



SOURCE: MS. LAURIE DAVIS,
DIRECTOR OF TRIO PROGRAMS, UNIV. OF
SOUTHERN
MAINE

Designing Logic Models



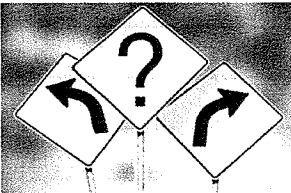
Presenter: Laurie J. Davis
Executive Director
TRIO Programs at USM
Student Support Services
Upward Bound
Veterans Upward Bound



1 FROM A WORKSHOP AT
NEOA ANNUAL CONFERENCE,
WARWICK, RI APRIL, 2019

Why are we talking about logic models?

In the 2017 Veterans Upward Bound grant competition, USDoED asked for the inclusion of a **logic model** in the application. Application instructions mentioned "logic model" just six times on four pages 17-18 and 93-94.



AAUGH!

VUB grant application story:

Here's what happened-

- Just 3 days before submission, the writing team member working on the logic model section said they were stuck and asked for assistance
- Using their work as a starting point, I took on writing this section so it would be ready for submission by Research Services
- I had never written or designed a logic model section for a grant before...




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VUB application said on pages 17-18:

"To more strategically align the VUB Program with broader reform strategies intended to improve postsecondary access and completion, and consistent with the Department's increasing emphasis on promoting evidence-based practices through our grant competitions, the Secretary will also evaluate applications on the extent to which the components of the proposed project are supported by "strong theory"—that is, a rationale for the proposed process, product, strategy, or practice that includes a *logic model*."



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Followed by (page 17, continued):

"We encourage applicants to read carefully the Selection Criteria section of this notice."

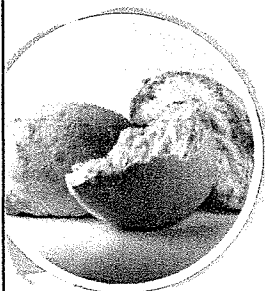


Selection criteria section was found on pages 93-94

"Resources to assist applicants in creating a logic model can be found here: https://ies.ed.gov/ncee/edlabs/regions/pacific/pdf/REL_2014007.pdf"

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VUB application, pages 17-18:



Definitions from 34 CFR 77.1:

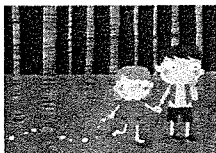
"**Logic model** (also referred to as theory of action) means a well-specified conceptual framework that identifies key components of the proposed process, product, strategy, or practice (i.e., the active "ingredients" that are hypothesized to be critical to achieving the relevant outcomes) and describes the relationships among the key components and outcomes, theoretically and operationally."

"**Strong theory** means a rationale for the proposed process, product, strategy, or practice that includes a logic model."

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VUB Selection Criteria, pages 93-94:

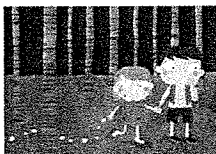
(H). Quality of Project Design: Consistent with the Department's increasing emphasis in recent years on promoting evidence-based practices, the Secretary will evaluate applications on the extent to which the proposed project is supported by a **logic model** that meets the evidence standard of "strong theory."



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VUB Selection Criteria, continued:

A **logic model** (also referred to as theory of action) means a well specified conceptual framework that identifies key components of the proposed process and describes the relationships among the key components and outcomes, theoretically and operationally (as defined in the Notice). Please see the Notice for additional information on how to address this criterion.



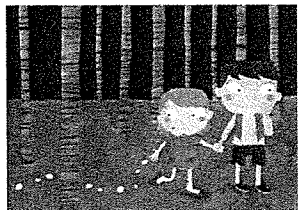
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Resources link from page 17:

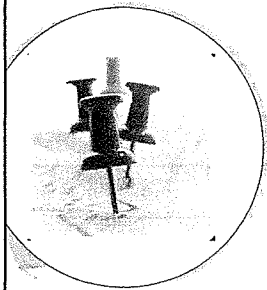
"Resources to assist applicants in creating a logic model can be found here: https://ies.ed.gov/ncee/edlabs/regions/pacific/pdf/REL_2014007.pdf"



- Form groups of three
- Each person read one section
- Share your key take-aways with your group



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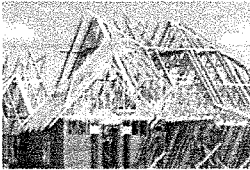
Logic Model answers these questions:

- Where are you going?
- How will you get there?
- What will tell you that you have arrived?

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Logic Model provides:

- **Simplified picture** of relationships between inputs & desired outcomes
- **Framework for:**
 - Planning
 - Implementation
 - Monitoring
 - Evaluation
- **Graphic & explicit representation** of relationships, assumptions, & rationale



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Logic model is NOT:



- **Strategic plan** or fully developed plan for designing or managing program
- **Evaluation design** or an evaluation method

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Logic Model = Inputs ⇒ Outputs ⇒ Outcomes

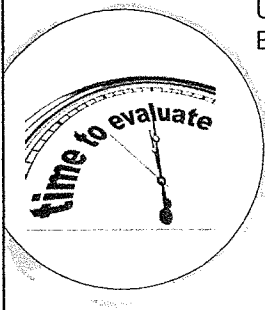
Program components:

- **Inputs:** resources - money, time, people, space & activities - aspects of implementation
- **Outputs:** observable products of completed activities
- **Outcomes:** short, mid, & long term: effects or impacts within various timeframes



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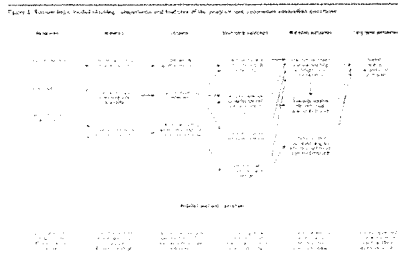
Using Logic Models in Program Evaluation



1. Guide program personnel in understanding activities and intended outcomes more clearly and completely.
2. Helps to identify evaluation questions and remind evaluators of audiences for evaluation report.
3. Allow for general evaluation questions to be fine-tuned into clear, specific, and actionable evaluation questions.

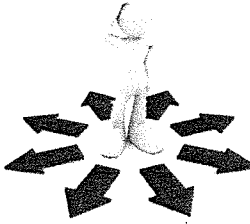
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Sample Logic Model from REL

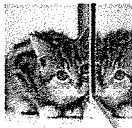


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VUB grant application story:




- While still feeling a bit overwhelmed, this background information gave me a place to start and a model to follow. LAUGH!
- My theory of action was to model USM's application after the information provided so it would mirror what the USDoED grant readers would be trained to look for.



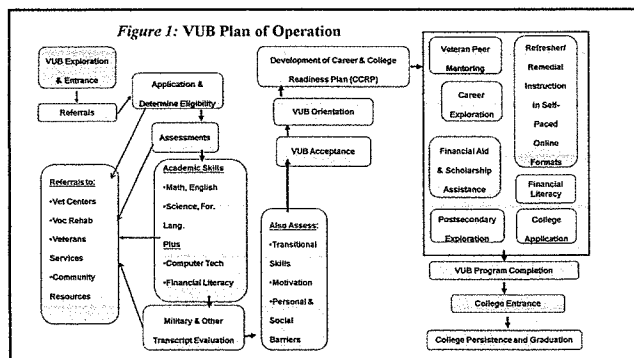
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One successful approach to TRIO Logic Model

- I began with Section C, The Plan of Operation, with Figure 1, shown on the next slide
- Goal of this figure was to graphically show the path of a veteran through the VUB program including:
 - Inputs including resources & activities
 - Outputs
 - Short term outcomes – VUB program completion
 - Mid-term outcomes – Post-secondary enrollment
 - Long-term outcomes – Post-secondary graduation



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Challenges & Solutions:

CHALLENGE

- Creating and importing a graphic like the previous slide into the application was time consuming & not easy.
- Writing Section H. Quality of Program Design entirely as a graphic logic model was likely to take more time than I had available. I also did not want the logic model to cover multiple pages as it would then be hard to follow.
- I decided to use a small graphic logic model and provide information in narrative format following the graphic flow of the logic model.



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H. Quality of Program Design: Logic Model that Meet Evidence of Strong Theory

- **Identify strong theory and research being used**
 - DiRamio, David & Jarvis, Kathryn. *Veterans in Higher Education: When Johnny and Jane Come Marching to Campus: ASHE Higher Education Report, Volume 37, Number 3. 2011, Jossey-Bass*
- **Narrative statement of theory**
 - "DiRamio & Jarvis identify six attributes seen when veterans first seek to pursue a college degree. Addressing these six veteran attributes prior to enrollment in college is posited to increase the chances of the veteran persisting in, and graduating from, college."

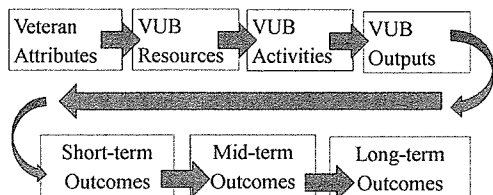
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H. Quality of Program Design: Logic Model that Meet Evidence of Strong Theory, continued

- **Narrative statement of program design and evaluation**
 - "All USM's VUB resources and activities are organized to address these six attributes and to achieve VUB Objectives 1-4. Evaluation questions flow from VUB Logic Model which is based on resources found at http://ies.ed.gov/ncee/edlabs/regions/pacific/pdf/REL_2014007.pdf."

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Figure 2: USM VUB Logic Model for Addressing Attributes & Achieving VUB Objectives



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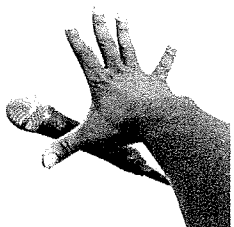
H. Quality of Program Design: Logic Model that Meet Evidence of Strong Theory, continued

“Veteran Attribute: Financial Matters Resources: SALT Financial Literacy curriculum (<https://www.saltmoney.org/index.html>), financial aid & scholarship assistance, peer mentors, VUB staff. Activities: online modules, VUB workshops; FAME financial aid, scholarship, 529 Plan, & FAFSA presentations; peer mentor meetings; VUB advising meetings. VUB Outputs: # of modules, workshops, presentations, & meetings completed. Short-term Outcomes: VUB veterans’ increased awareness & understanding of financial matters, reduced stress. Mid-term Outcomes: Ability to create & implement personal & college financial plan, scholarship, financial aid & FAFSA applications completed, GI Bill benefits applied for. Long-term Outcomes: Achievement of VUB Objectives 1-4.”

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H. Quality of Program Design: Logic Model that Meet Evidence of Strong Theory, continued

Closing statement:
“Clearly USM’s plan of operation for VUB is based on strong research about veterans, and college access and success for veterans and LI/FG students, and uses a well-developed Logic Model to organize and evaluate VUB programming.”



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Technical Review – Quality of Program Design

Evaluate to what extent the applicant has demonstrated the quality of the design of the proposed project and the extent to which the proposed project is supported by strong theory. As stated in the Notice Inviting Applications, Strong Theory means a rationale for the proposed process, product, strategy, or practice that includes the logic model. Logic Model (also referred to as theory of action) means a well-specified conceptual framework that identifies key components of the proposed process, product, strategy, or practice (i.e., the active ingredients that are hypothesized to be critical to achieving the relevant outcomes) and describes the relationships among the key components and outcomes, theoretically and operationally.

- Maximum points (5)

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Technical Review Comments & Score:

Reader # 1:

Strengths: The applicant provided evidence-based practices that clearly demonstrate the relevance of the intervention evaluated in the cited study to an intervention outlined for the proposed project activities. All USM's VUB resources and activities are organized to address these six attributes and to achieve VUB Objectives 1-4. Evaluation questions flow from VUB Logic Model which is based on resources.

Weaknesses: No weaknesses noted

Reader's Score: 5



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Technical Review Comments & Score:

Reader # 2:

Strengths: The applicant justified its design of the proposed project and states its theory of change. It is evidence based from the work of DiRamio and Jarvis and focuses on addressing six veteran attributes to increase the chances of veterans enrolling in, persisting in and graduating from college. The applicant presents how it would address each attribute and how each would contribute to project outcomes.

Weaknesses: None

Reader's Score: 5



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Technical Review Comments & Score:

Reader # 3:

Strengths: The applicant has demonstrated a high quality of design in this proposed project. It is based on strong theory and the research findings of DiRamio and Jarvis who identified six attributes which should be addressed before veterans start college in order to facilitate success. These are finances, health concerns, psychological and adjustment difficulties, family background, skills and abilities and prior schooling. An appropriate logic model is included with veteran attributes, resources, activities, outputs and outcomes.

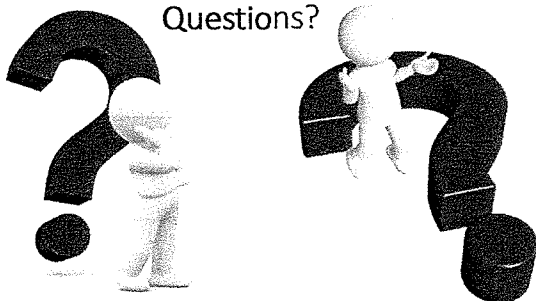
Weaknesses: None noted

Reader's Score: 5



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Questions?



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Paul R. Brandon, University of Hawaii at Mānoa
Louis Cicchinelli, Mid-continent Research for Education and Learning
Wendy Kekahio, Mid-continent Research for Education and Learning

Logic models can help educators plan and monitor program evaluations. This introduction to logic models as a tool for designing program evaluations defines the major components of education programs—resources, activities, outputs, and short-, mid-, and long-term outcomes—and uses an example to demonstrate the relationships among them.

Teachers, curriculum coordinators, principals, district personnel, and others involved in education are often responsible for purchasing and implementing education programs or for designing, planning, and implementing their own. Legislators, school boards, and state administrators generally require that these programs be evaluated.

This quick reference guide introduces logic models as a tool to help educators plan and monitor program evaluations. It is one of a four-part series on program planning and monitoring released by Regional Educational Laboratory Pacific.¹

Program components and logic models

Education programs can be characterized by four components:

- *Resources*—inputs to the program.
- *Activities*—aspects of implementation.
- *Outputs*—observable products of the completed activities.
- *Outcomes, short-, mid-, and long-term*—effects or impacts within various timeframes.

When these components are depicted as a sequence of events, the resulting graphic display reflects the logic underlying the program—thus the term “logic model” (figure 1). Logic models reveal the relationships among program resources, activities, outputs, and short-, mid-, and long-term outcomes. The relationships among program components are usually represented in a logic model by arrows that show

how one program feature (say, a teacher professional development activity) affects another (say, increased teachers' content knowledge). Educators can use these representations to plan evaluations, monitor the implementation of program activities, and determine the extent to which programs have their intended effects. Logic models also guide evaluators in determining how well evaluation questions are being addressed.

Using logic models in program evaluations

Education program evaluations are typically conducted to provide the information that stakeholders need to make decisions about program resources, activities, outputs, and outcomes. These program components are often the focus of evaluation questions such as these:

- To what degree were the program resources sufficient to implement the program effectively?
- To what degree were the program activities conducted as intended?
- To what degree were the expected program outputs realized?
- To what degree did the program achieve its short-, mid-, and long-term outcomes?

Logic models are helpful in three ways in planning and monitoring evaluations that answer these questions. First, they guide program personnel in understanding the program's activities and intended outcomes more clearly and completely. They can also help program personnel who have experience writing program proposals or plans become more systematic in thinking through the details of the program and the relationships among its components at various stages.

Second, having the program and its outcomes laid out in a logic model helps educators identify evaluation questions. With a budget for an evaluation in mind, educators can use logic models to decide which program features are most crucial and then develop evaluation questions that address the program features and their interrelationships. The model can remind educators of the program stakeholders who might be involved in preparing evaluation instruments, collecting data, and so forth. It also can remind educators of the audiences for an evaluation report (such as superintendents, board members, and legislators).

Third, logic models allow for general evaluation questions to be fine-tuned into clear, specific, and actionable evaluation questions. Conversely, general evaluation questions can serve as the starting point for developing a logic model. General evaluation questions are often identified before the logic model is developed but selecting more specific evaluation questions usually comes after a logic model has been created and evaluators have a clear understanding of the evaluation resources needed to adequately address them.

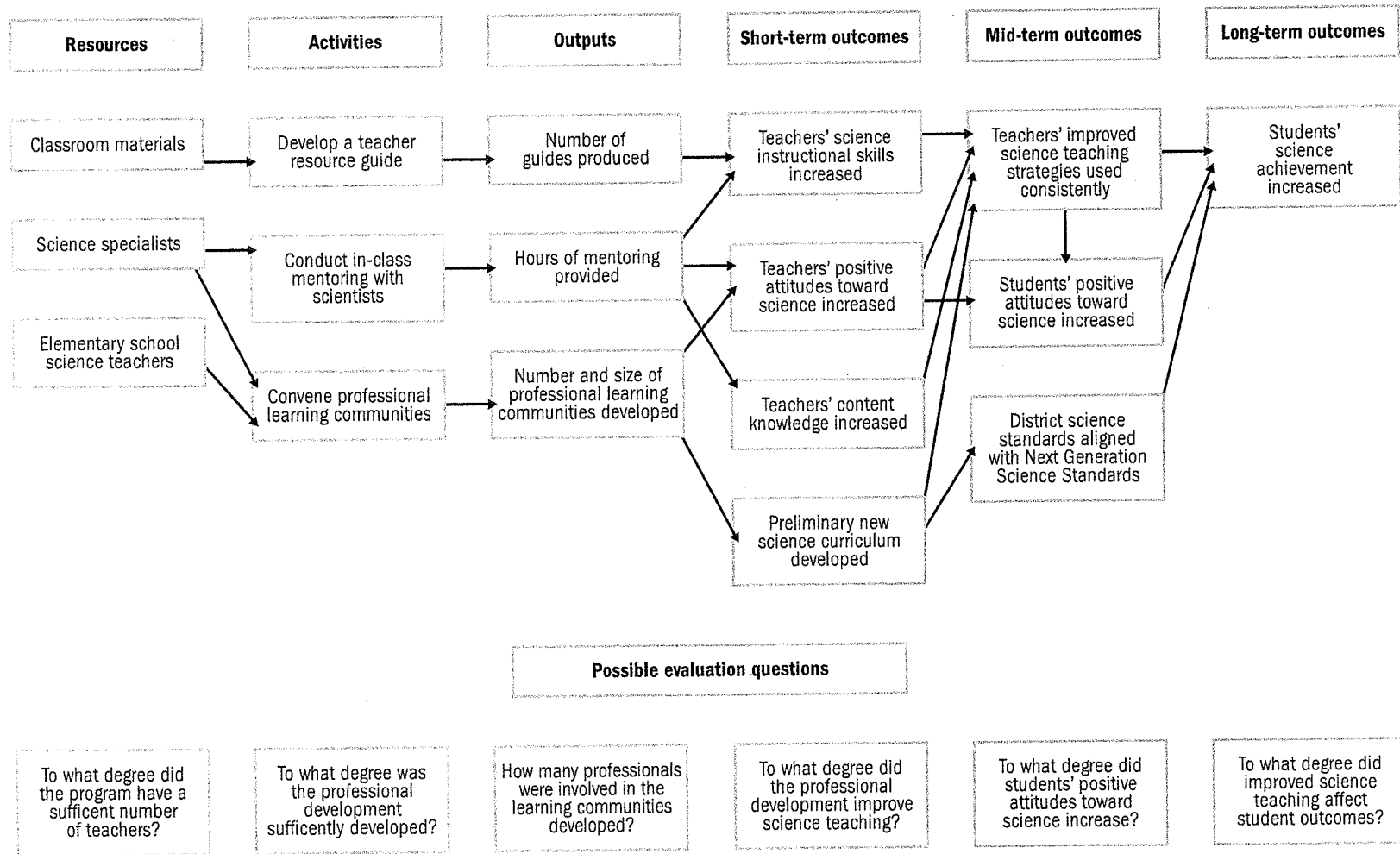
A sample logic model

A sample logic model is helpful for understanding its use in evaluations (figure 1).

Suppose a district curriculum development team is developing an early elementary school science program in order to increase students' academic outcomes in science. Figure 1 shows a logic model that the team might produce and the evaluation questions that might be associated with each program component.

The boxes in the first row of the figure identify the project components. The boxes below each component show the features of the program that address that component. The arrows show relationships among the boxes. Only major features of the program are displayed in the logic model. The evaluation questions at the

Figure 1. Sample logic model showing components and features of the program and associated evaluation questions



Source: Authors.

bottom of the figure reflect the issues whose answers educators or program funders might consider essential for each component of the program.

This guide, along with other guides and a computerized application designed to build a logic model, will be available for download in 2014 from the REL Pacific website (relpacific.mcrel.org) or by contacting REL Pacific at relpacific@mcrel.org.

Note

1. For more information on the series of guides and other resources, see the Institute of Education Sciences website (<http://ies.ed.gov/ncee/edlabs/regions/pacific/>) or the REL Pacific website (<http://relpacific.mcrel.org/>).

REL 2014–007

The National Center for Education Evaluation and Regional Assistance (NCEE) conducts unbiased large-scale evaluations of education programs and practices supported by federal funds; provides research-based technical assistance to educators and policymakers; and supports the synthesis and the widespread dissemination of the results of research and evaluation throughout the United States.

February 2014

This report was prepared for the Institute of Education Sciences (IES) under Contract ED-IES-C-12-0010 by Regional Educational Laboratory Pacific administered by Mid-continent Research for Education and Learning. The content of the publication does not necessarily reflect the views or policies of IES or the U.S. Department of Education nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

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Lawton, B., Brandon, P.R., Cicchinelli, L., & Kekahio, W. (2014). *Logic models: A tool for designing and monitoring program evaluations*. (REL 2014–007). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Pacific. Retrieved from <http://ies.ed.gov/ncee/edlabs>.

This report is available on the Regional Educational Laboratory website at <http://ies.ed.gov/ncee/edlabs>.

**Information regarding Selection Criteria (H) Quality of Program Design from
FY2017 TRIO Veterans Upward Bound Competition
Prepared by Laurie J. Davis, TRIO Consultant
February 14, 2019**

The TRIO Veterans Upward Bound competition added a new section entitled (H) Quality of Program Design to the Selection Criteria, worth an additional 5 points. The two sections from FY2017 VUB Application Instructions relevant to this new selection criteria were found on pages 17-18 and on pages 91, and 93-94. These sections are copied from the application and are shown below.

VUB Application Instructions, Pages 17-18:

“Background:

The VUB Program is a critical component of the Department’s efforts to improve college readiness, college access, college selection, and degree completion for veterans. To more strategically align the VUB Program with broader reform strategies intended to improve postsecondary access and completion, and consistent with the Department’s increasing emphasis on promoting evidence-based practices through our grant competitions, the Secretary will also evaluate applications on the extent to which the components of the proposed project are supported by “strong theory”--that is, a rationale for the proposed process, product, strategy, or practice that includes a logic model. We encourage applicants to read carefully the Selection Criteria section of this notice. Resources to assist applicants in creating a logic model can be found here:

https://ies.ed.gov/ncee/edlabs/regions/pacific/pdf/REL_2014007.pdf .

Definitions:

These definitions are from 34 CFR 77.1.

Logic model (also referred to as theory of action) means a well-specified conceptual framework that identifies key components of the proposed process, product, strategy, or practice (i.e., the active “ingredients” that are hypothesized to be critical to achieving the relevant outcomes) and describes the relationships among the key components and outcomes, theoretically and operationally.

Strong theory means a rationale for the proposed process, product, strategy, or practice that includes a logic model.

Program Authority: 20 U.S.C. 1070a-11 and 20 U.S.C. 1070a-13.

Applicable Regulations: (a) The Education Department General Administrative Regulations (EDGAR) in 34 CFR parts 75 (except for 75.215 through 75.221), 77, 79, 82, 84, 86, 97, 98, and 99. (b) The Office of Management and Budget Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement) in 2 CFR part 180, as adopted and amended as regulations of the Department in 2 CFR part 3485. (c) The Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards in 2 CFR part 200, as

**Information regarding Selection Criteria (H) Quality of Program Design from
FY2017 TRIO Veterans Upward Bound Competition
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February 14, 2019**

adopted and amended as regulations of the Department in 2 CFR part 3474. (d) The regulations for this program in 34 CFR part 645.

Note: The regulations in 34 CFR part 79 apply to all applicants except federally recognized Indian Tribes.

Note: The regulations in 34 CFR part 86 apply to institutions of higher education only.”

VUB Application Instructions, Pages 91, 93-94, Section (H) Selection Criteria:

Page 91:

“To facilitate the review of the application, provide responses to each of the following selection criteria in the following order:

A. Need (34 CFR 645.31(a))	(24 points)
B. Objectives (34 CFR 645.31(b))	(9 points)
C. Plan of Operation (34 CFR 645.31(c))	(30 points)
D. Applicant and Community Support (34 CFR 645.31(d))	(16 points)
E. Quality of Personnel (34 CFR 645.31(e))	(8 points)
F. Budget and Cost Effectiveness (34 CFR 645.31(f))	(5 points)
G. Evaluation Plan (34 CFR 645.31(g))	(8 points)
H. Quality of Project Design (CFR 75.210)	<u>(5 points)</u>
Total Maximum Score for Selection Criteria	105 points

Page 93-94: (H). Quality of Project Design: Consistent with the Department’s increasing emphasis in recent years on promoting evidence-based practices, the Secretary will evaluate applications on the extent to which the proposed project is supported by a logic model that meets the evidence standard of “strong theory.” A logic model (also referred to as theory of action) means a well specified conceptual framework that identifies key components of the proposed process and describes the relationships among the key components and outcomes, theoretically and operationally (as defined in the Notice). Please see the Notice for additional information on how to address this criterion. “

This last section regarding seeing the Notice for additional information is a reference to pages 17-18 of the VUB Application Instructions.

On Page 17 where the instructions state, “Resources to assist applicants in creating a logic model can be found here:

https://ies.ed.gov/ncee/edlabs/regions/pacific/pdf/REL_2014007.pdf”, the link leads to the attached five page paper on Logic Models.

Figure 1: VUB Plan of Operation

