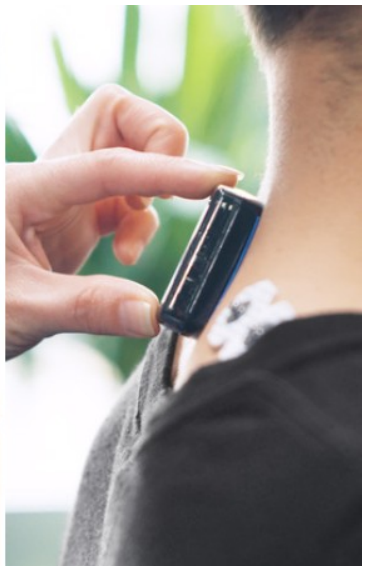
logitech Practical Ergonomics Guide for Education User Guide

PRACTICAL
ERGONOMICS GUIDE
FOR EDUCATION
for education

Contents

Practical Ergonomics Guide for Education

THE LOGI ERGO LAB



“We do better when we feel better.”

That core, systemic belief underpins the rigorous work we do at the Logitech Ergo Lab, based in Switzerland. We take a human-centered and scientific approach to support the development and reinvention of tools that help people feel better at work, school or home.

Our researchers collaborate with academics, practitioners, designers and product teams to make the future of work and learning more people-friendly, with ergonomic products and solutions that reduce muscle strain and improve posture, comfort and overall well-being.

EDTECH AT THE CENTER.

ERGONOMICS AT THE FOREFRONT.

It’s no secret that the usage of technology both in and out of classrooms has increased.

That increase, however, leads to more ergonomic concerns. In a survey exploring ergonomic issues associated with laptop use, 60% of students between 10-17 years old reported discomfort using laptops without companion tools.1 That’s not all. Learning and vision problems can also result from increased technology use. Did you know that children require sound to be 300% louder than background noise, otherwise learning loss can occur?

Moreover, 42% of teachers reported that students in the classroom had trouble seeing images and other material from the other side of the classroom.2

Ergonomics isn’t just critical for physical wellness. It equally impacts learning outcomes. Seventy four percent of educators said that students’ level of physical comfort while using educational technology impacts their level of engagement in learning.3

Studies also show that without correct posture and proper equipment, symptoms of information and communications technology-related (ICT) back pain and headache that occur between the ages of 8-14, can persist into late 20s.4 Today's tech-driven classrooms require more than the "sit up straight" method. Students and teachers need practical tips they can realistically use to impact overall ergonomics and physical wellness.

No matter the setup or where learning takes place, this guide outlines simple and realistic actions to implement in your school to improve well-being, ergonomics and productivity.

ERGONOMIC STRATEGIES

Here are four simple things educators and students can do to improve wellbeing and productivity

		
BANISH GLARE Glare can increase eye strain. Eyes ada pt to the brightest level of light, so it bec omes harder to see details in duller/dark er areas.	**AIR QUALITY** CO2 levels rise surprisingly fast, especially in cro wded spaces! High levels of CO2 can result in dro wsiness, headaches, poor concentration, loss of a ttention and more.	**MOVEMENT** The human body is r designed to sit or sta all day, it is designed ! Breaks show marke ement in cognitive fu reading comprehens productivity.5
SOLUTION Put the screen perpendicular to windows. Close curtains or shades duri ng lesson time.	**SOLUTION** Open a window for a few minutes, several times a day, to let in fresh air.	**SOLUTION** Switch between sittir anding in 30-60 minu als. Walking around a e standing is even bett

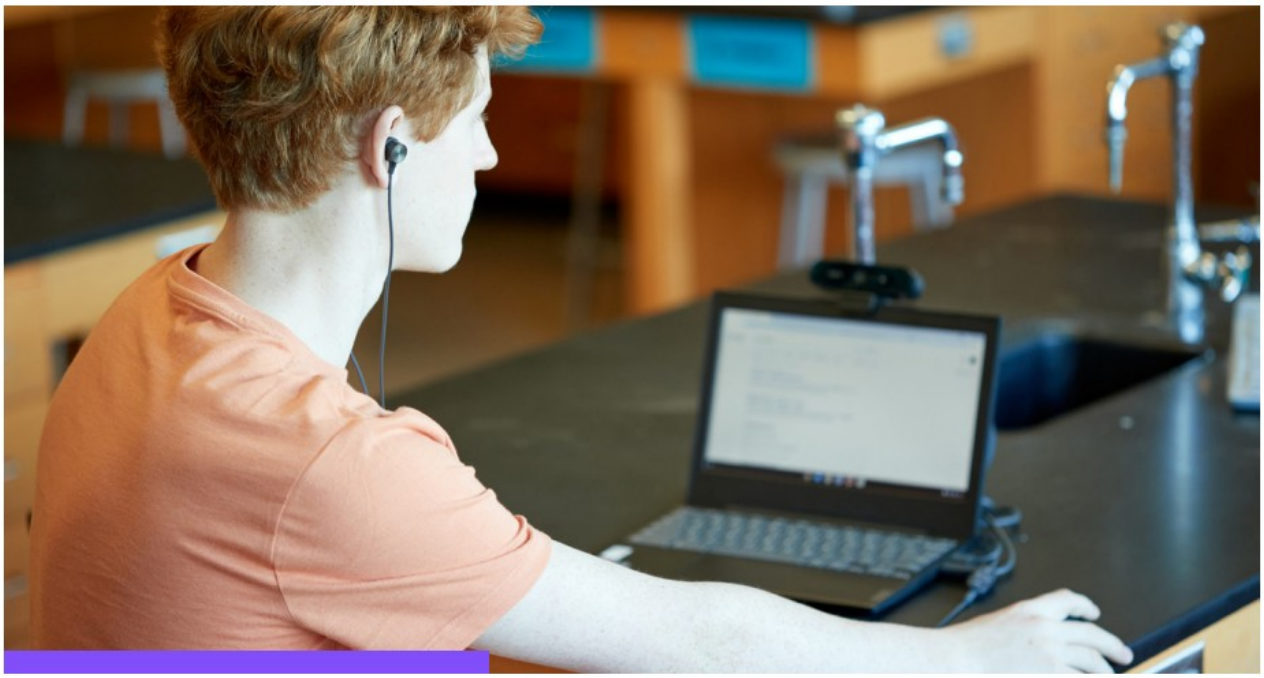
ERGONOMIC SOLUTIONS FOR STUDENTS

Mobile setups allow for greater flexibility, but they also increase chances of working in suboptimal conditions. This increases the risk of discomfort or even pain. The neck and shoulders are particularly vulnerable.

This section provides realistic tips students can practice to optimize workstations for ergonomic impact.

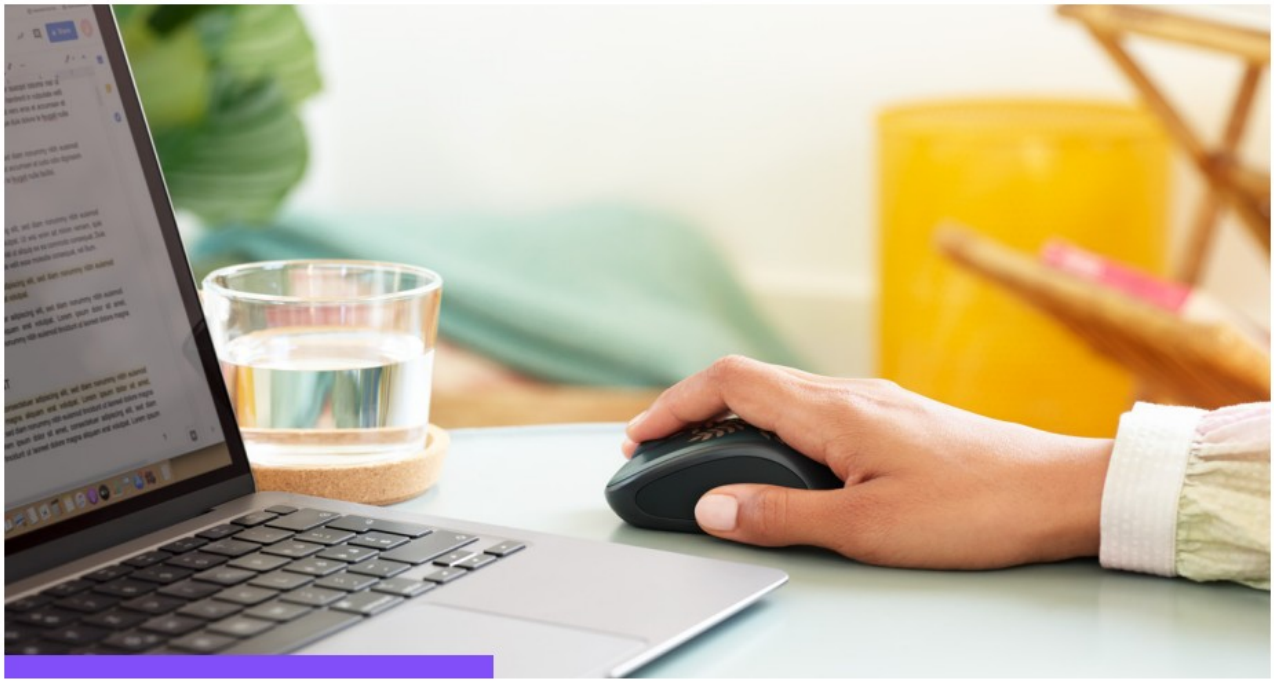
OPTIMIZING SETUPS WITH LAPTOPS & TABLETS

With laptops and tablets, the screen and input are tethered together, forcing an ergonomic trade-off: Adjusting one to improve ergonomics will worsen the ergonomics of the other.



ADJUSTING TO THE SCREEN

If the screen is at an ergonomic distance and height, reaching can be difficult, and hand and wrist posture can be awkward without the use of external peripherals. This can increase the risk of discomfort and strain.

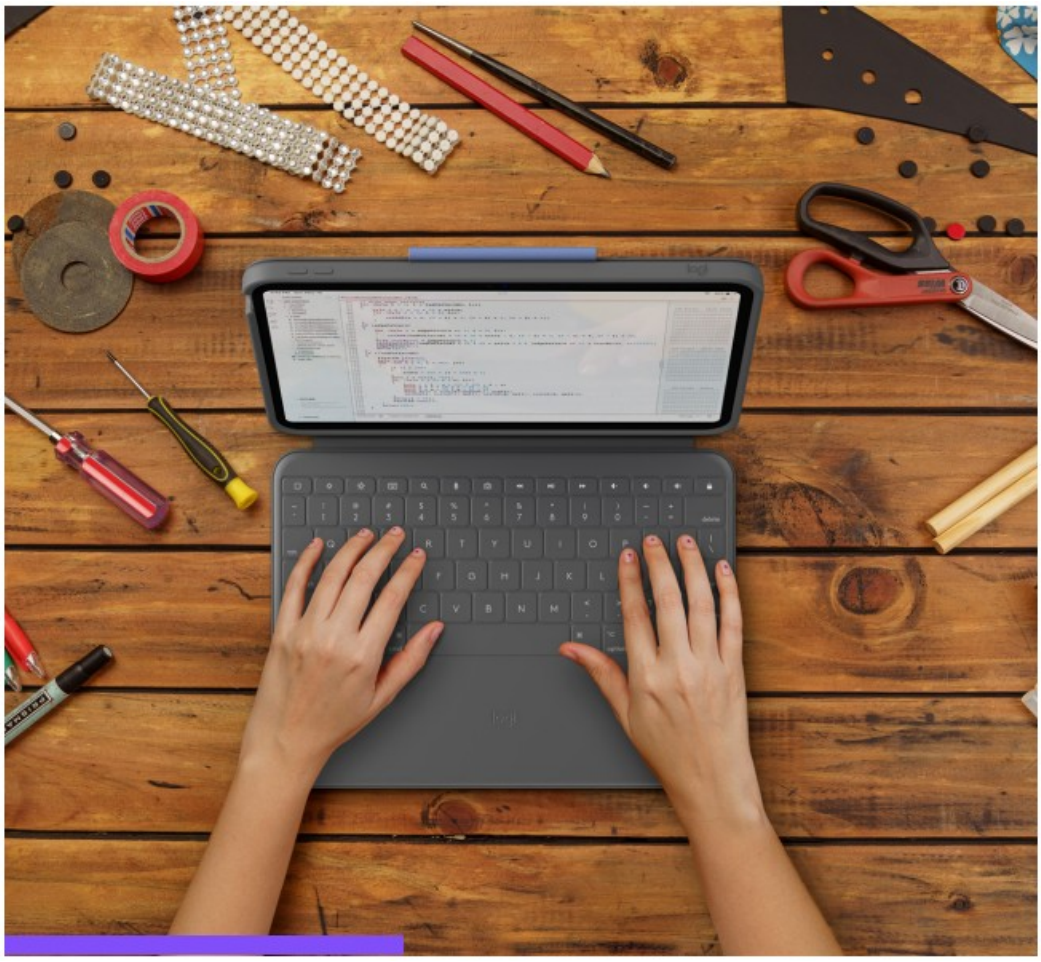


ADJUSTING TO THE INPUT

If the device is placed so that input devices are used comfortably, then the screen will likely be too close to the student, and too low, increasing the risk of eye strain and the risk of neck and shoulder strain.

SOLUTION

Laptop, table stands and external mouse and keyboards provide similar ergonomic benefits to an external screen. They lift the screen, encouraging a more natural neck posture and reducing neck and shoulder stain. Because these screens tend to be smaller, adjusting the font size can help reduce eye strain.

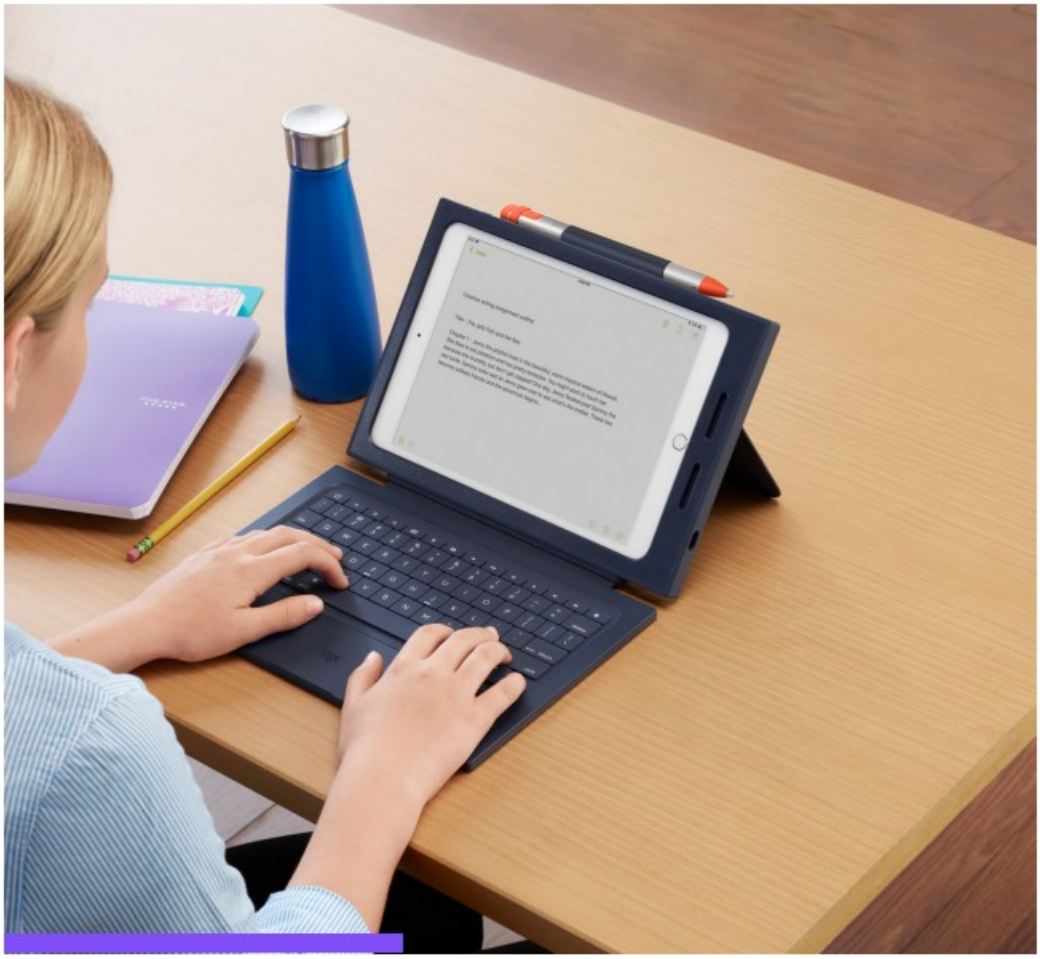


POSITIONING TABLETS

- Avoid placing tablets in laps or holding them in hands.
- Place tablets on a surface (table or desk) to reduce neck strain from looking down at the screen and wrist strain

from holding it up.

- Place tablets arms-length away to reduce eye fatigue, and increase font size to see better if needed.



ADJUSTING TO THE ACTIVITY

- When reading, watching and typing with an integrated physical keyboard, use the steeper angle on a stand, and avoid putting the tablet flat on a table.
- Prop the laptop or tablet up with books if needed to reduce eye and neck strain.
- When drawing, writing or typing on a virtual keyboard, use the lower angle of the stand, or lay the device flat on a table for a better hand and wrist position.

HEADSET FOR

EFFECTIVE LEARNING

Headsets and external microphones with good sound quality and noise cancellation provide a more effective learning experience. Using headsets, especially ones with built in microphones, have a number of ergonomic and well-being benefits.

BENEFITS

- Students are less likely to lean towards the computer or tablet to hear or be heard, which can put strain on eyes, neck and back.
- Wireless headphones allow students to move around while listening, which helps to avoid prolonged stationary positions.

CONSIDERATIONS

- Sound levels should be adjusted to less than 75 decibels (or no more than 60% of the maximum volume).7
- The World Health Organization recommends children spend no more than 40 hours listening to a personal audio device per week.8
- Regular breaks are recommended, especially for extended use.

ERGONOMIC SOLUTIONS FOR TEACHERS

Technology for educators is just as important. The right edtech can save energy, focus and promote overall well-being! Using external peripherals, especially an external screen, mouse and keyboard, can create an optimal desk

setup and offer micro-adjustments that can make a big difference.

THE IDEAL SETUP

EXTERNAL WEBCAM
An external webcam placed on top of an external screen rather than on a laptop ensures teachers look straight ahead. This improves neck posture and reduces neck and shoulder strain.
EXTERNAL SCREEN
Positioning the laptop at the right height and distance reduces the need to bend the neck. To improve posture and minimize neck, shoulder and eye stain, sit the laptop on a stand or pile of books.
EXTERNAL MOUSE & KEYBOARD
External peripherals let teachers select the device that is the right size for them and with the right functionalities for their unique tasks. This encourages long-lasting comfort and productivity.
HEADSET & EXTERNAL MIC
Using a headset (with a built-in or external mic) ensures that educators can hear and are heard better, and reduces the need to lean forward which can put strain on your back.

POSTURE AND POSITIONING BOTH IN CLASSROOM & HOME

An adjustable table and chair are ideal. No matter what setup a teacher chooses, these guidelines should be the aim.

Place feet flat on the floor with knees, ankles and hips at abo ut 90° angles.	Keep elbows at about 90° when typing or using a mouse.
Support thighs by adjusting the seat pan, or sit further back in the chair.	Avoid crossing legs, sit up straight and change posit me to time.

© 2023 Logitech. Logitech, Logi, and their logos are trademarks or registered trademarks of Logitech Europe S.A. or its affiliates in the U.S. and/or other countries. All other trademarks are the property of their respective owners. Logitech assumes no responsibility for any errors that may appear in this publication. Product, pricing, and feature information contained herein is subject to change without notice.

Published 2023

Sources

1. Harris, C., & Straker, L. (2000). Survey of physical ergonomics issues associated with school childrens' use of laptop computers. International journal of industrial ergonomics, 26(3), 337-346.
2. EdWeek Research Center conducted the survey in the summer of 2022. A survey of over 1000 participants.
3. EdWeek Research Center conducted the survey in the summer of 2022. Survey over 1000 participants.

4. Harreby, M., Neergaard, K., Hesselsôe, G., & Kjer, J. (1995). Are radiologic changes in the thoracic and lumbar spine of adolescents risk factors for low back pain in adults?: A 25-year prospective cohort study of 640 school children. Spine, 20(21), 2298-2302.
5. Godwin, K. E., Almeda, M. V., Seltman, H., Kai, S., Skerbetz, M. D., Baker, R. S., & Fisher, A. V. (2016). Off-task behavior in elementary school children. Learning and Instruction, 44, 128-143.
6. Tech neck. (2018, December 19). Chiropractors' Association of Saskatchewan. https://saskchiro.ca/tech-neck/
7. Keep listening to the beat. (2019, June 3). It's a Noisy Planet. Protect Their Hearing. https://www.noisyplanet.nidcd.nih.gov/kids-preteens/keep-listening-to-the-beat
8. Keep listening to the beat. (2019, June 3).

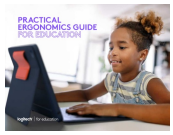
logitech

for education

For more information, contact
Logitech Education Sales
Education@Logitech.com
www.logitech.com/education

PRACTICAL ERGONOMICS GUIDE FOR EDUCATION

Documents / Resources

	logitech Practical Ergonomics Guide for Education [pdf] User Guide Practical Ergonomics Guide for Education, Ergonomics Guide for Education, Guide for Education, Education

References

- Logitech Education Australia
- Keep Listening to the Beat
- User Manual

Manuals+, Privacy Policy

This website is an independent publication and is neither affiliated with nor endorsed by any of the trademark owners. The "Bluetooth®" word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. The "Wi-Fi®" word mark and logos are registered trademarks owned by the Wi-Fi Alliance. Any use of these marks on this website does not imply any affiliation with or endorsement.