What you HAVE to know about program implementation

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Presentation for the National Academies Committee Workshop on Defining and Measuring Character and Character Education

July 2016, Washington DC

The aims of my presentation are to:

1. Explain what implementation is
2. Emphasize why it is so important
3. Explain what usually happens when evidence based programs are transferred into practice settings
4. Discuss some important factors that either impede or promote effective implementation
5. Discuss some of the major steps in the implementation process
6. Suggest what it takes to really improve services for youth
7. Emphasize who is responsible for program implementation, and finally,
8. Implore the audience to devote sufficient time and attention to implementation.

Abstract: This presentation emphasizes that both research findings and practical applications have confirmed the fundamental importance of program implementation in the spread of successful interventions. Issues that will be covered include: a) defining implementation, b) explaining its major elements and why it is so important, c) discussing some of the multiple factors that can enhance or impede effective implementation, and d) presenting a framework that illustrates the multiple steps that should be followed to increase the chances that a program will be put to a fair test in a new setting. Some major points that will be stressed are the importance of staff development and leadership, and the necessity of committing the necessary resources in terms of time, effort, and money to effective implementation. Much of my presentation is directed at funders, administrators, and practitioners.

HERE ARE MY WORKING ASSUMPTIONS

Current services for youth are not ideal; there is room for improvement.

We all want to do better for our youth and their families.

We must somehow bridge the gap or divide between research and practice
We should always evaluate what we do. The results of such evaluations provide important feedback to us about how we are doing and maybe how we can do better.

Effective implementation is everybody’s business: funders, policy makers, administrators, researchers, and practitioners

We never know for sure how well a particular evidence-based program will work in a new setting until we put it to a fair and adequate test. We learn by trial and error; sometimes succeeding, sometimes failing, but hopefully using past collective wisdom and science to guide our efforts.

Here is my major take-home message:

Unless you attend carefully to effective program implementation, you will probably be wasting valuable time, effort, and resources on new programs that are unlikely to be very successful. All the good intentions in the world won’t get you very far and you are apt to be eventually disappointed.

I have not entered many citations but can add later if necessary. This text sometimes goes into more detail than I would cover in my presentation

Brief history of implementation

Actually, the history of systematic work on implementation goes back to over a hundred years ago in the US when extension agents began working with farmers to help them apply scientifically-based research practices to their own land. Extension agents were using what was learned from agricultural research conducted at various land grant universities to help farmers increase their plant yields, protect the health of their soil and fields, and deal successfully with potentially harmful pests. Except for a few scattered reports, however, it wasn’t until the early 1970s that attention was placed on implementation in other fields. Now, implementation science has become an established research area and is applicable to many endeavors in the fields of health and medicine, education, the social sciences, public policy, and community development. Moreover, implementation applies to all types of services and interventions offered in these fields to populations of all ages.

Early work in agriculture confirmed that if farmers would effectively implement science based practices, their farms would become more productive and their farming practices more sustainable. The same holds true today in the fields mentioned above. If local organizations would implement new evidenced-based programs or interventions effectively, their programs and services would improve, and their new procedures would be sustainable.

What is Implementation?
Implementation can be defined as “efforts designed to get evidence-based programs or practices of known dimensions into use via effective change strategies” (Damshroder & Hagedorn, 2011, p. 195). So, we are talking about introducing an evidence-based program (once that has been carefully evaluated and found to be successful in achieving certain goals) into a new setting. Implementation refers to the ways this new program is eventually put into practice and delivered to participants. In other words, implementation has to do with what a program looks like in reality rather than what a program is conceived to be in theory or “on the drawing board.” This is important because there can often be a dramatic difference between the theory or conceptualization of a program compared to what happens what it is applied in any situation. There can be many reasons for the “disconnect” between theory and practice as suggested by the issues discussed later in this paper. Implementation research confirms Robert Burns’ famous line “The best laid plans of mice and men often go astray.”

Another important aspect to the above definition of implementation is that it requires “effective change strategies.” Good implementation does not occur spontaneously or naturally, but requires careful planning, execution and sustained attention. This paper covers many, but not all of the issues involved in planning and effectively introducing evidence-based programs into new settings.

Why is implementation important?

Extensive research has confirmed that the level of implementation that is achieved has a strong influence on program outcomes. There have been many reports noting that as the level of program implementation improves, so do outcomes, sometimes to a substantial degree.

For example, one review compared youth who had participated in better implemented school-based social and emotional learning programs with those involved in less well-implemented programs (Durlak, et al. 2011). The former group demonstrated academic gains that were twice as large as students in the latter group; they also showed reductions in conduct problems that were nearly twice as large, and reductions in emotional distress (i.e., depression and anxiety) that were more than twice as large as students in the latter group. In this case, the students participating in less well implemented programs did receive some benefit, but other research has indicated that poorly implemented programs might not yield any significant benefits for participating youth (Battistich, Schaps, Watson, Solomon, & Lewis (2001). In sum, with few exceptions, better implemented programs produce more benefits for their participants while poorly implemented programs tend to yield only modest or no significant benefits.
Therefore, it is extremely costly to ignore implementation. Not only will participating youth be short-changed, but also, all the time, effort, and resources devoted to the program will not be well-spent. On the one hand, this might affect the leaders of the organization or the front-line providers of the program to erroneously think the program is not worth worthwhile. On the other hand, if the program had instead been better implemented, it could have led to much better results.

Research has indicated several complex issues that arise with respect to implementation. Three of the most prominent involve: (a) the multiple components comprising implementation, (b) the many ecological factors that affect implementation, and (c) the major steps that need to be accomplished to achieve effective implementation. These issues are now briefly discussed.

What are the major components of implementation?

Research has identified eight major components of implementation. They are briefly defined in Table 1 and consist of fidelity, dosage, quality of delivery, adaptation, participant responsiveness or engagement, program differentiation, monitoring of control conditions, and, finally, program reach. All of these components exist on a continuum (e.g., think of a range between 0 and 100%). Dosage (or how much of the program is implemented) can be complete (100%, indicating the total program was conducted) or it can fall below this level [as it usually does]. In some settings, planned programs were never conducted at all due to unforeseen administrative, financial, or personnel issues.

The eight components interact with each other. For example, reducing dosage will affect fidelity and the other components. We are still learning about which components might be more important in different situations so it is good practice to monitor how well the different components are being conducted. For example, both fidelity and dosage may be high, but if quality of delivery and participant responsiveness are low (i.e., how well the various program features are delivered, and to what extent youth are interested and involved in the program) program outcomes are at risk.

Adaptation refers to any changes made to the planned program. At first, adaptation was considered to be a negative influence because it affected a program’s fidelity (the degree to which the active ingredients of an intervention are effectively delivered, that is, those elements that are crucial to producing intended effects). Research has now clarified two important principles regarding adaptation: (a) most programs experience some degree of [intentional or spontaneous] adaptation when they are delivered in new settings, and (b) some adaptations can positively affect program outcomes.
The important considerations are what types of adaptation occur, if they are intentional, agreed on, and part of the systematic implementation process (see below), and whether the adaptations undermine, complement, or are unrelated to a program’s active ingredients. For example, adaptations may involve changing some of the program’s language and activities or exercises, or when and how often it is delivered. If these adaptations are successfully negotiated as part of the coordinated implementation plan, they can result in a program that is better suited to a particular locale and population, which should increase its chances of success. In sum, while some programs can be implemented with no or negligible adaptations depending on their program fit, in many cases, the goal is to strike a careful and effective balance between fidelity and adaptation.

[I plan to discuss adaptation more during the presentation.]

What factors affect program implementation?

So far, research and practice has identified over 20 factors that affect program implementation and many of these are briefly described in Table 2. None of these are all-or-none variables, and can be thought of to exist in degrees (e.g., such as low, medium, or high). They also range across several ecological levels. These factors can relate to broad factors (such as the level of political or administrative pressures, or available funding), or to characteristics of the program (e.g., its complexity) the host organization (e.g., its work climate, leadership, and its decision-making and communication practices) the front-line program providers (e.g., their various attitudes and beliefs) and, finally, to the quality of the professional development services that are offered.

The various ecological factors affecting implementation are best integrated into the discussion of the major steps in the implementation process.

The major steps in the implementation process

A synthesis of the literature indicated there is consensus that implementing a program effectively entails at least 14 different steps which have been organized into what has been identified as the Quality Implementation Framework (QIF, Meyers, Durlak, & Wandersman, 2012) These are summarized in Table 3 and at each step decisions and actions need to occur. The steps are generally sequential although implementation is a dynamic process in that some steps can be skipped in some settings because they are already resolved or satisfied, whereas some need to be revisited depending on local circumstances. For example, providers’ interest or enthusiasm for a program may wane over time, so it is best to revisit this issue when needed. In general, however, the QIF implies that effective implementation should be approached systematically as a temporal series of linked steps and actions that should
be effectively addressed to enhance the likelihood of quality implementation. In other words, implementation requires careful planning, monitoring, and coordination. Current thinking is that the inability to achieve effective implementation in many cases can be linked to not successfully accomplishing its major steps.

The temporal process of implementation can be divided into four major phases that involve (a) assessing program fit (b) creating a plan and structure (c) ongoing monitoring and evaluation, and (d) reflection and decisions about future applications.

I plan to focus on some of these steps in my presentation to illustrate their interrelatedness and importance. I will also mention that planning for the possible sustainability of new programs after their trail period should occur at the outset. Planning for sustainability based on the evaluation of a program’s implementation and outcomes could be listed as an additional step in the QIF.

Considering the entire process of implementation at the outset cannot be overemphasized. In fact, **10 of the 14 steps involved in implementation should be accomplished before the program begins!** This is because a failure to accomplish each step successfully threatens the level of eventual implementation that is attained, which, in turn, affects program outcomes.

I will focus on three aspects of the implementation process in my presentation.

1. The importance of fit (and, hence, adaptation if needed)
2. The importance of high quality professional development services so that providers are effectively prepared for their tasks.
3. The importance of strong, supportive leadership

Here are some brief comments about each of these issues.

The importance of program fit

In general, the first phase of implementation usually consists of 8 steps that involve determining how well the program will fit into the new local setting. The major issues to be answered in these eight steps include such things as assessing how well or to what extent: (a) the program fulfills organizational needs, (b) there is genuine staff buy-in for the program (c) staff hold realistic expectations for what the program can achieve, (d) the organization has the requisite readiness and capacity (i.e., resources, staff, time, space, funding, and skills) to deliver the program, and (e) professional development services can be obtained to prepare staff for program delivery.

Better program fit typically leads to better outcomes so a good fit can be achieved by either changing some aspects of the program (adaptation) or changing the organization that will deliver the program, or sometimes doing a little of both. In some
cases, decisions might be made to cancel or postpone implementation if it seems like the organization does not possess sufficient readiness or capacity, or if there are major disagreements about going ahead with the program or its possible worth to the program. Another concern is administrator pressure to go ahead without sufficient staff buy-in.

Professional development services are essential.

Professional development services (PDS) refer to pre-program training of front-line providers (and sometimes administrators), and continuing technical assistance (coaching or consultation) after the program begins and until its trial periods end. Research indicates that both are necessary for effective implementation because pre-program training and preparation cannot always anticipate all the practical and personal problems that inevitably appear when something new is attempted, particularly, if that something new is complicated and requires the mastery and application of new skills.

Local staff cannot usually implement new programs effectively without outside professional assistance, particularly if the program is complex and of fairly long duration. If they could, there would be many more successful implementations of evidence-based programs than there are. Unfortunately, there are some evidence-based programs that should not be implemented due to the lack of available professional development services. On the positive side, however, there are a small but growing number of professional groups willing and able to offer professional development services for organizations wishing to offer some existing programs.

PDS require money and time but are indispensable for effective program implementation.

The necessity of effective leadership

Another factor that cannot be over-emphasized is that effective implementation cannot be achieved without continual, strong leadership. The exact nature of a leader’s activities and who (sometime more than one) should serve in this role varies depending on the circumstances. The collective wisdom to date drawn from both research and practice suggests that some of the major tasks of a leader involve: (a) supporting all those involved in program implementation, (b) rejuvenating lagging motivation and commitment if necessary, (c) recognizing jobs well done, (d) the ability to solve practical problems either on one’s own or by delegating to others, and (e) willingness to “run interference” so that untoward political or administrator pressures and directives do not derail program efforts. An effective leader is able “to rise to the occasion” so that what needs to get done, is done well, and without undue delay. Staff can often tell if a leader is truly behind a new program and on their side.
What is effective or high quality implementation?

So far terms such as “effective,” “successful” or “quality” implementation have been used. What do these terms mean? Research and practice have to discover exactly what level of implementation is needed to achieve a program’s intended goals. It is clear that implementation does not have to be perfect (indeed; it almost never is) but how good it has to be to achieve different goals has yet to be discovered for different programs and populations. There is likely to be an implementation threshold for programs. That is, achieving a certain level of implementation probably leads to maximum gains for participants; going beyond this level is unlikely to lead to substantially more benefit. Because the threshold for different programs has yet to be determined, organizations should strive to do their best, evaluate what has occurred, and decide on their next steps.

Who is Responsible for Effective Implementation?

It is a mistake to believe that the responsibility for effective program implementation lies in the hands of front-line providers only. Implementation is everybody’s business and multiple stakeholders need to work collaboratively to attain mutual goals. Sadly, one of the reasons that some attempts at implementation are not successful is because multiple stakeholders do not have a positive history of close and effective collaboration. Each stakeholder group has one or more key roles to play. For example, funders and policy makers must realize that time and resources are needed to achieve good program implementation. Some complex programs may need 3 to 4 years before a desirable level of implementation is attained. Administrators usually have to make some operational and organizational changes to accommodate program implementation (e.g., changing staff routines and tasks, freeing up staff time, possibly providing incentives for taking on new jobs). Trainers and consultants must be available to offer successful PDS so that staff members are adequately prepared for their new roles. Front-line providers must be willing and committed to devote the needed time and energy to new programs. Even the potential benefactors of the program (youth and their families) may have a role to play in offering input regarding what is most needed and which specific activities and procedures would be best received and useful. Giving youth meaningful roles in the planning and delivery of new programs is one way to foster positive youth development.

I do not plan to extensively cover all the issues in Tables 1, 2 and 3. I offer them for context and to summarize the current literature.

Summary and recap

If we want to put evidence-based programs to a fair and adequate test in the field, there is no alternative to effective implementation.
Implementation takes time, money, and resources, and the major steps to effective implementation cannot be rushed or omitted without jeopardizing program outcomes.

There are various reasons why some programs should not be implemented and these might involve (a) extremely poor program fit; (b) lack of organizational readiness or capacity, or (c) professional developmental services are not available or affordable.

A repetition of my major take-home message:

Unless you attend carefully to effective program implementation, you will probably be wasting valuable time, effort, and resources on new programs that are unlikely to be very successful. All the good intentions in the world won’t get you very far and you are apt to be eventually disappointed.

I will probably close with:

Implementation: what is worth doing, is worth doing well.
Table 1. *Definitions of the eight major components of program implementation*

1. Fidelity: the degree to which the major components of the program have been faithfully delivered
2. Dosage: how much of the program is delivered?
3. Quality of delivery: how well or competently is the program conducted?
4. Adaptation: what changes, if any, are made to the original program?
5. Participant responsiveness or engagement: to what degree does the program attract participants’ attention and actively involve them in the intervention?
6. Program differentiation: in what ways is the program unique compared to other interventions?
7. Monitoring of control conditions: in what ways might the control condition mirror or overlap with critical parts of the new program?
8. Program reach: how much of the eligible population participated in the intervention?
Table 2  Examples of Factors That Can Affect Program Implementation

I. At the Broad Community Level
   A. Scientific theory and research
   B. Political or administrative pressures
   C. Availability of Funding

II. Characteristics of Those Delivering the Program
   A. Perceived need and relevance of the program
   B. Perceived benefits of innovation
   C. Self-efficacy and confidence in executing the program
   D. Possession of sufficient skills necessary for implementation

III. Characteristics of the Program Being Conducted
   A. How compatible is it with the organization’s mission, priorities, and values
   B. Adaptability: what modifications are possible to fit local needs and preferences

IV. Factors Relevant to the Organization: Organizational Capacity
   A. General Organizational Factors
      1. Positive work climate
      2. Openness to change
      3. Shared vision, consensus, and staff buy-in
   B. Specific Practices and Processes
      1. Shared decision-making and effective collaboration among stakeholders
      2. Coordination and partnership with other agencies as needed
      3. Frequent and open communication among participants and stakeholders
4. Procedures conducive to strategic planning and task co-ordination

B. Specific Staffing Considerations

1. Effective leadership

2. Program champions who can maintain support and problem-solve arising difficulties

3. Effective management and supervision

V. Factors Related to Professional Development Services

1. Successful training of implementers

2. On-going technical assistance to maintain staff motivation, and skills

Note. Discussion of these factors is available in Damschoder & Hagehorn (2011), Domitrovich, et al. (2008), and Fixsen et al. (2005).
Table 3  Major Steps in the Process of Implementation

Phase One:  Initial Considerations Regarding the Host Setting

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<th>Self-Assessment Strategies</th>
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<tr>
<td>1.  Conducting a Needs and Resources Assessment</td>
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<td>2.  Conducting a Fit Assessment</td>
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<td>3.  Conducting a Capacity/Readiness Assessment</td>
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<th>Decisions about Adaptation</th>
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<td>4.  Possibility for Adaptation</td>
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<th>Capacity-Building Strategies</th>
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<td>5.  Obtaining Explicit Buy-in from Critical Stakeholders and Fostering a Supportive Community/Organizational Climate</td>
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<td>6.  Building General/Organizational Capacity</td>
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<td>7.  Staff Recruitment/Maintenance</td>
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<td>8.  Effective Pre-Innovation Staff Training</td>
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Phase Two: Creating a Structure for Implementation

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<th>Structural Features for Implementation</th>
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<td>9.  Creating Implementation Teams</td>
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<td>10. Developing an Implementation Plan</td>
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Phase Three: Ongoing Structure Once Implementation Begins

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<th>Ongoing Implementation Support Strategies</th>
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<td>11. Technical Assistance/Coaching/Supervision</td>
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<td>12. Process Evaluation</td>
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<td>13. Supportive Feedback Mechanism</td>
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Phase Four: Improving Future Applications

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<td>14. Learning from Experience</td>
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