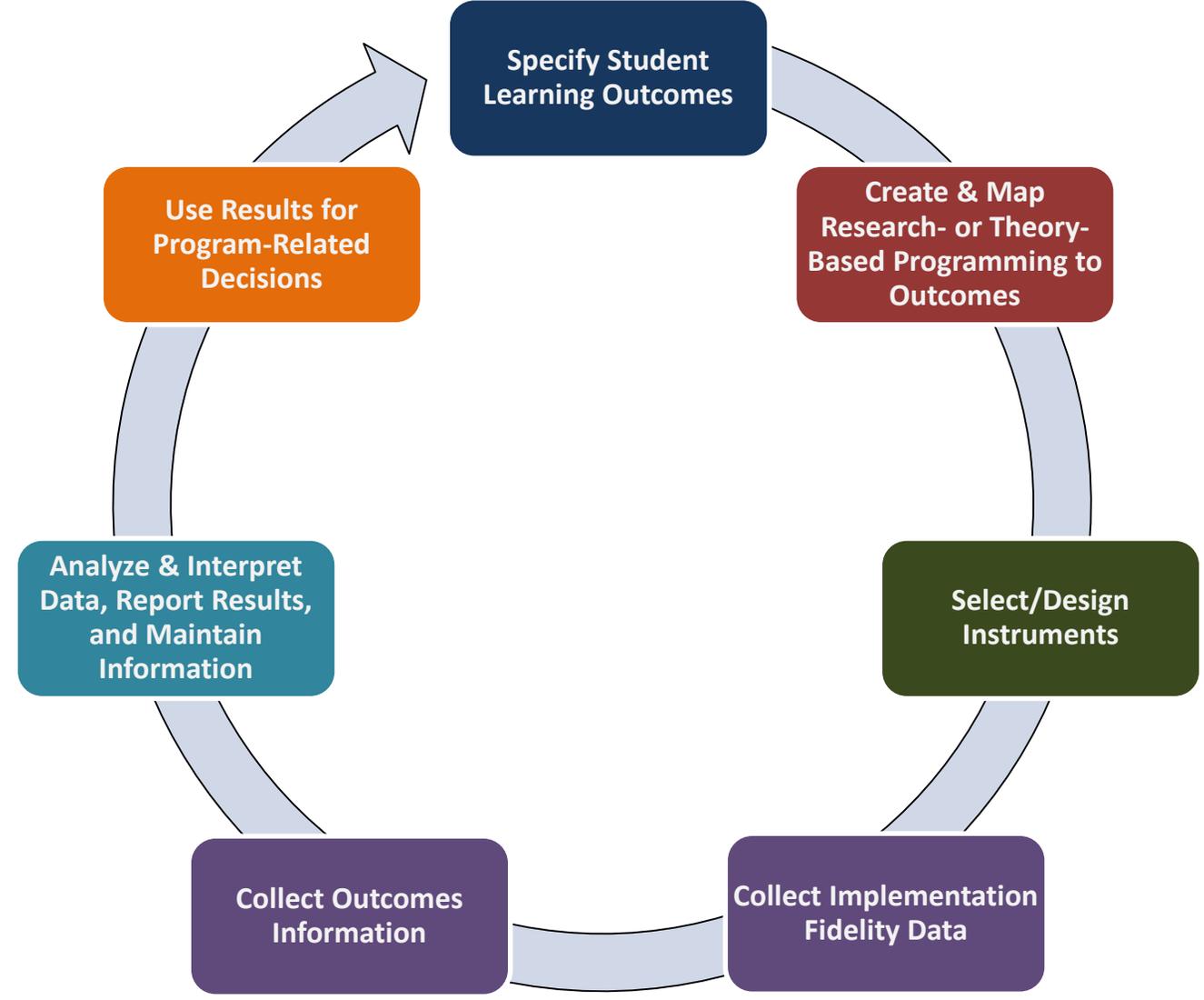
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Assessment Institute
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Outcomes Assessment Cycle



Need for Program Theory & Implementation Fidelity

When developing a program, much attention *should be* given to:

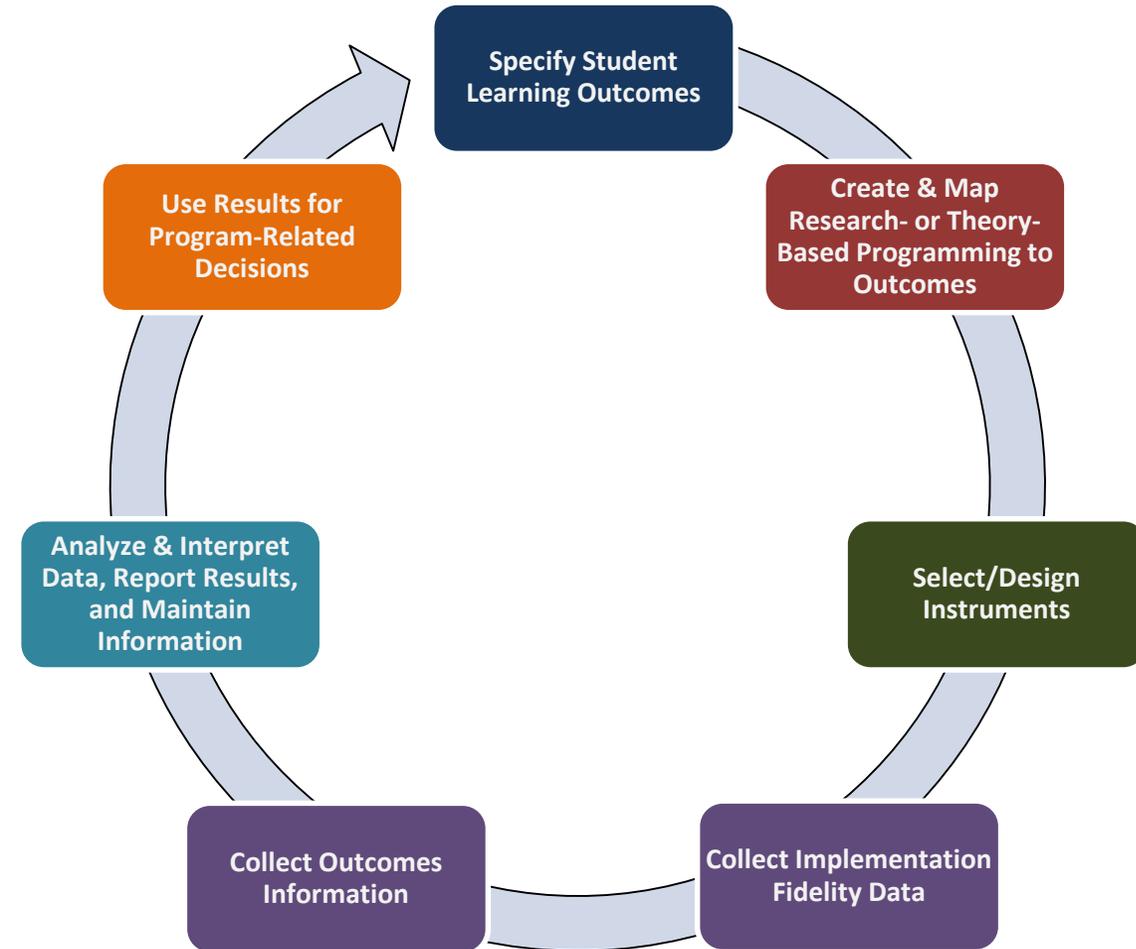
- Designing theory- or evidence-informed programming (e.g., activities, strategies)
- Training those who implement programming (e.g., practitioners, facilitators, instructors)

WHY? Because every time you implement a program, big or small, you are betting our students' money & time that it will “work”

- Think about program *you* have facilitated.

Would you bet your car that it “works”?

- Theory & research increase the odds that programs will be effective
- Implementation fidelity provides insight into why “should-be-effective” programming was ineffective



Program Theory

We often find programming can be articulated & mapped to intended outcomes, **but programming has no justification**

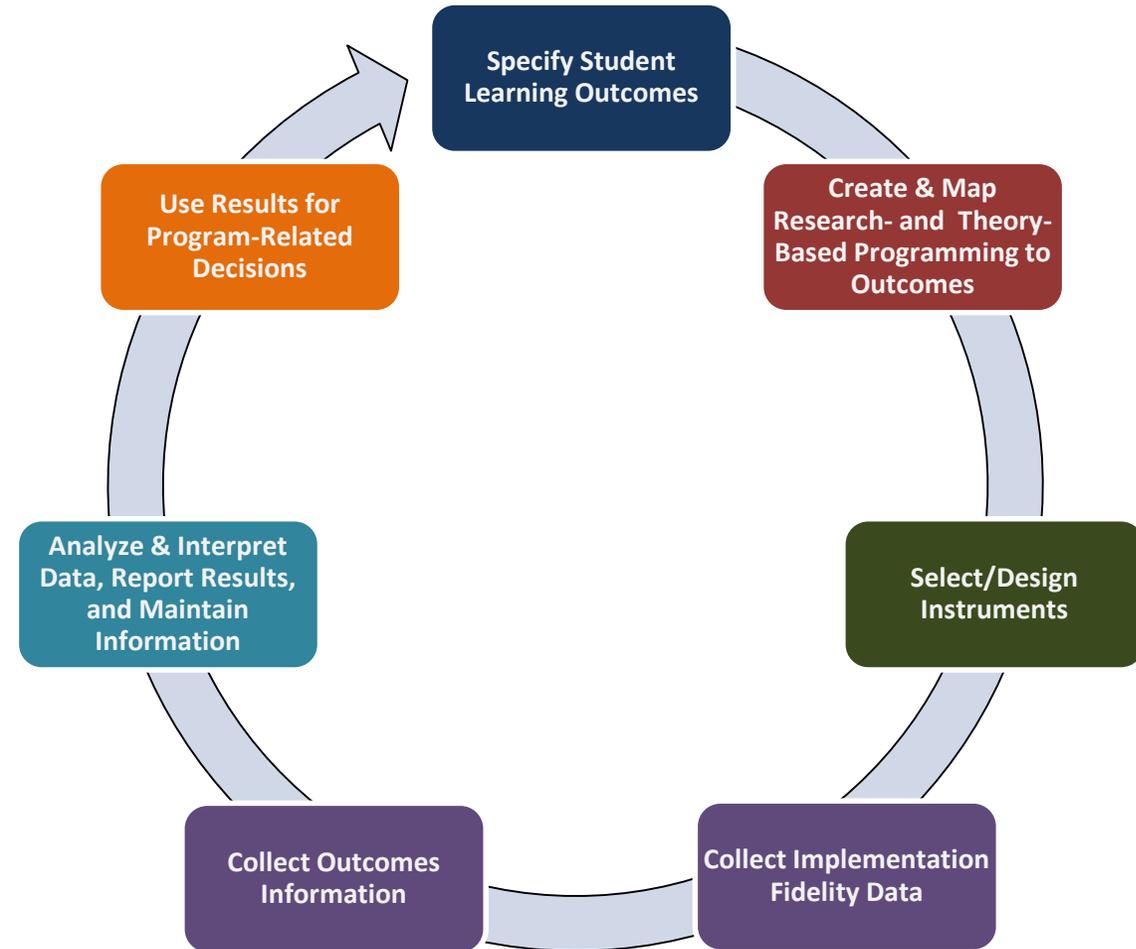
Professionals can't answer basic question:

WHY should doing A, B & C result in the intended outcome?

Program theory: consists of an *explicit theory or model of how the program causes the intended outcomes* (Rogers et al., 2000).

How does Program Theory relate to outcomes assessment?

Assessment of programming is guided by program theory.



Lack of Program Theory Impacts Use of Assessment Results

- Bresciani (2010): purpose of her study was to explore reasons that institutions committed to outcomes assessment were finding SA professionals struggling with it
- Core category emerging: **Lack of Understanding of Student Learning & Development Theories that Inform Practice**

Appears to be “..a lack of intentionality in the purposeful planning of activities, workshops, and curriculum that reflect student learning and development theories.”

“...professionals who understand the nature of their profession (e.g., the theories that underlie their work) were **able to more effectively engage in outcomes-based assessment and identify how their programs contribute to student learning and development**. Without an understanding of theories, others were having difficulty evaluating their programs, even though they had a general understanding of how to implement outcomes-based assessment.”

Need to be Able to Answer Fundamental Question:

Why **should** this programming result in these outcomes?

OR

What is the **LOGIC** of the program
& is it supported by THEORY or RESEARCH?

3-Step Process to Articulate Program Theory

Step 1: State Appropriate/Feasible Distal Outcome

- What is the distal outcome?
- What do you ultimately hope to achieve?

Step 2: Specify Intermediate (More Proximal) Outcomes

- How do you achieve your distal outcome?
 - Specify the attitudes, skills, & behaviors that influence the distal outcome
- What is the etiology (cause, reason, origin) of the distal problem, behavior, skills?

Step 3: Develop Program Components

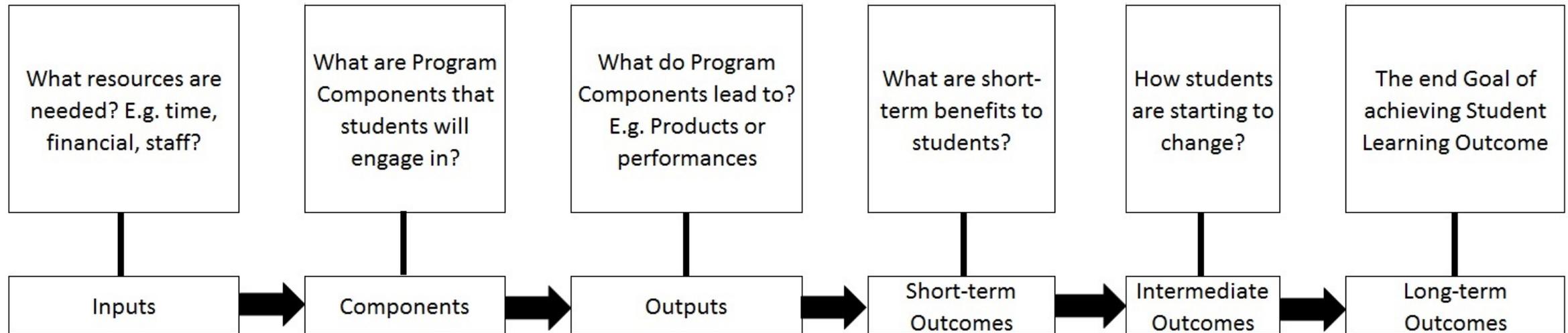
- Knowing the intermediate outcomes helps you develop theory- or research-based program components to help achieve *the intermediate outcomes*, leading to the achievement of *your distal outcome*

Resulting Logic Model: depiction of links between program components & outcomes

Shows which program components will lead to which outcomes & **most importantly *how* (i.e., through what causal mechanisms) this change will occur**

As such, **arrows in these models should be evidence-based.**

Logic models often contain some (or all) of the following components:



Step 1: State the Distal Outcome

Distal Outcome

How Do I Choose the Distal Outcome?

CAS Standards Outcomes

- Exhibits behaviors of a leader (Leadership)
- Engages in behaviors that promote health (Health/Wellness)
- Seeks involvement with people different from self (Appreciation of Differences, Diversity)

Focus in Division or at the University

- Civically Engaged
- Demonstrates a Global Perspective
- Retention (i.e., academic success)

Questions to ask yourself: Is outcome malleable? Is it feasible? It is valued by the institution?

3-Step Process to Articulate Logic of Programming

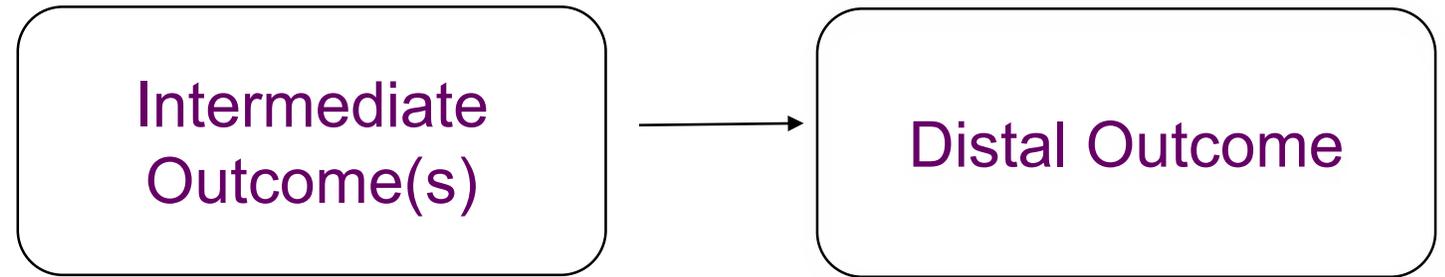
Step 1: State Appropriate/Feasible Distal Outcome

- What is the distal outcome?
- What do you ultimately hope to achieve?

Step 2: Specify Intermediate Outcomes

- Specify attitudes, skills, & behaviors that *influence* the distal outcome
- What is the *etiology* (cause, reason, origin) of the distal problem, behavior, skill?

Step 2: Specify *Intermediate* Student Learning Outcomes



How Do I Specify the Intermediate Outcomes?

Ask yourself: What knowledge, attitudes, skills, and/or behaviors will the program need to cultivate in order to achieve the distal outcome?

Read the Literature

- Exhibits behaviors of a leader (Leadership)
 - Research has shown students need to know/think/do X to exhibit leadership behaviors
- Engages in behaviors that promote health (Health/Wellness)
 - Research has shown students need to know/think/do X to engage in health behaviors
- Seeks involvement with people different from self (Appreciation of Differences, Diversity)
 - Research has shown students need to know/think/do X to effectively engage with people different from them

3-Step Process to Articulate Program Theory

Step 1: State Appropriate/Feasible Distal Outcome

- What is the distal outcome?
- What do you ultimately hope to achieve?

Step 2: Specify Intermediate (More Proximal) Outcomes

- How do you achieve your distal outcome?
 - Specify the attitudes, skills, & behaviors that influence the distal outcome
- What is the etiology (cause, reason, origin) of the distal problem, behavior, skills?

Step 3: Develop Program Components

- Knowing the intermediate outcomes helps you develop theory- or research-based program components to help achieve *the intermediate outcomes*, leading to the achievement of *your distal outcome*

Step 3: Develop Specific Program Components

Program components are the activities, discussions, presentations, materials, that comprise your program.

Each component should *be intentionally designed to help students achieve the intermediate SLOs* specified in Step 2.

- Distal Outcome: Increase students' cumulative GPAs
 - Intermediate Outcome: Improve time management skills
 - **Programming** to improve time management skills?
 - Lecture on time management systems?
 - Hands-on activity using planners?
 - Q&A panel with students that successfully manage their time?

Relevant Knowledge Bases to Create Evidence-Based Programming

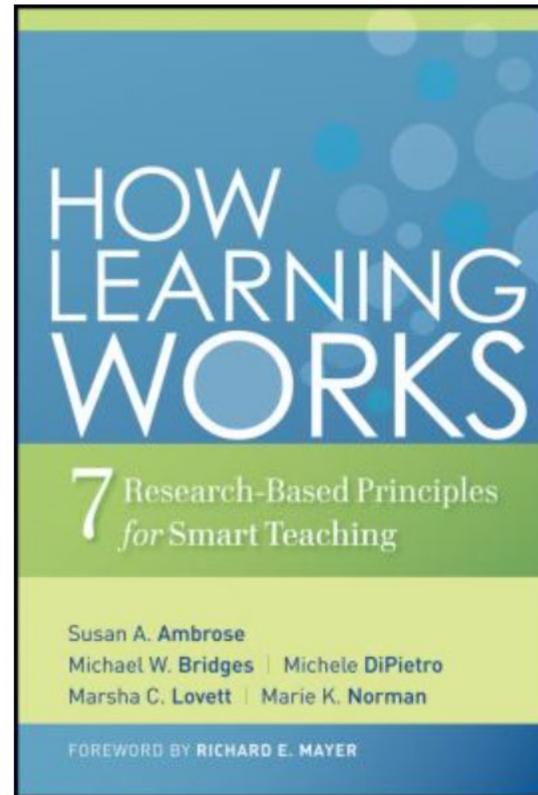
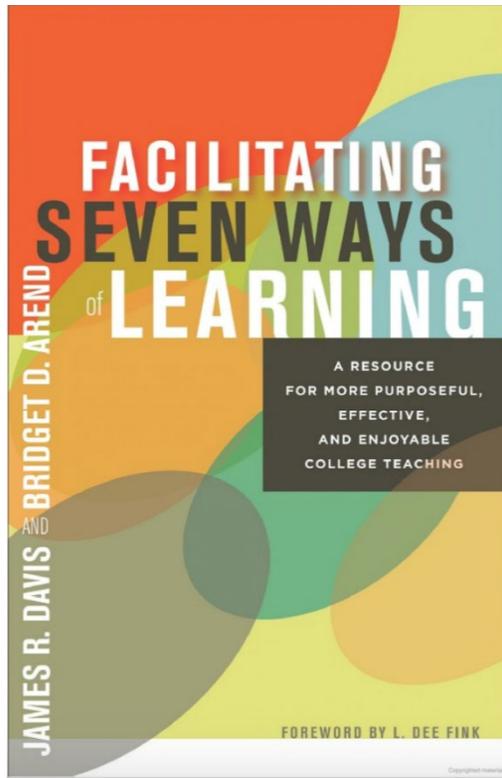
Foundational student development theories (e.g., Chickering's Theory of Identity Development) are better for *describing* where students are, not *prescribing* how to move from one developmental stage to the next via programming

“...many student affairs educators have inappropriately elevated student development theory to something resembling icon status. If this has happened or is happening in the student affairs profession, the act deserves to be challenged. No single resource stands alone as the foundation for professional practices. Student development theory, for example, is one of several knowledge bases that can inform student affairs practice.” -Evans, Forney, Guido, Patton, & Renn, 2010

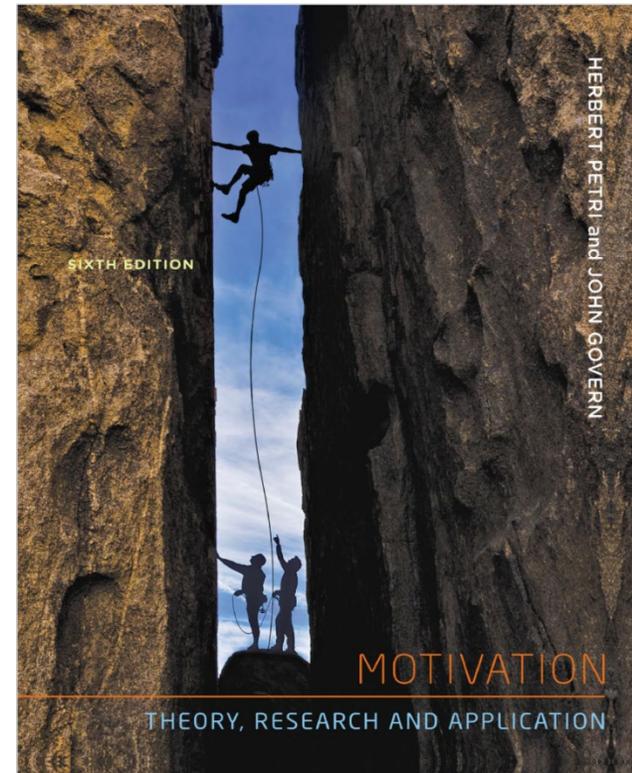
Important to be familiar with research related to *your specific program area* (e.g., civic engagement, student leadership, inter-cultural competence, alcohol interventions, career development)

Relevant Knowledge Bases to Create Evidence-Based Programming

Cognition & Learning



Motivation Theory & Research



Utility of Engaging in Process

Avoid Costly Missteps

- Articulation of program theory can expose faulty thinking about WHY the program should work, which can be corrected BEFORE the program is up & running
- Save time & money by addressing misconceptions immediately, not after years of employing a program that was doomed to be ineffective

Staff Morale & Feeling Valued

- Collaboratively building a theory-based program can be an energizing team activity
 - Provides staff with common understanding of their work & why components of program are necessary
- Can be rewarding for staff to articulate how their programming should meaningfully impact students' learning & development
 - Feel empowered when they can answer: "Why **should** this programming result in these outcomes?"

Drinking Example: State Feasible Distal Outcome

Program Component(s)

Intermediate Outcome(s)

Distal Outcome

X

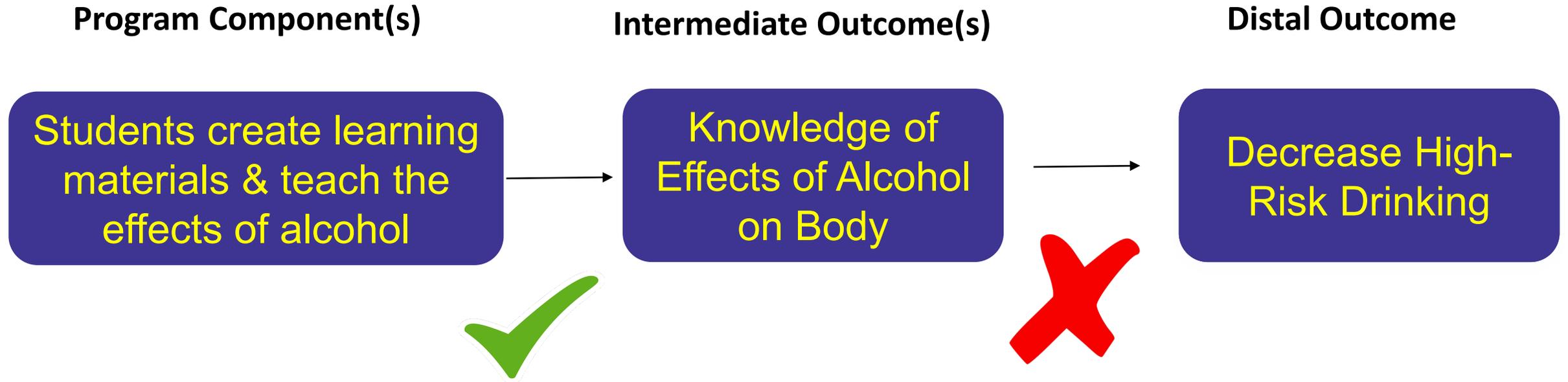
Y

Decrease High-Risk Drinking

Abstinence is *not* a feasible goal for college students.

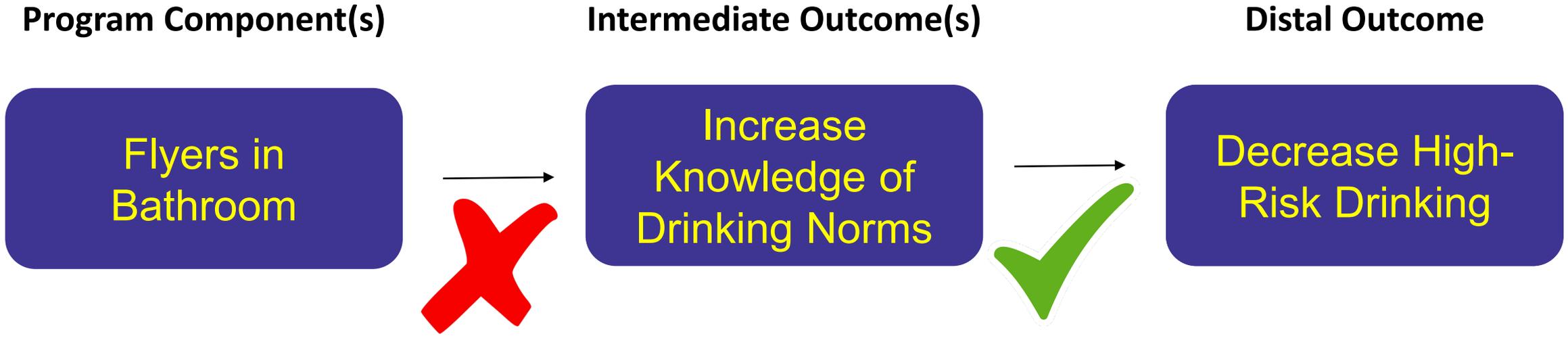
Marlatt, G. A., & Witkiewitz, K. (2002). Harm reduction approaches to alcohol use: Health promotion, prevention, and treatment. *Addictive behaviors*, 27, 867-886.

Example 1: Problematic Intermediate SLO



Halpern, D. F., & Hakel, M. D. (2003). Applying the science of learning to the university and beyond: Teaching for long-term retention and transfer. *Change: The Magazine of Higher Learning*, 35, 36-41.

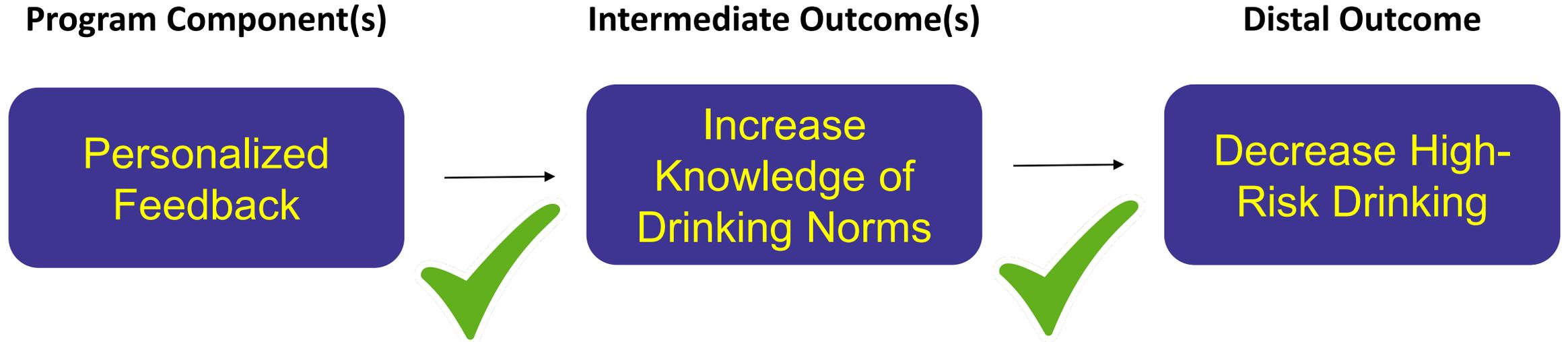
Example 2: Ineffective Programming



VCU researchers found students' beliefs about how much students drink is one of most important predictors of whether their alcohol use will increase—more important than genetics.

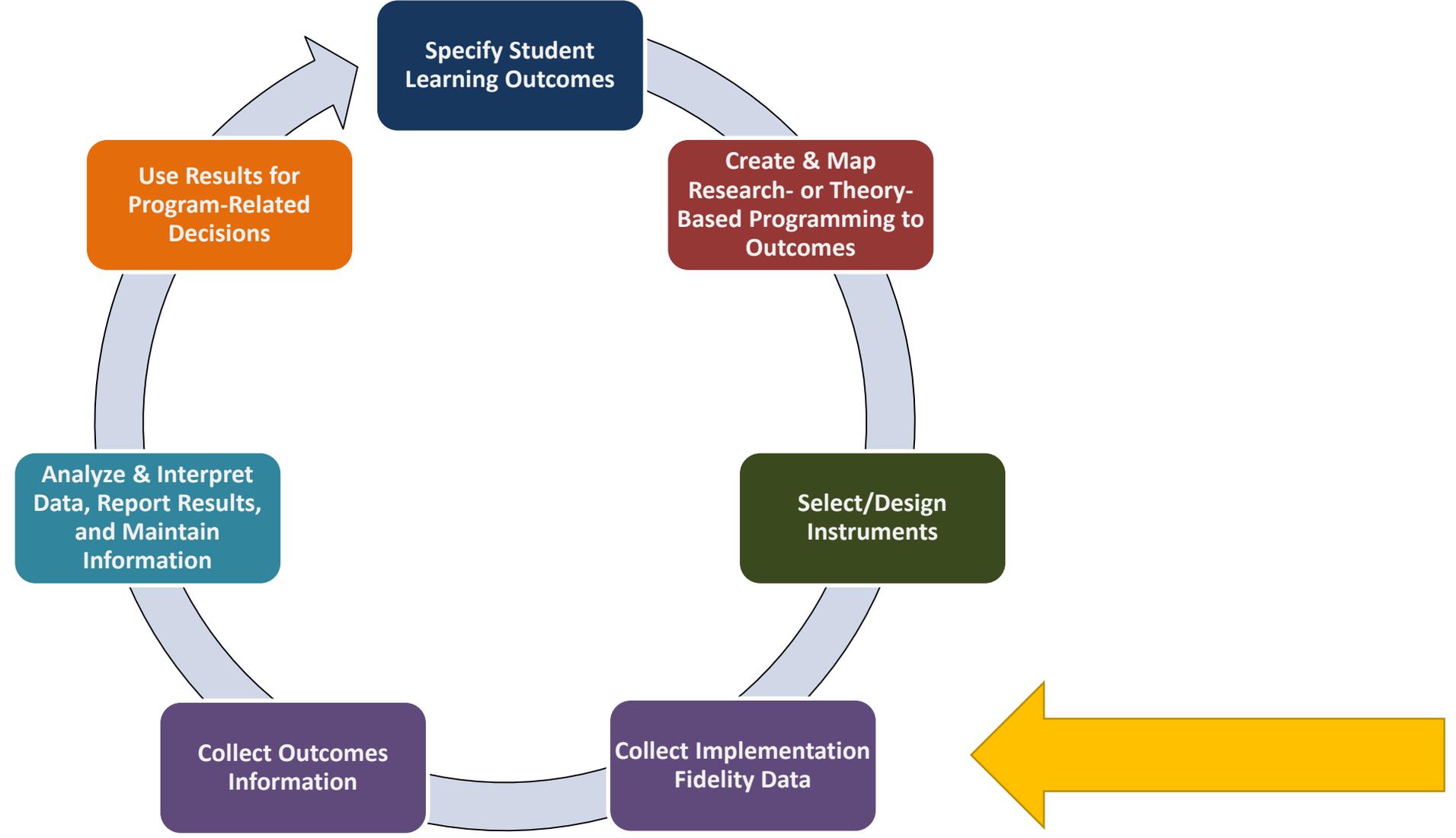
Smith, et al. (2019). Genes, roommates and residence halls: A multidimensional study of the role of peer drinking on college students' alcohol use. *Alcoholism: Clinical and Experimental Research*, 43, 1254-1262.

Example 3: Effective Program & Appropriate Intermediate Outcome



Walters, S. T., Bennett, M. E., & Noto, J. V. (2000). Drinking on campus: What do we know about reducing alcohol use among college students? *Journal of Substance Abuse Treatment*, 19(3), 223-228.

Outcomes Assessment Cycle



“The bridge between a promising idea and the impact on students is
implementation,
but innovations are seldom
implemented as intended.”

(Berman & McLaughlin, 1976, p. 349)

What is Implementation Fidelity?

- “an assessment of the degree to which group leaders deliver the intervention **completely** and according to protocol” (Breitenstein et al., 2010)
- “determination of how **well** a program is being implemented in comparison with the **original** program design during an efficacy and/or effectiveness study” (O’Donnell, 2008)
- “the extent to which participants (e.g., teachers) deliver the **intended** innovation and whether other participants (e.g., students) accept or receive or are responsive to the intended services, at the intended level of treatment strength (Hulleman & Cordray, 2009)

What is Implementation Fidelity?

- *Not* a new concept
- Many of your colleagues in divisions of academic & student affairs have some understanding of the concept, it just may be **hidden under a different name**
 - Opportunity to Learn (OTL) in K-12 education
 - Designed vs. Delivered Curriculum in higher education
 - Manipulation Fidelity/Check in experimental research
 - Treatment Integrity in behavioral consultation
- But, many student affairs professionals & faculty may *not* have linked the concept to outcomes assessment or institutional effectiveness
 - “Implementation fidelity” is **NOT** explicit in standards or processes; thus, it may be (unfortunately) overlooked
 - Opportunity for CAS to incorporate

Implementation Fidelity in a Nutshell

Program Differentiation

- **Definition:** detailing specific features of program that theoretically enable students to meet intended outcomes. *Essential* for assessing other fidelity components.
- **Assessment:** not "assessed"; involves describing specific activities & curriculum. Completed as Step 2 in assessment cycle (e.g., completed when **articulating program theory**).

Adherence

- **Definition:** whether or not specific features of the program were implemented as planned
- **Assessment:** recording whether or not (i.e., "yes" or "no") each specific program feature was implemented

Quality

- **Definition:** how well program was implemented or caliber of delivered program features
- **Assessment:** rating the quality of implementation (e.g., 1 = *Low*: confusing, too fast, awkward) to 5 = *High*: organized, engaging, clear)

Exposure

- **Definition:** extent to which *all* students participating in program receive *full* amount of treatment
- **Assessment:** recording duration of program components and/or proportion of program participants that received the component

Responsiveness

- **Definition:** receptiveness of those exposed to the treatment
- **Assessment:** rating levels of engagement (e.g., 1 = *Not engaged* to 5 = *Very engaged*)

Fidelity Checklist: Leadership Development 6-week Short Course (Co-curricular Example)



Objective	Program Component	Exposure		Specific Features	Adherence Yes/No	Quality 1 = Low (confusing) 3 = Medium 5 = High (clear)	Responsiveness 1 = Low (unengaged) 3 = Medium 5 = High (engaged)	
		Planned	Actual					
1. As a result of the Leadership Development Course, students will demonstrate improved leadership skills.	Presenter A leads discussion on "Challenging the Process"	45 min.		Presenter explains that leaders seek new things they could learn and treat every day as if it were the first day of work				
				Presenter has class note 5 things they could learn and to share 1 with class				
	Presenter B leads discussion on "Inspiring a Shared Vision"	45 min.		Presenter details the importance of asking others about goals for the future				
				Students are split into groups to share goals for the future with each other				
	Presenter A discusses "Enabling Others to Act"	45 min.		Presenter explains that important tasks should be delegated, particularly to those who could use practice to hone skills				
				Students practice delegation with group members in a hypothetical scenario				
	Presenter B discusses "Modeling the Way"	45 min.		Presenter explains that leaders communicate goals of group, what has been accomplished, and what is to be done				
				Students are given progress reports and asked to write speeches and develop ways to communicate this information				
	Presenter A discusses "Encouraging the Heart"	45 min.		Students reward others for their accomplishments				
				Students designate appropriate rewards for a hypothetical employee and share				
	2. As a result of the Leadership Development Course, students will strengthen their identity as a Business major.	End of class reflection each day	15 min.		Students engage in reflection on the class that day; they explain how it has affected their identity as a Business major			
		Final essay assignment for the course	15 min.		Students write essay about the course and apply leadership dimensions to their identity as a Business major			
Students share and explain two points made in their papers								

Fidelity Checklist: 1-Day Transfer Orientation Program

Created by a team that included: Dean of General Education, Director of Orientation, Director of CAP, Registrar.

Gerstner, J. J. & Finney, S. J. (2013). Measuring the implementation fidelity of student affairs programs: A critical component of the outcomes assessment cycle. *Research & Practice in Assessment*, 8, 15 – 28.

Objective	Program Component	Duration		Comments/ Responsiveness 1 = Low (unengaged) 3 = Medium 5 = High (engaged)	Specific Features	Adherence Yes/No	Quality 1 = Low (confusing) 3 = Medium 5 = High (clear)	
		Planned	Actual					
Academic Requirements Knowledge: Upon completion of Transfer Student Orientation, students will be able to correctly identify the academic requirements for major, degree, and graduation completion at JMU.	General Education Presentation 1 (Dean)	25 min. (50 min. total)			000 credit on transcript intended for major, go to major department head			
					000 credit on transcript intended for General Studies, go to University Studies			
					Honor Code needs to be completed as soon as possible			
	General Education Presentation 2 (Registrar)	25 min. (50 min. total)				The minimum GPA required to graduate is 2.0		
						000 credit on transcript intended for major, go to major department head		
						000 credit on transcript intended for General Studies, go to University Studies		
						Send final transcript to Admissions		
						Minimum number of credit hours to graduate (120)		
						Minimum number of credit hours from a 4-year institution to graduate (60)		
						Minimum number of credits from JMU to graduate (30)		
AP and IB credits must be sent directly to JMU Registrar								

Exposure Responsiveness Adherence Quality

Program Differentiation

Ethical Reasoning Intervention Implementation Fidelity Checklist

Fidelity Researcher: _____ Date of Data Collection: _____

Targeted Objective for Learning Improvement	Intervention component	Duration in minutes (Actual)	Responsiveness 1 = Low (unengaged) 3 = Medium 5 = High (engaged)	Specific Features	Adherence Y/N	Quality 1 = Low (confusing) 3 = Medium 5 = High (clear)	Comments/ Additional Observations
Students will be able to apply their ethical reasoning skills to their personal, professional, and civic lives	Introduction/ Building Foundation to 8 Key Question (i.e., University's ethical reasoning framework)			Elaborate or unpack each of the 8 Key Questions ethical reasoning framework (e.g., reviewing the handbook, lecturing, PowerPoint slides, video clip, discussion)			
				Read/Review university ethical reasoning student learning outcome			
				Read/Review rubric			
				Students experience a "check point" to check their own knowledge of the 8 Key Questions ethical reasoning framework (maybe use ethical reasoning content expert's multiple choice items; crossword puzzle or word find; ball activity, news stories)			
Students will be able to apply their ethical reasoning skills to their personal, professional, and civic lives	Ethical Case Study			Map 8 Key Questions to some other work (can be something disciplinary like standards or something societal like policies or media or something practical, or something personal, news stories, onto class community or rules of engagement, etc.)			
				Review/Refresh 8 Key Questions ethical reasoning framework			
				Identify where/how each of the 8 Key Questions are/ are not applied within the case			
				Give/discuss rationale for how each of the 8 Key Questions are/are not applied			
				Engage in reflection (e.g., could be formal or informal, written, oral, group, what issues did you have, what was easy/hard)			
				Identify/discuss which (if any) aspects of the case are "compelling?" To what extent or degree was the case "compelling?"			

15-week curriculum to impact ethical reasoning skills.

IF checklist created by a team of 7 faculty teaching 6 different courses in a variety of disciplines: education, justice studies, health studies, science, & philosophy.

Smith, K. L., Finney, S. J., & Fulcher, K. H. (2017). Actionable steps for engaging assessment practitioners and faculty in implementation fidelity research. *Research & Practice in Assessment*, 12, 71-86.

Smith, K. L., Finney, S. J., & Fulcher, K. H. (2019). Connecting assessment practices with curricula and pedagogy via implementation fidelity data. *Assessment and Evaluation in Higher Education*, 44, 263 – 282.

Students will be able to apply their ethical reasoning skills to their personal, professional, and civic lives	Examples			Have students together review/build a "strong" or "effective" example of ethical reasoning (e.g., show senior ethical reasoning faculty members students' videos in class and talk about what they could have done differently)			
				Identify and explain how characteristics or features make the case (in)effective referencing university ethical reasoning student learning outcome and/or rubric?			

Who Completes the Fidelity Checklist?

	Auditors of Live Program	Program Facilitators
Pros	<ul style="list-style-type: none"> • Observations provide an outside & real-time perspective on what is going on, rather than relying on memory of person implementing program • Reliability of observations can be increased by ensuring observers are trained; goal of achieving high inter-rater reliability 	<ul style="list-style-type: none"> • Facilitates understanding of all program aspects & how they fit together to create the overall program • Serves as reminder of material/activities • Productive “self” feedback • Buy-in; assessing implementation fidelity is <i>not</i> punitive but rather provides a record of actual programming • Most efficient & least resource intensive
Considerations	<ul style="list-style-type: none"> • May create situations where the individual being observed acts differently when being observed • Although most reliable, it is the least efficient & most resource intensive 	<ul style="list-style-type: none"> • If used as sole measure of fidelity, be sure to check accuracy; may be subject to bias if perceived as punitive • Facilitators may not cooperate

Utility of Coupling Fidelity & Outcomes Data

Fidelity Results	Outcomes Results	Inferences that can be made from Paired Data
High (+)	Good (+)	Program was implemented as planned and the outcomes were met, thus the planned program may be effective. That is, the planned program may be contributing to meeting intended outcomes. Good news!
Low (-)	Poor (-)	No claims can be made about the planned program, because the planned program was not implemented. Moreover, the intended outcomes were not observed. A new study should be conducted with increased implementation fidelity to assess the effectiveness of the planned program. Do not claim the planned program was ineffective.
High (+)	Poor (-)	Program was implemented as planned, but the intended outcomes were not observed. Thus, low implementation fidelity can be ruled out as the reason for poor outcomes. Outcome assessment results should contribute to informed changes to the planned program by stakeholders.
Low (-)	Good (+)	Program was not implemented as planned. Thus, the planned program cannot be credited with contributing to students meeting the outcomes. Do not claim the planned program was effective.

Applying Program Theory & Implementation Fidelity to CAS Standards

Overview of CAS Standards

- Council for Advancement of Standards in Higher Education founded in 1979
- Consortium of 41 professional associations
- Standards of professional practice for 47 student service/support functional areas as well as three cross-functional areas
- General Standards are included in all sets of standards
- Standards used for multiple reasons including program development and program review

12 Sections of Functional Area Standards

1. Mission
2. Program and Services
3. Student Learning, Development, and Success
4. Assessment
5. Access, Equity, Diversity, and Inclusion
6. Leadership, Management, and Supervision
7. Human Resources
8. Collaboration and Communication
9. Ethics, Law, and Policy
10. Financial Resources
11. Technology
12. Facilities and Infrastructure

Program Theory, Implementation Fidelity & CAS Program Review Process



Self-Assessment Guide

Part 4. ASSESSMENT

*Recommendations for each part
for evidence to gather*

Suggested Evidence and Documentation for Part 4:

1. Functional area goals, key indicators, outcomes, and related assessment data
2. Assessment data related to student learning, development, and success outcomes
3. Assessment plans and annual reports
4. Minutes of meetings at which assessment activities and results are discussed
5. Professional development activities to improve assessment competence

*Clusters of criterion measures
(means fewer items to rate!)*

4.1 Establishing a Culture of Assessment

- The functional area develops assessment plans and processes that document progress toward achievement of mission, goals, outcomes, and objectives.
- The functional area designs assessment plans that incorporate an ongoing cycle of assessment activities.
- The functional area has fiscal, human, professional development, and technological resources to develop and implement assessment plans.

Space for rating of each subpart (ex: 4.1)

DNA	IE	0	1	2	Rating:
Does Not Apply	Insufficient Evidence/ Unable to Rate	Does Not Meet	Partly Meets	Meets	

- Simplified scale for evaluation -

Justification for 4.1 Rating:

Space to write your narrative explanation of above ratings

Contextual Statements

- Overview of the the nature, foundational principles, and current issues of the functional area as well as critical resources
- The contextual statements can contain literature that is used in program theory for that functional area

Program Theory & Mission, Program, and Student Learning, Development, and Success

- These sections define the core of the program or service
- Program
- Student Learning, Development, and Success
 - Program Contribution
 - Student Learning and Development Domains and Dimensions

CAS Standards & Implementation Fidelity

- Assessment Section
 - Program Goals, Outcomes, Objectives
 - Assessment Plan and Process
 - Gathering Evidence
 - Review and Interpret Findings
 - Reporting Results and Implementing Improvement

CAS Standards & Implementation Fidelity



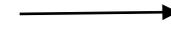
Recommendations

1. Consider why existing programming is provided, especially if outcomes haven't been assessed.
2. Ask the question: "Why should this programming be effective?"
3. Review and stay current on research in the outcome area.
4. Articulate program theory via logic models, tables, and/or diagrams.
5. Consider how implementation fidelity and how to assess it.
6. Create an implementation fidelity checklist.
7. Build a library of evidence-based successful practices.
8. Integrate program theory and implementation fidelity throughout the program review process.

Thank You!



Questions?



Additional
Resources

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Additional Resources

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Program Theory

- Pope, A., Finney, S.J., & Bare, A. (2019). The essential role of program theory: Fostering theory-driven practice and high-quality outcomes assessment in student affairs. *Research & Practice in Assessment*, 14, 5–17.
- Pope, A., Finney, S.J. & Crewe, M. (in press). Evaluating the effectiveness of an academic success program: Showcasing the importance of theory to practice. *Journal of Student Affairs Inquiry*.
- Smith, K. L. & Finney, S. J. (2020). Elevating program theory and implementation fidelity in higher education: Modeling the process via an ethical reasoning curriculum. *Research & Practice in Assessment*, 15, 1-13.

[Website with Program Theory videos, Powerpoints, and examples \(www.jmu.edu/assessment/sass/\)](http://www.jmu.edu/assessment/sass/)

Implementation Fidelity

- Finney, S. J. & Smith, K. L. (2016). Ignorance is not bliss: Implementation fidelity and learning improvement. *National Institute for Learning Outcomes Assessment: Guest Viewpoints*. <https://illinois.edu/blog/view/915/309716>
- Fisher, R., Smith, K. L., Finney, S. J., & Pinder, K. (2014). The importance of implementation fidelity data for evaluating program effectiveness. *About Campus*, 19, 28-32
- Gerstner, J. J. & Finney, S. J. (2013). Measuring the implementation fidelity of student affairs programs: A critical component of the outcomes assessment cycle. *Research & Practice in Assessment*, 8, 15 – 28.
- Smith, K. L., Finney, S. J., & Fulcher, K. H. (2019). Connecting assessment practices with curricula and pedagogy via implementation fidelity data. *Assessment and Evaluation in Higher Education*, 44, 263 – 282.
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Additional Program Theory Examples

