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RESEARCH AND PRACTICE NOTE

WHAT AN EIGHT-YEAR-OLD CAN TEACH US ABOUT LOGIC MODELLING AND MAINSTREAMING

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Abstract: This article presents a short case narrative, the purpose of which is to illustrate that complex evaluation methodologies such as logic modelling can be simplified to the point where a child can be guided through the process quickly. However, the case narrative also serves to highlight the potential consequences to program development and evaluation activities when the process is oversimplified. Like a double-edged sword, simplifying the process encourages more organizations to use a logic model to develop and evaluate programs, but, in hindsight, the simplicity may lead to program architectures that have little opportunity of demonstrating success or to evaluations that may be off the mark.

Résumé : Cet article présente une courte étude narrative servant à illustrer que les méthodologies d'évaluation complexes, telles que l'élaboration de modèles logiques, peuvent être simplifiées au point de pouvoir guider rapidement un enfant tout au long de leur processus. Néanmoins, cette étude narrative sert aussi à souligner les conséquences potentielles en termes d'élaboration de programmes et d'activités d'évaluation, lorsqu'un processus est trop simplifié. Comme une lame à double tranchant, la simplification du processus encourage davantage d'organisations à utiliser un modèle logique pour concevoir et évaluer des programmes. Toutefois avec du recul, cette simplicité peut mener à des architectures de programme n'ayant que peu d'occasions de démontrer leur réussite, ou bien à des évaluations qui répondent à côté de la question.

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A logic model is an important tool for evaluators in planning and evaluating programs. However, logic models have been criticized for being overly complex: developed by evaluators for evaluators (Arnold, 2006). In some cases, the evaluator and/or the program staff spend hours or days developing the logic model, but never utilize the model when developing activities, to use as a benchmark for evaluation findings, or to measure the original problem as an outcome variable (Hernandez, 2000; Kaplan & Garrett, 2005).

Despite their intended purpose to clarify relationships between program elements, logic models are often confusing for program staff. Renger and Titcomb (2002) have noted that often agencies believe that completing the one page summary table *is* the logic model. Porteous, Sheldrick, and Stewart (2002) support this observation, noting that a chart or table of inputs and outputs fails to illuminate the theory and the cause-and-effect linkages that contribute to the program outcome. Likewise, a linear model that depicts the inputs and outputs fails to consider mediating and moderating conditions present in the environment that may facilitate or hinder the desired outcome (Rosas, 2006). Failing to consider the linkages results in the implementation of activities for the sake of tradition without a clear purpose for how the activity results in a change (Hernandez, 2000; Kaplan & Garrett, 2005; Renger & Titcomb, 2002). Renger and Titcomb have coined the phrase "activity trap" for this phenomenon. What is often misunderstood is that logic modelling is a systematic process for uncovering why a problem exists, making sure that strategies target the conditions of these problems, and that changes in targeted conditions are in fact being evaluated (Kaplan & Garrett, 2005; W.K. Kellogg Foundation, 2001; Renger & Titcomb, 2002).

According to Kaplan & Garrett (2005), few community organizations spend the time to identify the underlying assumptions and the gaps in their programming. Those that did indicated the identification of the underlying assumptions as the most beneficial aspect of the logic model process. It is the authors' experience that agencies with short (2–3 year) funding cycles feel tremendous pressure to produce outcomes and that this time pressure can be a contributing factor to agencies circumventing the logic modelling process.

Another limiting factor in engaging in the logic modelling process is cost (Kaplan & Garrett, 2005). In addition to the aforementioned time, many agencies cannot afford to contract with an external evaluator to engage in the logic modelling process. One solution to this problem

is to assist program staff to conduct and complete their own evaluations, or empower them (Arnold, 2006; Fetterman, 2002). There has been much debate in the evaluation literature about the pros and cons of empowerment. On the one hand, program staff may become more motivated and invested, while on the other hand, program staff could be biased in conducting their own evaluation and, because they are amateurs, be prone to making errors (Scriven, 1996). Scriven notes that even experienced evaluators may not know or utilize all the competencies outlined for evaluators.

Consulting costs, time pressure, and complexity of evaluation constructs have prompted a push to mainstream some evaluation methodologies such as logic modelling (Arnold, 2006; Hernandez, 2000; Levin, Weiner, Saravay, & Deakins, 2004; Mederios et al., 2005). Several tools have been developed to simplify the logic modelling process to assist agencies in ensuring that the dots between underlying program assumption, activities, and outcomes are meaningfully connected (Conrad, Randolph, Kirby, & Bebout, 1999; Gale, Loux, & Coburn, 2006; W.K. Kellogg Foundation, 2001; Porteous et al., 2002; United Way, 1999). Despite these efforts, some have suggested that logic modelling remains overly complex and needs to be simplified further (Porteous et al., 2002).

This article presents a short case narrative, the purpose of which is to illustrate that complex program development and evaluation methodologies such as logic modelling can be simplified to the point where a child can be guided through the process quickly. However, the case narrative also serves to highlight the potential consequences to program development and evaluation when the process is oversimplified. Like a double-edged sword, simplifying the process encourages more organizations to use a logic model to develop and evaluate programs, but in hindsight, the simplicity may lead to program architectures that have little opportunity of demonstrating success or evaluations that may be off the mark.

BACKGROUND TO THE VIGNETTE

The first author was invited to present a workshop on logic models in Baltimore in the summer of 2004. There was a nice mix in the audience of first-time attendees, experienced evaluators, old friends attending the workshop again, and the first author's eight-year-old daughter who came along for the visit.

The workshop introduced the audience to the ATM approach to logic modelling (Renger & Titcomb, 2002). The ATM approach is a three-step process that begins with an understanding of the **A**ntecedent conditions, or root causes, of the problem. Most problems are influenced by behavioural, environmental, social, and biological conditions; these factors, or antecedent conditions, must be identified and understood to know where to focus intervention efforts (Green & Kreuter, 1999). In the ATM approach, this is accomplished by conducting interviews with individuals who have content expertise in the area of the problem. A review of the literature is then conducted to determine the extent to which linkages among antecedent conditions and between antecedent conditions and the problem can be supported by research.

Step 2, **T**argeting, requires that components of proposed strategies be meaningfully linked to antecedent conditions over which an agency has control to change. Stakeholders are first guided through a systematic prioritization process to establish those antecedent conditions on which a program might focus and then provide rationale linking the proposed strategies to the targeted antecedent conditions (Renger & Bourdeau, 2004). This linking process helps avoid activity traps, which are defined as interventions that target the symptoms of a problem rather than the conditions leading to the problem (Renger & Titcomb, 2002).

The final step is **M**easurement, in which the impact of intervention strategies on targeted antecedent conditions is assessed. The purpose of the third step is to identify program monitoring, oversight/compliance, and merit and worth measurement strategies for program activities and targeted antecedent conditions.

The first author's daughter, Jessica, attended the workshop. To some extent she stole the show throughout the day by greeting workshop attendees at the door, passing out conference materials, and laughing out loud at a movie she watched with an oversized headset covering her ears, making her oblivious to her surroundings. After the workshop there was the usual milling around and conversation. Some new attendees were excited, some experienced evaluators were pushing the envelope of thinking, and old friends were waiting to go out afterwards. As workshop participants slowly made their way out of the room to dinner, one of the first author's old friends approached. After the usual greetings the friend remarked, "Even though your approach is simple, it has to be even simpler." The comment was contrary to

all the feedback over the past two years of conducting logic model workshops, which was quite positive; almost without fail the most frequent comments had been that the approach is much easier and intuitive than any other approach. After a brief moment of reflection, the first author replied, "I guess just because something is better than before doesn't mean it can't be improved. I'll work on it."

As Jessica was not able to sleep with the impending excitement of the next day (i.e., no workshop), her father began a conversation with her to see whether an eight-year-old could be guided more simply through the logic model process. Below is the discussion as it unfolded.

ILLUSTRATING THE LOGIC MODELLING PROCESS THROUGH A CASE NARRATIVE

Dad: "Jess, did you hear any of Dad's workshop today?"

Jessica: "Just a little, you use really big words. I didn't understand everything you said."

Learning moment: Perhaps the workshop and logic modelling vocabulary is still too complex for some audience members.

Dad: "Well, that's okay. Someone told me that I had to make what I said easier for people to understand. Can you help me?"

Jessica: "Sure, Dad."

Dad: "Great. Do you have any problems at school?"

Jessica: "Yes, the boys in my class."

Dad: "What about the boys in the class?"

Jessica: "They are annoying!"

The starting point: Need to operationalize the problem statement.

Dad: "What do they do that annoys you?"

Jessica: "They are always so loud in class. They are so annoying."

Dad: "What does the teacher do when the boys get loud?"

Jessica: "She sends them to Mr. Schell (the principal)."

Learning moment: A classic activity trap. Jumping from a problem to solution without understanding the conditions leading to the problem.

Dad: "What does he do?"

Jessica: "He calls their parents and gives the boys detention."

Dad: "Does that work? Are the boys less annoying?"

Jessica: "No, Dad."

Dad: "Why do you think the boys are so loud?"

Step 1 of the process: Getting at the antecedent conditions of the problem. Ask "why?"

Jessica: "I don't think they understand Mrs. Truffyn's [the teacher's] instructions, so they goof around."

Dad: "Why do you think they don't understand?"

Jessica: "Maybe it's because they can't read very well, Dad."

Step 2 of the process: Target a strategy.

Dad: "What would you do then?"

Jessica: "I would get them a tutor, Dad. A reading tutor."

Step 3 of the process: Develop evaluation measures.

Dad: "Let's say the boys got a tutor. How would you know if their reading got better?"

Jessica: "That's easy, Dad, they would be reading chapter books."

Dad: "What do you mean?"

Jessica: "The other books for beginners have big words (reference to print size) and more pictures. The better readers read chapter books. They have more pages and more words."

Dad: "So how would you know if the reading helped the boys become less annoying?"

Jessica: "Mrs. Truffyn would not have to send them to Mr. Schell."

Learning moment: Bringing home the notion of the activity trap.

Dad: "So what's the problem with sending the boys to the office?"

Jessica: "It won't help them with their reading."

Dad: "Exactly!"

We can summarize the discussion in a logic model summary table (see Table 1).

Table 1
Logic Model Summary Table

Problem	Assumption	Activity	Intermediate outcome	Long-term outcome
Boys being loud	Boys act out because they can't follow instructions, so they goof off	Reading tutor	Boys reading improves as measured by reading chapter books	Less disruptive behaviour as evidenced by fewer visits to Mr. Schell

DISCUSSION

The above example – a simplistic application of a logic modelling process to a program development problem – highlights that complex program development and evaluation methodology, like logic modelling, can be simplified so that an elementary school child can be guided through the process. Thus, the initial reaction may be that the case narrative supports the mainstreaming efforts of agencies like Kellogg and United Way and the empowerment philosophy of those like Fetterman (2002).

However, the case narrative also illustrates some important consequences of attempting to oversimplify program development and evaluation methodologies such as logic modelling. Specifically, there are essentially three components of the above dialogue that we want to point out as potential pitfalls in simplifying the logic model process.

First, the development of the underlying rationale must be considered and understood before proceeding. In the above program development example, the assumption was that boys do not pay attention in class because they cannot read and follow instructions. Intuitively, this may make sense, but this assumption needs to be supported through theoretical findings that can then guide us to develop a strategy to remedy the problem. For example, the classroom management and discipline strategies of the teacher, seating arrangements, or physical hunger may also contribute to the boys being inattentive and engaging in disruptive behaviour. All potential explanations should be exhausted and researched before selecting one assumption to move forward. Failure to understand the most likely contributing factor(s) to the boys' disruptive behaviour may simply lead to another activity trap.

The second pitfall relates to strategy selection. Assuming for a moment that the correct underlying condition was identified, it may be that the reading tutor is not the most effective way to improve reading skills. Perhaps being singled out as needing a tutor will be counter-productive. Perhaps engaging the family at home to create a supportive reading environment or using other group techniques in the classroom may be more effective strategies. So while a reading tutor is one solution, it may not be *the* solution.

Finally, when a strategy has been selected, identifying an indicator for measurement is essential to demonstrating a change in the outcome. Because both the assumption and the strategy were potentially weak in this example, the resulting outcome of fewer visits to the principal can be called into question. In the interim of utilizing reading tutors, the teacher may have participated in professional development training to improve her classroom management techniques, the students may have been reorganized in their seating arrangements to reduce the misbehaviours of the boys, or a free breakfast program may have been made available to students before school begins. The outcome results would have to be interpreted with caution, as the confounders in this situation were not controlled for in this natural experiment.

One can see how the logic model must be supported at all times with theory or prior research to document the linkages. Jessica's thinking may have been on track, but additional explanations should be sought and targeted strategies identified to focus on specific aspects of the boys' behaviour.

Thus, through this example, we learn that while simplification can assist agencies to understand why and how to utilize logic models to develop and evaluate their program, oversimplifying the process can result in the failure to understand the importance of thoroughly completing each step.

CONCLUSION

This brief discussion with an eight-year-old illustrates a few important points. With respect to advocates of mainstreaming and empowerment, logic modelling can be reduced to a simple process that systematically links problems, activities, and outcomes. By asking the right questions, even an eight-year-old can be easily guided through the process. The example highlights how quickly an underlying is-

sue, strategy, and outcome can be linked. However, in oversimplifying the methodology, key aspects necessary for a program's success, such as alternative explanations, research-supported assumptions and interventions, and identifying the most appropriate outcomes, may be overlooked. It is incumbent on evaluators to ensure that the seduction of simplicity does not obfuscate the inherent complexities of the underlying program theory.

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