I. Introduction.
   A. It was an honor for me to be asked to honor Elizabeth Cohen. In doing so I not only honor Liz's work, but also her students and her many collaborators in this work.
   B. I will talk about just three of her contributions.
      1. First I will discuss the path-breaking innovation of her New Approach To Applied Research.
         a. That is, the role of theory in applications and interventions.
         b. In sociology, at that time, such an approach was novel.
      2. Second, I will address the creativity of her applications and interventions,
         a. To theorists of that period, applications seemed straightforward, maybe even trivial. Only the politics of making value choices seemed problematic at the time.
      3. Third, I will speak about the inspirational effect of Liz's applications and interventions on the growth of Expectation States Theory.
         a. The street from theory to applications and interventions is two-way.

II. Liz Cohen's Use Of Theory In Developing Applications And Interventions.
   A. Liz's new approach to applied research argued that using theory to guide the development of concrete interventions made applications of that research stronger. Theories carry more implications for action, and are more powerful in the interventions they make possible, than are interventions developed without theoretical guidance; Theories also specify the conditions required to make them work
      1. Liz used Expectation States Theory to determine when and how to intervene in inequalities in the classroom. Such as
         a. Her application of expectation states when trying to raise performance expectations.
      2. Treatment of high as well as low status pupils, because of the relational nature of expectation states, is another example of this innovative approach.
      3. But especially, her work on the multiple abilities curriculum shows how Liz used theory to guide the development of classroom interventions.
      4. Yet another example is her work on how to design norms governing action opportunities (turn-taking).
         a. Like telling someone to relax, "just telling them" to be that way is not enough.

III. Theoretical Components In Preparing Applications And Interventions.
   A. Theoretical applications and interventions in social situations (for example, Cohen's Center for Inter-Racial Cooperation and the Program for Complex Instruction) are not just straightforward deductions from any one theory.
1. Theories, such as Status Characteristics Theory, are abstract, general, and simple. Theories isolate single processes, and they are tested under highly controlled conditions.

2. Application means the use of a theory to explain a phenomenon in a specific, concrete, natural setting.
   a. That is, the setting is not abstract,
   b. It is not general,
   c. It is far from simple,
   d. And it is far from controlled.

3. Application of a theory to a concrete setting, therefore, involves four important elements.
   a. Again, I use Status Characteristics Theory as an example. One element of the application of a theory is instantiation of the abstract concepts of the theory.
      i. Instantiation can be defined as empirically demonstrating that a characteristic is an instance of a status characteristic. Said another way, the characteristic satisfies the definition of a status characteristic.
      ii. In applying a theory to a concrete setting one also must include specification of the conditions specific to the setting to which the theory is being applied.
      iii. Inter-relating the theory with theories of other processes found in the concrete setting is a third necessary step.

4. Finally, inventing methods of observation and inference applicable to uncontrolled, natural settings is necessary to the application of a theory.

Digression: This is a good place to note that appreciation of Liz Cohen's work is appreciation of the work of a very large number of extraordinary students and collaborators. The performance is virtuosic, but far from solo. What she is, in fact, is a leader of extraordinary caliber.

B. In designing an application or intervention guided by a theory, one must address instantiation of the abstract concepts of the theory.
   1. Characteristics such as race and ethnicity, gender, reading ability, and peer status are status characteristics.
      a. Each of which requires empirical research, independent of any research testing the theory, to discover whether a given characteristic at a particular time and in a particular place satisfies the definition of a status characteristic in the theory.
   2. Comment: particularly important is the depth of Liz's understanding of the role of "history" in theory.
      a. The principles of a theory are ahistorical but the initial conditions of its explanation of any phenomenon in a particular place at a particular time are not.
      b. Hence, it is always a crucial empirical question, quite independent of the theory itself, whether, say, gender or being a Chicano is or is not a status characteristic in a particular place at a particular time.
      c. Thus, instantiation research is a continual process, never to be taken for granted.

C. Specification of the conditions of the concrete situation is another theoretical component in preparing to apply a theory.
1. An analysis of the social structure of the classroom and the school is the foundation of the application of sociological theory used by Liz Cohen. Elements of social structure she has addressed include:
   a. The unidimensional classroom,
   b. The teacher-dominated classroom
   c. Peer status in the classroom
   d. The organizational context of the classroom.
   e. And, not least that, unlike most other social systems, learning is the intended outcome.

D. Applying theory to concrete situations also involves inter-relations among theories in a given application.
   1. Let me discuss just how "complex" the Program for Complex Instruction (PCI) really is.
      a. PCI integrates three theories from the Expectation States Theory family of Theories.
         i. The theory of Performance Expectations,
         ii. Status Characteristics Theory,
         iii. And Source Theory.
   2. PCI integrates Expectation States Theory with upwards of 5 Theories of other phenomena of the classroom that affect achievement.
      a. Social Learning Theory (Bandura), addresses the importance of modeling referents.
      b. Role Theory,
      c. PCI uses several organizational theories, which address several aspects of the classroom, including
         i. Theories for classroom management based on the work of Perrow and Thompson,
         ii. The theory of evaluation systems and organizational support developed by Dornbusch & Scott,
         iii. And ideas on the persistence of innovations articulated by Meyer & Rowan.

E. Application of theory also requires development of methods of observation and inference in uncontrolled settings.
   1. At every step of the way, the Program for Complex Instruction has had to devise new methods of observation and inference. And the methods of the program were notable at each step of the way.
      a. But what was most notable about "Modifying Inter-Racial Interaction Disability" (Liz's first publication) was the innovative use of laboratory experiments to test the theory applied to the characteristics found in heterogeneous classrooms.
         i. She designed and conducted tests with less formal control than previous tests of the theory (At that time, experimenters used an ICOM, or "Interaction Control Machine" to simulate interaction without the messiness inherent to using real people).
         ii. Liz developed her own methods of observation and inference which went beyond just measuring P(S), the probability of an S-response, and measured the far more complex situation of open interaction
   2. Equally notable in "Modifying Inter-Racial Interaction Disability," Liz made innovative use of lab experiments to test her interventions.
IV. Application, Intervention, And The Growth Of Theory.
A. The relation of theory to application and intervention is not one-way. Applications of theory contribute to theoretical development as much as theory can contribute to the development of an intervention.
1. Application and intervention serve to ground a theory. Empirical failures provide information from which to modify the theory.
2. But more important is the heuristic feature of application and intervention. Applications and interventions provide opportunities for new problems to emerge for the theory to solve.
   a. As Liz says at one point, "In designing Expectation Training we were forced to leapfrog the theory available at the time."
      i. In the first instance, application of Expectation States Theory to "real world" situations helped broaden our conception of the theory and drive generalization to multi-characteristic status situations.
      ii. Because of her discovery of the status organizing function of "reading ability" in school, Liz's application of Expectation States Theory helped drive the growth of our theoretical formulation on the effects of specific status characteristics in addition to our work with diffuse status characteristics.
      iii. And third, applications and interventions, such as those developed in Liz's work, drive research on the transfer of effects from one task-situation to other situations and other tasks.

V. Conclusion.
A. Thus, Liz Cohen's approach to application and intervention was path-breaking,
B. Her applications and interventions were as creative as they were gutsy, gritty, and determined,
C. And their relation to the growth of theory was inspirational.