

Critical Thinking
in a
Computerized World



Presented by

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What is Critical Thinking?

- **Critical thinking** is a *process* where you apply knowledge and experience to solve a current problem.

It means constantly analyzing and comparing what you know about your current patient and surgery with all past knowledge and experience.

Benefits of Critical Thinking in the OR

Repetition

- Students with critical thinking skills become more independent.
- Self-directed learners.
- Prepare students to think on their feet.

Why Critical Thinking?

According to AST, the Level II Surgical Technologist is able to demonstrate critical thinking skills in relation to anticipating the perioperative needs of the patient and surgeon.

Anticipate

Problem Solve

What do students need to know ?

- **Hand Signals**
- **Actively Participate**
- **On the Spot Decisions**
- **Creative Thinking**



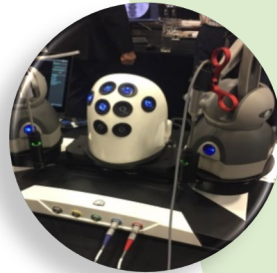
The Past



The present



Scenarios



The Future



Alex.

H. P. Rogers

Thompson

Thompson

Miss Orchard

Operating Room
Rex Hospital
1909



The Past

Operative Approach Taught by Doctors

Knowledge was broad

Comprehensive understanding of the entire operation

Amphitheater style presentations of operations



The Present

Learning takes place on three fronts

- The Classroom – Cognitive Approach
- The Lab – Psychomotor Approach
- Clinical Sites – Affective Approach

How to teach Critical Thinking?

COGNITIVE APPROACH

Anatomy

- Students must understand the basic A&P of the body.
Microbiology is the study of microorganisms

Surgery

- Students must understand the medical terminology and operative procedures.
- Basic sequence of events of the surgical procedure steps of the surgery.
- Laparoscopic and robotic surgeries involve a considerable amount of cognitive skills and decision.
- Interdisciplinary approach
- Mastery of aseptic technique

How to teach Critical Thinking?

PSYCHOMOTOR APPROACH

Models

- Students show anatomical understanding using models in the lab.

Mock Surgery

Practical application practice entails splitting the procedure into three major steps:

- Allow students to do one step at a time until each step has been mastered such as; scrubbing, gowning and gloving and basic set-up
- Practice operative procedures in the lab environment
- Utilize critical thinking as a basis for clinical judgment

How to teach Critical Thinking?

AFFECTIVE APPROACH

LAB: Mock Scenarios

- Surgical Conscience
- Demonstrate the ability to function in the perioperative setting.
- Identify specialized roles, as well as, moral, legal and ethical responsibilities to the patient.

- **Can be written, oral, or mock surgery*

CLINICAL: Real Life Scenarios

- Students discuss experience using critical thinking skills in real time when sequence of events are disturbed.

Our usual colonoscopy equipment
is down today, so we're going to be
using a tapeworm with a GoPro
strapped to its head.



5-27

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SCENARIO #1



You are doing a Maxillo-mandibular Fixation. The surgeon has planned on using a Universal SMARTLock Hybrid MMF system. One of the arch bars is broken, and the surgeon does not want to continue with the system. What can you suggest?



SCENARIO #2

The surgeon has performed a pleuracentesis. There is talc on the field, but an applicator is not available. What would you use in place of an applicator?



SCENARIO #3

A student is scrub in a transverse colectomy with an end-to-end anastomosis the EEA stapler misfires. There is no replacement available. What would you suggest to the surgeon?

The Future

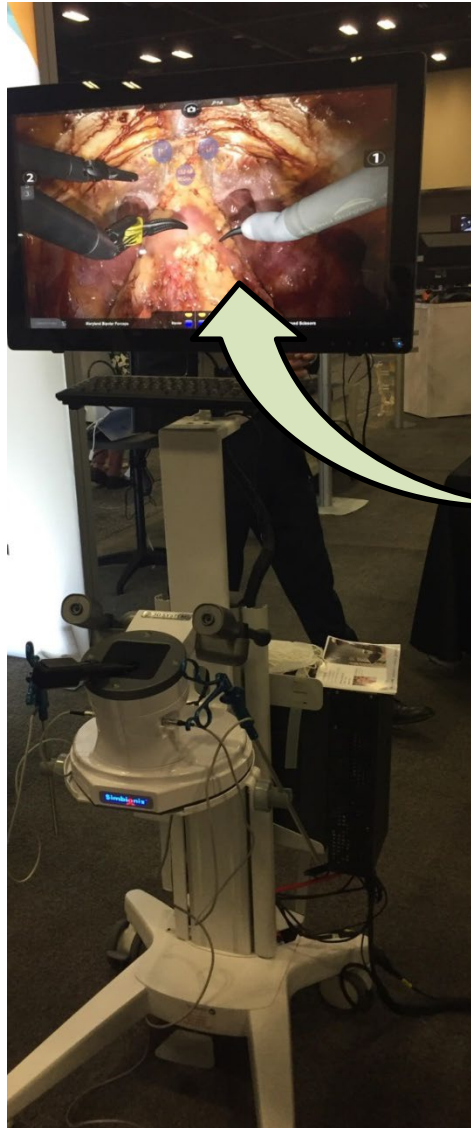
- As advances have been made in OR equipment, advances have also been made in teaching tools.
- These teaching tools provide hands on experience problem solving in real time without patient involvement.

Laparoscopic Models



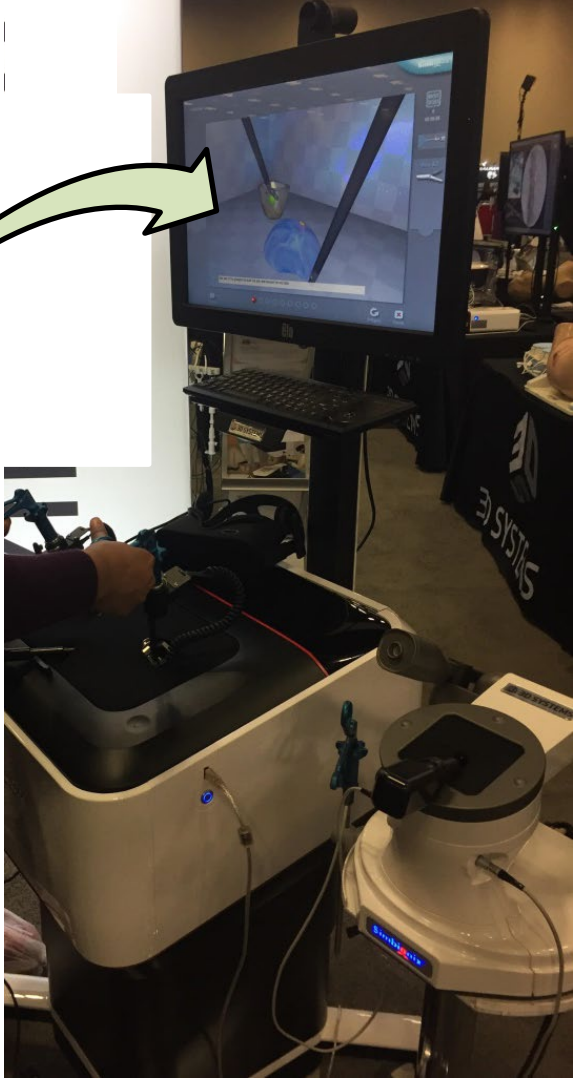
- Video-game style experience
- Manual dexterity
- Eye-hand coordination
- Practical experience for a growing surgical field.

Laparoscopic Trainers

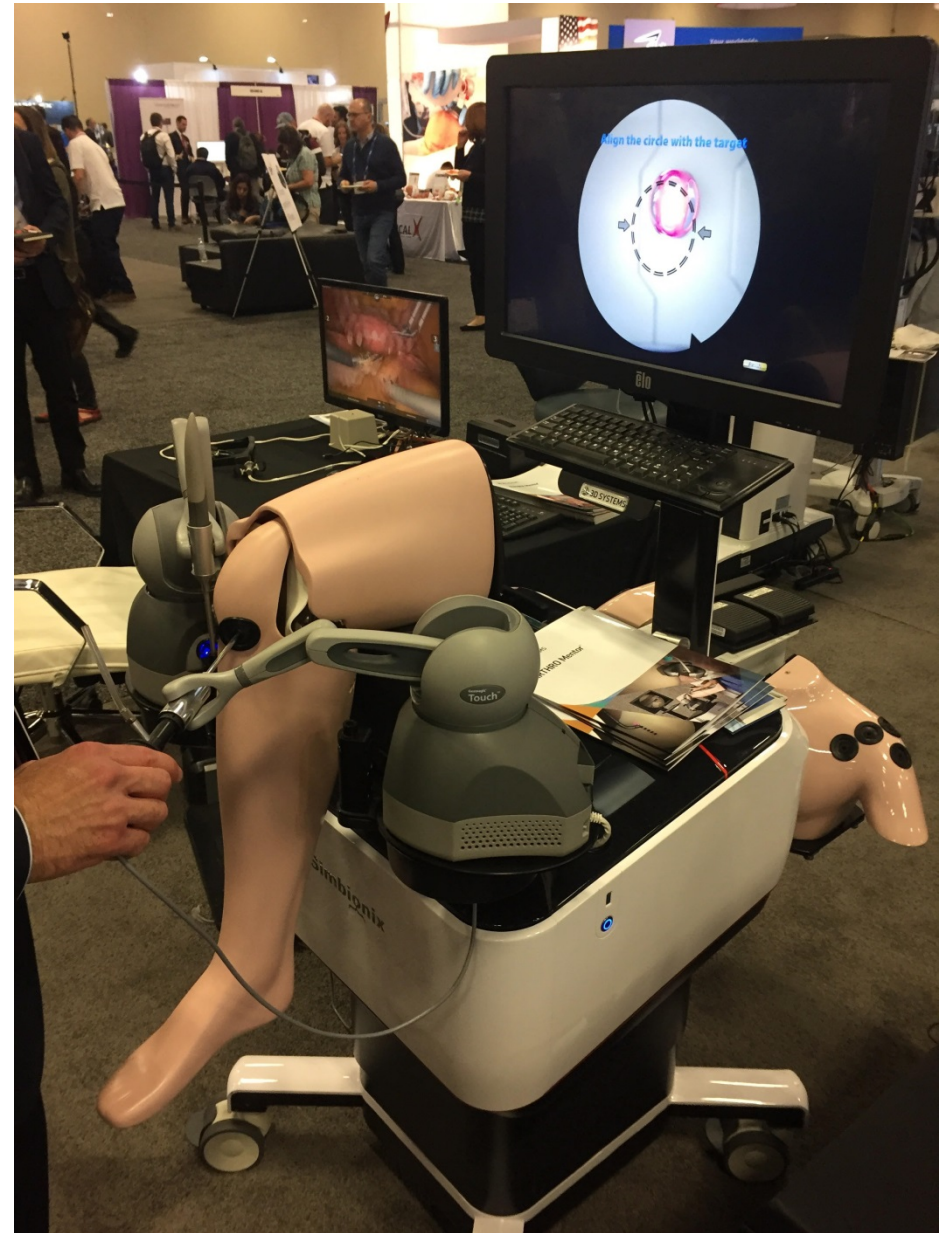


**Operative
Views**

Gamification



Anatomical models
linked with video
monitors to provide
real time feedback for
teaching purposes











References

- N_53_15_23-Old rex Operating Room, Rex Hospital operating room, South St., Raleigh, NC, 1909. Photo by Albert Barden. From the Albert Barden Collection, State Archives of North Carolina, Raleigh, NC.
- Blazek, D. (n.d.). Usual colonoscopy. Retrieved from <http://loosepartscomic.com/blazek/samples.html>
- Clinical Ladder for CSTs and CSFAs. (n.d.). Retrieved from <http://www.ast.org/webdocuments/ClinicalLadder/files/assets/basic-html/page-1.html#>
- Fuller, J. R. (1986). *Surgical technology principles and practice*. Philadelphia: Saunders.
- *Surgical technology for the surgical technologist: A positive care approach*. (2018). Boston, MA: Cengage Learning.
- Convention photos provided courtesy of Jackie Langford