Use of Bandwidth in Instruction

**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)

Recommendations:
Federal Communications Commission: 1 Mbps per user
State Technology Education Director’s Association Goal: 1 Mbps per user