



# Use of Bandwidth in Instruction

## Recommendations:

Federal Communications Commission: 1 Mbps per user

State Technology Education Director's Association Goal: 1 Mbps per user



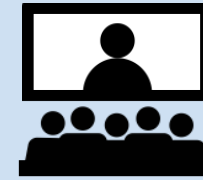
## Online Learning

Delivery of core courses or content online.

### Example: Ketchikan Digital Academy

#### Bandwidth Requirements

384 Kbps - 1.5 Mbps per concurrent user  
WiFi 54 mbps access points



## Virtual Telepresence & Video Conferencing

Delivery of instructional content, professional development and special services from inside or outside the district.

### Example: Kodiak Island School District

#### Bandwidth Requirements

2 Mbps per robot,  
2 Mbps per video unit (dedicated)  
Robot: Overlapping WiFi



## High Access Learning Environments and Personalized Learning

Teachers and students use technology to amplify learning by researching, creating content and digital products, and communicating through email, video and audio.

### Example: CDL device per learner (140+ schools)

#### Recommended:

500 Kbps per user  
Wifi Access per classroom, Overlapping



## Collaborative Learning

Creativity and communication platform for sharing and tracking high level STEM learning activities.

### Example: Trillium Learning/Copper River/KIBSD

#### Bandwidth Requirements

500 Kbps per concurrent use  
(dependent on content)