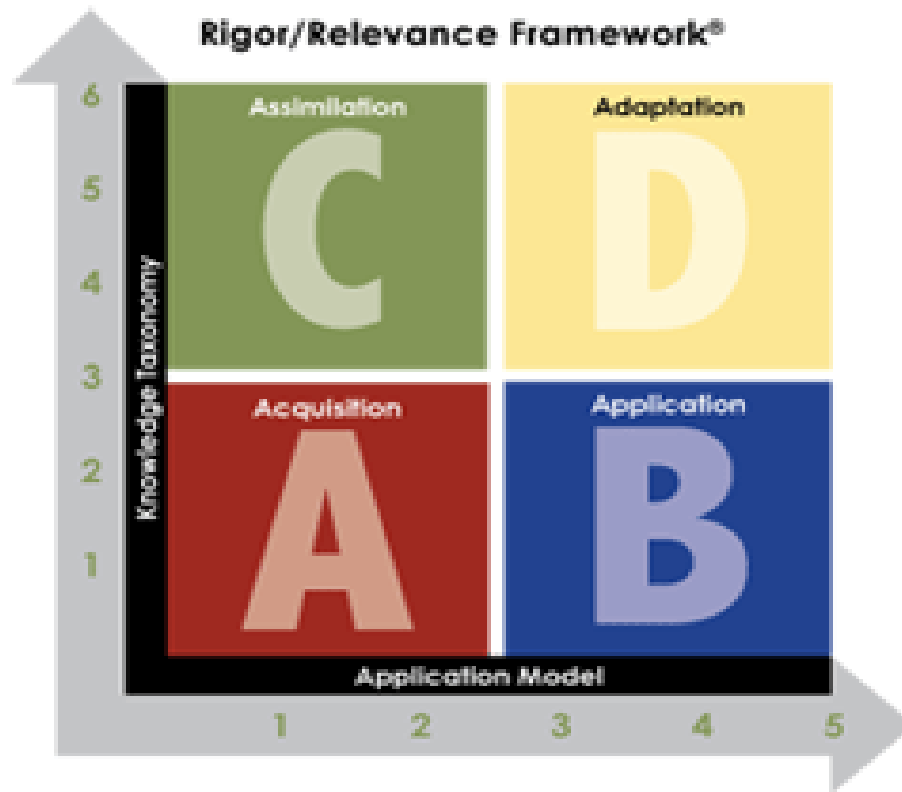# Independent Review Team Observations & Comparisons

November 27, 2012
Audeen Fentiman
Nuclear Engineering Professor

Charge to IRT

- **Review NRC initial license examination process**

- **Consider current educational theory**

- **Consider advances in simulator technology and training programs**

- **Recommend ways to improve effectiveness and efficiency of initial license examination process**

Rigor/Relevance Framework

Y-axis -- Bloom's Taxonomy

6 Evaluation

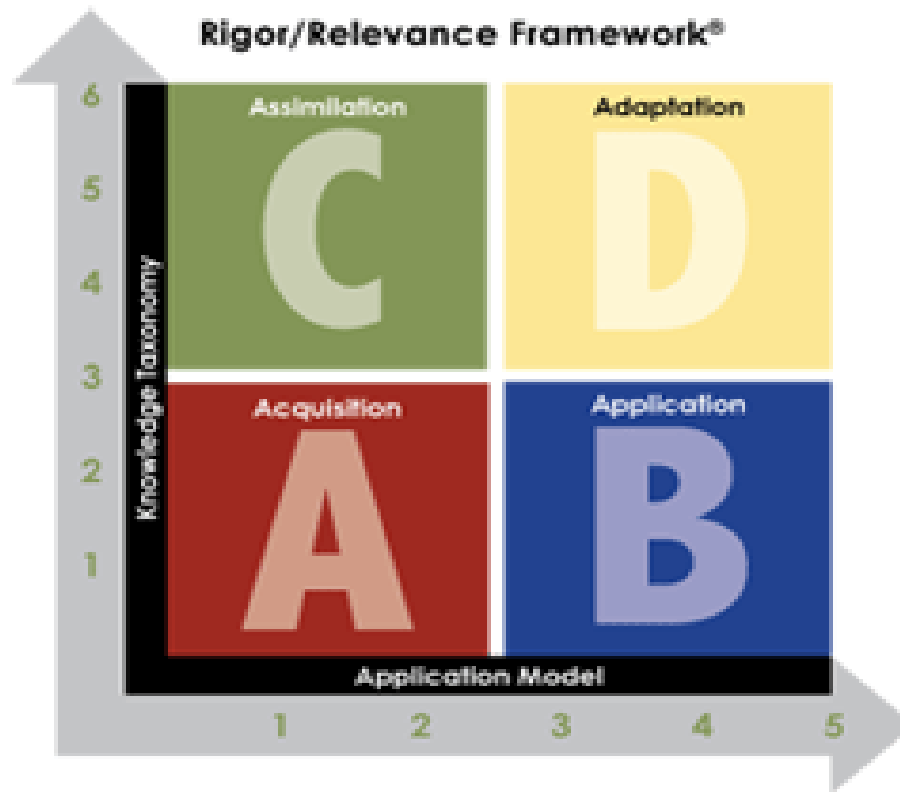5 Synthesis

4 Analysis

3 Application

2 Comprehension

1 Knowledge

X-axis -- Application Model

1 **Knowledge in one discipline**
2 **Apply knowledge in discipline**
3 **Apply knowledge across disciplines**
4 **Apply to real world predictable situations**
5 **Apply to real world unpredictable situations**

Rigor/Relevance Framework

Rigor/Relevance Framework

A (Acquisition) Gather, store, remember, understand knowledge

B (Application) Use knowledge to solve problems

C (Assimilation) Use knowledge automatically to analyze and solve problems

D (Adaptation) Solve complex problems; learn more as needed

IRT Recommendations Summary Integrated Exam Plan

- **Knowledge and Abilities (K/A) catalogs should be aligned with current RO and SRO job requirements**

- **K/A should be tested in the proper setting**

- **Exam questions should be valid and consistent across regions**

Training and Examination in Other Fields

- ## Nurse
  - ### Training
    - Formal degree or diploma
    - Practical experience
  - ### Examination – depends on the level
    - Registered Nurse – national, computer adaptive exam (75 – 265 questions)
    - Includes performance questions – e.g. show where you would put the stethoscope

Training and Examination in Other Fields

- **Airline Pilot**
  - **Training**
    - **College degree, military**
    - **Flight experience**
  - **Examination**
    - **Written test**
    - **Oral test**
    - **Flight test**