

# Enhancing Collaborative Education Through Interactive and Immersive Technology

June 6 – 7, 2019

## Intro

It is a well-known fact that for most people learning happens faster and more completely if the environment supports high levels of interaction. Emerging AV technologies offer exciting and immersive ways for students to engage in active learning.

## Qualifications

Advanced Presentation Systems is New Mexico's only locally owned and operated full-service Audio-Visual, Communications, and Security Solutions provider. We harness technology to provide enhanced capabilities for Universities, Healthcare Facilities, Government Agencies, Military Institutions, and Businesses of all sizes.

With over 20 years of experience implementing state-of-the-art systems for classrooms, plus a wide variety of other applications, Advanced Presentation Systems is uniquely qualified to discuss interaction and learning.

## Essentials for Learning

- Instructor's desire to teach
  - A lesson plan that makes the subject interesting
  - Ability to explain the subject
  - Willingness to answer questions about the subject
- Student's desire to learn
  - Curiosity about the subject
  - Involvement with the subject
  - A means for appropriate interaction

## Ways to Engage

- Touchscreen Monitors
- Interactive Laser Projectors
- Bring Your Own Device (BYOD) screen sharing
  - Laptop
  - Cell Phone
- Integration of distance and local learning
- Immersive sight and sound or Virtual Reality

## Touchscreen Monitors

- Qomo
- Samsung
- Dell
- Panasonic
- Sharp
- To name a few



# Interactive Laser Projectors

- Epson
- Viewsonic
- Optoma
- Qomo
- BenQ
- And Some Others



## Both monitors and projectors

Notations made on the board can be recorded and stored for reuse. In addition, some systems offer handwriting recognition, Web search and the ability to annotate content appearing on the board. Many boards feature built-in wireless connectivity and are portable enough to be mounted on a cart and wheeled from room to room as needed.

With touchscreen monitors and projectors you can typically annotate on anything from any source at any time and save the annotated screen for later use or review.



## Cost Benefit Trade-Off

- Current generation monitors can have a native resolution of 4K
- Monitors larger than 86 inches are quite pricey
- Interactive projectors can provide screen sizes above 86 inches at a very reasonable price
- Interactive projectors have WUXGA (1920 X 1280 Pixel) as their native resolution

## Bring Your Own Device (BYOD)

- Mirror cast
- Screen sharing
- Text to main display and Text to talk for questions in a large classroom or lecture hall
- Random instructor questioning to students in a large lecture hall

## Integration of Distance and Local Learning

- Zoom or a similar soft codec setup as tool to bring everyone together
- Microphone and speakers for near and far side discussion
- Text to main display and Text to talk on the speakers for all questions
- Mirror cast of the presentation
- Screen sharing from any user device

## Immersive Sight and Sound

- Programmed in advance
- Requires 2 or more projectors
- Imaging on more than one surface
- Images typically both vertical and horizontal
- Typically requires multiple speakers arranged and controlled for surround sound

## Virtual Reality

- Programmed in advance
- Typically requires all participants to have VR goggles and headphones
- If done in a large venue sound can be derived from multiple speakers arranged and controlled for “surround sound”
- Puts the viewer inside the event

# Thank You

Any Questions?