BEFORE

AFTER

ICCR Case Study

ENVIRONMENT AS A SECOND TEACHER

Overview

Immaculate Conception Catholic Regional School and NorvaNivel's Case Study, Environment as a Second Teacher, ran from February 2024 - June 2024. The 6-phase study took place at Immaculate Conception Catholic Regional School (ICCR) in Warwick, Rhode Island and worked towards acceptance and actualization of 4 major school/community-wide initiatives. ICCR is a private catholic school composed of roughly 350 learners spanning grades PreK - 8. All grades utilize interdisciplinary curricular models and focus on building 'character through faith'. The Case Study observed 18+ spaces between grades PreK - 8 including shared common spaces such as gymnasium, music room, art room, and innovation center. Each space was observed and scored by members of a steering committee. Learners were interviewed and observed throughout different learning environments. Faculty members were interviewed, observed, and participated in coaching workshops with the goal of growth towards four study objectives.

Personnel

The Environment as a Second Teacher study consisted of a Steering Committee which included members from

° CCR's instructional team

° Lleadership team

° Student leadership team, and outside consultation organizations
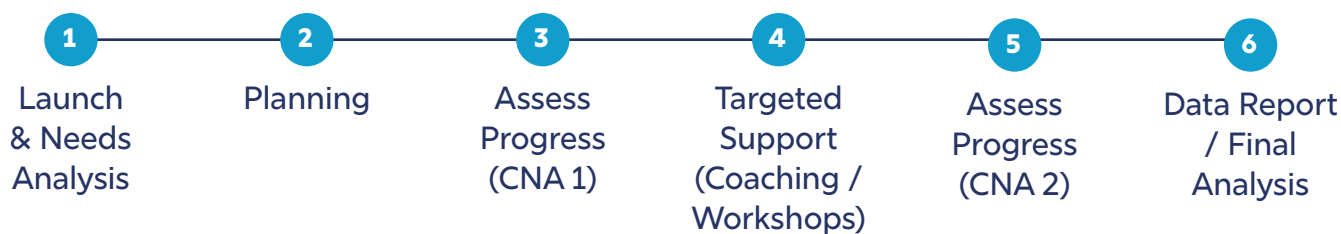
° True North

° NorvaNivel

Goals

The Environment as a Second Teacher study focused on four school/community-wide initiatives:

ICCR Objective
Our primary goal is to ensure that all leadership, facilitators, and learners of Immaculate Conception Catholic Regional School experience meaningful spatial influence, solidifying an understanding, acceptance, and implementation of the environment as a second teacher.

1	**ICCR Leadership Objective** To gain expertise and confidence in planning, implementing, and modeling learner-centered, environment-minded learning spaces that work to support strategies found in CKLA/The Science of Reading, Pathways Programming, and utilizing the environment as a second teacher.
2	**ICCR Facilitator Objective** To gain mastery of facilitation process skills such as: instruction, assessment, community, and feedback by including the practice of environmental design and awareness.
3	**ICCR Learner Objective** To gain expertise and confidence whilst in the growth process of the following skills: innovation, communication, problem-solving, compassion, and Gospel-centered leadership.
4	**Community Objective** To gain insight and understanding by observing and participating in the school-wide growth process within the following components: nurturing the whole child, learning experiences, high-quality instruction, faith and Christian service, student achievement, and home-school relationships.

Methodology

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1 ──── 2 ──── 3 ──── 4 ──── 5 ──── 6
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| 1 Launch & Needs Analysis | 2 Planning | 3 Assess Progress (CNA 1) | 4 Targeted Support (Coaching / Workshops) | 5 Assess Progress (CNA 2) | 6 Data Report / Final Analysis |

The Environment as a Second Teacher study included 6-phases:

The study incorporated both quantitative and qualitative data gathering expressed in conversations, interviews, surveys, and environmental analysis via a Likert Scale. Qualitative and quantitative data was cataloged over the course of the study and debriefed by the steering committee and educational leadership.

Measurement Tools

The Environment as a Second Teacher Case Study included 5 types of measurement tools. Each with the distinction of recording both qualitative and quantitative data.

1. Design and Play FEDC Framework for Spaces & Design and Play Environmental Guide

2. Individual Sensory Profile Overview

3. Participation Assessment for Gauging Trends in Collaborative Settings Rubric

4. Environmental Effect on Outcomes Over Time

The Design and Play FEDC Framework was constructed utilizing ICDL DIRFloortime's FEDC levels. 'DIR is the Developmental, Individual-differences, and Relationship-based model. It provides a foundational framework for understanding human development and learning how each person individually perceives and interacts with the world differently.' (ICDL Homepage).

FEDC levels pertain to Functional Emotional Developmental Capacities. There are 16 FEDC levels total ranging from Self-Regulation and Interest in the World to Wisdom of the Ages which includes a 'sense of perspective on one's place in the grand scheme of things.' (ICDL Functional Emotional Development webpage).

**Measurement tools and data collection resources available upon request

Comprehensive Needs Assessment (CNA)

The Comprehensive Needs Assessment (CNA) was a greatly considered measurement tool throughout the case study process. The CNA allowed the steering committee to observe and score physical learning spaces and their current/transformed capabilities. The following 7 capabilities were observed and recorded:

1. Social Connection

2. Pretend Play

3. Confidence Building

4. Growing Flexible Thinking

5. Sensory Input/Output

6. Restorative Opportunities

7. Organization

Each capability was emphasized with criteria which the steering committee reviewed and discussed prior and post-CNA walkthrough. For example:

1. **SOCIAL CONNECTION**
   a. Interactive social play materials
   b. Pro social play layout
   c. Space for adults and classmates
   d. Materials that are appealing to peers
   e. Play pockets/opportunities throughout educational environment

2. **PRETEND PLAY**
   a. a. Loose parts play
   b. b. Thematic play areas
   c. c. Language nudges (an incomplete play area where the learner has to ask for or create materials that can symbolically represent items)

Each capability utilized a Likert scale assessing if the space had the capability or did not have the capability.

1	2	3	4
Does not meet facilitation need	**Somewhat meets facilitation need**	**Meets facilitation need**	**Above and beyond facilitation need**

The CNA was completed during the Launch session of the case study. It was then completed a second time as a Progress Walkthrough towards the end of the Case Study period.

Progress Walkthrough

There were two Progress Walkthroughs that took place. One at the beginning of the study and one towards the end. Each Progress Walkthrough utilized the same measurement tools and terminology as the Comprehensive Needs Assessment. The objective of each walkthrough was to determine the rate of growth and acceptance of the physical environment as a second teacher. Highlighting areas in which both learners and facilitators were not only noticing the physical environment's impact on learning and relationships but also how the physical environment can be manipulated as an approach towards autonomy, responsibility, planning, and enjoyment.

This was measured in comparison to each space's capability to support communication capacities (i.e. social connection, pretend play, confidence building, growing flexible thinking, sensory input/output, restorative opportunities, organization). Qualitative and quantitative data from the Progress Walkthroughs were compiled and compared to determine the overall rate of growth, acceptance, and mastery of utilizing the physical environment as a second teacher

Projected Outcomes

Based on the initial Comprehensive Needs Assessment and overall case study objectives, there were several projected outcomes all parties wished to accomplish. These projected outcomes would be used internally to continue planning professional development, curriculum overview, inform overall spatial configurations, inform strategic planning and influence capital projects. They would also be used externally to engage with the surrounding community and parent-teacher association(s) in order to gauge awareness, understanding, acceptance, and interaction.

1. By the conclusion of the Environment as a Second Teacher Case Study, learners' acceptance would increase as shown in attendance rates, academic progress via observation, and social progress via collaborative observation.

2. By the conclusion of the Environment as a Second Teacher Case Study, facilitators' acceptance would increase as shown in planning for the physical environment via academic and social objectives as well as shifting learning space layouts.

3. By the conclusion of the Environment as a Second Teacher Case Study, the ICCR community, including families, would grow in their understanding of the Environment as a Second Teacher with progress shown through participation and support regarding school-wide events, spatial initiatives, and capital projects.

In relation to projected outcomes, the case study utilized an Environmental Effect on Outcomes Over Time data tracker which was completed collaboratively between ICCR leadership, True North Consulting, and NorvaNivel. The data tracker organized dimensions of growth in the following categories:

Achievement	Completion	Acceptability

These dimensions were tracked using the following metrics:

Learning	Adoption	Performance	Vision

Questions were posed to the steering committee and selected staff to map expectations and professional goals:

1. What % of intended outcomes do you wish to achieve?

2. What % of intended aspects of implementation do you wish to complete?

3. What is your anticipated timeline?

4. How will you rate the satisfaction of stakeholders with the implementation process and outcomes?

The following are example responses the steering committee discussed to gauge projected outcomes:

Example #1

ICCR is in development of a 3-year strategic plan. The outcomes of the case study will inform the consultative and professional development component. The hope is to introduce initiatives and begin growth during the case study period, with a continued growth trajectory over a 3-year timeline. Resulting in at least 90% acceptance of the Environment as a Second Teacher initiative and at least 90% implementation of initiative tools/protocols.

Example #2

ICCR has developed revised mission and vision statements, which speak to an emphasis of reaching the whole child and in extension their communities spiritually, relationally, and academically. Resulting in at least 75% acceptance of the Environment as a Second Teacher initiative for all stakeholders and at least 75% acceptance/ satisfaction of initiative goals/tools/protocols for facilitators and learners.

Example #3

CCR has developed a revised Vision of a Graduate which emphasizes a 'tangible representation of Immaculate Conception Catholic Regional School's mission to cultivate creative, compassionate builders of the future'. The hope is to connect acceptance of the Environment as a Second Teacher initiative with the Vision of a Graduate criteria: innovative thinker, effective communicator, resilient problem solver, self directed learner, compassionate citizen, and Gospel-centered leader.

Results
Initial Comprehensive Needs Assessment

18 spaces were observed by 11 respondents during the initial Comprehensive Needs Assessment. These spaces varied in learner age, curricular component, facilitator experience, spatial design, and growth capacity.

Gymnasium, Art Studio, Media Center, PreK (Little Saints), Spanish Room, Science Lab, KA-KB, 1B, 2A-2B, 3A-3B, 4, 5/6 Math, 5/6 English Language Arts, 7/8 Math, 7/8 English Language Arts
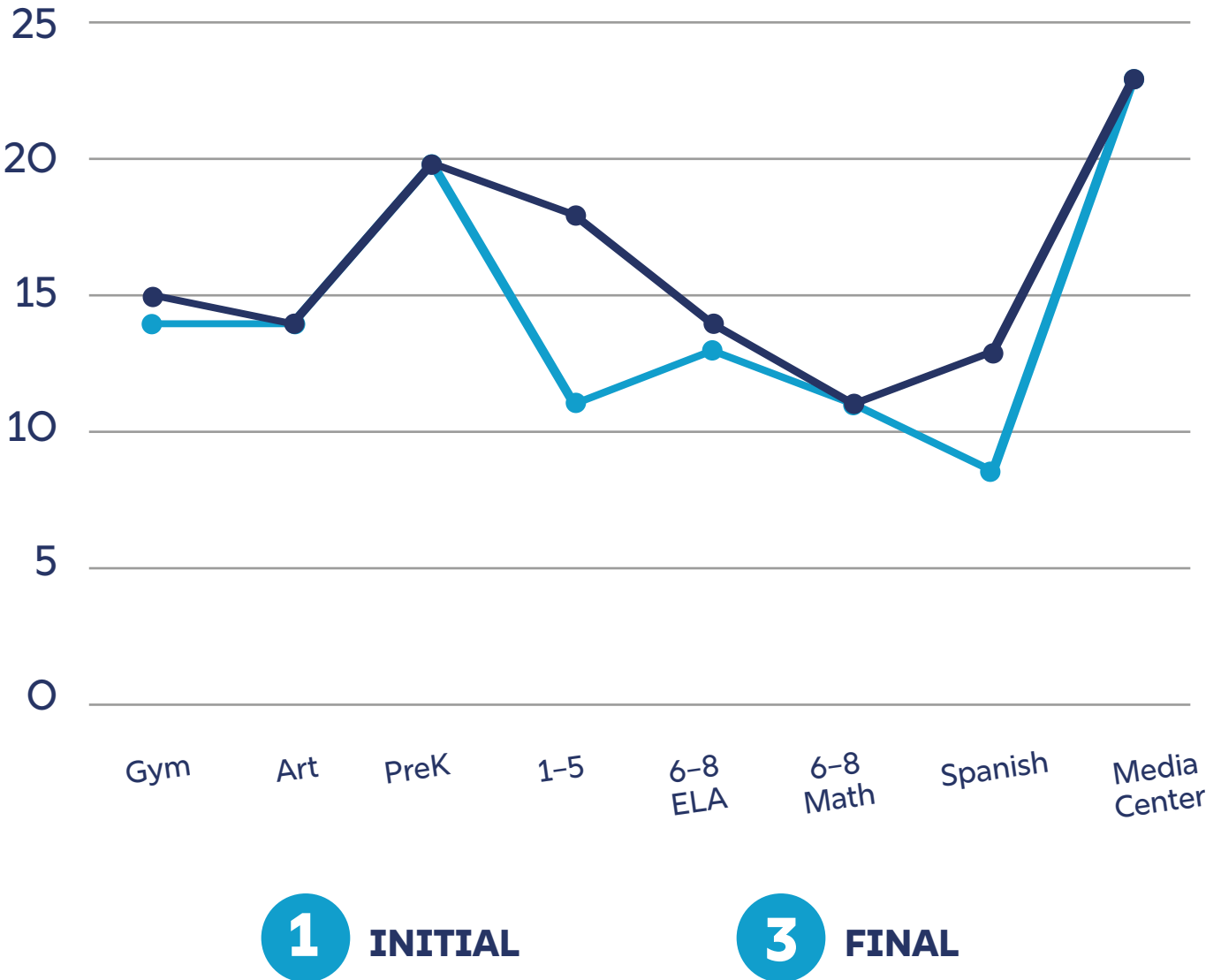
**Outcomes from the initial Comprehensive Needs Assessment available upon request
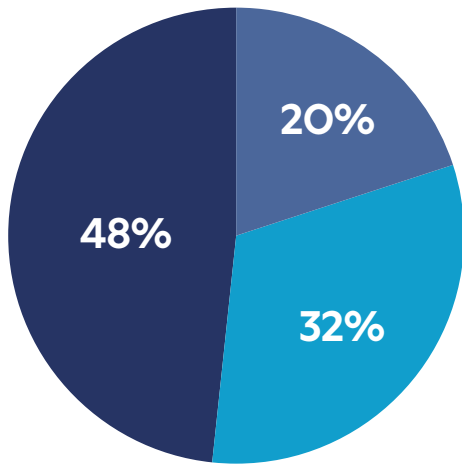
Final Progress Walkthrough

12 spaces were observed by 2 respondents during the final Comprehensive Needs Assessment/Progress Walkthrough.

Gymnasium, Art Studio, KA-KB, 1B, 2A, 3B, 4th (room 155), 5 English Language Arts, 6th, 8th (Humanities)

Growth Over Time

1 INITIAL   **3** FINAL

Areas of Change

Elementary

Middle School

■ SOCIAL CONNECTION
Social Connection has grown in awareness, acceptance, and understanding via the implementation of layout variations, swapping furniture items, and adjusting the overall flow of each learing space.

■ GROWING FLEXIBLE THINKING
Growing Flexible Thinking has grown in awareness, acceptance, and understanding via the use of flexible furniture, non-perimeterized exploration stations, and effective visual learning supports.

■ ORGANIZATION
Organization has grown in awareness, acceptance, and understanding that direct access to language nudges, open facing storage, and learning resources/modifications is necessary for growth in autonomy, leamer responsibility, and overall environmental flow
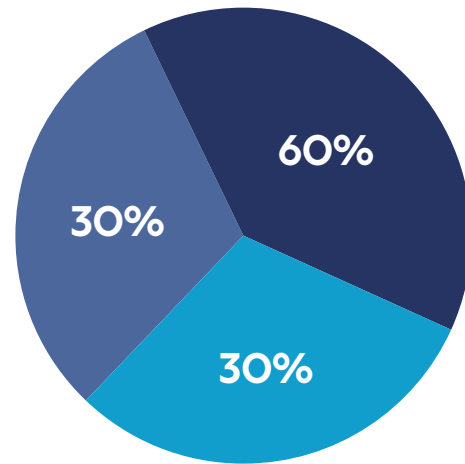
■ PRETEND PLAY
Middle school facilitators had a goal of increasing pretend play opportunities within various learning spaces. Overall, pretend play has displayed growth within English Language Arts environments.

■ SENSORY INPUT/OUTPUT
Middle school facilitators had a goal of increasing sensory considerations throughout spaces. The objactive was to expand the amount of texture and temperature.

■ GROWING FLEXIBLE THINKING
Middle school facilitators had a goal of increasing the effective use of visual supports within a learning environment. Conversing around the efficiency of visual stimulus and integrating purposeful organization to minimize crowding..

Below are quantitative and qualitative comparisons between spaces that were observed in both the Comprehensive Needs Assessment and the Progress Walkthrough.

Comprehensive Needs Assessment

Space	FEDC Categories	Likert Score	FEDC Categories
Spanish Room Total: 8.5/28	1 2 3 4 5 6 7	1 1 1.5 1.5 1 1 1.5	There was no evidence of play areas or loose parts for play. There was no evidence of student choice, learning was teacher directed, no evidence of art making or an area showcasing student errors/work. The room was small and held 27 desks with little room for movement. There was no evidence of flexible furniture, adjustable lighting or areas to practice skills. The room was visually overstimulating. It had no windows for natural lighting and no sensory input.

Final Progress Walkthrough

| Space	FEDC Categories	Likert Score	FEDC Categories
Spanish Room Total: 12/28	1 2 3 4 5 6 7	2 2 2 1.5 1.5 1 2	There was evidence of a social centric flow of the learning space with furniture in various pods and nooks. Students had space to work in different positions - standing, sitting, and on the carpet. There was less visual distraction and more centralized materials. The organization allowed for student exploration and curiosity instead of trying to locate materials with an adults' assistance. There was evidence that the teacher attempted to create ease of travel within a smaller space and seemed to be positively interacting with both the space and the students.

Small Group Workshops & Cultural Impact

One outcome, which resulted after the case study Launch Session and initial Comprehensive Needs Assessment, was the creation of small group workshops. These workshops were scheduled to better gauge understanding, acceptance, and actualization of the Environment as a Second Teacher initiative. Workshops were strategically scheduled utilizing data gathered from the CNA in correspondence with the Environmental Effect on Outcomes Overtime Tracker. Rotating 30-60 minute workshops were held on-site with small groups no larger than 5 (2 facilitators and 3 attendees). Each workshop was tailored to particular departments/content and curriculum. Goals were created for each department which will continue to be monitored throughout the beginning of the 2024-25' academic year.

Workshops were also used as a barometer to further determine the rate of initiative acceptance. Facilitators spent time familiarizing and discussing each spatial capacity criteria (Social Connection, Pretend Play, Growing Flexible Thinking, Confidence Building, Sensory Input/Output, Organization). The workshop focused on criteria details and how to build mastery of instructional planning and execution. Facilitators discussed and practiced the creation and application of spatial objectives into their planning.

These workshops not only impacted the rate at which initiative acceptance was observed but also began to determine an overall instructional shift regarding planning and implementation.

## Rate of Acceptance

Grade Level/Department
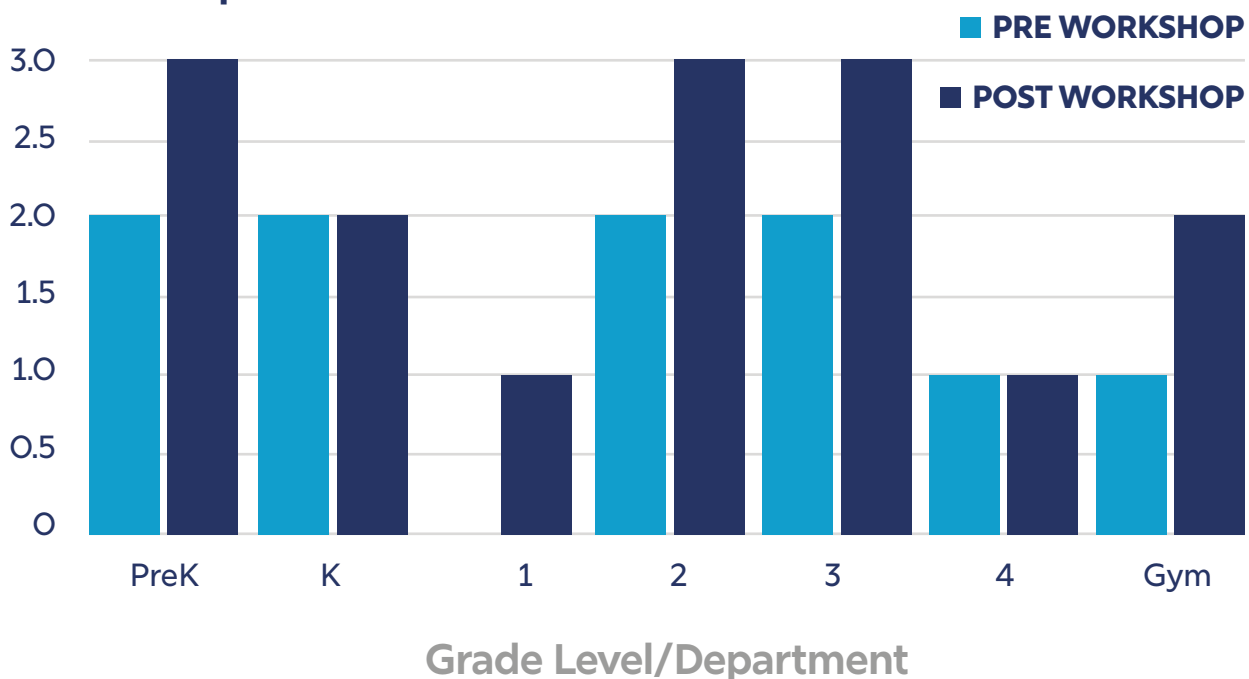
Concluding initiative workshops, the rate at which spatial objectives were considered and incorporated into spatial and curricular planning grew significantly. Prior to initiative introduction, facilitators considered the layout of their learning spaces at the beginning of the academic year and at the change of each semester. Prior to initiative introduction, consideration of the environment as a second teacher was considered by personnel in leadership and was being introduced to staff with the blending of Interdisciplinary Project-Based Learning and the Science of Reading.

Integration of Spatial Objectives

A glance at the integration rate of including spatial objectives within planning – before and after the Environment as a Second Teacher initiative & coaching workshops.

■ **BEFORE** ■ **AFTER**

80	
60	75%
40	
20	
0	10%
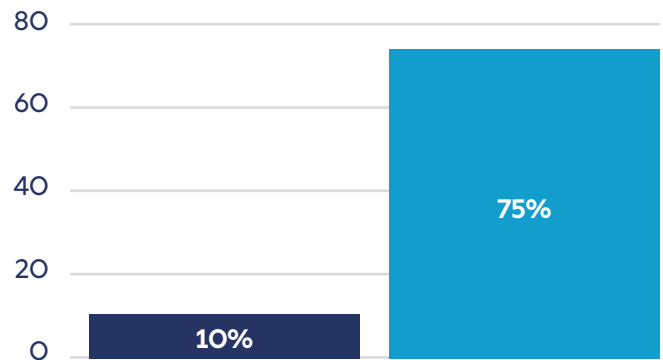
Learner Mindset

With a focus on reinforced behavior through effectively positioning learning layouts, another positive outcome of the initiative was a shift in learner mindset. Prior to the initiative introduction and interactions with gradebands, there were conversational beginnings around autonomy of a learning space and the opportunity of assisting in the overall design and daily flow of that space. At the start of the case study learners, specifically middle school, were engaged in discussion attempting to understand what having an adaptive space means. Utilizing 6-8 grade learners as a primary resource throughout the Comprehensive Needs Assessment, Workshops, Progress Walkthrough, and design processes allowed for further integration of facilitator and learner relationships. Thus, strengthening the overall learning ecosystem.

As a result of the Environment as a Second Teacher initiative, the ICCR 8th grade class participated in an Interdisciplinary Project-Based Learning unit regarding learning space design. They were charged with the mission of creating two sensory wall spaces which would live in two distinct areas of the building: Early Education and Middle School. The class was given an opportunity to research design, learning spaces, cognitive processing, merging textures etc. They employed research, socratic discussion, collaboration, project management, artistic know-

how, and even mathematics while working through the IPBL mini unit. The unit resulted in two designs paired with justification for those designs - which will fully result in an actualized sensory wall space as a class gift come the 2024-25' academic year.

**Specifics on the IPBL unit, literature that was used, and other resources available upon request

Due to the school-wide initiative, in conjunction with the IPBL unit, learners were able to seek mastery in understanding opportunities for design, autonomy, importance of texture/temperature, the use of sensory inputs/outputs etc. Overall, there was drastic learner growth and shift in mindset regarding the importance of the physical learning space and how it can be tailored to effectively meet everyone's needs.

Logistics

An overall increase in attendance and decrease in early pick-ups was noted after the completion of ICCR's Innovation Center. This continued to positively fluctuate with the introduction of the case study and increased interaction time with all parties involved.

Focusing on the Innovation Center, there was qualitative data observed over the course of the transformation and case study which showcased a positive shift in logistics such as attendance, academic achievement, and learner self-actualization.

Responses to Space Transformation & Use

'I don't mind Wednesdays, because I don't really have school on Wednesdays.'

Middle school learner response to utilizing the Innovation Lab on Wednesdays for Pathways Programming.

'It's like it's its own world when we walk in and we get to be in a different world.'

5th grade learner response to using the Innovation Lab

'They immediately go towards the grassy textures. It's like it's calling to them either by how it looks or how they know they will be able to feel everything.'

PreK Innovation Lab Facilitator

'Learners tell their families not to schedule dentist' appointments or doctors' appointments on Wednesdays so they get to use the full time to work in the space.'

ICCR Principal

**Specific metrics regarding attendance, and academic achievement available upon request

Next Steps

In total, the Environment as a Second Teacher case study has supported a spatial and mindset shift within Immaculate Conception Catholic Regional School. The data which was collected throughout the case study will inform professional development, instructional practices, learning space design, and evaluation protocols moving into the 2024-25' academic year. Facilitators will continue creating spatial objectives and embed them within scope and sequences/unit plans. Leadership will continue to observe responses to transformed spaces and catalog capacities each learner space holds. It will also be a landing point for community conversations, board meetings, and town hall discussions. It will continue to be a resource ICCR uses in actualizing a 3-year strategic plan, focusing on integrating a fresh mission and Vision of a Graduate.

Steps for Continued Research within the Strategic Plan

1. Coaching/ Professional Development

2. Workshops

3. Observation/ Evaluation

4. Steering Committee Discussion(s)

Sources

Responsive Classroom, Mike Anderson

Understanding by Design, Grant Wiggins (Backwards Design)

Universal Design for Learning, Anne Meyer, David Gordon, David H. Rose

EL Education: Management in the Active Classroom, Ron Berger, Dina Strasser, Libby Woodfin

Redesigning Learning Spaces, Robert Dillon, Ben Gilpin, AJ Juliani, Erin Klein

Yardsticks, Chip Wood

Design. Make. Play, Dr Margaret Honey, David Kanter

Reimagining the Classroom: Creating New Learning Spaces & Connecting with the World, Theodore Richards

National Library of Medicine: What Constitutes Student Well-Being - A Scoping Review of Students' Perspectives

National Library of Medicine: Physical Learning Environments' Supportiveness to Innovative Pedagogies - Students' and Teachers' Experiences

Johnsons & Wales University: Unlocking the Power of the Mind - The Brain Region Behind Creativity and Imagination

US Department of Education: Lorain County Community College: Psychology of Learning Spaces - Impact on Teaching and Learning

Sage Journals: Emotional Responses to Multisensory Environmental Stimuli - A Conceptual Framework and Literature Review