

The Right Computer for Learning & Teaching

- Petra Langwald, Dr. Larry Rother
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Dr. Larry Rother



At work

Global Education Strategist

- Believes digital access and equity can level the playing field for our most underserved students.
- Passionate about ensuring that every student has a great teacher and that teachers have the tools they need to be successful.
- Lifelong Educator – 20+ years serving in public education as a teacher, school principal and school district leader.



Not thinking about work!



intel

You are at the right place if you want to understand...

- How can computers support daily activities and boost higher level learning outcomes?
- How can you use computers to help students to stay focused and engaged?
- What computers are needed to achieve the outcomes you want for our students while supporting anytime, anywhere learning?

 **bett**

a Hyve event

From student skills to software tools, Intel is driving educational innovation

Intelligent classrooms and resilient education

Maximize educational outcomes

Empower educators

Heighten collaboration and inclusion

Enable student-centered success

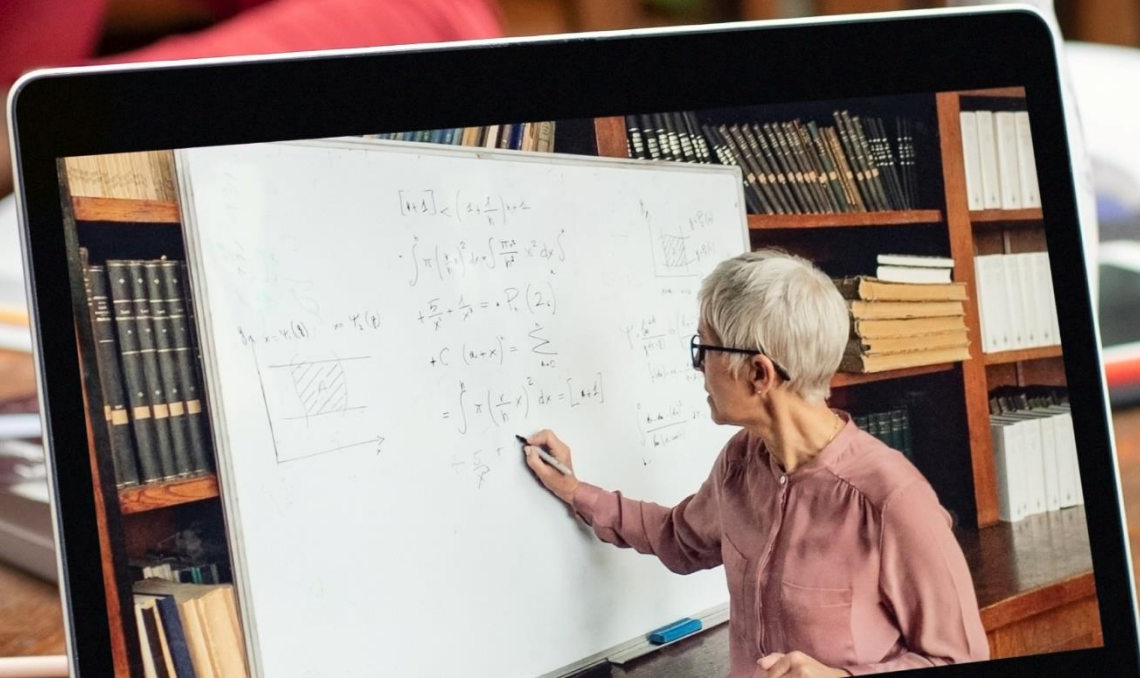
For decades, Intel has collaborated with leaders in education to provide a powerful basis for continuous innovation and evolution in edu.

Technology is the Gateway to Learning

This session will help you ask the spot-on questions to identify suitable computers for your curricula and student achievements.



Experiences



Computers for Education



Available in all price categories from basic computers to high end, ultra slim, fun designs
A Great Devices for every learning scenario

Computers for Any Situation

- Available in all price categories
- From basic access to high end, portable, stunning designs
- From Everyday Learning to advanced usages aka the workhorse

Scenario	Compute Power Needed
Browsing	Basic computer
Multi-Tasking across many browser tabs/applications & video conferencing	More compute power
Edit media or advanced coding	A workhorse to provide the desired experience

Computers for everyday, basic learning scenarios to the heavy workhorse for advanced computer usages



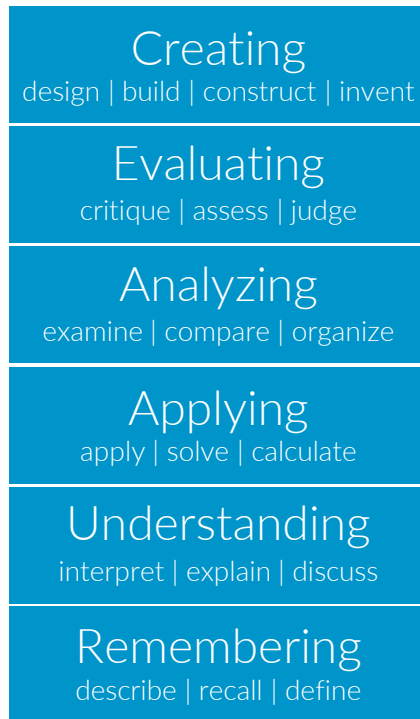
Decision Paralysis?



Which computer is right for you or your students?

Educational Goals Defined by Bloom's Taxonomy

Bloom's Taxonomy*

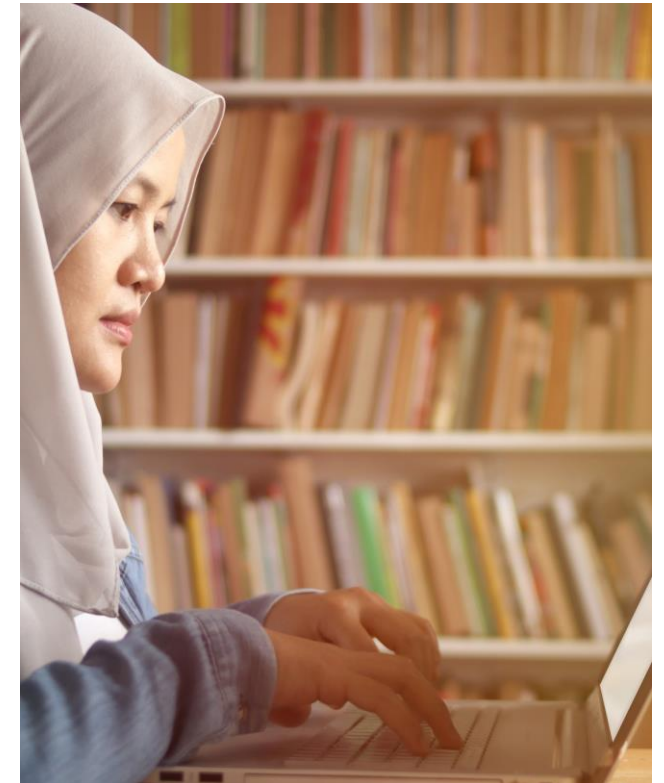


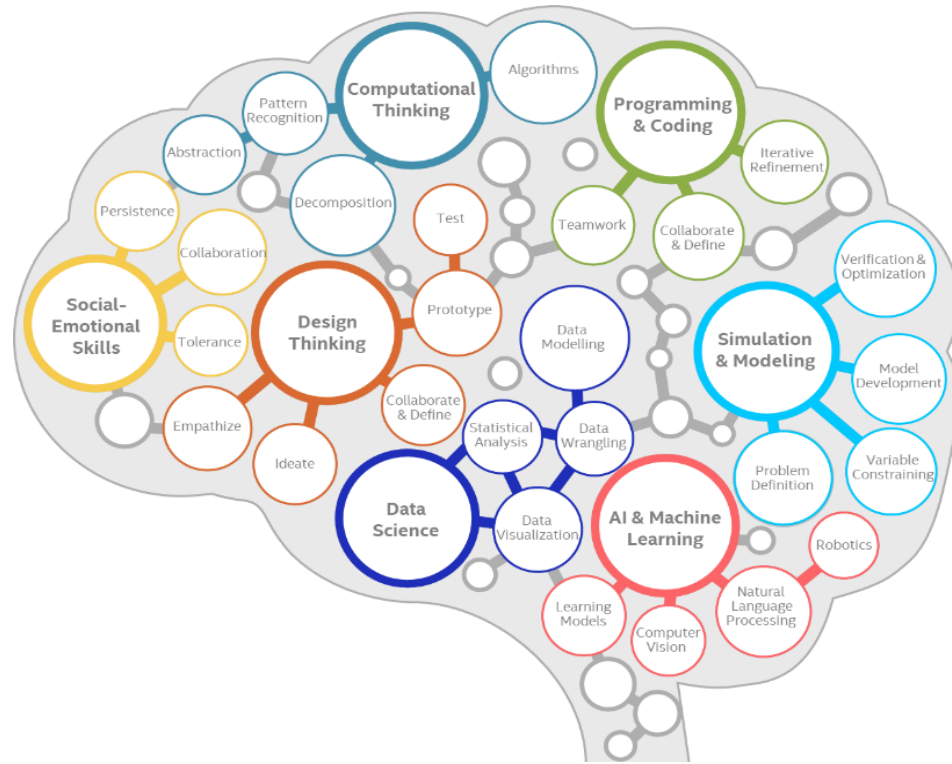
Classifies educational learning objectives into levels of complexity and specificity: cognitive, affective and sensory domains.

Educational goals are placed into specific categories to assess students' ability to achieve higher-order thinking.

A tool to, for example, devise curricula and design classroom activities:

- Teach students how to apply what they learned or to be creative





Student's Learning Opportunity based on your curricula: AI & Social Emotional Learning, ML, ...

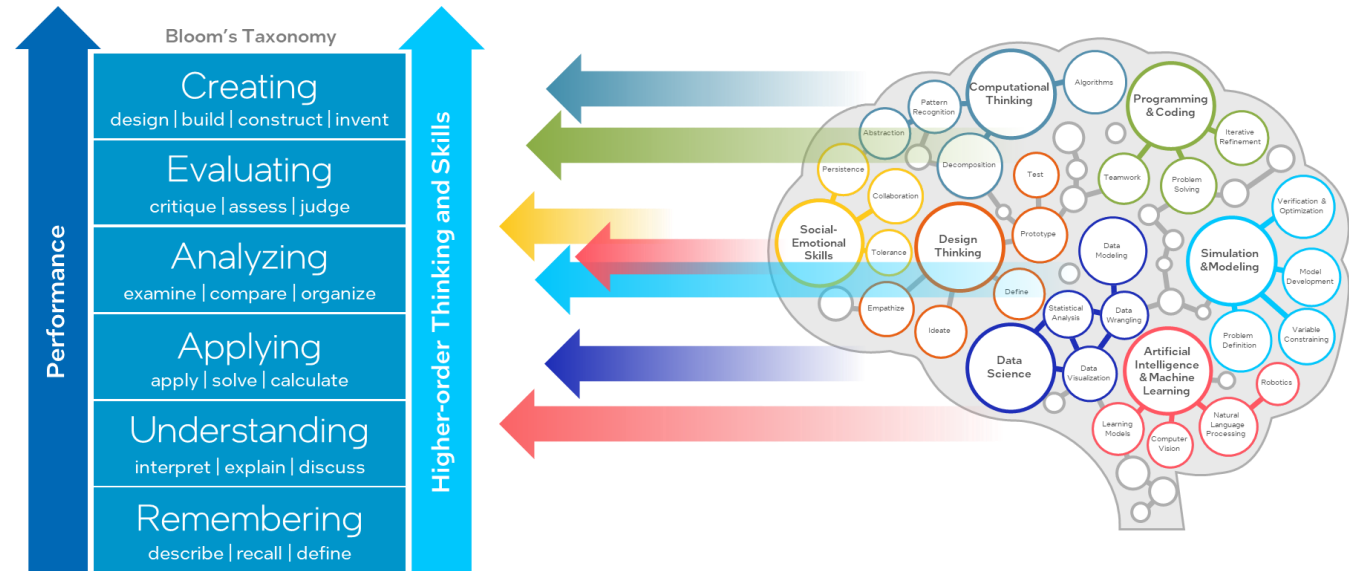
Educators
Can use a well-rounded computer to support students in the acquisition of these skills.

Learning scenarios and skills being taught determine what computer performance is needed

Technology Integrated of Your Curricula

Technology can be integrated into curricula to support the acquisition of cognitive and technology skills

As Workplaces evolve Curricula have to evolve: You are instrumental in preparing the student for the future



Technology is not Everything – Having Right Tools is Key

Intel® AI for Youth

Empowers students to use AI technology effectively

1. Demystifies AI
2. No coding experience required
3. Students build meaningful social impact solutions
4. Technical skills learning such as programming, algorithmic and computational thinking

[Intel.com/digitalreadiness](https://www.intel.com/digitalreadiness)

Intel® Skills for Innovation Framework

Focused on social emotional, mindset and skillset learning.

1. Fosters skills critical for students' success in the job market of the future
2. Uses technology to apply curricula concepts and ties them to real-world problem solving
3. SFI Professional Development suite provides 70 hours of e-learning to support educators as they build new competencies

skillsforinnovation.intel.com



Petra Langwald



At work

Global Education Marketing Manager

- Passionate about building computers that assist educators and students in their teaching and learning endeavors.
- Collaborating with OS vendors and computer manufacturers on computers that champion innovate classroom practices and support educators and students to work and learn at their own pace.



Not thinking about work!

Dramatic Change: How computers are being used in education



Questions

How to Pick a Computer fitting Your Needs

- How am I planning to use my computer?
- How will my students use their computer?

Basic Access	Learn & Collaborate	Learn & Create	Advanced Use & Teach
Browsing, Google Workspace	Collaborate on school project. Connect from anywhere?	Self Expression – video reports	Powerhouse for AI, simulation or modeling applications?
Home, School	On the Go, Collaborate & Productivity	Create & Prepare from Anywhere	Large Amounts of Computing Resources Needed

Security & Manageability



What experience am I looking for?

Learning Experience

Basic Access	Learn & Collaborate	Learn & Create	Advanced Use & Teach
Home, School	On the Go, Collaborate & Productivity	Create & Prepare from Anywhere	Large Amounts of Computer Performance Needed
Web browsing, email, Google Workspace/ browser-based classwork, assignments, test taking, kiosk-mode, baseline audio/video collaboration	Multiple browser tabs, Google Workspace, STEAM/STEM, coding, audio/video collaboration, video conferencing +15 students	Multi-tasking, robotics, advanced coding, media creation/editing, CAD/3D models, Linux container, advanced STEAM/STEM, gaming, external monitors	Virtualized environment, Windows applications via Parallels, AI & machine learning, simulation & modeling, data science, eSports & competitive gaming, Linux container for Grades 8-College advanced STEM use cases

Introduce students to the world of technology



Do my students require an enhanced learning experience?

Learning Experience

Basic Access	Learn & Collaborate	Learn & Create	Advanced Use & Teach
Home, School	On the Go, Collaborate & Productivity	Create & Prepare from Anywhere	Large Amounts of Computer Performance Needed
Web browsing, email, Google Workspace/ browser-based classwork, assignments, test taking, kiosk-mode, baseline audio/video collaboration	Multiple browser tabs, working across multiple applications, STEAM/STEM, coding, audio/video collaboration, video conferencing +15 students	Multi-tasking, robotics, advanced coding, media creation/editing, CAD/3D models, Linux container, advanced STEAM/STEM, gaming, external monitors	Virtualized environment, Windows applications via Parallels, AI & machine learning, simulation & modeling, data science, eSports & competitive gaming, Linux container for Grades 8-College advanced STEM use cases

Enhanced learning experiences through trail-blazing technologies like Gigabit Wi-Fi for amazingly fast connectivity



Creating & editing media?

Learning Experience

Basic Access	Learn & Collaborate	Learn & Create	Advanced Use & Teach
Home, School	On the Go, Collaborate & Productivity	Create & Prepare from Anywhere	Large Amounts of Computer Performance Needed
Web browsing, email, Google Workspace/ browser-based classwork, assignments, test taking, kiosk-mode, baseline audio/video collaboration	Multiple browser tabs, Google Workspace, STEAM/STEM, coding, audio/video collaboration, video conferencing +15 students	Robotics, advanced coding, media creation/editing, CAD/ 3 D modeling, multi-tasking, Linux container, advanced STEAM/STEM, gaming, external monitors	Virtualized environment, Windows applications via Parallels, AI & machine learning, simulation & modeling, data science, eSports & competitive gaming, Linux container for Grades 8-College advanced STEM use cases

Remarkable performance, increased productivity, stunning visuals, long battery life



How might computing requirements change over time?

Learning Experience: Powerful computer to avoid annoying delays

Basic Access	Learn & Collaborate	Learn & Create	Advanced Use & Teach
Home, School	On the Go, Collaborate & Productivity	Create & Prepare from Anywhere	Large Amounts of Computer Performance Needed
Web browsing, email, Google Workspace/ browser-based classwork, assignments, test taking, kiosk-mode, baseline audio/video collaboration	Multiple browser tabs, Google Workspace, STEAM/STEM, coding, audio/video collaboration, video conferencing +15 students	Multi-tasking, robotics, advanced coding, media creation/editing, CAD/3D models, Linux container, advanced STEAM/STEM, gaming, external monitors	Virtualized environment, Windows applications via Parallels, AI & machine learning, simulation & modeling, data science, eSports & competitive gaming, Linux container for Grades 8-College advanced STEM use cases, esports

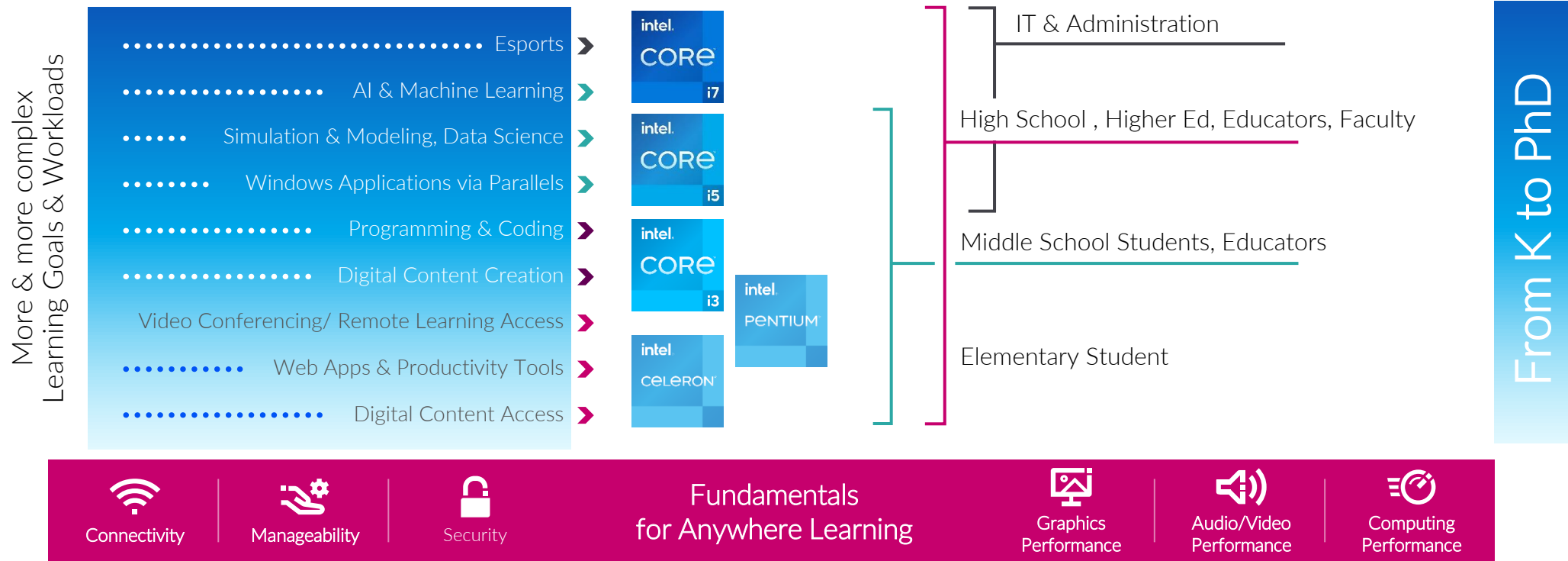


Cutting edge technologies, powerful processors to digest large amounts of data quickly, and more storage/memory future-proofing your investment. Stay in lockstep with what the future might bring...

Choose the Right Computer

Establish a Robust Learning & Teaching Environment

This chart shows a range of activities and the performance they require. As more applications run at the same time, more performance is needed.



When we look at how computers are used from elementary school to high school, we see very different needs – clearly NOT one size fits all.

Call to Action

Choose the Right Computer

Undeniable Interdependence: How a computer is used Vs needed performance

- Determine what your students need
- Determine what you, as an educator, need
- Choose the *right* device for the *best* learning outcome

Pairing of Desired Experiences with Performance & Features

Touch screen with stylus, larger screen, high quality camera, ruggedization, a workhorse, future-proofing....?

- Talk to your purchasing department

Intel provides an uninterrupted experience, whether it is in person or remote learning

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a Hyve event



Collateral

Chrome OS

- Expand learning for everyone [Link](#)
- Chrome Education Upgrade [Link](#)

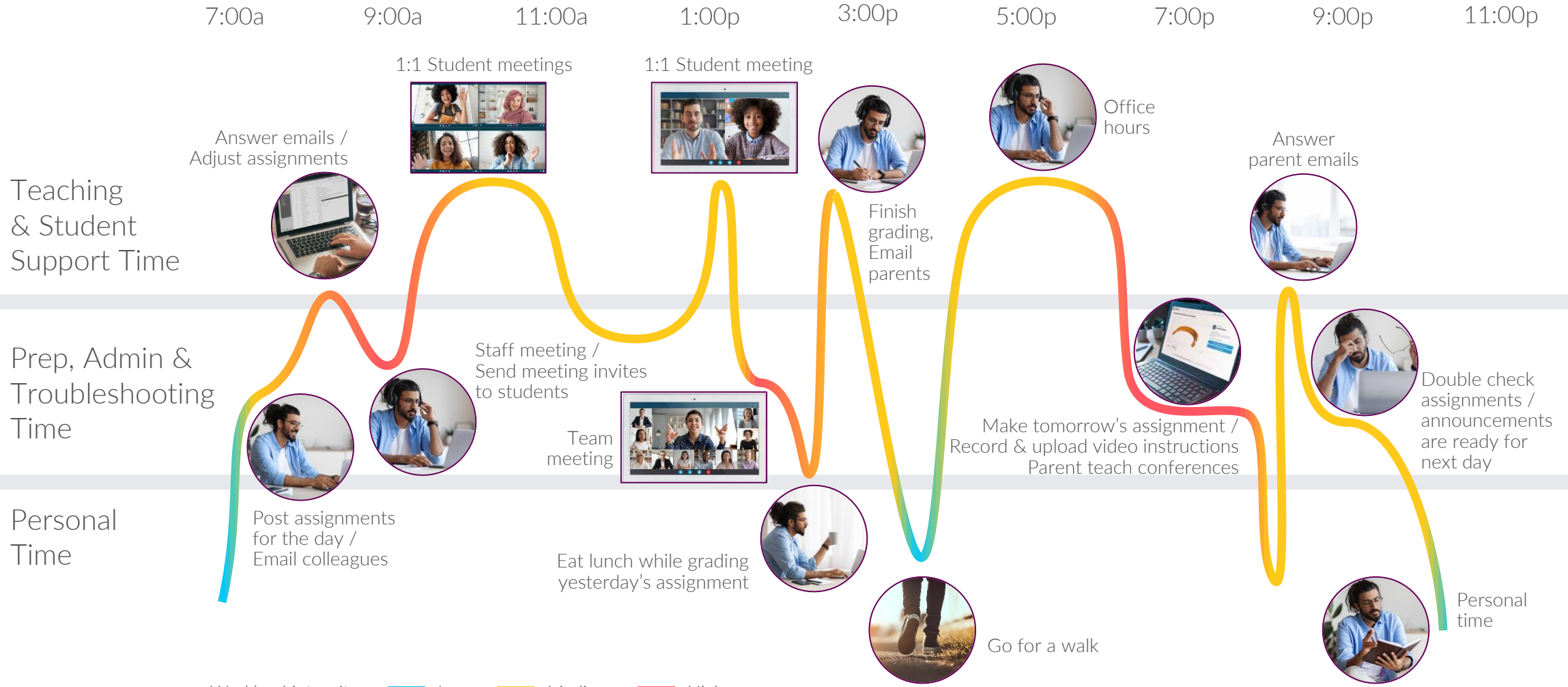
Windows OS

- What is new in Microsoft Edition [Link](#)
- Windows 11 + Windows 11 SE EDU [Link](#)



● Backup

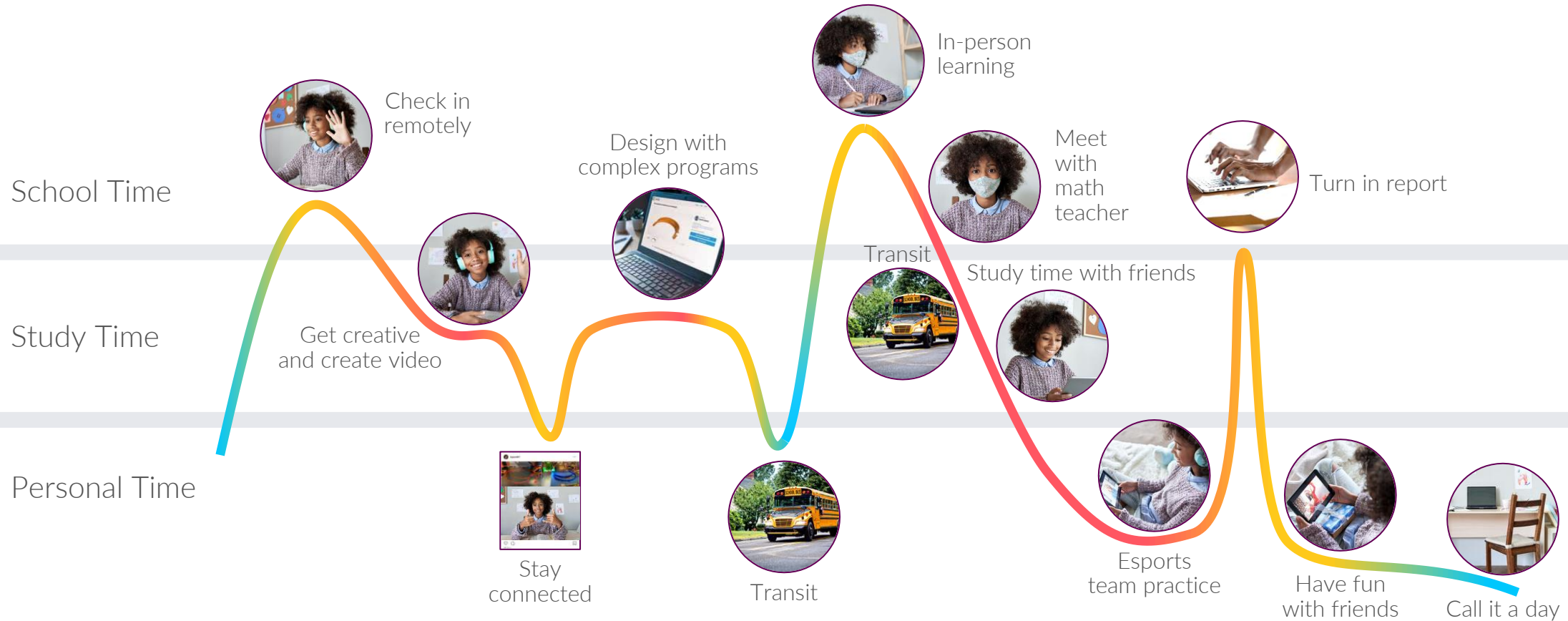
Day in the Life of an Educator



<https://medium.com/age-of-awareness/a-day-in-the-life-of-a-teacher-during-lockdown-5c23d6513fe5>

Day in the Life of a Student (Hybrid Scenario)

7:00a 9:00a 11:00a 1:00p 3:00p 5:00p 7:00p 9:00p 11:00p



Workload intensity: ■ Low ■ Medium ■ High



Chrome Usage Models & SoC Performance

Usage Model

Target User

	Basic Access	Learn & Collaborate	Learn & Create from Anywhere	Advanced Use & Teach
	School & Home	Online Learning & Productivity	Create & Prepare	Compute Intensive Workloads
	In person or asynchronous learning.	In person, asynchronous, live remote learning.	Advanced curriculum & specialized classes	Advance classes
	Web browsing, email, Google Workspace/browser-based classwork & assignments, baseline audio/video collaboration, kiosk, testing	“Basic Access” Plus: STEAM/STEM, beginning coding, audio/video collaboration and video conferencing +15 students	“Learn & Collaborate” Plus: Heavy multi-tasking, games & cloud gaming, multimedia consumption, drawing with stylus, external monitors.	“Learn & Create from Anywhere” Plus: Desktop and support application, virtualization, Windows applications via Parallels
			Advanced classes: Robotics, advanced coding, media [photo/video] creation/editing/production, graphic design, CAD/3 D modeling, Linux Container for Grades 8 to College Advanced STEM Use Cases such as coding	Heavy workloads including VC, advance videos/photo edition, AI & machine learning, simulation & modeling, data science, programming eSports & competitive gaming
	Shared or 1:1 device	Optimized for students ‘on the go’ in blended, hybrid & virtual learning environments	Educators, high school students, faculty administrators, higher ed...	Educators, school administrators, high school students, higher ed, faculty...

**The Linux Container for Grades 8 to College Advanced STEM Use Cases opens up...

- ...the entire Linux ecosystem to Chrome OS users. Ecosystem is almost entirely X86 focused (IE will run better on IA)
- ...desktop class applications in every category for power users. Average user won't care **but** power users and High School to College STEM students DO care.
- ...advanced Software Engineering applications for Power Users and STEM students.
- ...AAA gaming via Crostini and soon Borealis which will be the Linux Steam focused gaming VM (Container)





Chrome Usage Models & SoC Performance

Usage Models	Basic Access School & Home In person or asynchronous learning.	Learn and Collaborate Online Learning & Productivity In person, asynchronous, live remote learning.	Learn and Create from Anywhere Create & Prepare Advanced curriculum & specialized classes	Advanced Use and Teach Compute Intensive Workloads Advance classes
Screen Size/ Display	≥11" HD Optional FHD	≥11" - 14" FHD	Up to 17" FHD IPS 1920 x 1080	Up to 17" narrow bezel design, immersive UHD / QHD/OLED/AMOLED display, touch, 4-way nanoEdge display, 100% sRGB color gamut
Memory Storage	4GB 32GB eMMC	4+GB 32 to 64GB eMMC	8GB 64GB to 128GB eMMC Storage: ≥ 128GB PCIe SSD	Memory: ≥ 8GB Storage: ≥ 256GB PCIe SSD, NVMe storage, Micro card slot
Camera	720p UF	720p/1080p User facing 5MP World facing MIPI camera	Dual MIP Camera User facing: 1080p/5MB MIPI* camera World facing: 5MP/8MP MIPI* camera	Dual MIPI camera 5MP+ User-facing MIPI* camera 8MP World-facing MIPI camera
Connectivity	Wi-Fi6**, Intel LTE optional			
Ports	2 USB-C 1 Audio combo jack	2 USB-C, 1 USB A, 1 Micro SD card reader, 1 Kensington lock, 1 Audio combo jack	2 USB-C, 1 USB A, 1 Micro SD card reader, 1 Kensington lock, 1 Audio combo jack, HDMI	2 USB-C, 2 USB A, 1 Micro SD card reader, 1 Kensington lock, 1 Audio combo jack, HDMI
Touch/Stylus	Touch	Plus: Anti-glare screen, stylus	Plus: USI stylus, magnetically attached or garage	
Audio	2 speakers, 1 mic		2 speakers front-firing speakers with surround sound, 2 mics	Premium high-fidelity audio (e.g., DTS or Waves) Omnidirectional quad speakers with surround sound 2-4 mics with noise cancellation
Other	Fast charging, backlit keyboard, wake on voice [Google Assistant], fingerprint		Plus: Intelligent palm rejection, all metal chassis/thin & light	Plus: Premium material: 3-sided thin bezel, aluminum chassis, touch pad supports multi gestures
Ruggedization Feature Overview	Mil-St 810, [antibacterial] Corning® Gorilla® Glass, spill proof, scratch resistant, rubber bumpers, grippy exterior, keyboard w/mechanically anchored keys/pick resistant keys...			
Experience Goal	Introduce students to the world of technology with affordably priced PCs. Strive to ensure all students have a great experience with security and performance teachers and parents can trust.	Provide students with an enhanced learning experience. With new form factors and technologies like Gigabit Wi-Fi for blazing fast connectivity and MIPI-CSI camera modules for excellent video conferencing even in dark environments.	Deliver to student's remarkable performance upgrades for improved productivity, stunning entertainment, and intelligent system optimization. With quick charge capabilities and long battery life, students can be prepared for what comes next.	Offers teachers, higher ed students and students transitioning to higher education cutting edge technology, preparing them for the rapidly changing technological advancements in the workplace. With enhancements around graphics, A.I. performance, and wireless speeds, students have a PC that works as hard as they do.