



Do Linear Models Oversimplify Human Relationships?¹

Ted Ward

Linear models of planning and evaluation have been very popular in the past several years. In its basic form, a linear model expresses the idea that input I processed by P will result in output O: $I(P) \rightarrow O$. In its typical uses in communication and education the basic form is expanded into four detailed areas or topics: 1) Learners or “target persons” seen as the input that is to be changed by the system; 2) Purposes; Goals and Objectives; 3) Procedure, Materials and Resources; and 4) Outcomes, Effects and Results. Thus a linear plan or an evaluation based on such a plan asks what is intended, what is created, and what is accomplished.

Such linear models can be useful, especially if they are understood to be only partial representations of reality. No doubt it is useful to clarify the purposes, goals, and objectives of any enterprise before getting on with the action. It is also important to examine the details of the processes which are intended to produce the planned outputs. And surely the consideration of any system is incomplete without detailed consideration of its outcomes.

For planning and management, a sound linear model can suggest considerations that might be overlooked in a less disciplined plan. Use of linear models is now widely accepted in business, industry, government and service institutions, including education, medicine, and communication.

Western-Asia

Through cross-cultural experience, especially in Asia, where planners are more at home with circular and global approaches, linear models are often rejected as too simplistic and too “western”. Simplistic and western they may be, but by contrast with the sort of partial and casual approaches to planning and management that are common in the Third World, even an Asian who likes to see fulfillment of hopes and plans is usually grateful for solid linear planning. Having spent hours and days—yes, even months—waiting out seemingly endless mazes of “catch-22” bureaucracy in countries well known for their holistic approach to planning, and after watching bureaucratic paper work cycle around and around the same points on a terminal loop—with no clear decision points and no action steps built into the scheme—it seems less than idyllic.

Western-style planning tends to oversimplify the human relationships but it usually accounts for the most important aspects of the mechanistic steps toward action. Non-western styles of planning allow much more space for human relationships to develop in their natural ways but quite often fail to deal with the need for action and change.

Drawbacks

But this sense of urgency is not justified on just any and every issue. We need, furthermore, to be aware that linear models of planning are imperfect and sometimes inoperable tools. What are the drawbacks in using linear models? Experience has uncovered some consequences that are undesirable.

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These liabilities are predictable and yet if they are properly recognized their negative effects can be minimized.

1. Linear models tend to oversimplify reality. No one seriously believes that any set of transactions are as simple as its flow-chart would suggest, but there is a sort of mesmerizing neatness about a linear model that can, for example, cause the planner to assume blithely that making a certain alteration in the statement of objectives will result in a coordinate change in operations' that will then be reflected in changed output. Management consultants know better, but this is how they sometimes make it appear! One major source of oversimplification is the distorting of reality to make it fit a simplified "plan". Reality is usually infinitely complex; in comparison, linear plans are simplified plans. Reality is usually infinitely complex; in comparison, linear plans are simplistic misrepresentations.

Human Experience

2. Linear models tend to draw attention away from process. Human experience is a balance between process and output—for example, between quality of life and "success", between development processes and "maturity", between means and ends, and between process and products. An excessive preoccupation with, process can result in narcissist stalemate; an excessive preoccupation with product can result in inhumane mechanization. For some people, the fixation on the target dates, deadlines, and "busy-ness" common to linear plans can lead to a sort of ineffective perpetual spinning of wheels. Since linear models always represent a flow toward product or output, they can tend toward over-glorification of product. The major hazard that can result is a spiraling exaggeration of the pragmatic tendency to value ends over means. When any human system values ends over means, the resulting corruption usually causes the system to break down. For example, warm, sensitive, creative leadership cannot be developed in a "training mill" that is "efficiently" tyrannical! Such a production system will break down. Ends and means must both be evaluated in terms of external criteria of justice and truth; and most important, means must be consistent with the ends they are to produce.

Tendency

3. Linear models tend to exaggerate the controllability of systems. The wise planner should assume that certain factors in any system are beyond his or her control. Ordinarily in the most complex linear models all circumstances and components are shown as manageable or at least capable of being accommodated within certain predicted ranges of variability. A detailed diagram and its description can seem to have anticipated any and all important factors; a false sense of security and control results. The diagram is unable to show the true nature of relationships among components of a system; the necessary interpersonal relationships. The awareness of communication, the means for reducing tensions, and the need for non-programmable creativity—these are potentially overlooked. And most important, the planner's and manager's much-needed humility and sense of dependency on others can be eroded.

Distortion

4. Linear models can distort the planner's vision. Especially because those who construct the models usually spell out the goals and objectives of the system, an insensitive and ultimately oppressive behavior can result. Who is to determine objectives? Where is the concern for participation of those who are to be affected? What sort of superior judgment is it that gives one person or group the right to decide what a system should do to (or even for) another person? In the mercantile world it is the product to be sold; in the realm of religion and philanthropy it is the "good" that is to be done. But who speaks for the consumer?

Far more humane relationships exist when one party is not dictating to or for another. It is better to think and plan with those who are to be affected and, when possible, to develop a sense of reciprocity in which each party is both giver and receiver. But then, that gets so hard to work into a linear model!

Danger

The greatest danger is in letting the linear model create a false reality. But if the linear model is accepted as a tool for dealing with problems—an extension of fallible human understanding—then it will likely do more good than harm. Keep the model on the tool shelf to be used when needed; on a day-by-day basis give first attention to the human and interpersonal dimensions of the enterprise.

With these gentle warnings in mind and armed with the best of the logical planning tools (and an extra measure of humble faith) planners, managers and evaluators will likely find that linear models are, on balance, a plus.

Author's Note:

Ralph W. Tyler is usually credited with bringing linear planning to modern education (*Basic Principles of Curriculum and Instruction*. Chicago: University of Chicago Press, 1950). A brief article appealing for alternative models of educational planning s provided by John A. Zahorik (A Task for Curriculum Research. *Educational Leadership*, April, 1976, pp. 487-489). Zahorik reviews some of the problems cited above, in the special context of educational planning. He appeals for new models that would recognize that “ends do not precede and direct means . . . but rather emerge from activity to redirect the activity and add meaning to it.”