

**Developing a Theory of Action:  
A Foundation of the NIA Response**

**Scott Marion**

**Center for Assessment<sup>i</sup>**

**April 16, 2010**

The first part of the design section of the NIA response calls for a theory of action to be developed by each consortium. While the specific response to this section is worth only five of 200 points, it serves as an important foundation to most subsequent design sections. Further, the research and evaluation section should be designed, in large part, to evaluate the claims explicated in the theory of action. The requirements in the NIA, quoted below, actually do a good job in outlining the important aspects of a theory of action for an assessment system:

- (a) Each component of the proposed assessment system and the relationship of the component to other components in the system;*
- (b) How the assessment results produced by each component will be used;*
- (c) How the assessments and assessment results will be incorporated into a coherent educational system (i.e., a system that includes standards, assessments, curriculum, instruction, and professional development); and*
- (d) How the educational system as a whole will improve student achievement and college- and career-readiness (as defined in the NIA).*

A theory of action outlines the intended components of the system, while clearly specifying the connections among these components. Most importantly, a theory of action must specify the hypothesized mechanisms or processes for bringing about intended goals. In the case of the NIA, the theory of action should describe how the particular clear goals will be achieved as a result the proposed assessment system(s). The theory of action must clearly articulate how the educational system will get from “A to B” as a result the proposed system. In other words, what processes must be in place in order for the consortium to achieve its goals and what empirical

evidence exists to support the proposed expectations? The theory of action must explicitly describe prioritized design choices, e.g., influencing and shaping teaching and learning or measuring existing knowledge, or making cross-state comparisons. The theory of action is a check on the logic of the underlying assumptions of the various proposals and will serve as important touchstone during the design process. Again, a theory of action is not just a bunch of pretty shapes and arrows created with a piece of software. It must be an empirically and logically based argument that outlines how the specific proposed system will fulfil the stated goals and how it will do so.

This theory of action is really a simplified interpretative argument that requires the explication of the intended components of an assessment and decision system as well as the mechanisms by which a test user could reasonably expect to get from one step to the next. Developing a theory of action for any validation, evaluation, or test development activity is a useful exercise. Policymakers and assessment design teams should have to very explicitly lay out how and why they think that implementing a common assessment system will lead to improved educational opportunities, including college and career readiness rates, for students. In addition to the “why”, they should have to describe the “how” or the mechanisms by which they think that these improved learning opportunities will occur. For example, one might postulate that common assessment scores supporting fair comparisons across states will lead to higher expectations among policy makers and educators in participating states. These higher expectations, in turn, will encourage higher performance among students. The theory of action is falsifiable. In other words, the ToA is not just a set of beliefs, but represents a series of hypotheses that should be based on research or previous practice. This is critical. When outlining the theory of action, the design team needs to ensure that connections among various aspects of the assessment system are not simply belief statements, but they can be supported by research, ideally, or at least best practices if research is not available.

### **Getting Started**

While there is no single approach used for creating a theory of action, the following steps may be useful for developing a theory of action for the consortium-based assessment system.

1. Clearly describe the **goals** of the assessment system. It is quite likely that there will be multiple goals for the system, but the consortium should try to narrow these down to the highest priority and highest consensus goals. These goals will certainly include the specific outcomes (see step #3), but will also include broader goals for the educational system.
2. The next step is to articulate the **purposes** and intended **uses** of the assessment system results. Being as clear as possible about the goals, purposes, and intended uses helps provide the foundation for the theory of action.
3. The design team should then agree on the specific **outcome** or outcomes of the system. For example, a likely common outcome for these assessment systems will be to increase the rates of college and career readiness (CCR) for all students. This outcome or outcomes will be closely related to the goals for the system.
4. The next step is to start laying out the assessment and educational system **mediating outcomes** necessary to achieve the ultimate outcome(s). Using the example of improving the rates of CCR for all students, some important mediating variables could include such things as “students will score higher on measures of the CCSS”, “student growth trajectories will improve over time”, and “teachers (after receiving useful assessment information) will improve their instruction and curriculum.” These are just a few of many examples and the reader should note that some of these would be influenced prior mediating outcomes and each would need to be expanded by clarifying the mechanisms (see step #7).
5. We have found it helpful to create an initial “high-level” (large grain size) theory of action as a first step. This lays out the big picture components and illustrates how these major components are intended to relate to one another.
6. Once the high level theory of action is created, design teams should add enough details to articulate how these major components relate to the minor components. At a certain point, the design team will need to decide the level of detail that can be represented in a single diagram, if this is done pictorially, or in a single set of written steps or statements.
7. The final step involves “zooming in” on several key components of the theory of action to add the detail necessary to support the assessment design and the validity argument.

This step is crucial because this is where the design teams have the opportunity to specify

the hypothesized mechanisms by which the intended intermediate and final outcomes are thought to occur. For example, a theory of action might suggest that providing accurate growth information will lead to improved student learning. In this case, the design team, when working at this detailed level, should be expected to hypothesize the mechanisms or processes by which these growth data will lead to better learning outcomes for students such as the development of actionable reporting systems that allow teachers to better differentiate instruction to help students improve their growth rates. The specification of this hypothesized mechanism then becomes a claim to be included in the validity argument.

It is intended that this document can serve as a useful starting point for states engaging in the development of a theory of action. The steps outlined above are just one of many possible approaches for generating a theory of action for an assessment system. There are undoubtedly many other approaches for accomplishing the same end, but we hope that this can serve as a useful example for getting started with this important task.

---

<sup>i</sup> This paper is one of a series of brief documents produced by the Center for Assessment designed to assist state consortium leaders in thinking about and preparing their responses to the United States Department of Education Notice Inviting Applications for Comprehensive and High School Assessment System grants. Funding has been provided by the Bill & Melinda Gates Foundation. The views expressed in this paper are those of the authors and do not necessarily reflect the views of the Gates Foundation.