Burkholder Academy of Environmental Science

Progress and Impact in 2024–25

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Sara Allender, Jonathan Nakamoto, and Jason Snipes

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Clark County School District received Magnet Schools Assistance Program (MSAP) funding in October 2023 to open two new magnet schools. After using the 2023–24 school year to plan a transition, the Lyal Burkholder Academy of Environmental Science reopened as a new magnet school in August 2024. Burkholder has a long history as a middle school serving the Henderson, Nevada, community. However, in recent years attendance had begun to drop. The goal of the MSAP funding was to revitalize instructional programming and draw in families from a broader geographic area.

Impact on Student Achievement

After transitioning to a magnet school in 2024–25, Burkholder improved from a two-star school to a three-star school. A school's rating is based on a number of indicators, including proficiency on Nevada's math, English language arts, and science state tests and measures of student engagement, such as the chronic absenteeism rate. All these indicators showed improvement between the 2023–24 and 2024–25 school years.

TOTAL INDEX SCORE **59**

Burkholder improved to a three-star school

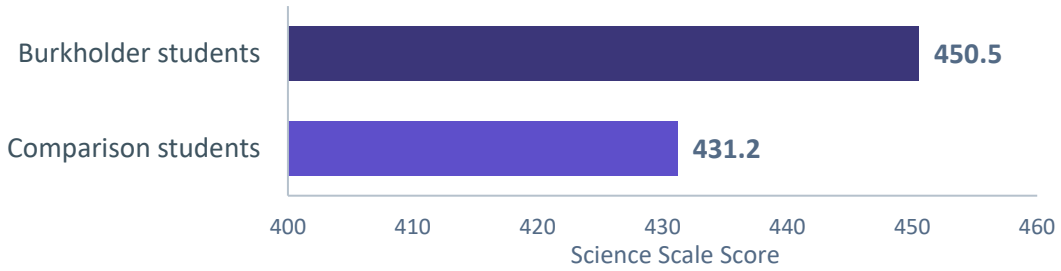
School Year	Index Score	Star Rating
2022–23	29	★★
2023–24	30.5	★★
2024–25	59	★★★

Although the improvement in Burkholder's star rating is a positive sign, there was substantial turnover in the school's population between 2023–24 and 2024–25. This student turnover could have led to much of the improvement that went into the star rating. To examine whether attending Burkholder improved student achievement, WestEd used a quasi-experimental design to identify a comparison group of students who attended nonmagnet schools in the district and who had similar demographics and prior student achievement as the Burkholder students. WestEd then compared the scores on the state's 8th grade science test for the two groups. Additional details on the methodology for this analysis are included in the Appendix.

As shown in Figure 1, the scores for Burkholder students included in the analysis were 19.3 points higher than were the scores for the matched comparison

students. This difference was statistically significant ($p < .001$) and is considered to have a large impact (effect size = 0.34) compared with the effects of other educational programs and interventions. Overall, the results indicate that attending Burkholder was associated with improvements in the students' science achievement and that the improvements were not solely a result of student turnover.

Figure 1. Eighth Grade Science Scores for Burkholder and Matched Comparison Students in 2024–25



Note. The difference between the scale scores for the Burkholder ($n = 108$) and comparison students ($n = 324$) was statistically significant ($p < .001$) and controlled for prior achievement and student demographics.

Magnet Transformation

Overall, WestEd's site visits during the 2024–25 school year showed that Burkholder made strong progress in implementing its environmental science magnet program. Implementation highlights from the site visits are presented throughout this section. Details about the site visit methodology are included in the Appendix. The implementation highlights are organized into three categories: magnet theme, recruitment and parent engagement, and facilities and resources.

To assess the progress of the school's implementation, WestEd rated its observations using the following five levels: readiness, emergence, initial implementation, refinement, and sustainability. These levels are adapted from the

stages of program implementation used to evaluate educational interventions.[1] Given that this was Burkholder's 1st year as a magnet school, the ratings reflect successful initial implementation.

1. **Readiness:** The district and schools identify the need for magnet programs, determine program focus areas, and secure buy-in.
2. **Emergence:** Foundational supports for implementation are established, including hiring staff, providing initial training and professional development, developing curricula, and making preliminary facility or resource adjustments.
3. **Initial Implementation:** Active implementation begins as staff develop new skills, schools adjust to new program structures, and unexpected barriers are identified and addressed.
4. **Refinement:** Magnet programs are fully operational, and schools concentrate on improving quality, strengthening practices, and expanding the programs.
5. **Sustainability:** Magnet programs are maintained and strengthened over time as schools navigate ongoing challenges, such as the conclusion of initial funding, staff turnover, and districtwide enrollment changes.

Magnet Theme

Burkholder successfully kicked off its 1st year as an environmental science magnet school in 2024–25. The school welcomed its first class of 6th grade magnet students and implemented environmental science programming across the school:

[1] Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M., & Wallace, F. (2005). *Implementation research: A synthesis of the literature* (FMHI Publication #231). University of South Florida, Louis de la Parte Florida Mental Health Institute, The National Implementation Research Network.

- The design and modeling course for 6th graders focused on earth science and included topic areas related to gardening and plant life, hydroponics, aeroponics, and forestry.
- The energy and the environment course for 7th graders focused on energy, sustainability, and green architecture.
- The 8th grade flight and space course was still being developed to ensure it covered an entire year and complemented the 6th and 7th grade curricula.

As teachers concluded their 1st year of teaching the full curricula, they reported increased confidence and skill in integrating the magnet theme. School leadership worked with teachers to help them integrate the theme into existing lessons by making concrete connections to it, such as identifying environmental science themes in the English language arts texts used for the school's core curricula.

The parents WestEd interviewed reported being impressed with both the magnet content and the amount of content taught throughout the year. They felt that the teachers taught at a richer level yet assigned less homework compared with teachers at traditional middle schools, and they believed this approach led to greater engagement and reduced stress for students.

Burkholder focused strategically on the development of partnerships specific to grade levels, including seeking university faculty as guest speakers, particularly for higher grade students. These partnerships also helped facilitate field trips related to the school's environmental science theme and led to additional members joining the school's magnet advisory board.

Table 1 summarizes these highlights.

Table 1. Burkholder's Implementation Status and Highlights Related to the School's Magnet Theme in 2024–25

Area	Status	Highlights
Implementation experience and theme	Level 3: Initial implementation	• Environmental science and other environmental science courses were made available to all students. • After-school clubs were restructured to align with the environmental science theme. • Field trips were organized to help connect students to the environmental science theme.
Curriculum development	Level 2: Emergence	• The 6th grade design and modeling and the 7th grade energy and the environment course curricula were developed. • The 8th grade flight and space curriculum was still under development.
Instructional practices	Level 2: Emergence	• Every student participated in a project-based learning (PBL) activity each semester. • Teachers were eager for additional guidance in implementing PBL activities more thoroughly.
Professional development	Level 3: Initial implementation	• Initial professional learning was offered to teachers regarding PBL, theme integration, and environmental science content. • Teachers spent time on a dedicated day each week for teacher collaboration and planning.
External partnerships	Level 3: Initial implementation	• External partnerships were initiated with the following organizations to enhance the school theme: University of Nevada, Reno Extension; Garden Farms of Nevada; City of Henderson; Get Outdoors Nevada; Springs Preserve; College of Southern Nevada; and Aviation Institute of Maintenance.

Recruitment and Parent Engagement

Burkholder successfully focused recruitment efforts within the school's transportation zone while also engaging in targeted recruitment outside this area, which allowed the school to meet its enrollment targets for the 6th grade. Feedback from parents revealed that many of them learned about Burkholder through their child's elementary school. Key factors that attracted parents to the school included proximity to home, the environmental science theme, the focus on space exploration, the small school size, and a favorable student-to-teacher ratio. Some parents also noted a desire for more events that invited families to campus during the 2024–25 school year. Table 2 summarizes these highlights.

Table 2. Burkholder's Implementation Status and Highlights Related to Recruitment and Parent Engagement in 2024–25

Area	Status	Highlights
Recruitment and outreach	Level 3: Initial implementation	• School representatives attended elementary school functions and local community events to connect with interested families. • The school hosted local 5th grade students to present the school's theme to them.
Parent and family engagement	Level 2: Emergence	• A magnet induction night was held for new families. • Weekday parent coffee events were held but had dwindling participation over time. • A summer 2025 transition academy was planned for new students.

Facilities and Resources

Beginning in fall 2024, Burkholder underwent significant rebranding, including the renovation of the school's front sign to enhance its visual appeal and the installation of murals that matched the theme. In addition, a new podcasting studio was created. More renovations were planned and implemented during summer 2025. For example, the school had anticipated some space constraints for the

2025–26 school year and converted its theater into a science classroom and explored flexible seating options in the atrium to optimize available space. Table 3 summarizes these highlights.

Table 3. Burkholder's Implementation Status and Highlights Related to Facilities and Resources in 2024–25

Area	Status	Highlights
Facilities	Level 3: Initial implementation	• Select classrooms were upgraded with flexible seating and desks to promote more adaptive learning environments. • Murals were installed throughout the school to connect with the theme and update the brand. • Cafeteria upgrades were made in summer 2025.
Resources	Level 3: Initial implementation	• Five new 3D printers were made available to all students. • Robotics materials were purchased.

Areas for Future Focus

WestEd's site visits identified three priority areas Burkholder could address in future years to strengthen the implementation of its magnet program:

- **Clarify instructional expectations.** The school administration could provide clearer guidance to teachers on balancing the integration of the magnet theme, expectations regarding pacing, and implementation of PBL.
- **Expand opportunities for teacher collaboration and learning.** Teachers could benefit from additional opportunities to learn from one another about curriculum development and PBL by observing the classrooms of experienced teachers.
- **Strengthen family engagement.** The school administration could deepen connections with families by increasing the number and variety of parent engagement activities.

Appendix

Quasi-Experimental Design Methodology

WestEd employed a quasi-experimental design consistent with best practices in educational program evaluation.[2] WestEd first used a multivariate matching algorithm to identify a comparison group of 8th grade students who attended nonmagnet schools during the 2024–25 school year. Students were matched on key demographic characteristics (e.g., race/ethnicity and English Learner status) and on prior academic achievement, including scores on the 2023–24 Smarter Balanced math and English language arts assessments. After establishing an equivalent comparison group, WestEd estimated a regression model that accounted for the clustering of students within schools to assess differences in science criterion-referenced test scale scores between the Burkholder students and comparison students. This approach allowed WestEd to estimate the differences in test scores, accounting for any measured differences between the Burkholder and nonmagnet comparison students, and to determine whether observed differences in test score outcomes were statistically significant.

Site Visit Methodology

WestEd completed site visits to Burkholder in November 2024 and May 2025. During the two site visits, WestEd conducted focus groups with the school's leadership (i.e., principal, assistant principal, magnet program strategist, magnet recruiter, and magnet secretary), teachers, and parents. In addition, WestEd toured the school and conducted brief classroom walk-throughs. The findings from each site visit were documented in site visit reports and shared with the district and school. The WestEd team used thematic analysis[3] to identify the patterns and themes in their notes from the focus groups and school tours.

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[2] Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Houghton Mifflin.

[3] Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

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