Original Article

To Adapt or Not to Adapt

Navigating an Implementation Conundrum

Melinda M. Leko

Jerome is in his fifth year as a special educator at Oakview Middle School. Oakview, located in the center of a large urban school district, serves a diverse student population predominantly coming from families living in poverty. School data indicate 92% of students with disabilities are reading below proficient levels, so Oakview school leaders have decided to make reading instruction a priority in the upcoming school year. As a result, Jerome has been assigned to teach three 50-minute remedial reading classes each day. The anchor for his instruction is a commercially available reading intervention program that was selected by the Oakview literacy coordinator. The program comprises four 20-minute components: (a) explicit vocabulary instruction delivered on a computer; (b) partner fluency practice using high-interest, controlled-readability connected text; (c) scripted, teacher-directed comprehension instruction, and (d) assessment administered via computer. Before implementing the program, Jerome attended a 2-day summer in-service training to learn about the research supporting the program and the steps to implement it. Throughout the training, the curriculum representative constantly reiterated that the program must be "implemented with fidelity" for it to work.

One month into the school year, Jerome is doing his best to implement the program as it was presented in the summer in-service, but he has made some adjustments. First, his class periods are only 50 minutes, so he cannot implement all four components in one class period. Instead, he has divided the components into two groups and alternates the days he teaches them. The vocabulary and fluency components are taught on "A days," and the comprehension and assessment components are taught on "B days." Second, the program comes with a reward system to motivate students. As students complete a program component, they earn a sticker to put on a sticker chart displayed in the classroom. Stickers, however, do not motivate Jerome's middle-school students. Instead, Jerome has arranged for students to earn points for remaining engaged and completing assignments, and these points can be exchanged for free-choice activities (e.g., playing a game on the computer, listening to music). Third, Jerome has modified the comprehension instruction component. He hates teaching from a script, so rather than follow the script that outlines the comprehension skill to be taught and the comprehension questions that go with the high-interest, controlled-readability texts, Jerome just has students sit in a group and retell the story. Not all of the changes Jerome has made are beneficial to students or should have been made prior to implementing the reading program with fidelity.

The implementation of evidence-based practices (EBPs) is an important topic within special education and has received considerable attention in recent years (Cook & Odom, 2013). In one of *TEACHING Exceptional Children*'s most downloaded articles in the past 5 years (Sayeski, 2014), Torres, Farley, and Cook (2012/2014) provided guidelines for successfully implementing EBPs. The general premise behind the implementation of EBPs is that, when implemented with fidelity (or as intended), EBPs will lead to improved student outcomes. Although at first glance implementation of EBPs seems to be a straightforward process, Jerome's scenario demonstrates that this is not always the case.

The changes Jerome implemented are called *adaptations*, and experts assert they are an inevitable part of the implementation process (Harn, Parisi, & Stoolmiller, 2013; Odom, 2009). Adaptations can be considered

> deliberate or accidental modification of the program, including (a) deletions or additions (enhancements) of program components, (b) modifications in the nature of the components that are included, (c) changes in the manner or intensity of administration of program components called for in the program manual, curriculum, or core components analysis, or (d) cultural and other modifications required by local circumstances. (Backer, 2001, p. 4)

TEACHING Exceptional Children, Vol. 48, No. 2, pp. 80–85. DOI: 10.1177/0040059915605641

In some cases adaptations can compromise the effectiveness of an intervention and are referred to as *lethal mutations* (Brown & Campione, 1996, p. 291). In other cases, however, adaptations can make the intervention more effective in particular contexts. The key is finding the right balance of implementation fidelity and adaptation of specific EBPs in local contexts, as shown in Figure 1.

A conundrum for implementers, then, is determining which adaptations are beneficial and which are not.

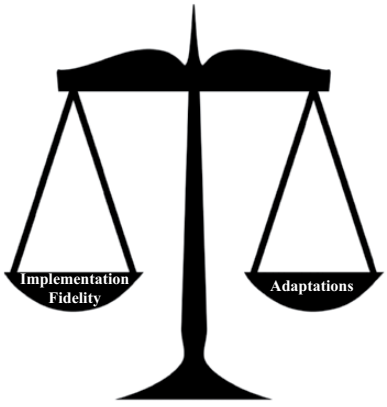
A Framework for Classifying Implementation Adaptations

The implementation process consists of six stages: exploration and adoption, program installation, initial implementation, full operation, innovation, and sustainability (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). During this process, adaptations are most likely to occur (a) when an EBP is being fitted or installed in a local context, (b) during initial implementation, and (c) during the innovation stage (Backer, 2001; Fixsen et al., 2005). Adaptations occur for different reasons and under varying circumstances. Moreover, adaptations can differ by cause, focus, and consequence (Leko, Roberts, & Pek, in press).

Adaptations Made by Force, Choice, or Accident

The adaptations teachers and practitioners make typically occur either by force, choice, or accident (Backer, 2001; Leko et al., in press). In the case of Jerome, splitting the program so it could be implemented across 2 days was an adaptation of force because he could not control the length of class periods. On the other hand, altering the reward system and comprehension instruction were adaptations based on choices Jerome made. In other cases, adaptations are simply made by accident. For example, if Jerome had forgotten to reward a student with points for completing an activity, this would be an accidental adaptation.

Figure 1. The Implementation Fidelity/Adaptation Balance



The key is finding the right balance of implementation fidelity and adaptation of specific EBPs in local contexts.

Adaptations Made to Core or Peripheral Components

EBPs can vary in their composition and complexity, with some consisting of one core component, others having multiple core components, and still others having multiple core components and peripheral components (Backer, 2001). *Core components* are the features of an EBP that most likely contribute to positive outcomes (Fixsen et al., 2005). *Peripheral components* are cosmetic, discretionary, or tangential features that could be omitted or changed without negatively impacting effectiveness for the population of interest (Backer, 2001). In the case of Jerome, adapting the comprehension instruction would be considered an adaptation to a core component. The comprehension instruction, which was one of the four main components of the program, is now being implemented in a different (and less intense) way than was originally developed. Modifying the reward system so that it is based off a point system instead of stickers is a peripheral adaptation. Jerome is still implementing a reward-based motivation system; he has just exchanged the type of reward students receive.

Adaptations Made to Benefit Students or Teachers

Finally, adaptations can be classified according to their purpose. Some adaptations are intended to benefit students and others to benefit teachers or practitioners. When Jerome exchanged the stickers for points, it benefited students because the reward became more age appropriate and motivating for adolescent struggling readers. It could also be argued this adaptation benefited Jerome so that he could better manage the class and execute instruction. Not all of Jerome's adaptations, however, benefited his students or contributed to successful instruction. Altering the comprehension instruction because he did not like teaching from a script was an adaptation Jerome made to make teaching more enjoyable for himself. In this case, an adaptation made to benefit a teacher may not result in beneficial outcomes for students. As discussed earlier, adaptations could also be made for the purpose of fitting a local context. Such adaptations would be classified as adaptations made by force and do not directly benefit teacher or students; rather they merely make it possible for the EBP to be implemented in some capacity. This was the case when Jerome divided the program into A and B days because the class period was not long enough to accommodate all four components.

Finding the Right Balance

This classification system does not answer questions about whether particular adaptations are beneficial or not. To answer such questions requires evaluating adaptations and how they balance or tip the implementation fidelity/adaptation scale. Of utmost importance is having a sound, data-driven reason for making adaptations and then evaluating ensuing outcomes. Implementation research focused specifically on adaptations can provide some guidance for evaluating the potential positive or negative effects of various adaptations on student outcomes (Backer, 2001). One way to

Figure 2. Suggestions for Implementing and Evaluating Adaptations

1. Know the underlying principles for why an EBP works.
2. Know the EBP's core and peripheral components.
3. Start by trying to implement the EBP with as much fidelity as possible.
4. Collect ongoing fidelity of implementation data.
5. Collect progress monitoring data to evaluate whether the EBP is working for your specific students and context.
6. Document any adaptations made.
7. Continue to collect progress monitoring data to determine if adaptations are resulting in desired changes in student performance.
8. When in doubt, ask someone more knowledgeable about the EBP before adapting.
9. Enlist ongoing support (e.g., professional development, coaching, peer observations).

determine and maintain the effectiveness and appropriateness of adaptations is by using a three-part framework: (a) determine type of adaptation, (b) use data to make decisions about adaptation efficacy, and (c) enlist ongoing support for EBP implementation. Figure 2 provides a list of suggestions to consider when implementing the framework.

Of utmost importance is having a sound, data-driven reason for making adaptations and then evaluating ensuing outcomes.

Determine Type of Adaptation

Across multiple studies and disciplines, research has shown that adapting the core components of an EBP will undermine its effectiveness (Fixsen et al., 2005; Odom, 2009). Adapting peripheral components, however, may increase EBP effectiveness because the EBP will better fit local contexts (Fixsen et al., 2005). In essence, adapting the core principles of an EBP is not a good idea. Making adaptations so core principles can be more easily implemented with fidelity, however, is a good idea (Fixsen et al., 2005). Additions to programs that do not conflict with core components may improve EBP effectiveness (Blakely et al., 1987; Lieber et al., 2009). For some EBPs, differentiating between core and peripheral components will be straightforward or made clear by EBP developers. In many other cases, however, the distinction will not be so easy. In these cases, it is important to make data-based decisions about adaptations and their efficacy.

Adaptations made because teachers do not like or believe in certain features of an EBP should be avoided unless data also indicate the EBP is not working when implemented with high fidelity. Moreover, adaptations resulting from teachers not wanting to be told what and how to teach are not justifiable. Adaptations like these that prioritize teachers' personal interests at the expense of EBP effectiveness tip the implementation fidelity/adaptation scale in the wrong direction (Lieber et al., 2009). However, there are some adaptations that benefit teachers that are more justifiable. For example, when teachers are first learning to implement a new EBP that is particularly complex, they may need to make adaptations to reduce their learning curve and ease their initial implementation attempts. In such cases, teachers may focus their efforts on a few key components until they are proficient implementing them and then gradually add more components to their instruction. In this scenario, teachers make adaptations that reduce what experts call *cognitive overload* (Feldon, 2007, p. 123). Making adaptations to decrease teachers' learning curve are understandable in the beginning, but as soon as possible, teachers should implement all essential components of an EBP. Similarly, adaptations that (a) increase student engagement, (b) appeal to students' interests, and (c) meet students' individual needs are sensible (Domitrovich, Gest, Jones, Gill, & DeRousie, 2010; Harn et al., 2013).

Use Data to Make Decisions About Adaptation Efficacy

When first implementing an EBP, it is best to try and implement it with as much fidelity as possible. Researchers have found that adaptations made after an EBP is first implemented with fidelity are most likely to be successful (Winter & Szulanski, 2001). Establishing students' baseline performance by collecting initial progress monitoring data will help determine whether the EBP is producing expected results or whether adaptations are needed (Torres et al., 2012/2014). If data indicate the EBP is not helping students reach maximum potential, consider adaptations that directly benefit students and do not compromise EBP core components. If adaptations are necessary, document what adaptation was made, why it was made, when the adaptation started, and how often the adaptation was implemented. Then, continue to collect progress-monitoring data to determine if the adaptation is resulting in desired changes in student performance. Figure 3 provides an adaptation monitoring chart that can be used to document adaptations and their effect on student performance.

Figures 4 provides a sample progress monitoring chart that can be used to record data. Indicating when an adaptation was initiated (as shown in the model in Figure 5) can make data interpretation simpler. Careful documentation will be instrumental in making informed, data-based decisions about whether a particular adaptation is justified and should be continued or not. It will also be helpful in the event other teachers or EBP developers want to know more about adaptations that were made.

Figure 3. Adaptation Monitoring Chart

Teacher/Classroom _____ Date _____

1. EBP being adapted

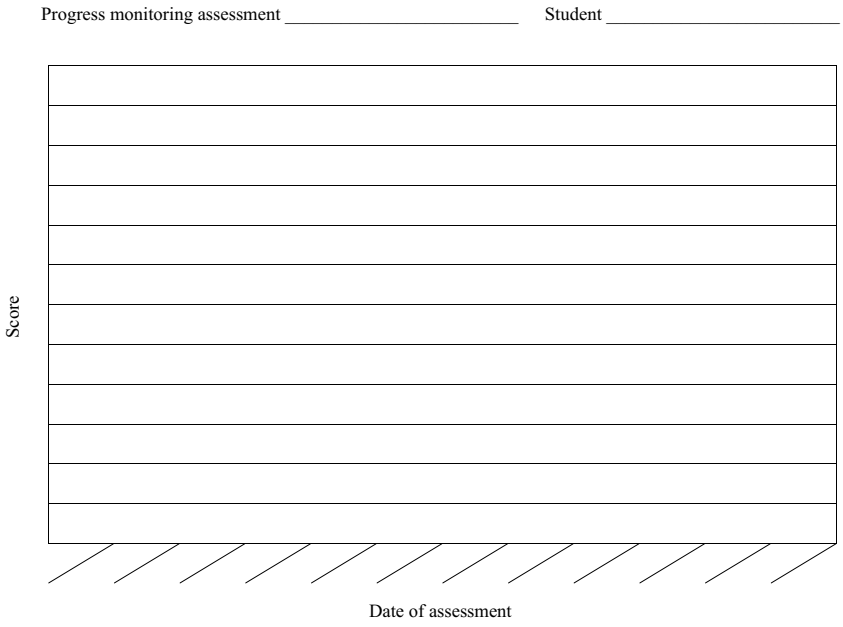
2. Description of adaptation

3. Reason for adaptation

****

Date	Progress monitoring assessment data source	Student score	Change in performance
Prior to adaptation			
After adaptation			
			Increase Decrease No change
			Increase Decrease No change
			Increase Decrease No change

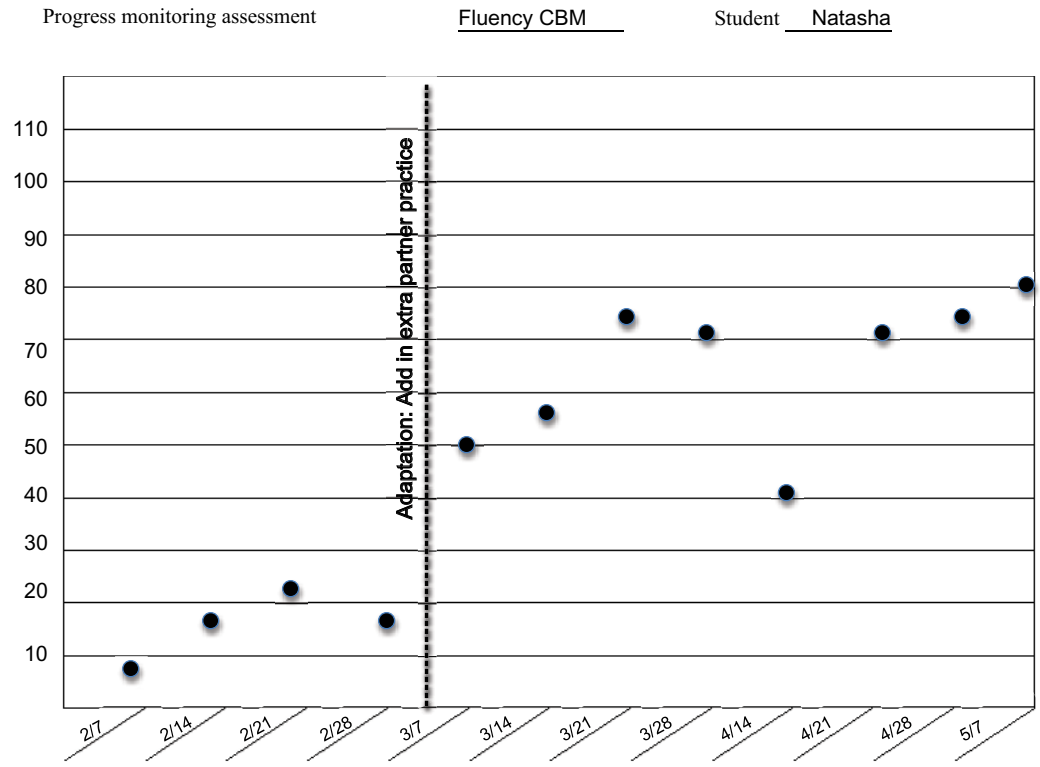
Figure 4. Sample Progress Monitoring Chart



Enlist Ongoing Support for EBP Implementation

Finding the right balance between implementation fidelity and adaptations is contingent upon having a deep understanding of EBPs. This includes understanding the underlying principles that explain an EBP's effectiveness as well as differences between core and peripheral components. If you are unsure about an EBP and how it works, its components, or what makes it effective, consult with someone who has more knowledge or experience implementing the EBP, like an experienced colleague, coach, administrator, or university instructor. The same suggestion applies in situations when you are in doubt about whether an adaptation is warranted or

Figure 5. Model Progress Monitoring Chart



appropriate. Consulting with someone more experienced is a practical and useful way to problem solve, collect and interpret data, and ultimately make informed decisions about adaptations.

It may also be helpful to have regular check-ins with other teachers who are implementing the same programs or interventions. It is possible they may have adapted the program in ways that could benefit your students as well. Sometimes it is helpful to observe a more expert implementer to learn more about how he or she has achieved the implementation fidelity/adaptation balance. The reverse is also true. Having someone with more expertise conduct an observation of your teaching can provide you with valuable information regarding your implementation fidelity and any adaptations that might be warranted. Finally, continuing your own professional development is an excellent way to increase your knowledge and skill in implementing EBPs. Taking continuing education courses, attending professional development sessions, working with a coach or mentor teacher, reading new research or literature on the programs you are implementing, and subscribing to practitioner-oriented journals that publish information on EBPs are all excellent resources to support your instruction and decision making around EBP implementation.

Conclusion

Maximizing the effectiveness of EBPs requires an optimal balance of implementation fidelity and adaptation so EBPs fit local contexts and meet the individual learning needs of students with disabilities. The framework for classifying adaptations presented in this article can help educators make decisions about whether particular adaptations are justified or not. Collecting progress monitoring data to make decisions about whether or not an adaptation is effective is a critical component of the framework. Adaptations that (a) keep an EBP's core components intact, (b) are intended to benefit students, and (c) result from teacher data-based decision making are most likely to enhance EBP effectiveness and promote positive outcomes for students with disabilities.

Adaptations that (a) keep an EBP's core components intact, (b) are intended to benefit students, and (c) result from teacher data-based decision making are most likely to enhance EBP effectiveness and promote positive outcomes for students with disabilities.

References

Backer, T. E. (2001). *Finding the balance: Program fidelity and adaptation in substance abuse prevention: A state-of-the-art review*. Rockville, MD: Center for Substance Abuse Prevention.

Blakely, C. H., Mayer, J. P., Gottschalk, R. G., Schmitt, N., Davidson, W. S., Roitman, D. B., & Emshoff, J. G. (1987). The fidelity-adaptation debate: Implications for the implementation of

public sector social programs. *American Journal of Community Psychology*, *15*, 253–268. doi:10.1007/BF00922697

Brown, A. L., & Campione, J. C. (1996). *Psychological theory and the design of innovative learning environments: On procedures, principles, and systems*. Mahwah, NJ: Lawrence Erlbaum.

Cook, B. G., & Odom, S. L. (2013). Evidence-based practices and implementation science in special education. *Exceptional Children*, *79*, 135–144.

Domitrovich, C. E., Gest, S. D., Jones, D., Gill, S., & DeRousie, R. M. S. (2010). Implementation quality: Lessons learned in the context of the Head Start REDI trial. *Early Childhood Research Quarterly*, *25*, 284–298.

Feldon, D. F. (2007). Cognitive load and classroom teaching: The double-edged sword of automaticity. *Educational Psychologist*, *42*, 123–137. doi:10.1080/00461520701416173

Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M., & Wallace, F. (2005). *Implementation research: A synthesis of the literature* (FMHI Publication No. 231). Tampa: University of South Florida, Louis de la Parte Florida Mental Health Institute, National Implementation Research Network.

Harn, B., Parisi, D., & Stoolmiller, M. (2013). Balancing fidelity with flexibility and fit: What do we really know about fidelity of implementation in schools? *Exceptional Children*, *79*, 181–193.

Leko, M. M., Roberts, C. A., & Pek, Y. (in press). A theory of secondary teachers' adaptations when implementing a reading intervention program. *The Journal of Special Education*.

Lieber, J., Butera, G., Hanson, M., Palmer, S., Horn, E., Czaja, C., . . . Odom, S. (2009). Factors that influence the implementation of a new preschool curriculum: Implications for professional development. *Early Education and Development*, *20*, 456–481. doi:10.1080/10409280802506166

Odom, S. L. (2009). The tie that binds evidence-based practice, implementation science, and outcomes for children. *Topics in Early Childhood Special Education*, *29*, 53–61. doi:10.1177/0271121408329171

Sayeski, K. (2014). A mirror and a map. *TEACHING Exceptional Children*, *47*, 79–80. doi:10.1177/0040059914551525

Torres, C., Farley, C. A., & Cook, B. G. (2012/2014). A special educator's guide to successfully implementing evidence-based practices. *Teaching Exceptional Children*, *45*, 64–73.

Winter, S. G., & Szulanski, G. (2001). Replication as strategy. *Organization Science*, *12*, 730–743.

Melinda M. Leko, *Assistant Professor, Department of Special Education, University of Kansas, Lawrence.*

Address correspondence concerning this article to Melinda Leko, Department of Special Education, University of Kansas, 1122 West Campus Rd., Lawrence, KS, 66045 (e-mail: leko@ku.edu).

TEACHING Exceptional Children, *Vol. 48, No. 2, pp. 80–85.*