

The Effects of Student Absenteeism

How are closures affecting students today?

1 Learning Loss

When comparing pre-pandemic and in-pandemic student performance, researchers found that in-pandemic student performance had declined versus prior years.¹



Pass rates declined compared to prior years, and these **declines were larger in districts with less in-person instruction.**

 **14.2%**

Math pass rates declined by 14.2% on average; this decline was estimated at 10% less in fully in-person districts.



Changes in English language arts scores were smaller, **but were significantly larger in districts with larger populations of students who are Black, Hispanic, or eligible for free or reduced price lunch.**

2 Socialization Loss

In addition to the academic consequences of not attending school in person, researchers have also identified downward trends in how students are faring socially and emotionally. They call this decline “the thriving gap.”²

- On a 100-point scale, in-person students were **rated higher than remote students in levels of social well-being (77.2 versus 74.8), emotional well-being (57.4 versus 55.7), and academic well-being (78.4 versus 77.3).**
- Gaps were **more pronounced among 10th–12th graders** than 9th graders.
- The **thriving gap was consistent** across gender, race/ethnicity, and socioeconomic status.
- These gaps take on greater significance when understood in the context of other national data: **there have been significant increases in anxiety and depression among U.S. adolescents** in recent years (prior to the pandemic) and a 31% increase in mental health-related ER visits by 12- to 17-year olds from April to October 2020, likely due to issues exacerbated by remote learning.³

4 Reasons Why Schools Choose Arc

R-Zero provides UV-C disinfection solutions for school districts to enable enhanced biosafety in indoor environments. Over a thousand schools across the country are already using R-Zero's flagship UV-C disinfection device, Arc, to inactivate certain microorganisms in their buildings. Below, in their own words, schools share why they've chosen to partner with R-Zero.

1 Efficient and Effective Room Resets

UV-C inactivates certain airborne and surface-borne microorganisms in 1,000 square feet in just 7 minutes.



"R-Zero stood out because they're actively engaged in engineering products that help promote healthier indoor air quality in schools. Now, instead of taking 72 hours to disinfect, we're able to turn over a classroom within 11 minutes of a health concern."

- Kevin Quinn, Director of Maintenance and Facilities, Mundelein High School

2 Fewer Chemicals, Less Waste

According to the non-profit organization GreenAmerica, one out of every three cleaning chemicals used to clean U.S. schools is known to be harmful to either humans or the environment.⁴ By contrast, disinfecting with UV-C light can achieve 210x lower hazard potential and 250x less waste than chemical/manual disinfection.



"We chose R-Zero's Arc to address both air and surface-borne [microorganisms], and we now utilize Arc across our sixteen schools. Our decision was informed by R-Zero's accredited, rigorous independent lab testing, which provided solid data for the efficacy of the device, plus supplemental modeling showing the chemical waste reduction over time."

- Ted O, Assistant Superintendent, Business Services, South San Francisco Unified School District (California)

3 Peace of Mind

Implementing Arc has allowed school customers to help manage the spread of certain microorganisms in their classrooms.



“We had 0% transmission last school year. Our partnership with R-Zero and the return on our investment is immeasurable. The Arc UV-C device has given our teachers and staff an increased peace of mind... Our families and community members feel confident sending their children into cleaner classrooms that have been disinfected with hospital grade technology. Our custodial staff has improved efficiency and effectiveness...This machine will continue to benefit our entire school system for years to come.”

- Gary Tipsord, Superintendent, LeRoy Community Unit School District 2 (Illinois)

4 Trusted by Thousands of Schools

R-Zero’s education customers vary in size and location, but share the common goal of helping students continue to attend in-person school for the most positive learning and social benefits. Customers love R-Zero’s flagship product, Arc, because it helps them achieve key mitigation objectives.



“My core mission is student performance. If the kid’s not in the classroom, they can’t learn. So I appreciate the fact that as a vendor, R-Zero became a partner in helping me achieve my core mission.”

- Jeff Wagner, Former Chief of Facilities, Clark County School District (Nevada)

¹<https://www.nber.org/papers/w29497> ²<https://www.aera.net/Newsroom/Students-Attending-School-Remotely-Suffer-Socially-Emotionally-and-Academically>
³<https://journals.sagepub.com/stoken/default+domain/CIGQDAR3XPJUMKYTSTDx/full> ⁴<https://www.greenamerica.org/toxins-schools>

Visit www.rzero.com/education to learn more about how R-Zero’s UV-C disinfection solutions can help you remove chemicals from schools, enable environmental safety to keep students and teachers in the classroom, and provide peace of mind to school communities.