



CRACKING THE CODE ON STEM

A People Strategy
for Nevada's Economy

Expand Principals' STEM Academy to Serve Principals, STEM Coordinators, and District Administrators Throughout the State

Problem

Implementing effective STEM education in the P-12 system will require action on the part of teachers and administrators alike. However, all too often school principals and district administrators do not have a solid understanding of STEM education, particularly with regard to the distinctive interdisciplinary and inquiry-driven nature of STEM pedagogy. At the same time, teachers selected to be STEM coordinators may be highly effective educators but often lack experience serving in an administrative capacity. As a result, schools often have difficulty providing effective support to teachers working to incorporate STEM education into the existing curricula.

Recommendation

To ensure that school principals, STEM coordinators, and district administrators possess the background knowledge needed to support STEM education initiatives in their schools and districts, the proposed Nevada STEM Champion should work with faculty and administrators at the University of Nevada, Reno (UNR) and the University of Nevada at Las Vegas (UNLV) to expand UNR's Principals' STEM Academy to serve administrators throughout the state. This year-long professional development program is specifically designed to help administrators acquire greater familiarity with STEM education pedagogy, the individual STEM disciplines, and the mechanics of implementing STEM education within an individual school. Scaling up this program to reach all districts in the state would support Nevada's efforts to provide effective STEM education for all students while at the same time creating a cohort of administrators who can learn from one another as they work to bring STEM education into Nevada schools.

Implementation Specifics

The existing Principals' STEM Academy offered by UNR's College of Education offers a ready model that could be scaled to reach a greater number of Nevada P-12 administrators. The program would need to be adapted slightly to meet the needs of both principals and STEM coordinators, with break-out sessions to discuss issues of particular concern to each group. Establishing an Administrators' STEM Academy on the UNLV campus would require close collaboration between designated faculty at UNLV and Dr. David Crowther, executive director of the UNR Raggio Center for STEM Education and creator of the UNR Principals' STEM Academy. Using the syllabus and lesson plans developed by Dr. Crowther, select UNLV faculty could set up a sibling course to serve P-12 administrators in southern Nevada. Ongoing dialogue and collaboration between the UNR and UNLV course leaders would support the replication process and help ensure that both programs benefitted from the best practices identified and lessons learned as the courses progressed.

Alternatively, the Administrators' STEM Academy could be offered in conjunction with the Nevada Public Education Foundation's Executive Leadership Academy, possibly as an elective add-on to the academy's existing year-long seminar program.

The STEM Champion could also work with Dr. Crowther on creating a distance learning version of the Administrators' STEM Academy that would be accessible to those administrators and STEM coordinators who lack proximity to the UNR and UNLV campuses. Setting up such a program would require an upfront investment of staff time to develop a curriculum suited to distance learning as well as staff time for the year-long course.

Budget Implications

For the 2013–14 school year, the UNR Principals' STEM Academy served 28 administrators at a cost of \$810 per administrator, for a total of \$22,680 (tuition only—does not include fees or books). The tuition was covered by the Washoe County School District's Teacher Incentive Fund (TIF-4) grant as well as a gift from Dorothy Lemelson to UNR. Replicating the academy at UNLV would likely require a comparable level of per-participant funding. Costs would likely be similar for a distance learning course, though additional funds would be required at the start to translate the existing curriculum for use in a distance learning setting and on an ongoing basis to support any logistical expenses (website development, webinar capabilities, etc.). Given that the need for an Administrators' STEM Academy is unlikely to diminish in the near future, plans should be made to secure multiyear funding for the UNR and UNLV programs and the distance learning option.

References

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