

Education Specifications

Learning starts with Physiology

Provide for and exceed a child's needs.

When thinking about a child's environment, their total environment must be considered, including home, neighborhood, and school. Ideally, each environment is positive; unfortunately, this is not always the case. Environmental threats like unstable homes and unsafe neighborhoods can lead to malnutrition, poor sleep, and stress. For some students, basic needs are not always met outside of school. Therefore it is important for design to intentionally create school and classroom environments that intentionally provide for a child's basic needs.

How will we ensure that our students are healthy? ***Be responsive to each student's needs.***



Air

Because a child's body is still maturing, their organs and immune system are more sensitive than that of an adult. Due to higher rates of metabolism and physical activity, a child's lungs are more sensitive to airborne contaminants. In addition, children spend more time on the floor and rarely wash their hands before eating.

Sound

Elementary school is a critical time when students are developing receptive and expressive language skills, therefore acoustics must be done right. The ability to hear effectively affects speech and oral comprehension. It is important for children to hear speech clearly, understand language constructs, and often requires students to fill in missing words from context. Because young children are developing their vocabulary, their ability to comprehend speech despite partial hearing can be limiting. Learning disabilities, learning English as a second language, and temporary hearing loss from illness further hinder the situation.

Light

Consider the profound influence of natural light. It is the most influential factor in the maintenance of circadian rhythms and the body's natural clock. Daylight is linked to cortisol levels which influences a child's ability to focus. Daylight is necessary for physical growth, a factor compounded by the amount of time a child spends in school. The influence extends further. In 1999, [Herschong Mahone Group conducted a comprehensive study](#) analyzing test scores of more than 21,000 students across three districts in California, Colorado and Washington. The results showed a direct correlation between the amount of daylight and student performance. Consider the following: Students in classrooms with the most daylight improved 20% faster on math and 26% faster on reading tests. The rate of improvement was 15–23% faster in classrooms with the most window area and 19–20% faster in those with skylights.