



Northlake Elementary

THE GISD DIFFERENCE

OUR FAMILY OF THREE CITIES SHARES A VISION THAT SERVES
TO PROVIDE AN EXCEPTIONAL EDUCATION TO ALL STUDENTS.



PROJECT OUTLINE

LOCATION

Northlake Elementary School
1626 Bosque Drive, Garland, Texas 75040

INDUSTRY TYPE AND OCCUPANCY

Educational Facility
K-12 School
Educational occupancy

FORM GIVERS

Universal Design
Sensory Design
Sustainable Design
User Experience in Learning Environments

BASELINE STANDARDS

2021 International Building Code
2021 International Fire Code
2021 International Mechanical Code
2021 International Plumbing Code
2020 National Electrical Code
2021 International Energy Conservation Code
2012 Texas Accessibility Standards
Texas Education Agency Facility Guidelines

SCOPE:

Partial interior redesign within Northlake Elementary School focused on early childhood learning and shared community spaces. The project includes the library, cafeteria, reception area, conference space, one Pre-K classroom, and one Kindergarten classroom. Priority is given to high-use spaces that directly impact student experience, safety, supervision, and sensory regulation.

PROFESSIONAL SUPPORT



Macy Klobertanz
Designer
Grace Design Studios



Moon Cho
Project Designer
VLK Architects



Salina Allen
Principal
Northlake Elementary School



Mark Travis
Senior Designer, BIM Coordinator
Grace Design Studios



Kaitlin Tice
Registered Interior Designer
VLK Architects

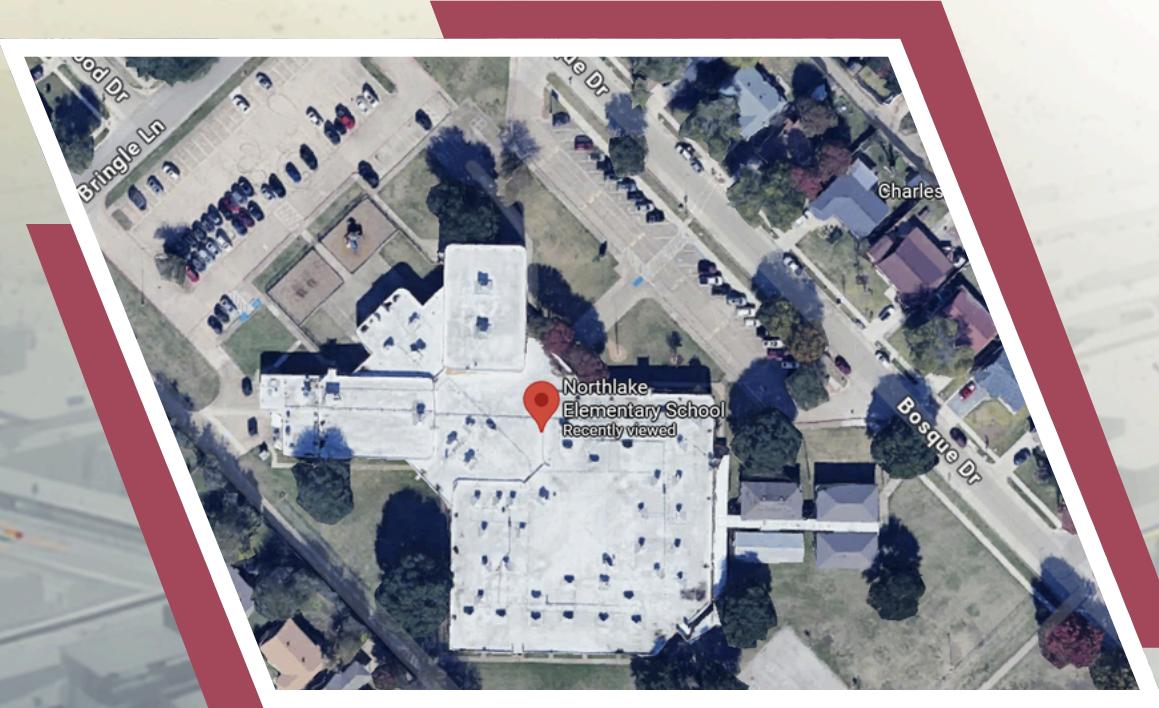


Provides leadership and insight into daily school operations, student needs, and learning environment priorities.

Offers professional guidance on spatial planning, documentation standards, and technical coordination.

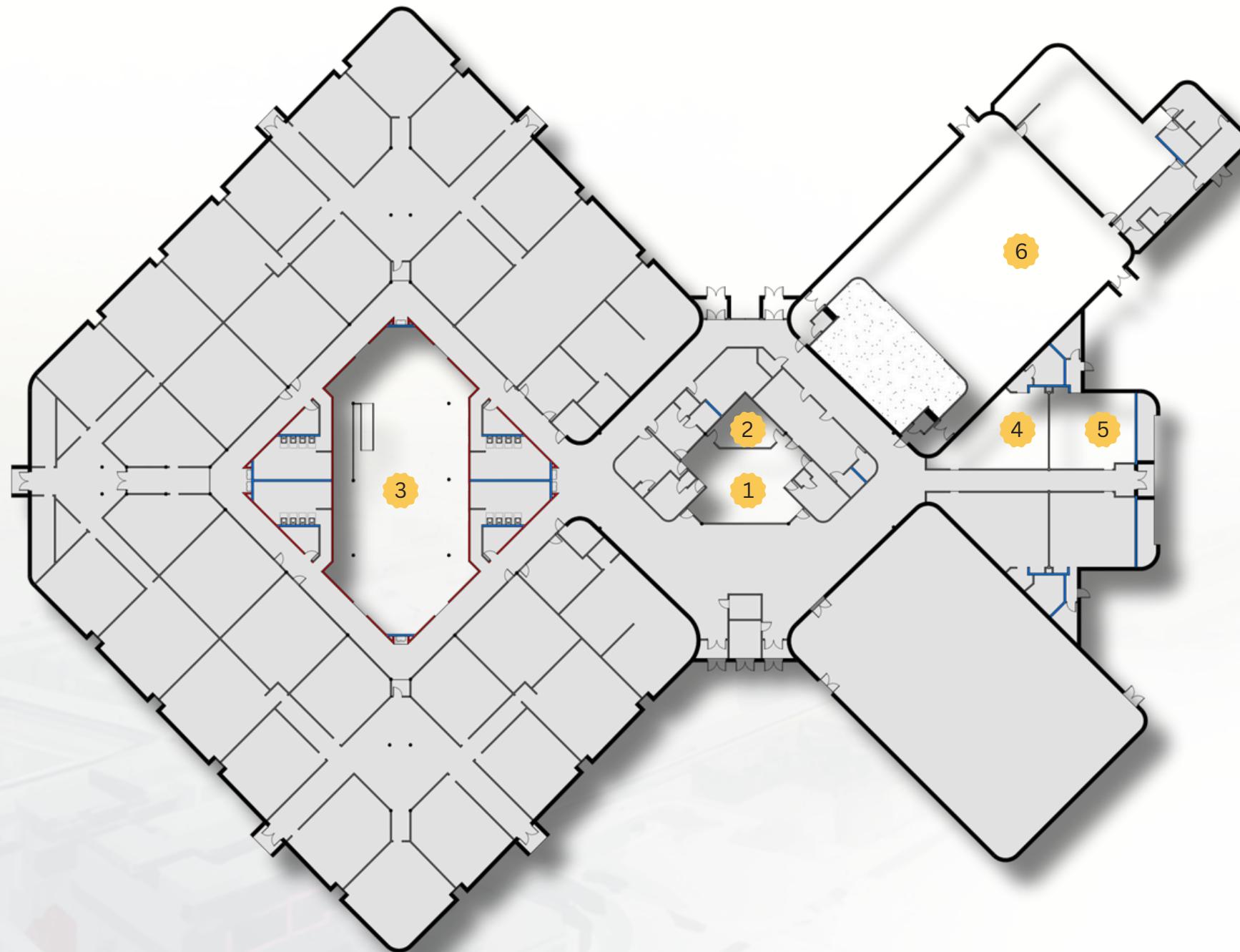
Provides architectural perspective on educational facilities, code considerations, and interdisciplinary coordination.

SITE & LOCAL CONTEXT ANALYSIS



- East → Morning sun
- South → Strongest and longest sun exposure
- West → Harsh afternoon sun
- North → Mostly indirect light

EXISTING CONDITIONS



LIMITED ACCESS TO
NATURAL DAYLIGHT

LACK OF ENCLOSED CLASSROOMS
AND ACOUSTIC CONTROL

INSUFFICIENT SENSORY
COMFORT FOR EARLY LEARNING

SITE VISIT OBSERVATIONS



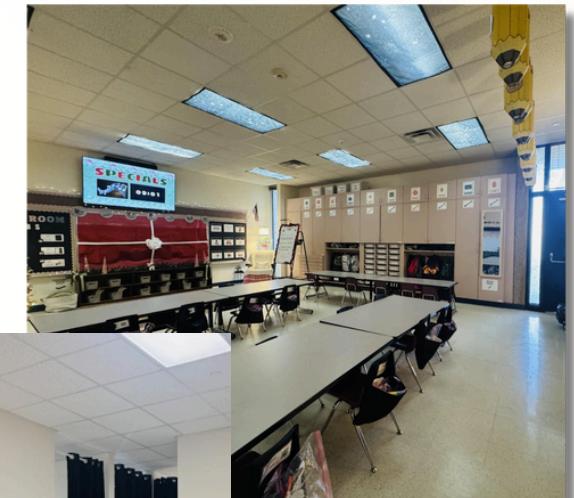
CAFETORIUM

- Excessive noise
- Sensory overstimulation
- Hard surfaces
- Limited flexibility



LIBRARY / MEDIA CENTER

- Limited daylight
- Poor zoning
- Obstructed sightlines
- No refuge spaces



PRE-K / K CLASSROOM

- Sensory overload
- Visual clutter
- Noise intrusion
- Inflexible layout



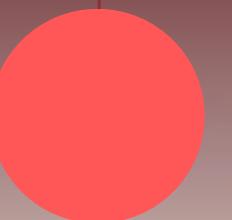
RECEPTION / ENTRY

- Physical barrier
- Limited welcome
- Unclear wayfinding
- Low visibility

CONFERENCE

- Inflexible layout
- Limited daylight
- Dated environment
- Underutilized space

NEIGHBORHOOD HISTORY



1950S-1960S

*Post-War
Suburban Growth*

EARLY 1970S

*Growing Educational
Demand*

1974-1975

*Establishment of
Northlake Elementary*

1980S-1990S

*Neighborhood Stability
and Growth*

2000S-PRESENT

*Aging Facilities and
Changing Needs*

The Garland area experienced rapid suburban development, with new housing attracting young families and increasing the need for neighborhood schools.

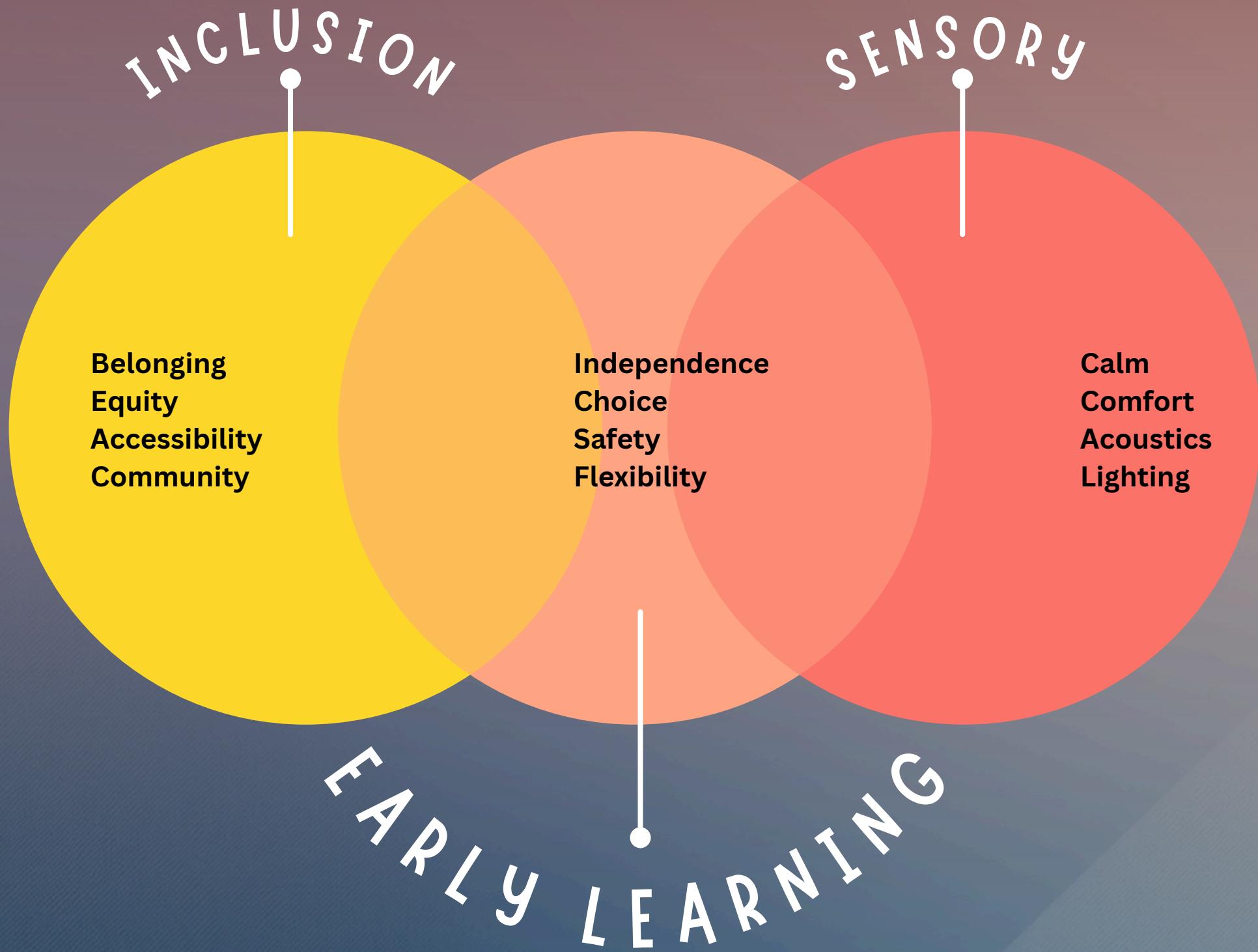
Population growth in North Garland created a demand for additional elementary schools to support expanding residential communities.

Northlake Elementary School was constructed to serve the growing neighborhood and provide a local, community-based learning environment.

The neighborhood became a stable, family-oriented community, with Northlake Elementary serving as a long-term educational and social anchor.

The school continues to serve the community while facing aging infrastructure and the need for updated learning environments.

PROJECT KEYWORDS



INVESTIGATIVE QUESTIONS

- How can classroom design help every child feel welcomed and supported?
- How can spaces reduce sensory overload and promote comfort for young learners?
- How can classrooms balance structure with flexibility for different learning needs?
- How can layout encourage independence while maintaining teacher supervision?
- How can quiet and active zones coexist without conflict?
- How can daylight and views improve focus and well-being?
- How can design support the transition from Pre-K to Kindergarten?
- How can inclusive design support students of all abilities?
- How can classroom layouts support different learning styles?
- How can furniture flexibility support movement and choice?
- How can acoustic strategies reduce noise and distraction?
- How can spaces support self-regulation and emotional comfort?
- How can classroom organization reduce visual clutter?
- How can circulation support safe and calm movement?
- How can learning spaces encourage positive social interaction?
- How can design support both individual and group activities?
- How can material choices support comfort, durability, and safety?
- How can classrooms adapt as students grow and develop?
- How can learning environments feel welcoming to families?
- How can classroom design promote equity and belonging for all students?

CLIENT & STUDENT PROFILE

CLIENT CONTEXT

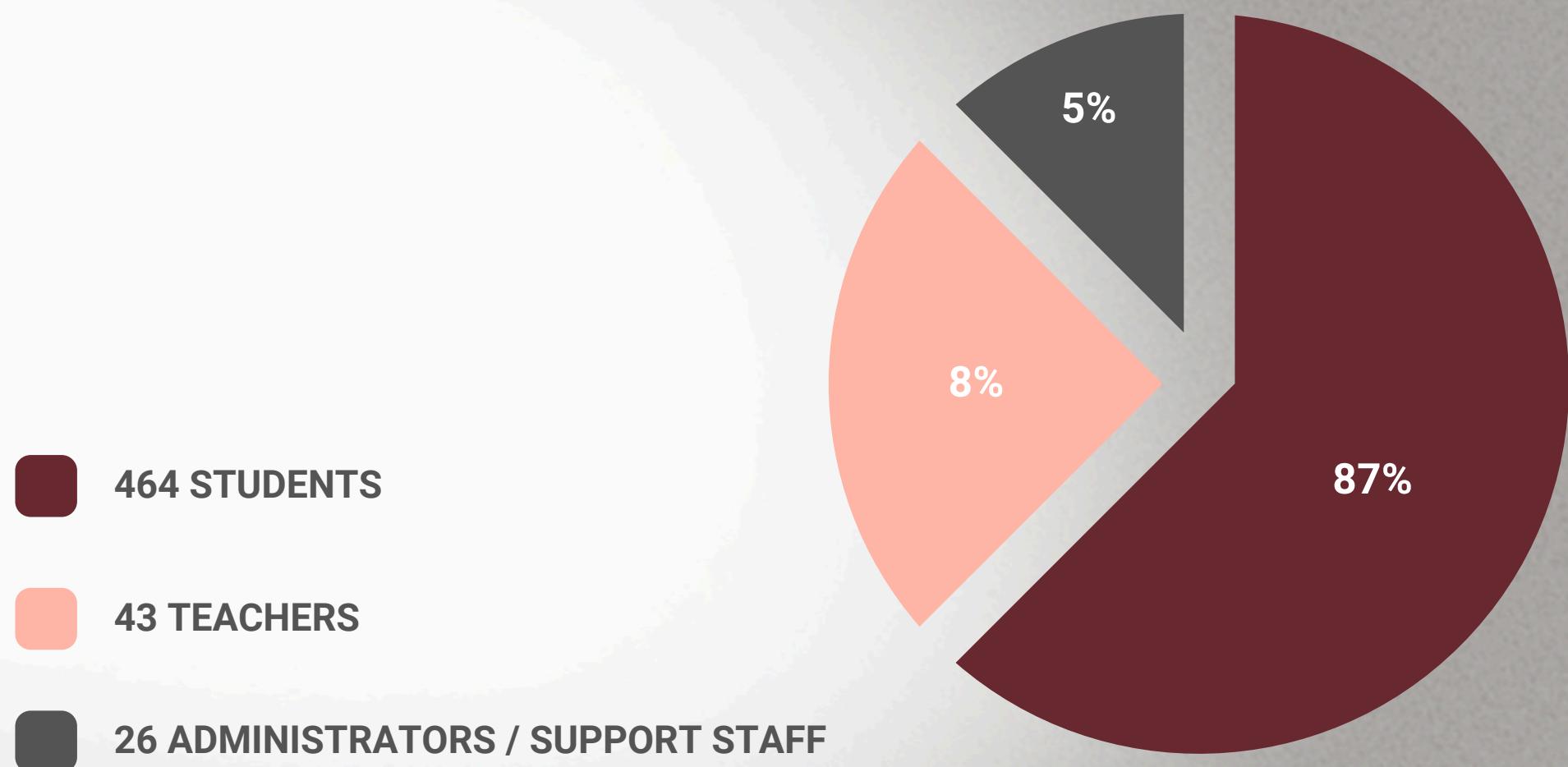
- Public elementary school (Garland ISD)
- Neighborhood-based K-5 campus
- Early childhood learning focus

STUDENT POPULATION

- Diverse learning abilities
- Early learners requiring support
- Extended daily campus use

COMMUNITY CHARACTER

- Family-oriented neighborhood
- Culturally diverse households
- School as community resource



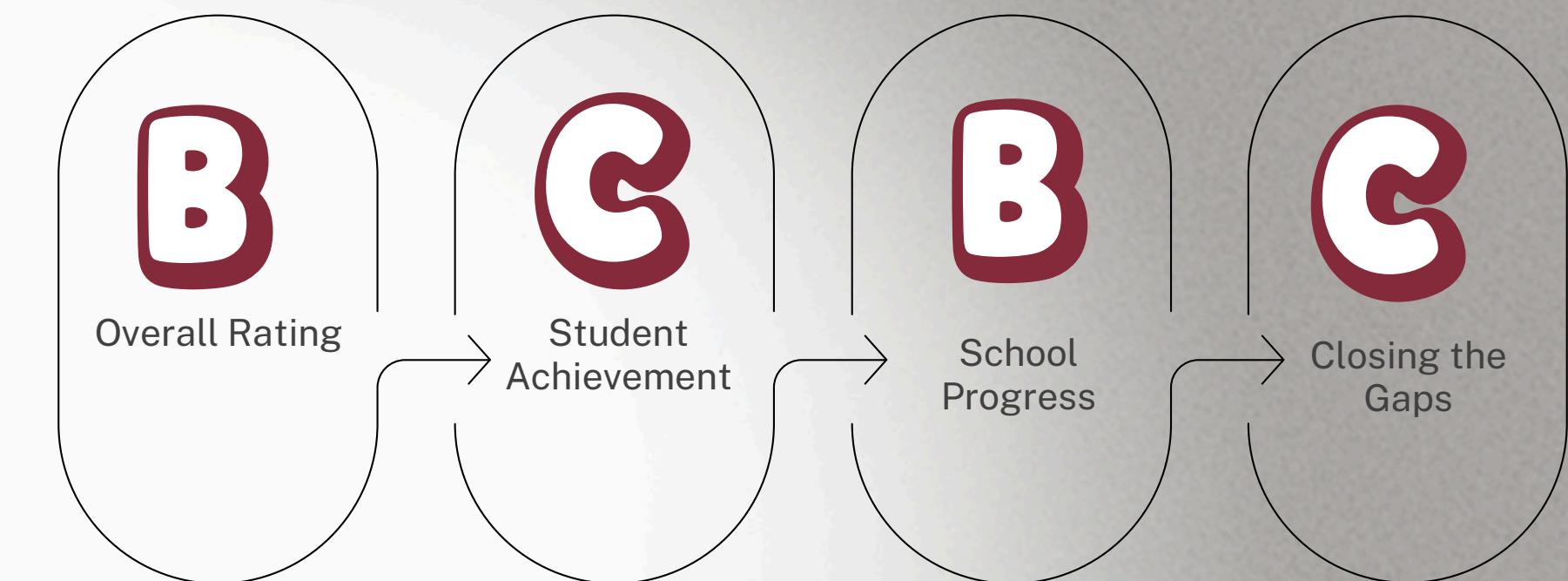
ACADEMIC PERFORMANCE & LEARNING NEEDS

ACADEMIC CONTEXT

- Overall school performance rated B
- Student achievement shows room for growth
- Early literacy and math are key focus areas
- Learning gaps remain for some student groups

LEARNING IMPLICATIONS

- Early grades require additional academic support
- Classroom environment plays a role in focus and engagement
- Design can support consistency, clarity, and comfort



TEA ACCOUNTABILITY
SUMMARY GRAPHIC

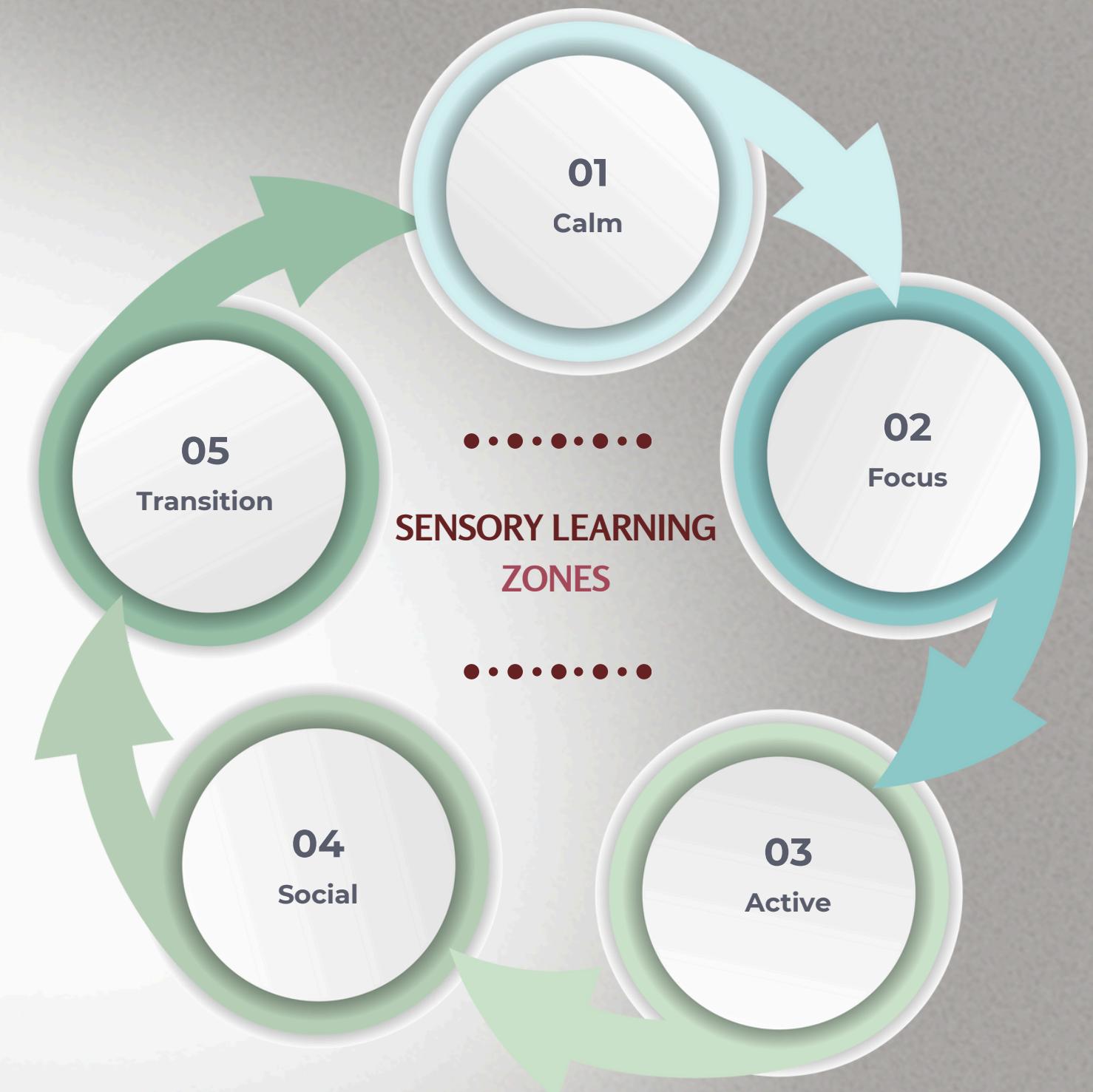
EARLY CHILDHOOD LEARNING & SENSORY NEEDS

DEVELOPMENTAL CONSIDERATIONS

- Developing self-regulation skills
- High sensitivity to sound, light, and visual stimuli
- Need for routine and predictability
- Learning through movement and exploration

ENVIRONMENTAL NEEDS

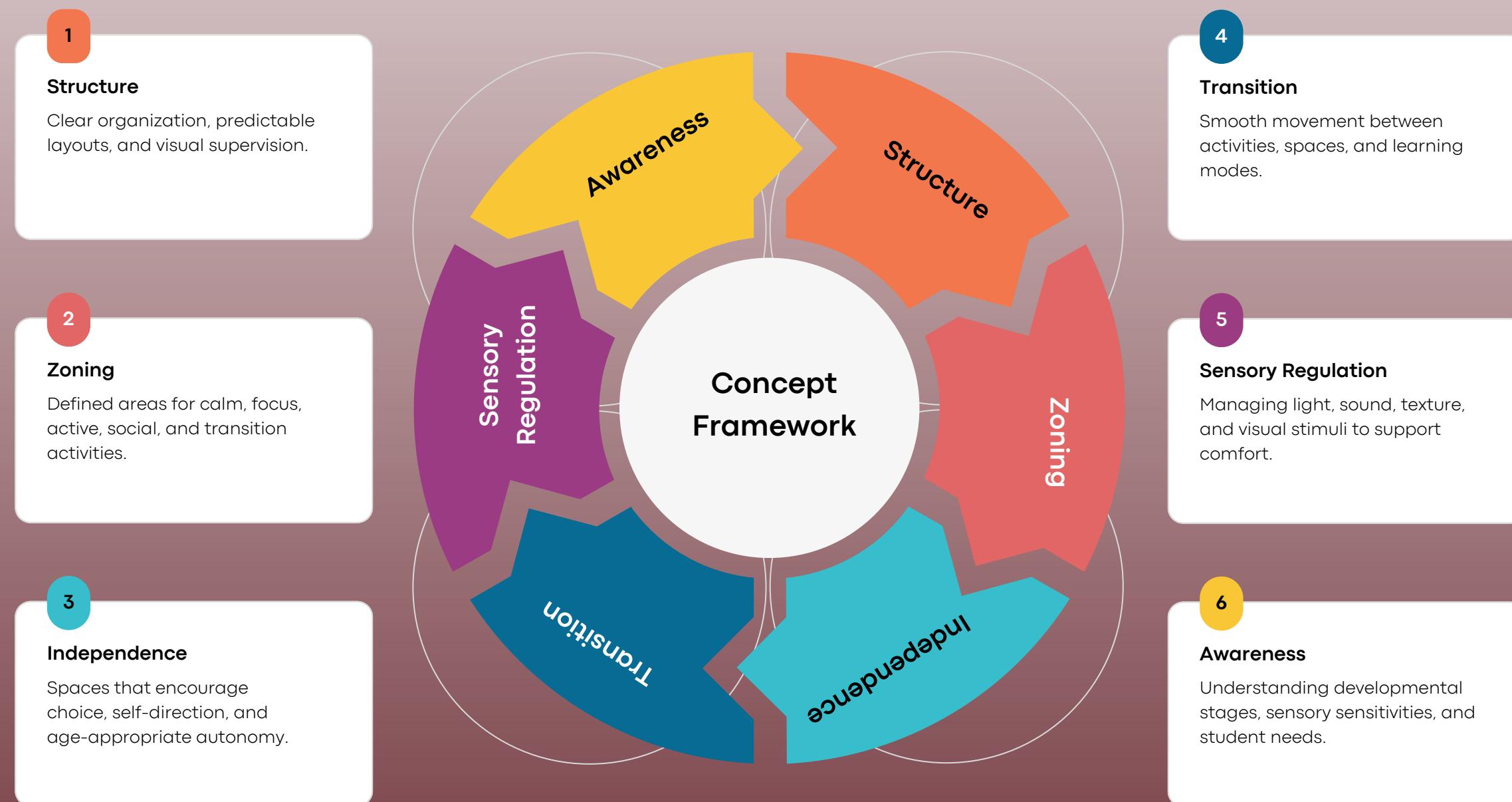
- Clear spatial organization
- Defined quiet and active zones
- Reduced visual and acoustic clutter
- Spaces that support choice and independence



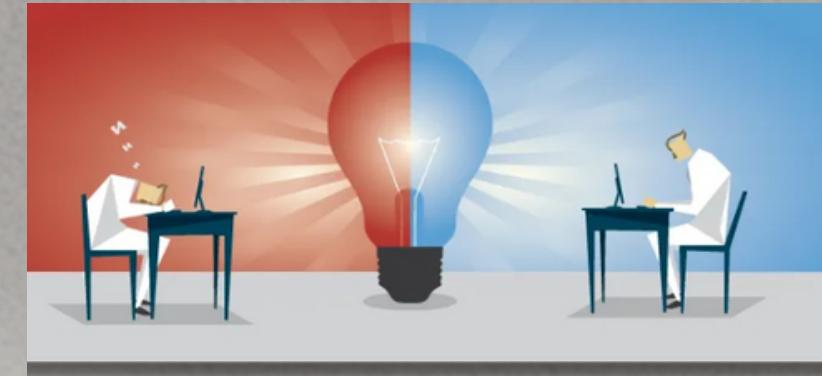
DESIGN INTENT & CONCEPT FRAMEWORK

DESIGN INTENT

The design intent is to create early childhood learning environments that support **sensory regulation**, **emotional comfort**, and **independence** while maintaining **clear structure** and **visual supervision**. The project focuses on creating **predictable, well-zoned spaces** that respond to the **developmental and sensory needs** of **Pre-K and Kindergarten** students, allowing them to **transition smoothly** between activities and learning modes.



CASE STUDIES ENVIRONMENTAL IMPACT ON LEARNING



Case Study 1 (Acoustics)

CASE STUDY 01: CLASSROOM ACOUSTICS

- Noise negatively impacts early reading and language development
- Younger children are more sensitive to sound distractions
- Open classrooms increase cognitive load

DESIGN TAKEAWAY:

Acoustic separation, sound-absorbing materials, and controlled transitions are critical in early learning environments.

Meallings K.: The effect of classroom acoustic conditions on literacy outcomes for children in primary school: a review. *Build Acoust* [Internet]. 29(1), 135–56 (2022) Available from: <http://journals.sagepub.com/doi/https://doi.org/10.1177/135010X211057331>



Case Study 2 (Lighting)

CASE STUDY 02: CLASSROOM LIGHTING

- Daylight improves focus and engagement in elementary students
- Poor lighting increases fatigue and reduces attention
- Balanced natural and artificial lighting supports visual comfort

DESIGN TAKEAWAY:

Daylighting strategies and layered lighting are essential for early childhood classrooms.

Sleegers P, Moolenaar N, Galetzka M, Pruyn A, Sarroukh B, van der Zande B. Lighting affects students' concentration positively: Findings from three Dutch studies. *Lighting Research & Technology*. 2012;45(2):159–175. doi:10.1177/1477153512446099

FURTHER RESEARCH & DESIGN DEVELOPMENT

01



Application of Research

Applying findings on classroom acoustics, lighting, and sensory regulation to design strategies appropriate for early childhood environments at Northlake Elementary.

02



Environmental Performance Focus

Further evaluation of sound control in open classrooms and shared spaces, along with strategies to improve daylight access and artificial lighting quality in classrooms with limited windows.

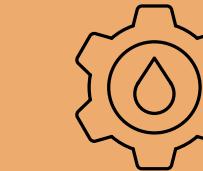
03



Programming & Zoning

Refining spatial organization for the library, cafeteria, reception area, conference space, Pre-K classroom, and Kindergarten classroom to support calm, focus, active, and transition zones.

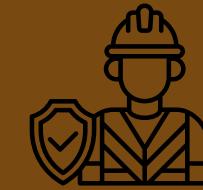
04



Materiality & Finishes

Selecting durable, child-appropriate materials that support acoustic absorption, visual comfort, and sensory calm, while meeting public school safety and maintenance requirements.

05



Supervision & Safety

Studying sightlines, transparency, and partial enclosure strategies that balance student independence with clear visual supervision for teachers and staff.

CONCEPTUAL DESIGN INSPIRATION

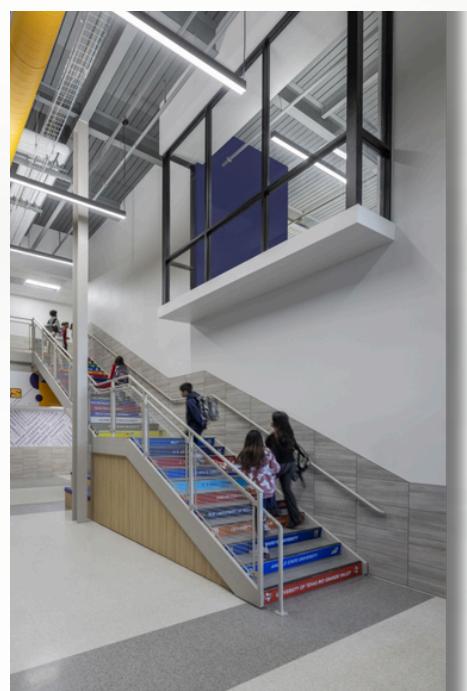
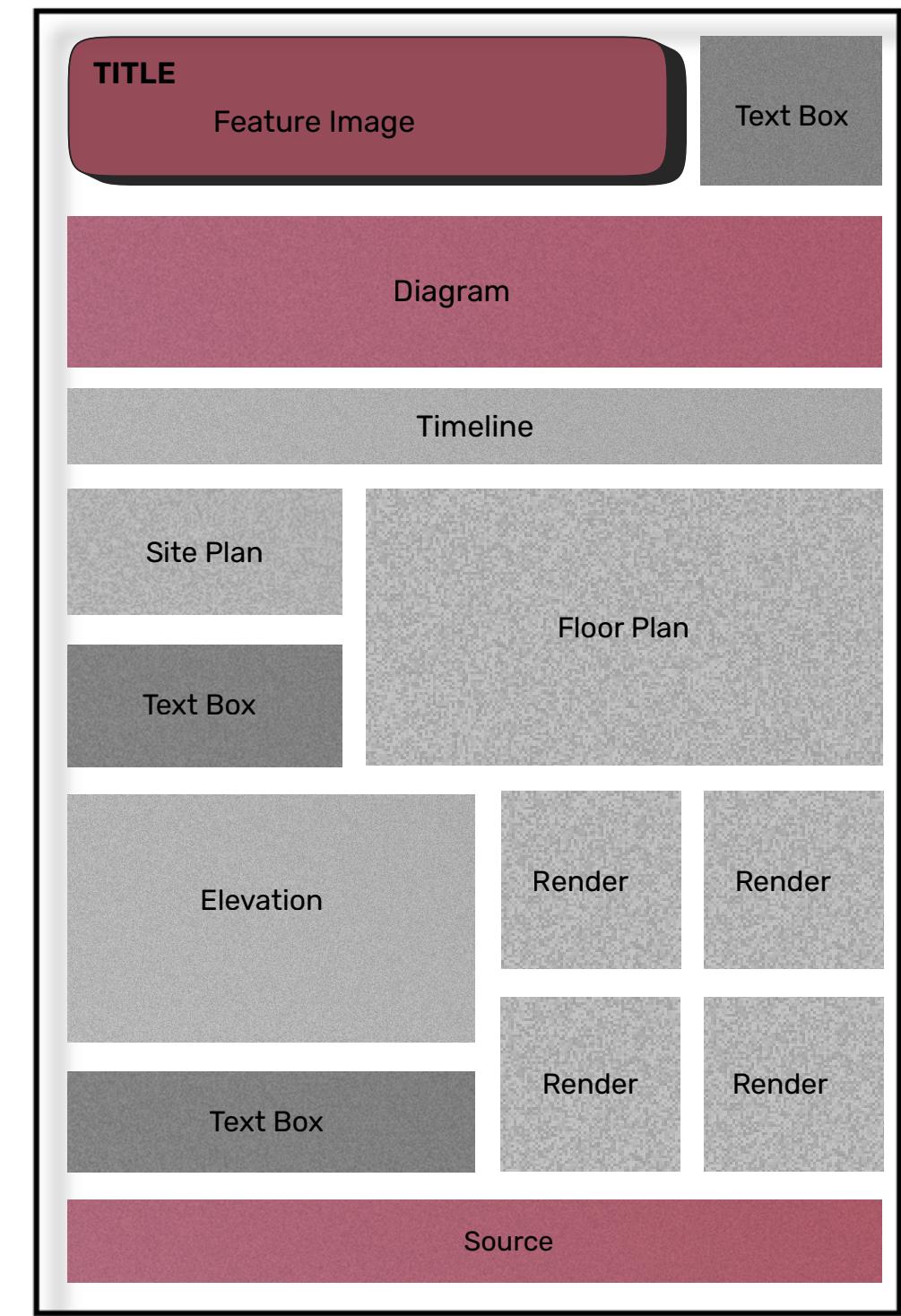
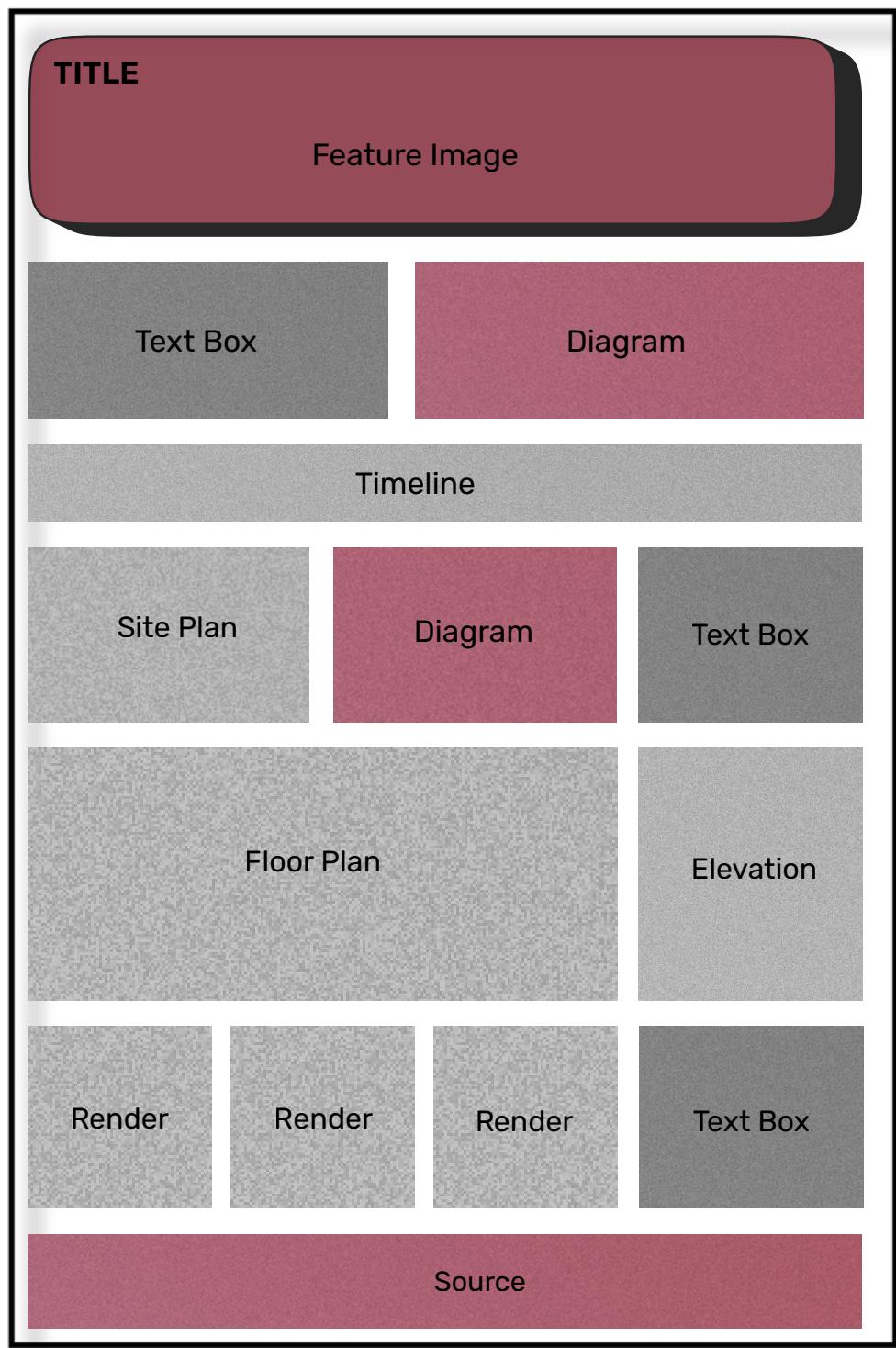


Image sources: Education Snapshots (n.d.).
Elementary school photo collection.
<https://educationsnapshots.com/?s=ELEMENTARY+SCHOOL>



POSTER LAYOUT IDEATION



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Northlake Elementary



THANK YOU