Designing Your Evaluation Plan

David Dreisigmeyer, Ph.D. and William Rodick, Ph.D.

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This is the second in a series of white papers looking at the use of a business process model (BPM) for framing learning agenda development. Here we will look at designing an evaluation plan to answer the priority questions in your learning agenda.

THE BUSINESS PROCESS MODEL

Recall that a BPM is a way to organize an agency's workflow when creating and implementing their learning agendas and evaluation plans. In the first paper in this series, we used a modified version of the Generic Statistical Business Process Model (GSBPM) to frame early learning agenda steps: engage relevant stakeholders, identify their priority questions, and write the learning agenda (see Figure 1).

The next step in the process—undertake learning agenda activities—introduces the evaluation plan. An evaluation plan will describe the evaluation activities you plan to conduct to address priority questions. The evaluation plan will include detailed descriptions of the short-term activities you will undertake. These descriptions will overlap with the broader, longer view of activities described in the learning agenda.

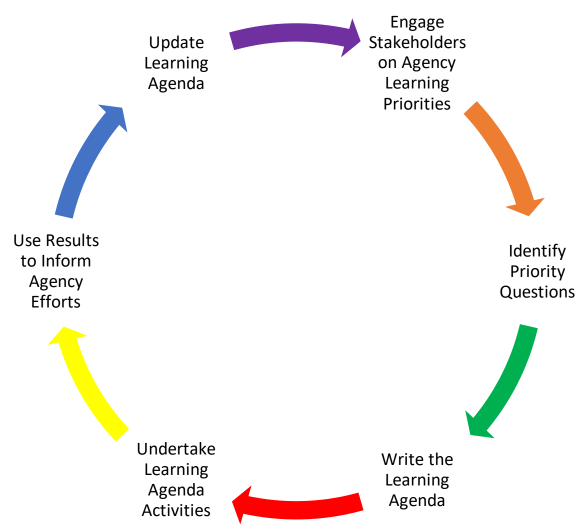

Figure 1 Learning Agenda and Evaluation Plan Process (From OMB M-19-23)

Here we will see how the GSBPM can help you develop a detailed evaluation plan.

FRAMING ACTIVITES AND EMBEDDING QUALITY CHECKS

The strength of the GSPBM is that it provides clear steps for your workflow. Here, we have adapted part of that workflow and describe it below as eleven activities. These activities can be performed sequentially, or iteratively if previous steps need to be revisited.

We also embed quality check questions that align to each of the activities to help you along. The quality checks help to ensure the evaluation plan is faithfully implemented in support of your learning agenda. You may find additional questions are also suited to your quality needs.

Specifying the outputs

To begin the evaluation plan process, you will specify what the plan will produce and how outputs will be shared. This should include considerations about the different needs, and potentially different deliverables, for various stakeholders. Once you know what you will be sharing, and how you want to share the outputs, you can begin to fill in the details of how to do that.

Evaluation Plan Activities

1. Specifying the outputs
2. Detailing the needed evidence
3. Specifying the evidence sources
4. Describing the collection methods
5. Describing the processing and analysis
6. Organizing your team
7. Building the collection methods
8. Building the infrastructure
9. Specifying the workflow
10. Testing your system
11. Finalizing the evaluation plan

Quality Check 1: Specifying the outputs

- Have the confidentiality rules and microdata access procedures been specified?
- To what extent do your outputs meet the learning agenda requirements?
- How have any changes to your outputs met new stakeholder requirements?
- Is there a plan in-place for revisions to the results?

Detailing the needed evidence

In this step you will lay out a detailed description of all the data elements you will need, along with any evidence you expect to derive from these. You want unambiguous definitions for all your variables, and a clear idea for how they will be formatted and how they may relate to each other. This step will often be run concurrently with the "Specifying the evidence sources" and "Describing the collection methods" steps below. You will want to strive for using existing, standardized definitions for your data elements, and capturing this as metadata, to facilitate reuse.

Quality Check 2: Detailing the needed evidence

- How standardized are your data element definitions?
- How many new definitions have you created?
- How well documented are your definitions to allow for easy reuse of your data?
- How complete and standardized is your metadata?

Specifying the evidence sources

At this step you will identify what evidence sources you will be using and how to procure them. This could include, for example, a contact point for data, the cost of data, any purchasing agreements that are needed, the funding source, and subject matter experts needed to effectively leverage data. Data can be proprietary, administrative, or programmatic, and could be at the local, state, or federal level. Evidence can include existing data or data that need to be collected.

Quality Check 3: Specifying the evidence sources

- How much data will you be using versus collecting?
- How complete is the existing metadata for data sources?
- Do you have a complete plan for acquiring existing data?
- Have you explored all avenues for acquiring existing data?

Describing the collection methods

You will need to have a detailed plan in place for any data you must collect yourself. The evidence collected should be consistent with the "Detailing the needed evidence" step. As an example, if a survey will be used, you should ask yourself who will be completing the survey, what will be the wording of the questions and how will the survey be performed? You want to ensure you have the appropriate subject matter expertise when designing your collection method to avoid pitfalls and make sure the data you collect is high quality and valuable.

Quality Check 4: Describing the collection methods

- How much does your collection method correspond with your detailed evidence needs?
- To what extent are you using or reusing standard methods for your collection?
- Is your collection method suitable for the data you need to collect?
- Have you revised your collection methods to meet evolving needs?
- Have subject matter experts verified the collection methods?
- Who will you be contacting and how are you determining that?
- Is this a census or a sample, and what are the implications of that?
- How much data will be confidential?
- How much burden does the collection create?
- How will respondents be contacted?
- Have you employed appropriate quality and ethics frameworks and guidelines?

Describing the processing and analysis

The data you collect will often need to be cleaned and processed. You may need to impute, validate or derive variables. Ultimately, the data needs to be analyzed to answer your priority questions. This is the stage where you provide the details of how you will move from data to evidence.

Quality Check 5: Describing the processing and analysis

- How much are you reusing existing processing pipelines?
- To what extent are you using accepted, standardized processing methods?
- Is your analysis methodologically sound and verified by subject matter experts?
- Have you put in-place procurement for any software or support?
- Have you specified how all your evidence will be combined?
- Have you put in-place appropriate guidelines for the quality, integrity, and ethics of your analysis?

Organizing your team

Now you’re ready to decide on who your evaluation team will be, within any resource constraints you may have. You can look towards contractors, partnerships with academia, non-profits, or the private sector, and utilizing the people within your own organization. It’s important to have the available expertise and capabilities to carry out your evaluation plan.

Quality Check 6: Organizing your team

- Do you have the expertise in-place to carry out your evaluation plan?
- Do you have sufficient resources, financial and otherwise?
- Are all your procurement requirements finalized?
- What is the workflow between your team from beginning to end?
- How will you coordinate your team?

Building the collection methods

Here the focus shifts from designing to implementation. You’re ready to build the collection method you previously designed. You can investigate using commercial off the shelf (COTS) software, reusing an existing system, or designing your own.

Quality Check 7: Building the collection methods

- To what extent does your collection method meet your design specifications?
- Have you thoroughly tested your collection method?
- What is the estimated burden on the respondents?
- How will you combine the evidence from different collection methods?
- How will you collect and archive the paradata?
- How will you collect and archive the metadata?

Building the infrastructure

You will want to make sure you have, for example, the necessary software and hardware, and office space for the team members. You’ll also want to consider any training your team members will need.

Quality Check 8: Building the infrastructure

- Do you have the necessary software and hardware?
- What is the flow between your infrastructure components?
- Have the components been thoroughly tested?
- Has the infrastructure been documented?
- Do you have the training sessions designed?
- Do you have support in-place for using the infrastructure components?

Specifying the workflow

Now that you have the workflow for your team and infrastructure specified, you can design your overall system workflow. This can take the form of a workflow manual, where specific tasks are decided on, assigned, and can be documented as completed. There should be enough detail so that the results are reproducible. You will also want a timeline to guarantee your outputs are timely and relevant.

Quality Check 9: Specifying the workflow

- Have all the tasks been decided on and documented?
- Is everything assignable?
- What are the inputs and outputs from each task?
- How long should each task take?

Testing your system

You may also want to test the entire workflow at this point, to make sure the handoffs from one task to another occur as expected.

Quality Check 10: Testing your system

- Do the outputs of one process match the inputs of another process?
- Is the communication between team members coordinated during the entire workflow?

Finalizing the evaluation plan

Now you have everything ready for implementing your evaluation plan. Your team is ready.

Quality Check 11: Finalizing the evaluation plan

- What is your confidence that the evaluation plan can deliver your specified outputs?

CONTINUING A BUSINESS PROCESS MODEL

In the first white papers, we've seen how a business process model (BPM) can assist when developing learning agendas and evaluation plans. How a BPM is used for the implementation of evaluation plans will be explored in a future white paper. We will also look at updating learning agendas and evaluation plans year-over-year as new evidence provides new insights.

One nice feature of the GSBPM is that it is easy to incorporate multiple requirements. These could be from the Paperwork Reduction Act or the Information Quality Act, or other guidelines and frameworks. We will look at this aspect in future whitepapers.

RESOURCES

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ABOUT THE AUTHORS

David Dreisigmeyer, Ph.D. (david.dreisigmeyer@trewon.com) is the Federal Data Strategist Subject Matter Expert at Trewon Technologies.

Trewon Technologies 800 Corporate Dr, Suite #301, Stafford, VA 22554 (703) 242-1378 www.trewon.com

William Rodick, Ph.D. (william.rodick@trewon.com) is a Senior Research Analyst at Trewon Technologies.

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Trewon's Research and Evaluation team is comprised of a range of experts with decades-long experience supporting government clients in all aspects of research and evaluation support services, such as developing learning agendas and evidence plans, implementing the Federal Data Strategy, facilitating stakeholder engagement, designing valid and reliable quick turnaround studies, collecting and analyzing data, providing technical assistance, developing engaging reports, and fostering a culture of learning and continuous improvement. Our clients include the National Science Foundation, the National Center for Science and Engineering Statistics, the Department of State, the Department of Justice, the Department of Defense, City Gate Foundation, and the Center for Medicare and Medicaid Services.