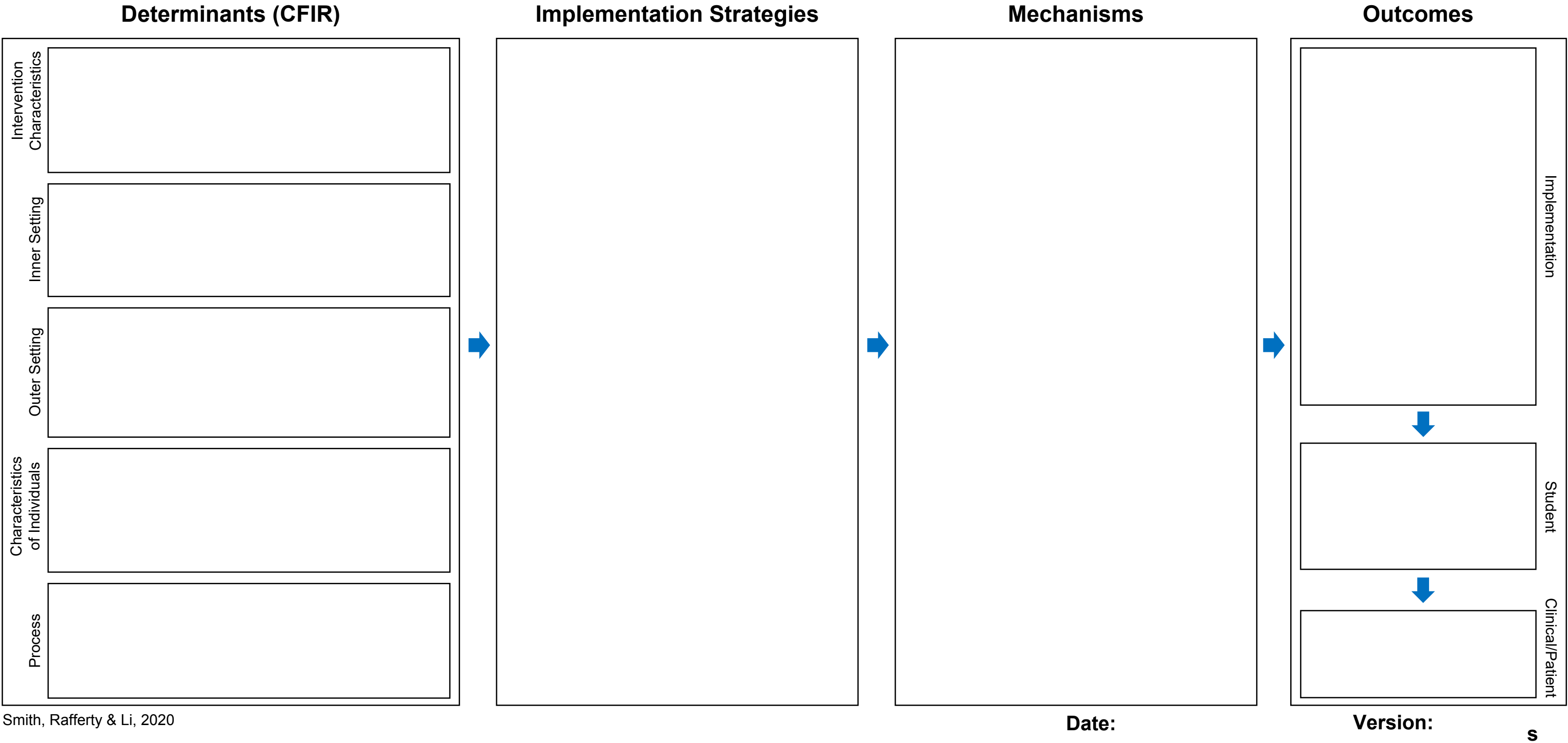


Implementation Research Logic Model (IRLM)

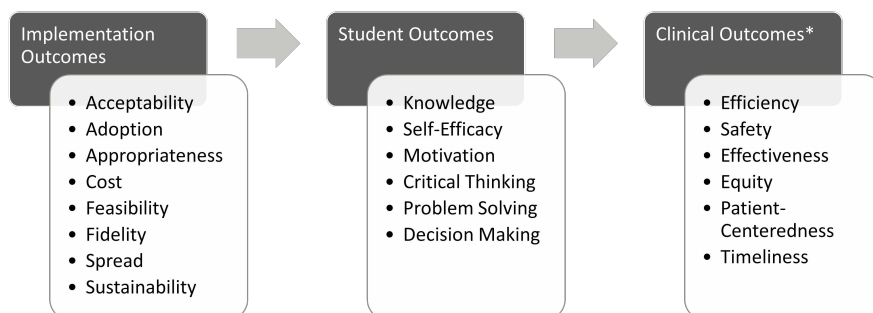
Project
Title:



IRLM — Implementation Outcomes Worksheet

Smith, Li, & Rafferty, 2020

Implementation outcomes are “the effects of deliberate and purposive actions to implement new treatments, practices, and services” (Proctor et al., 2011). They serve as (1) indicators of implementation success, (2) proximal indicators of implementation processes, and (3) *intermediate outcomes in relation to student and clinical/patient outcomes*:



Adapted from
Proctor et al.
2011

Unlike clinical/patient outcomes, implementation outcomes are often at the level of the system, setting, or educator and typically not at the level of the patient/client. Some outcomes may be measured by researchers, whereas other may be measured through administrative records.

To identify implementation outcomes for your project, it is helpful to work backward from the most downstream/ distal/long-term to more upstream/proximal/short-term outcomes.

1. For SBE, what are the clinical/patient outcomes you are interested in? These may include clinical indicators, patient behaviors, patient-reported outcomes, etc. Add these to your **IRLM**.
2. From the list of student outcomes below, place a checkmark (✓) next to ones that may be relevant to teaching students using SBE. Add these to your **IRLM**.

✓	Student outcome	Definition
	Knowledge	Facts and information related to providing clinical care.
	Self-Efficacy	A student's belief in their ability to manage a specific type of care (related to the sim.)
	Problem Solving	The process of defining a problem; determining the cause of the problem; identifying, prioritizing, and selecting alternatives for a solution; and implementing a solution.
	Critical Thinking	The ability to identify and analyze problems as well as seek and evaluate relevant information in order to reach an appropriate conclusion.
	Motivation	Students' desire to engage in the simulation activity and/or complete similar care in a real-world setting.
	Decision Making	The process of creating a rationale and arriving at an accurate outcome or plan, with a focus on the minimization of errors.

3. From the list of implementation outcomes below, place a checkmark (✓) next to ones that may be germane to using SBE with students. For each outcome, operationalize it for SBE and add it to your **IRLM**.

✓	Implementation outcome	Definition
RE-AIM Framework (www.re-aim.org; Glasgow, Vogt, & Boles, 1999)		
	Reach	The absolute number, proportion, and representativeness of individuals who are willing to participate in being a student learning with SBE or an instructor using SBE.
	(Effectiveness)	The impact of SBE on important outcomes for students, including potential negative effects, quality of life, and economic outcomes.
	Adoption	The absolute number, proportion, and representativeness of settings and agents (people who deliver the program) who are willing to initiate teaching with SBE.
	Implementation	At the setting level, implementation refers to the instructor's fidelity to the various elements of an SBE protocol, including consistency of delivery as intended and the time and cost of teaching with SBE. At the individual level, implementation refers to students' use of and engagement with SBE.
	Maintenance	The extent to which SBE becomes institutionalized or part of the routine organizational practices and policies. Within the RE-AIM framework, maintenance also applies at the individual level. At the individual level, maintenance is defined as the long-term effects of SBE on outcomes after 6 or more months after the most recent SBE encounter.
Proctor et al., 2011		
	Acceptability	The perception among implementation stakeholders that SBE is agreeable, palatable, or satisfactory.
	Adoption	The intention, initial decision, or action to try or employ SBE (an evidence-based practice).
	Appropriateness	The perceived fit, relevance, or compatibility of SBE for a given classroom setting, instructor, or student; and/or perceived fit of SBE to address a particular issue or problem.
	Cost	The cost impact of the SBE implementation effort.
	Feasibility	The extent to which SBE can be successfully used or carried out within a given classroom/department/institution.
	Fidelity	The degree to which SBE was implemented as it was prescribed in the original protocol or as it was intended by the developers.
	Penetration/Uptake	The integration of SBE within an educational setting and its subsystems.
	Sustainability	The extent to which newly implemented SBE is maintained or institutionalized within a setting's ongoing, stable operation.

Implementation Research Logic Model (IRLM)

IRLM — Determinants of Implementation Worksheet

Smith, Li, & Rafferty, 2020

Determinants of implementation are constructs that have been associated with effective implementation. Often, researchers think of determinants as implementation barriers and facilitators, but they can also be mediators, moderators, predictors, and/or outcomes. One of the most comprehensive lists of determinants comes from the Consolidated Framework for Implementation Research (CFIR; Damschroder et al., 2009).

1. From the list of CFIR constructs below, place a checkmark (✓) next to ones that may be germane to studying SBE in your classroom/department/institution. It is important to capture all factors that may affect the implementation of SBE.
2. For each determinant, operationalize it for your context and add it to your **IRLM**.

✓	Determinant	Definition
Intervention Characteristics		
	Intervention source	Perception of key stakeholders about whether SBE is externally or internally developed.
	Evidence strength and quality	Stakeholders' perceptions of the quality and validity of evidence supporting the belief that SBE will have desired outcomes.
	Relative advantage	Stakeholders' perception of the advantage of implementing SBE versus an alternative solution.
	Adaptability	The degree to which SBE can be adapted, tailored, refined, or reinvented to meet local needs.
	Trialability	The ability to test SBE on a small scale in the organization, and to be able to reverse course (undo implementation) if warranted.
	Complexity	Perceived difficulty of SBE, reflected by duration, scope, radicalness, disruptiveness, centrality, and intricacy and number of steps required to implement.
	Design quality and packaging	Perceived excellence in how SBE is bundled, presented, and assembled.
	Cost	Costs of SBE and costs associated with implementing SBE including investment, supply, and opportunity costs.
Outer Setting		
	Student needs and resources	The extent to which student needs, as well as barriers and facilitators to meet those needs, are accurately known and prioritized by the instructor/department/institution.
	Cosmopolitanism	The degree to which an instructor/department/institution. is networked with other external organizations.
	Peer pressure	Mimetic or competitive pressure to implement SBE; typically because most or other key peer or competing instructor/department/institution have already implemented or are in a bid for a competitive edge.
	External policies and incentives	A broad construct that includes external strategies to spread teaching strategies, including policy and regulations (governmental or other central entity), external mandates, recommendations and guidelines, pay-for-performance, collaboratives, and public or benchmark reporting.

Inner Setting		
	Structural characteristics	The social architecture, age, maturity, and size of the local context.
	Networks and communication	The nature and quality of webs of social networks and the nature and quality of formal and informal communications within the local context.
	Culture	Norms, values, and basic assumptions of the local context.
	Implementation climate <ul style="list-style-type: none"> - <i>Tension for change</i> - <i>Compatibility</i> - <i>Relative priority</i> - <i>Incentives & rewards</i> - <i>Goals and feedback</i> - <i>Learning climate</i> 	The absorptive capacity for change, shared receptivity of involved individuals to SBE, and the extent to which use of SBE will be rewarded, supported, and expected within the local context.
	Readiness for implementation <ul style="list-style-type: none"> - <i>Leadership engagement</i> - <i>Available resources</i> - <i>Access to knowledge</i> 	Tangible and immediate indicators of organizational commitment to its decision to implement SBE.
Characteristics of Individuals		
	Knowledge/beliefs about SBE	Individuals' attitudes toward and value placed on SBE as well as familiarity with facts, truths, and principles related to SBE.
	Individual stage of change	Characterization of the phase an individual is in, as he or she progresses toward skilled, enthusiastic, and sustained use of SBE.
	Self-efficacy	Individual belief in their own capabilities to execute courses of action to achieve implementation goals.
	Individual identification with the organization	A broad construct related to how individuals perceive the organization, and their relationship and degree of commitment with that organization.
	Other attributes	A broad construct to include other personal traits such as tolerance of ambiguity, intellectual ability, motivation, values, competence, and capacity.
Process		
	Engaging <ul style="list-style-type: none"> - <i>Opinion leaders</i> - <i>Formal internal implementation leaders</i> - <i>Champions</i> - <i>External change agents</i> 	Attracting and involving appropriate individuals in the implementation and use of SBE through a combined strategy of social marketing, education, role modeling, training, and other similar activities.
	Planning	The degree to which a scheme or method of behavior and tasks for implementing SBE are developed in advance, and the quality of those schemes or methods.
	Executing	Carrying out or accomplishing the implementation according to plan.
	Reflecting and evaluating	Quantitative and qualitative feedback about the progress and quality of implementation accompanied with regular personal and team debriefing about progress and experience.

IRLM —Implementation Strategies Worksheet

Smith, Li, & Rafferty, 2020

The charts below contain a multitude of implementation strategies for evidence-based teaching strategies.

Several taxonomies/lists of strategies exist in the literature, including by Bunger et al. (2017) and by Powell et al. (2015). For the purposes of the workshop, **choose 1 or 2 strategies** from the tables below. All strategies are included as information, not to imply you must engage with all strategies at one time. For each strategy category, identify discrete strategies and operationalize them for implementing SBE.

Optional/Additional Resources

- For help selecting strategies based on your determinants of implementation, you may use the CFIR-ERIC Matching Tool found at <https://cfirguide.org/choosing-strategies/>.
- A full list of Bunger et al. strategies can be found at <https://link.springer.com/article/10.1186/s12961-017-0175-y>.
- A full list of the Powell et al. (a.k.a. ERIC) strategies can be found at <https://implementationscience.biomedcentral.com/articles/10.1186/s13012-015-0295-0/tables/1>.

√	Strategy category	Example discrete strategies
Bunger et al., 2017; Powell, et al., 2012		
	Planning	<ul style="list-style-type: none"> - Tailor strategies - Identify and prep champions - Develop blueprint - Build buy-in - Assess readiness, identify barriers
	Education	<ul style="list-style-type: none"> - Informal local opinion leaders - Conduct educational meetings - Distribute materials - Conduct ongoing training
	Finance	<ul style="list-style-type: none"> - Fund/contract - Access new funding
	Restructure	<ul style="list-style-type: none"> - Change records systems - Change structure/equipment - Revise roles
	Quality management	<ul style="list-style-type: none"> - Develop systems - Use data experts - Supervision - Reminders - Obtain student
	Policy	<ul style="list-style-type: none"> - Change policy context

Expert Recommendations for Implementing Change (ERIC; Powell et al., 2015; Waltz et al., 2015)		
	Use evaluative and iterative strategies	<ul style="list-style-type: none">- Assess for readiness and identify barriers and facilitators- Audit and provide feedback- Develop and implement tools for quality monitoring- Conduct local need assessment
	Provide interactive assistance	<ul style="list-style-type: none">- Facilitation use instructor and student feedback- Provide local technical assistance- Provide teaching supervision- Centralize technical assistance
	Adapt and tailor to context	<ul style="list-style-type: none">- Tailor strategies- Promote adaptability- Use data experts- Use data warehousing techniques
	Develop stakeholder interrelationships	<ul style="list-style-type: none">- Identify and prepare champions- Organize instructor implementation team meetings- Recruit, designate, and train for leadership- Inform local opinion leaders- Build a coalition- Obtain formal commitments
	Train and educate stakeholders	<ul style="list-style-type: none">- Conduct ongoing training- Provide ongoing consultation- Develop educational materials- Distribute educational materials- Use train-the-trainer strategies- Create a learning collaborative
	Support instructors	<ul style="list-style-type: none">- Facilitate relay of student data to instructors- Remind instructors- Develop resource sharing agreements- Revise professional roles- Create new instructional teams
	Engage students	<ul style="list-style-type: none">- Involve students- Intervene with students to enhance uptake and adherence- Prepare students to be active participants- Increase demand- Use mass media
	Utilize financial strategies	<ul style="list-style-type: none">- Fund and contract for the teaching innovation- Access new funding- Alter incentive/allowance structures
	Change infrastructure	<ul style="list-style-type: none">- Mandate change- Change record systems- Change physical structure and equipment- Change service sites