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AGENCY BILL ANALYSIS
2024 REGULAR SESSION

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{Include the bill no. in the email subject line, e.g., HB2, and only attach one bill analysis and related documentation per email message}

SECTION I: GENERAL INFORMATION
{Indicate if analysis is on an original bill, amendment, substitute or a correction of a previous bill}

Click all that apply:
Original X **Amendment** ____
Correction ___ **Substitute** ____

Date 2024-01-30
Bill No: HB278

Sponsor: Sariñana, Debra M.
Short Title: COMPUTER SCIENCE EMBEDDED IN SCHOOLS

Agency Name and Code Number: NMHED
Person Writing Chisholm, Mark
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SECTION II: FISCAL IMPACT

APPROPRIATION (dollars in thousands)

Appropriation		Recurring or Nonrecurring	Fund Affected
FY24	**FY25**		
N/A	$1,100.00	Recurring, funds do not revert	General Fund

(Parenthesis ( ) Indicate Expenditure Decreases)

REVENUE (dollars in thousands)

Estimated Revenue			Recurring or Nonrecurring	Fund Affected
FY24	**FY25**	**FY26**		

N/A	N/A	N/A	N/A	N/A

(Parenthesis ( ) Indicate Expenditure Decreases)

ESTIMATED ADDITIONAL OPERATING BUDGET IMPACT (dollars in thousands)

	FY24	FY25	FY26	3 Year Total Cost	Recurring or Nonrecurring	Fund Affected
Total	N/A	N/A	N/A	N/A	N/A	N/A

(Parenthesis ( ) Indicate Expenditure Decreases)

Duplicates/Conflicts with/Companion to/Relates to:

Duplicates/Relates to Appropriation in the General Appropriation Act:

SECTION III: NARRATIVE

BILL SUMMARY

HB278 amends the Public School Code to provide that beginning with the 2025-2026 school year, computer science shall be embedded in other subjects at all elementary and middle schools. For the 2025-2026 school year, all districts must offer at least one computer science course in at least one high school in each district; for the 2026-2027 school year, at least one course in half of all high schools in each district; and by the 2027-2028 school year, at least one computer science course in every high school in a district.

HB278 defines computer science and tasks the New Mexico Public Education Department (NMPED) with developing academic and program standards. All districts and charter schools are required to submit an annual report listing their courses, the standards covered, and the number and demographics of the students who took the courses.

HB278 requires teacher professional development and tasks NMPED with developing a statewide program for professional development using the academic and technical resources of public post-secondary educational institutions and other professional experts

HB278 creates the Computer Science Program Fund and appropriates one million one hundred thousand dollars ($1,100,000), recurring, from the General Fund to the Computer Science Program Fund. Unexpended funds do not revert. NMPED makes awards to school districts or charter schools, public post-secondary educational institutions, or regional education

cooperatives to develop and implement teacher professional development programs for computer science courses and content.

The New Mexico Higher Education Department's (NMHED) analysis of this bill focuses on the higher education implications of the proposed legislation. Additional insight may be obtained from other agencies' analyses.

FISCAL IMPLICATIONS

HB278 creates the Computer Science Program Fund and appropriates one million one hundred thousand dollars ($1,100,000), recurring, from the General Fund to the Computer Science Program Fund.

There will be expenses at school districts and charter schools that are not covered in this bill. The Computer Science Program Fund is designed to fund grants for the development of programs and content, but it does not cover actual costs at schools. There could be expenses involved in finding qualified and certified teachers and in the cost, to schools and teachers themselves, to take the developed training and to become certified to teach computer science. There is also an administrative expense involved in compiling and submitting the annual reports.

SIGNIFICANT ISSUES

There is a growing trend to embed computer science education throughout K-12 curricula. As the world continues to rely increasingly on computing technology, introducing students to computer science principles and applications is likely to better prepare them in terms of computer science knowledge and skills as well as general comfort with technology.

HB278 identifies computer science as "the study of computers and algorithmic processes, including principles, hardware and software designs, implementation, and effects on society.? Study of these aspects of computer science can supplement current curricula as well as stand alone as their own subjects of study.

Some aspects of computer science such as algorithmic thinking can likely be integrated throughout a wide range of subjects and wide range of grade levels. Other aspects of computer science may take more work to incorporate into K-12 curricula. For example, study of programming languages requires computing hardware and software that allows use of specific programming languages. Some schools may not have enough computers for students to sufficiently learn content. Schools will also need staff to secure and maintain computing technologies. Some schools may need additional funding and staffing to accommodate increased technology needs. There is a risk that some students may get better exposure to computer science based on other factors such as access to computers, in this example.

For areas of computer science that overlap with other subjects, it will require work to determine what computer science adds compared to what students are already learning. For example, students already learn problem solving skills, so there would need to be guidance on how to evaluate and report on improvements in problem solving skills due to computer science additions

as opposed to other factors. This is more pronounced at earlier grade levels before students have dedicated computer science courses.

HB278 focuses on the discipline of computer science, but there may be value in also focusing on general comfort and fluency with technology in terms of introducing students to touch-typing and computing interfaces, common computing software, the use of common software interfaces such as search engines, and other products of computer science that do not necessarily require understanding the underlying theory and disciplines that produce those consumer-level resources. HB278 specifies focusing on teaching students to create new technologies and not just using existing technologies, but there could be space to incorporate both.

One issue is what would happen if students are not given the opportunity to learn computer science as specified in HB278. Because computer science skills are in such high demand, New Mexico students may find themselves behind other students in terms of higher education and workforce opportunities that require those skills and knowledge. This may show up as students needing to engage in extra study for higher education programs or workforce training to attain these skills before being eligible for certain employment opportunities, both possibly at the financial and time expense of individuals.

HB278 may help to close equity gaps by providing valuable computer science skills to students who may not currently have access to learn them, helping to improve workforce and higher education opportunities for those students.

There are in-demand and promising career paths for those with computer science skills. According to the United States Bureau of Labor and Statistics, "[o]verall employment in computer and information technology occupations is projected to grow much faster than the average for all occupations from 2022 to 2032,? and the annual median wage in these fields in May 2022 was one hundred thousand five hundred thirty dollars ($100,530), noticeably higher than annual median wage for all occupations at forty-six thousand, three hundred ten dollars ($46,310).

Source: (https://www.bls.gov/ooh/computer-and-information-technology/home.htm).

It is unclear how much effort it would take to train educators to incorporate computer science into K-12 curricula. There are content and process questions such as how to incorporate computer science into subjects that students already learn, but there are also implementation questions such as how to handle differing levels of comfort with technology among educators. For dedicated high school computer science courses, schools can hire dedicated educators with computer science expertise to teach those courses. For earlier grade levels, there is a need to determine how much educators must become experts both in their areas of focus but also in computer science as computer science gets added into curricula.

It is unclear if the appropriation of one million one hundred thousand dollar ($1,100,000) would be enough to explore and test curricula changes throughout the K-12 pipeline, implement those changes, develop and train educators to incorporate updated computer science additions

throughout curricula, and oversee these changes and ongoing work after implementing changes, including reporting and evaluation.

PERFORMANCE IMPLICATIONS

HB278 requires reporting from school districts and charter schools. There are no performance measures defined for grants awarded from the Computer Science Program Fund. The New Mexico Public Education Department (NMPED) could develop performance reporting requirements for recipients of grants.

ADMINISTRATIVE IMPLICATIONS

HB278 has many administrative implications. New curricula would need to be developed, measured, and reported on at all levels of K-12 education. The New Mexico Public Education Department (NMPED) would need to develop new curricula and develop a process for reviewing and awarding grants from the Computer Science Program Fund.

CONFLICT, DUPLICATION, COMPANIONSHIP, RELATIONSHIP

HB171 in 2024 changes high school curricula and graduation standards. HB278 would need to be integrated into the new language of HB171 if both are enacted.

HB277 in 2024 establishes new Computer Science Licensing requirements that would be necessary to fully implement HB278.

TECHNICAL ISSUES

N/A

OTHER SUBSTANTIVE ISSUES

N/A

ALTERNATIVES

N/A

WHAT WILL BE THE CONSEQUENCES OF NOT ENACTING THIS BILL

If HB278 were not passed, computer science would continue to be an optional course in K-12 schools and one million one hundred thousand dollars ($1,100,000) would not be appropriated from the General Fund on a recurring basis to a Computer Science Program Fund.

AMENDMENTS

N/A