

Computing a Fidelity Index on a Program with Multiple Components

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For Today

- Background to this Demonstration
- Review of the key criteria of Program Implementation
- Present 11 steps in designing a fidelity index
- Answer questions and hear your comments

Background

- TEG has evaluated over 150 education-based programs over the last 20 years
- Most are multi-year, multi-component programs
- Most have some type of fidelity assessment, but little guidance exists
 - Ex., *What Works Clearinghouse* is explicit on impact evaluation, silent on implementation evaluation

What is a Fidelity Index?

Fidelity Index:

“A quantitative assessment of the extent to which a multi-component intervention has been implemented as intended across the program.”

- Computing a Fidelity Index requires us to “roll-up” scores:

Program-Level



Component-Level



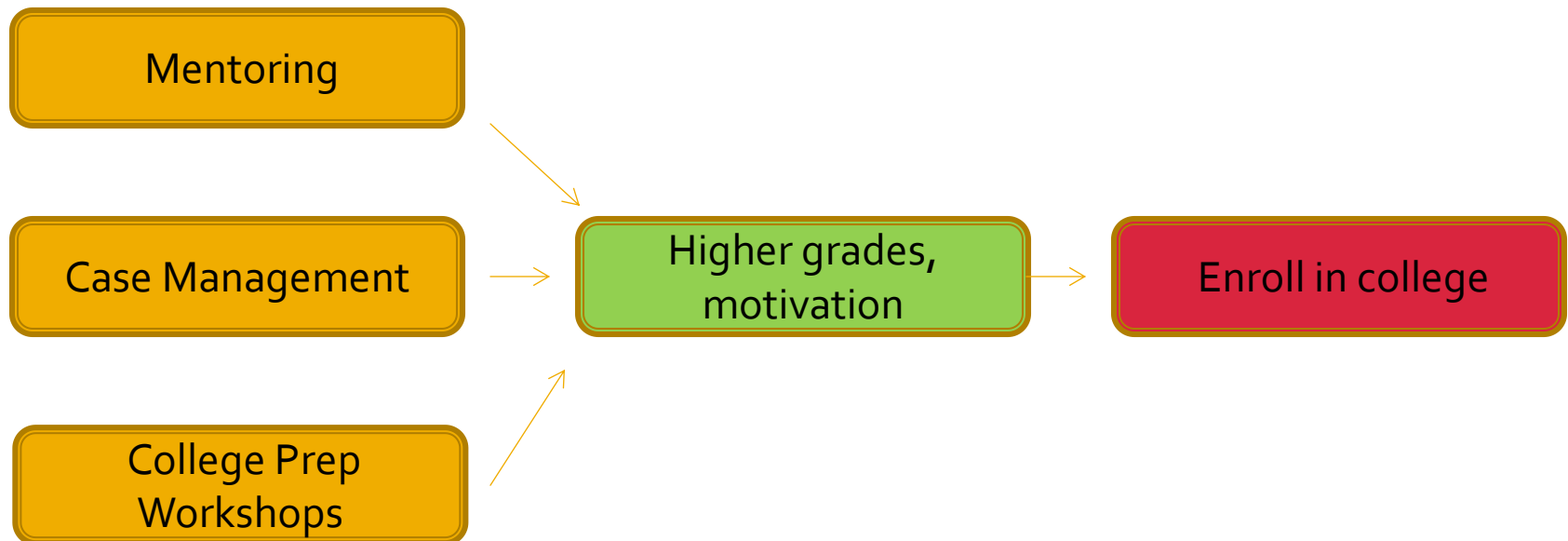
Individual-Level

Key Criteria for Assessing the Implementation of any One Program Component (Durlak and DuPre, 2008)

Individual Level	Program Level
Adherence	Reach
Dosage	Differentiation
Quality	Contrast
Responsiveness	Adaptation

We'll use a Simple Example for the Demonstration

School-based program for 100 at-risk students



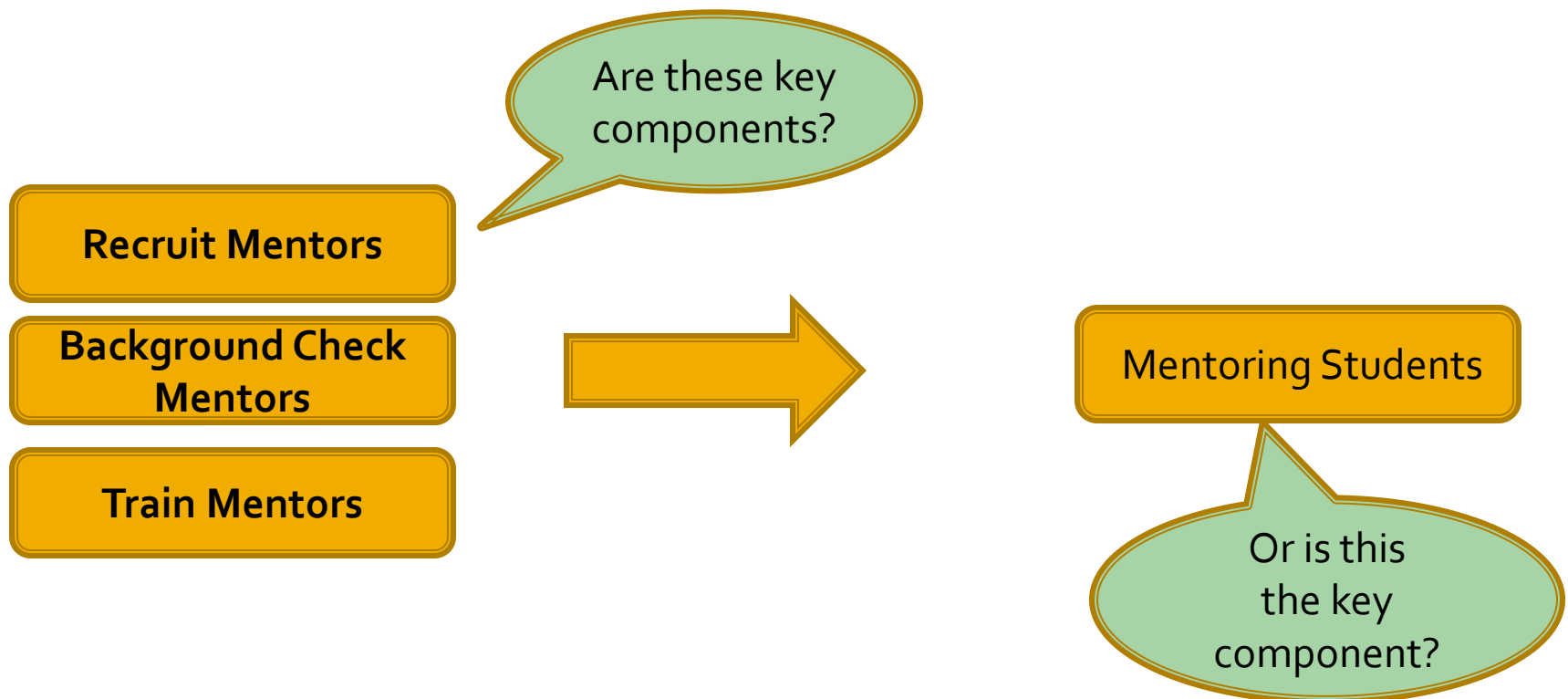
Steps in Creating a Fidelity Index

Step #1: Identify Key Components

- Decide what are the Key Components of your Multi-Component Program.
 - Everything can't be a key component.
 - More key components you identify, the more complex the implementation assessment.
 - **Tip:** Stick to direct services as key components (not preparation or planning services)

Steps in Creating a Fidelity Index

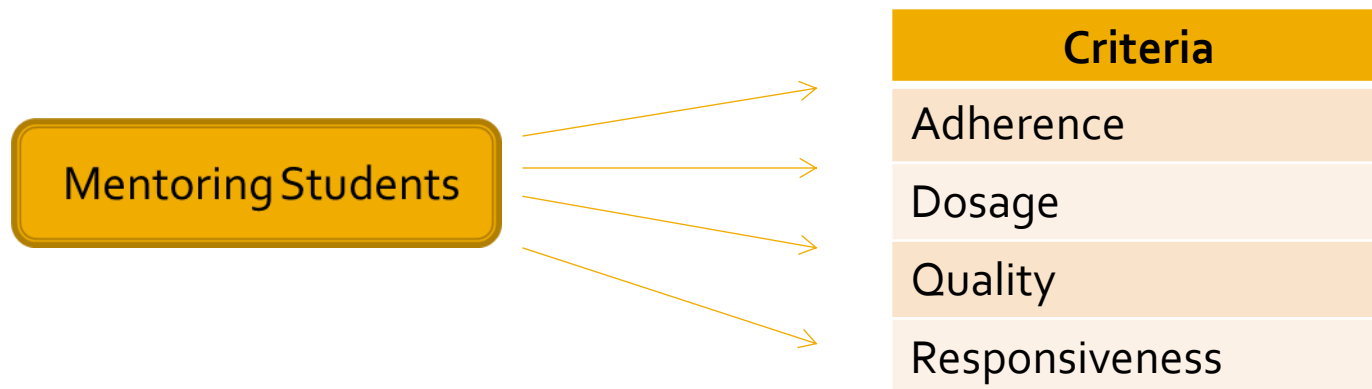
Drilling down with the mentoring component in our example:



Steps in Creating a Fidelity Index

Step #2: Determine your criteria

- Select 1 key component and decide the criteria you will use to assess its implementation
 - Some criteria are more difficult to measure than others (ex., Quality)
 - You don't need to use all criteria!
 - In the example, we will use the first 4 criteria with MENTORING, all of which can be measured at the individual-level



Steps in Creating a Fidelity Index

Step #3: Define your criteria

- Define the criteria and plan for data collection

Criteria	MENTORING Definition of Criteria
Adherence	3 Core ingredients: Mentor must be: an Adult; received training; and be the same gender as his/her mentee. <i>Method: Student survey</i>
Dosage	Weekly 1-1 meetings, minimum of 45 minutes each: <i>Method: School Sign-in/out sheets</i>
Quality	Three standards of quality Mentoring: Mentor is on-time; reviews previous meeting; listens/ask questions: <i>Method: student survey</i>
Responsiveness	Students rate their satisfaction with mentoring on a 1-5 scale. <i>Method: student survey</i>

Steps in Creating a Fidelity Index

Step #4: Determine Levels and Thresholds

- Define the # of levels of implementation and the thresholds (i.e., target) for each level
- Can have any number of levels, but 2-3 seems best. For example:
 - Adequate/not adequate
 - Poor/satisfactory/exemplary
 - Below expectations/meets expectations/exceeds expectations
- Thresholds and criteria are set a priori from:
 - Discussions with program staff
 - Review of program model or grant narrative
 - Known best practices cited in the literature
 - Historical program evidence

Steps in Creating a Fidelity Index

Levels (3)

Mentoring Component			
Criteria	Poor	Adequate	Exemplary
Adherence	1 of 3 core ingredients	2 of 3 core ingredients	3 of 3 core ingredients
Dosage	1/month or less	2-3 month	4+ per month
Quality	Meets 1 of 3 mentoring standards	Meets 2 of 3 mentoring standards	Meets all 3 mentoring standards
Responsiveness	Rating of 1-2	Rating of 3-4	Rating of 5

Thresholds

Steps in Creating a Fidelity Index

Step #5: Assign scores and compute the range

- Here, scores range from 4 (all criteria scored '1') to 12 (all criteria scored a '3')

Criteria	Poor (1)	Adequate (2)	Exemplary (3)
Adherence	1 of 3 core ingredients	2 of 3 core ingredients	3 core ingredients
Dosage	1/month or less	2-3 month	4+ per month
Quality	Meets 1 of 3 mentoring standards	Meets 2 of 3 mentoring standards	Meets all 3 mentoring standards
Responsiveness	Rating of 1-2	Rating of 3-4	Rating of 5

Steps in Creating a Fidelity Index

Step #6: Define implementation at the Individual level

- Determine the range of summed scores that will define poor, adequate, and exemplary implementation

For example:

- 4-6 = poor implementation
- 7-9 = adequate implementation
- 10-12 = exemplary implementation

As with thresholds, ranges are set a priori from:

- Discussions with program staff
- Review of program model or grant narrative
- Known best practices cited in the literature

Steps in Creating a Fidelity Index

Step #7: Define implementation at the Component-level

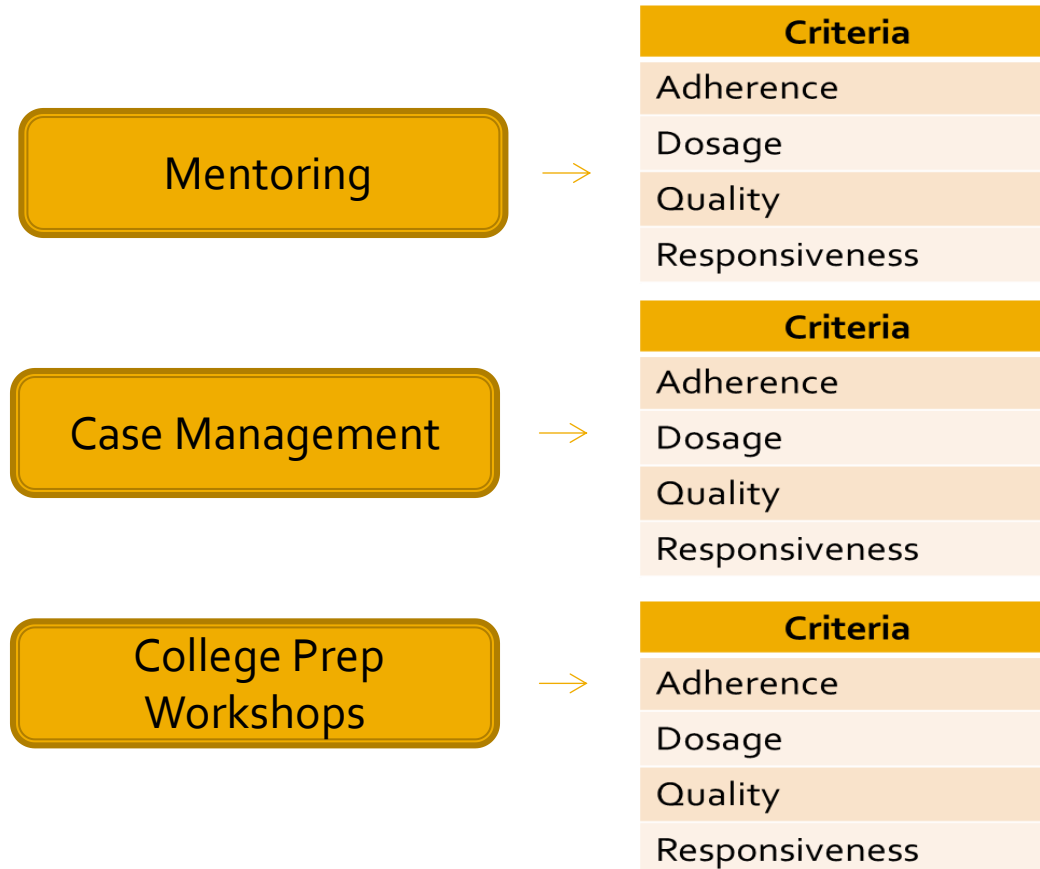
- Determine a priori the range of summed scores that will define poor, adequate, and exemplary implementation at the component level, and assign a score to that level:

Ex.:

- If 50% or fewer score between 10-12 = Poor implementation = score of 1
- If 51-74% score between 10-12 = Adequate implementation = score of 2
- If 75% or more score between 10-12 = Exemplary implementation = score of 3

Steps in Creating a Fidelity Index

Step #8: Repeat steps 2-7 for each of your identified key components



Steps in Creating a Fidelity Index

Step #9: Define Implementation at the program level

- Determine a priori the range of summed scores that will define poor, adequate, and exemplary implementation for ALL component at the PROGRAM level, and assign a score to that level:

Ex.: With 3 components, each with same scoring = range of 3-9:

- Poor implementation = Combined score of 4 out of 9 (44% or less) or less summed across all components
- Adequate Implementation = Combined score of 5-7 out of 9 (55 -77%) summed across all components
- Exemplary implementation = Combined score of 8-9 out of 9 summed across all components (78% or higher)

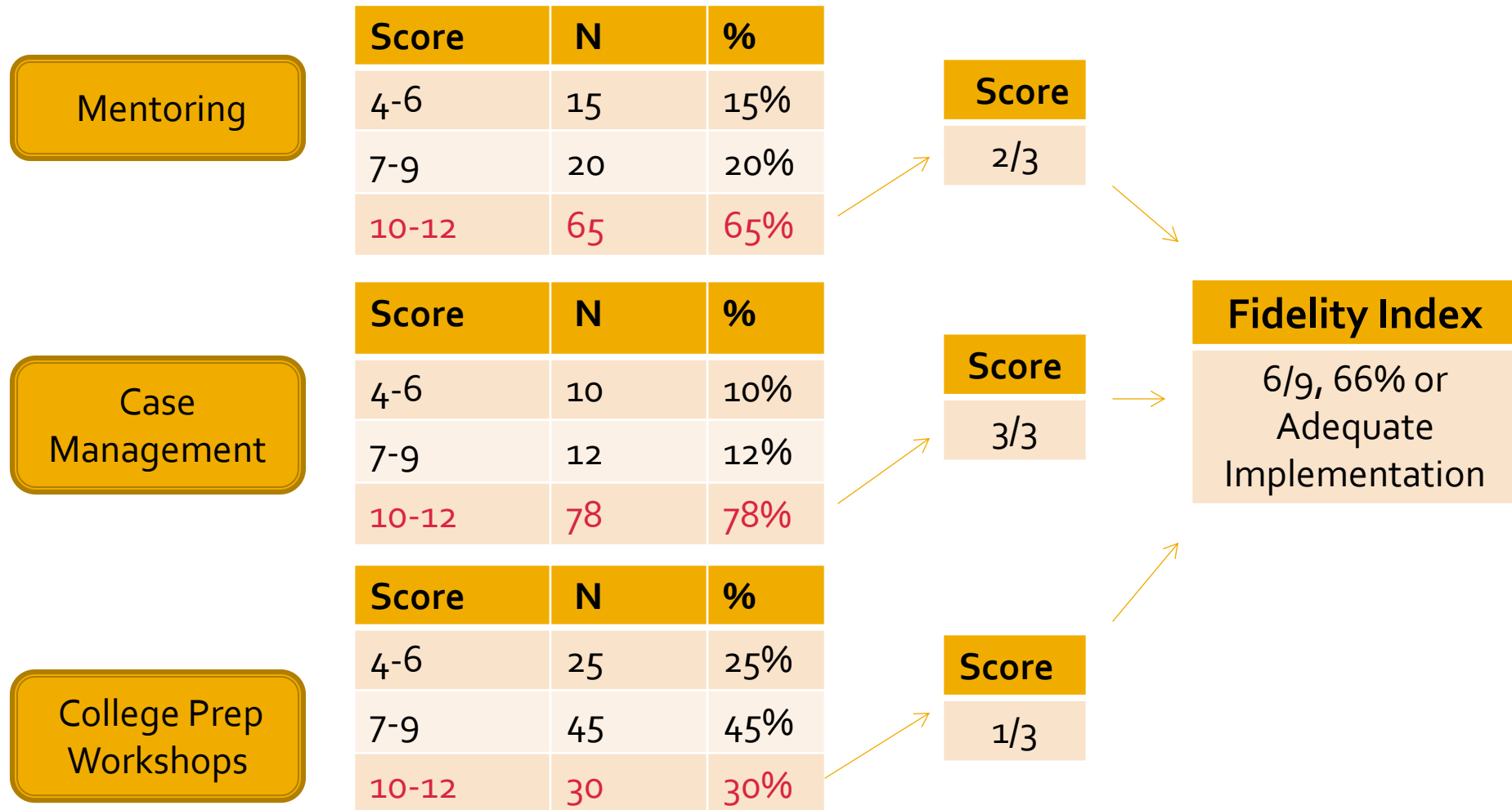
Steps in Creating a Fidelity Index

Step #10 : Score each component at the predetermined time.

Mentoring Component			
Criteria	Poor (1)	Adequate (2)	Exemplary (3)
Adherence	1 of 3 core ingredients Score = 1	2 of 3 core ingredients	3 core ingredients
Dosage	Ave 1/month or less	Ave 2-3 month Score = 2	Ave 4+ per month
Quality	Meets 1 of 3 mentoring standards	Meets 2 of 3 mentoring standards Score = 2	Meets all 3 mentoring standards
Responsiveness	Rating of 1-2	Rating of 3-4	Rating of 5 Score = 3
Summed Score = 8 (adequate)			

Steps in Creating a Fidelity Index

Step #11: Roll-up across components and entire program



Additional Tips

1. Distinguish between individual-level and project-level criteria
2. Can use different criteria for each component
3. Differential weighting

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