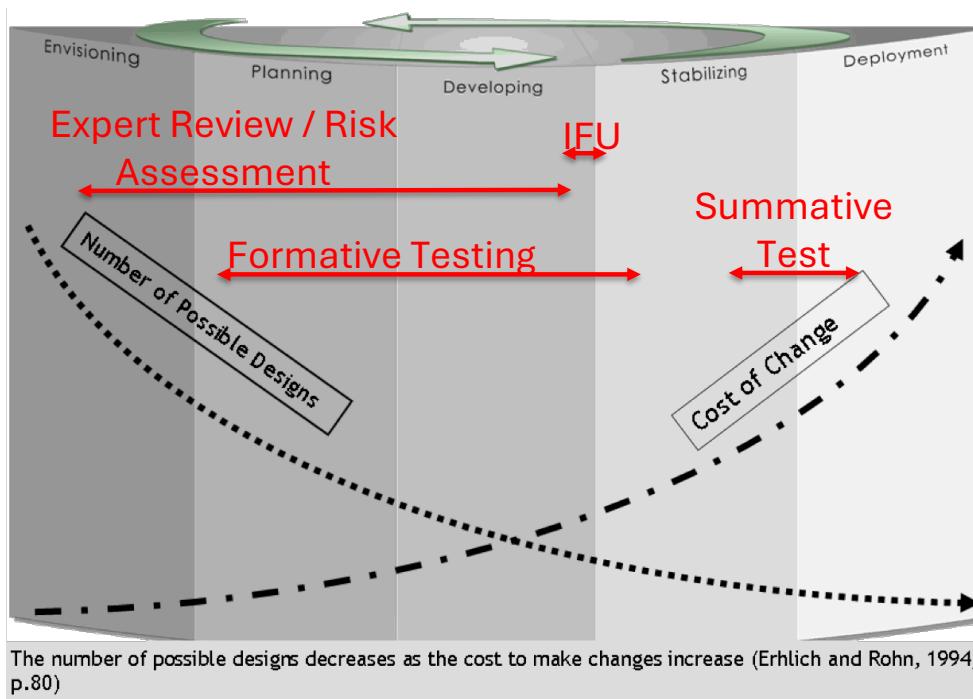


# Human Factors Integration

Methods for Design & Evaluation

# Integrate Human Factors Throughout the ENTIRE Design Control Process



# Formative Methods (in addition to/in place of testing)

- Validate User Needs
  - Structured Meetings
- Contextual Inquiry/Naturalistic Observations
  - Observations of current usage of related products
  - Observations of current environments
- Expert/Heuristic Reviews
  - Select appropriate heuristics: software, hardware, etc.

# Summative Testing

- Key elements:
  - Simulated use and environment
  - Production ready devices
  - Verified software
  - Training/No Training
  - Number of participants
  - Types of participants
  - Reporting

# Human Factors Time and Costs

Activity	Estimated Time	Estimated Costs
Needs Analysis	3- 7 days	\$7K- \$15K
Task Analysis	3-7 days	\$7K- \$15K
<b>Formative Methods</b>		
• Expert/Heuristic Review:	7- 14 days	\$15K-\$30K
• Naturalistic Observation/Contextual Inquiry	5- 10 days	\$15K- \$45K
• Testing	4-6 weeks	\$48K- \$120K
<b>Summative Methods (it depends)</b>		
• Training or NO Training	With training increases time and costs by 40%	\$78K-\$130K (no training, with 2 groups)
• Number of Groups (15-16 in each group)	Each group for testing sessions 2-3 days	