

Sequence of planning and building a Mystery City based on Chaco Canyon, history, sun alignment, math and science, plus structures, fractions & bridges.

Integrated Design Education Program to Promote 21st Century Academic & Creative Skills 2015-2016

School Zone Institute

For forty years, the School Zone Institute (SZI) has been the leading developer and provider of an innovative and comprehensive model of architecture and design that optimizes applied learning in PK-12 learning environments. In addition, SZI has developed a model guidebook of integrated design education, now translated into several languages, including Spanish, and is already used in the professional development of teachers.

Fund Request

The School Zone Institute seeks funding to continue the “Architecture and Design Education Project for Teachers” (ADEPT) at Albuquerque’s Eubank Academy of Fine Arts Elementary School where there is a diverse student population including non-English speaking immigrants and refugees.

The project includes:

1. The culmination of a three year pilot study (Grades 3-5) of architecture and design education which discovers how design education affects student learning of math and reading skills.
2. Funds are needed for professional development of new teachers, workshop supplies and stipends for architects, educators and volunteers.
3. Establishment and implementation of an Evaluation and Research protocol to determine the program’s impact on reading literacy and math achievement, use of technology and independence in learning and creative problem solving.
4. Use of results to provide other schools and districts statewide with a similar program using the educational centers for teacher training.

What We Teach

The study of architecture and design education will include learning about the organizing principles of design, schematic drawing, architectural conventions, physics of structure, plan and elevation view for drawing, model making, and use of fractions, measurement, geometry and more. ADEPT promotes communication of ideas through design thinking and presentation of student work and more. All ten State Core Curriculum concepts in math, geometry, creative problem solving are embedded in the SZI’s “ADEPT Program”. Students make sense of problems and persevere in solving them, reason abstractly and quantitatively, model with mathematics, attend to precision, reasoning and more.

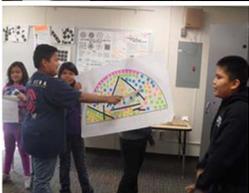
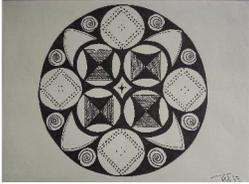
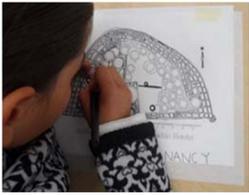
Project Impact

By creating and delivering a design oriented curriculum and text that assists teachers to deliver STEM + STEAM concepts to PK-12 students, SZI will enhance teacher competencies to meet New Mexico CORE instructional requirements as well as excite students with applied hands on projects. SZI knows that student academic performance, especially with at-risk student populations, will improve.

Contact Information

School Zone Institute – aetaylor@unm.edu

www.architectureandchildren.com or www.schoolzoneinstitute.com





2015 Regular Session

HM 84

AT-RISK YOUTH DESIGN EDUCATION PROGRAMS

Sponsor: Antonio "Moe" Maestas

Current Location: Signed

Actions: (Key to Abbreviations)

[14] HEC [28] DP/a [33] PASSED/H (70-0) [34] SGND.

  Introduced (2/19/15)

  HEC Committee Report (3/05/15)

  Final House Vote (3/10/15)

 Fiscal Impact Report

 LESC Analysis

 Final Version

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HOUSE MEMORIAL 84

52ND LEGISLATURE - STATE OF NEW MEXICO - FIRST SESSION, 2015

INTRODUCED BY

Antonio "Moe" Maestas

A MEMORIAL

REQUESTING THE PUBLIC EDUCATION DEPARTMENT TO EXPLORE FUNDING
OPTIONS FOR THE CREATION OF DESIGN EDUCATION PROGRAMS FOR AT-
RISK YOUTH.

WHEREAS, New Mexico's seventy percent high school
graduation rate ranks near the bottom when compared to other
states; and

WHEREAS, most of the assessments of students' proficiency
in schools are made through verbal testing; and

WHEREAS, at-risk youth may be challenged intellectually if
offered teaching modalities outside of the traditional
classroom; and

WHEREAS, a different approach is the design studio model,
which is a way of learning that mimics the training of
architects and industrial designers, using a workshop,

underscored material = new
~~[bracketed material] = delete~~

1 laboratory or studio format; and

2 WHEREAS, a similar model for learning in the sciences
3 might be the laboratory where scientific experimentation
4 occurs; and

5 WHEREAS, design studio teaching involves a process that
6 values the new and unknown, not the "what was" or the "what
7 is", but the "what can be"; and

8 WHEREAS, students learn through creative problem solving
9 through the design of buildings, furniture, machines, toys or
10 bridges or landscape design; and

11 WHEREAS, all learning experiences reinforce core
12 curriculum standards; and

13 WHEREAS, the architecture and children curriculum is a
14 tool for teachers to encourage children's confidence to develop
15 and communicate ideas visually; and

16 WHEREAS, the architecture and children project uses the
17 study of the built environment as a window to study the world
18 and the ideas, laws and principles that govern it, the physics
19 of structures, design in nature and the similarities between
20 body systems and building systems; and

21 WHEREAS, students learn to create new ideas through
22 architectural drawings and model building, storytelling,
23 science, technology, engineering, art, architecture and math;
24 and

25 WHEREAS, the architecture and children project has been

.199917.1

underscoring material = new
~~[bracketed material] = delete~~

1 offered successfully as a summer program at Albuquerque academy
2 for many years; and

3 WHEREAS, Eubank elementary school is the site of the first
4 public school pilot design education program in New Mexico; and

5 WHEREAS, it would be beneficial if design education
6 programs were options for at-risk youth as well;

7 NOW, THEREFORE, BE IT RESOLVED BY THE HOUSE OF
8 REPRESENTATIVES OF THE STATE OF NEW MEXICO that the public
9 education department be requested to explore funding options
10 for the creation of design education programs for at-risk
11 youth; and

12 BE IT FURTHER RESOLVED that the public education
13 department present its findings to the legislative education
14 study committee and the legislative finance committee before
15 December 1, 2015; and

16 BE IT FURTHER RESOLVED that a copy of this memorial be
17 transmitted to the secretary of public education.

Fiscal impact reports (FIRs) are prepared by the Legislative Finance Committee (LFC) for standing finance committees of the NM Legislature. The LFC does not assume responsibility for the accuracy of these reports if they are used for other purposes.

Current and previously issued FIRs are available on the NM Legislative Website (www.nmlegis.gov) and may also be obtained from the LFC in Suite 101 of the State Capitol Building North.

FISCAL IMPACT REPORT

SPONSOR Maestas ORIGINAL DATE 2/26/15
LAST UPDATED 3/5/15 HM 84/aHEC
SHORT TITLE At-Risk Youth Design Education Programs SB _____
ANALYST Chavez

ESTIMATED ADDITIONAL OPERATING BUDGET IMPACT (dollars in thousands)

	FY15	FY16	FY17	3 Year Total Cost	Recurring or Nonrecurring	Fund Affected
Total		Minimal	Minimal			

(Parenthesis () Indicate Expenditure Decreases)

SOURCES OF INFORMATION

LFC Files

SUMMARY

Synopsis of HEC Amendment

The House Education Committee amendment to House Memorial 84 changes the requested date that PED report its findings to LESC and LFC from 2015 to 2016.

Synopsis of Bill

House Memorial 84 requests that the Public Education Department (PED) explore funding options for the creation of design education programs for at-risk youth.

FISCAL IMPLICATIONS

There is no appropriation associated with this memorial. Any costs PED incurs in completing the study should be absorbed by existing resources.

SIGNIFICANT ISSUES

HM 84 notes that, at 70 percent, New Mexico's graduation rate ranks near the bottom when compared with other states. While most of the assessments of students' proficiency in schools are made through verbal testing, the memorial argues that at-risk youth may achieve higher academic performance if challenged intellectually through teaching modalities outside the traditional classroom, including through the design studio model.

The memorial notes that the design studio model mimics the training of architects and industrial designers, involves a process that approaches learning through the "what can be" rather than the

House Memorial 84 – Page 2

“what was”, and the learning experiences involved in the studio design model reinforce core curriculum standards.

Finally, the memorial notes that Eubank elementary school has a public school pilot design education program, the first of its kind in New Mexico.

In the original bill, PED is requested to present its findings to the Legislative Education Study Committee and the Legislative Finance Committee before December 1, 2015. In the amended bill, the date is changed to December 1, 2016.

KC/je/aml/bb

**LEGISLATIVE EDUCATION STUDY COMMITTEE
BILL ANALYSIS**

Bill Number: HM 84a

52nd Legislature, 1st Session, 2015

Tracking Number: .199917.1

Short Title: At-Risk Youth Design Education Programs

Sponsor(s): Representative Antonio “Moe” Maestas

Analyst: James Ball

Date: March 9, 2015

AS AMENDED

The House Education Committee amendment changes the due date of the required report from December 1, 2015 to December 1, 2016.

Original Bill Summary:

HM 84 requests that the Public Education Department (PED) explore funding options for the creation of design education programs for at-risk youth, including innovative, hands-on models such as those used to train designers of:

- buildings;
- landscapes;
- industrial equipment and machines;
- furniture;
- bridges; and
- toys.

The memorial requires PED to present their finding to the Legislative Education Study Committee (LESC) and the Legislative Finance Committee before December 1, 2015.

Fiscal Impact:

Legislative memorials do not carry appropriations.

Substantive Issues:

Among its point, HM 84 states that the design studio model:

- is a way of learning that mimics the training of architects and industrial designers, using a workshop, laboratory, or studio format. In this model students learn to create new ideas through:
 - architectural drawings;
 - model building;
 - storytelling;
 - science;

- technology;
 - engineering; and
 - mathematics; and
- involves a process that values the new and unknown, not the “what was” or the “what is,” but the “what can be.”

Finally, HM 84 notes that the Eubank Elementary School in Albuquerque is the site of the first public school pilot design education program in New Mexico.

Background:

During the October 2014 interim meeting of the LESC, Dr. Anne Taylor, President, School Zone Institute, discussed the Architecture and Children Education Program at Eubank Elementary School in Albuquerque. Among key points, Dr. Taylor stated that this program has been tested and translated into French, Spanish, and Japanese, among other languages. She also discussed how teaching architecture to children allows them to focus on their physical environment and learn in a visual way. A major goal of the program, according to Dr. Taylor, is to grow from a volunteer project into a supported program that will change elementary education in New Mexico.

Committee Referrals:

HEC

Related Bills:

SM 60 At-Risk Youth Design Education Programs

FIFTY-SECOND LEGISLATURE
FIRST SESSION, 2015

March 5, 2015

Mr. Speaker:

Your **EDUCATION COMMITTEE**, to whom has been referred
HOUSE MEMORIAL 84

has had it under consideration and reports same with
recommendation that it **DO PASS**, amended as follows:

1. On page 3, line 15, strike "2015" and insert in lieu
thereof "2016".

Respectfully submitted,

Nora Espinoza, Chair

Adopted _____
(Chief Clerk)

Not Adopted _____
(Chief Clerk)

Date _____

The roll call vote was 8 For 0 Against

Yes: 8

No: 0

Excused: Baldonado, Johnson, Roch, Salazar, T., Stapleton

Absent: None

NEW MEXICO HOUSE OF REPRESENTATIVES
FIFTY-SECOND LEGISLATURE
FIRST SESSION, 2015

HM 84/A
Rep. Maestas, A.
FINAL PASSAGE

Absent: 0 Yeas: 70 Nays: 0 Excused: 0

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| Y Adkins, D. | Y Hamilton, D. | Y Rehm, W. |
| Y Alcon, E. | Y Harper, J. | Y Roch, D. |
| Y Armstrong, D. | Y Herrell, Y. | Y Rodella, D. |
| Y Baldonado, A. | Y Irwin, D. | Y Romero, G. A. |
| Y Bandy, P. | Y James, C. | Y Roybal Caballero, P. |
| Y Brown, C. | Y Johnson, D. | Y Ruiloba, P. |
| Y Chasey, G. | Y Larranaga, L. | Y Salazar, N. |
| Y Clahchischilliage | Y Lewis, T. | Y Salazar, T. |
| Y Cook, Z. | Y Little, R. | Y Scott, L. |
| Y Crowder, R. | Y Louis, G. | Y Smith, J. |
| Y Dines, J. | Y Lundstrom, P. | Y Stapleton, S. |
| Y Dodge, G. | Y Madalena, J. R. | Y Steinborn, J. |
| Y Egolf, B. | Y Maestas, A. | Y Strickler, J. |
| Y Espinoza, N. | Y Maestas Barnes, S. | Y Townsend, J. |
| Y Ezzell, C. | Y Maez, S. | Y Tripp, D. |
| Y Fajardo, K. | Y Martinez, J. | Y Trujillo, CA |
| Y Gallegos, D.M. | Y Martinez, W. K. | Y Trujillo, CH |
| Y Gallegos, D.Y. | Y McCamley, B. | Y Trujillo, J. |
| Y Garcia, M.P. | Y McMillan, T. | Y Varela, L. |
| Y Garcia Richard | Y McQueen, M. | Y Wooley, B. |
| Y Gentry, N. | Y Montoya, R. | Y Youngblood, M. |
| Y Gomez, B. | Y Nunez, A. | Y Zimmerman, J. |
| Y Gonzales, R. | Y Pacheco, P. | |
| Y Hall, J. | Y Powdrell-Culbert, J. | |

CERTIFIED CORRECT TO THE BEST OF OUR KNOWLEDGE

_____ (Speaker)

_____ (Chief Clerk)



2015 Regular Session

SM 60

AT-RISK YOUTH DESIGN EDUCATION PROGRAMS

Sponsor: Bill B. O'Neill

Current Location: Senate Education Committee

Actions: (Key to Abbreviations)
[5] SRC/SEC-SRC [41] DP-SEC

  Introduced (2/06/15)

  SRC Committee Report (3/18/15)

 Fiscal Impact Report

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SENATE MEMORIAL 60

52ND LEGISLATURE - STATE OF NEW MEXICO - FIRST SESSION, 2015

INTRODUCED BY

Bill B. O'Neill

A MEMORIAL

REQUESTING THE PUBLIC EDUCATION DEPARTMENT TO EXPLORE FUNDING
OPTIONS FOR THE CREATION OF DESIGN EDUCATION PROGRAMS FOR AT-
RISK YOUTH.

WHEREAS, New Mexico's seventy percent high school
graduation rate ranks near the bottom when compared to other
states; and

WHEREAS, most of the assessments of students' proficiency
in schools are made through verbal testing; and

WHEREAS, at-risk youth may be challenged intellectually if
offered teaching modalities outside of the traditional
classroom; and

WHEREAS, a different approach is the design studio model,
which is a way of learning that mimics the training of
architects and industrial designers, using a workshop,

underscored material = new
~~[bracketed material] = delete~~

underscored material = new
~~[bracketed material] = delete~~

1 laboratory or studio format; and

2 WHEREAS, a similar model for learning in the sciences
3 might be the laboratory where scientific experimentation
4 occurs; and

5 WHEREAS, design studio teaching involves a process that
6 values the new and unknown, not the "what was" or the "what
7 is", but the "what can be"; and

8 WHEREAS, students learn through creative problem solving
9 through the design of buildings, furniture, machines, toys or
10 bridges or landscape design; and

11 WHEREAS, all learning experiences reinforce core
12 curriculum standards; and

13 WHEREAS, the architecture and children curriculum is a
14 tool for teachers to encourage children's confidence to develop
15 and communicate ideas visually; and

16 WHEREAS, the architecture and children project uses the
17 study of the built environment as a window to study the world
18 and the ideas, laws and principles that govern it, the physics
19 of structures, design in nature and the similarities between
20 body systems and building systems; and

21 WHEREAS, students learn to create new ideas through
22 architectural drawings and model building, storytelling,
23 science, technology, engineering, art, architecture and math;
24 and

25 WHEREAS, the architecture and children project has been

.199613.1

underscoring material = new
~~[bracketed material] = delete~~

1 offered successfully as a summer program at Albuquerque academy
2 for many years; and

3 WHEREAS, Eubank elementary school is the site of the first
4 public school pilot design education program in New Mexico; and

5 WHEREAS, it would be beneficial if design education
6 programs were options for at-risk youth as well;

7 NOW, THEREFORE, BE IT RESOLVED BY THE SENATE OF THE STATE
8 OF NEW MEXICO that the public education department be requested
9 to explore funding options for the creation of design education
10 programs for at-risk youth; and

11 BE IT FURTHER RESOLVED that the public education
12 department present its findings to the legislative education
13 study committee and the legislative finance committee before
14 December 1, 2015; and

15 BE IT FURTHER RESOLVED that a copy of this memorial be
16 transmitted to the secretary of public education.

FIFTY-SECOND LEGISLATURE
FIRST SESSION, 2015

March 18, 2015

Mr. President:

Your **RULES COMMITTEE**, to whom has been referred

SENATE MEMORIAL 60

has had it under consideration and reports same with recommendation that it **DO PASS**, and thence referred to the **EDUCATION COMMITTEE**.

Respectfully submitted,

Linda M. Lopez, Chairman

Adopted _____ Not Adopted _____
(Chief Clerk) (Chief Clerk)

Date _____

The roll call vote was 6 For 0 Against
Yes: 6
No: 0
Excused: Candelaria, Ingle, Pirtle, Rue
Absent: None

SM060RU1.wpd

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FISCAL IMPACT REPORT

SPONSOR O'Neill ORIGINAL DATE 2/26/15
LAST UPDATED _____ HB _____

SHORT TITLE At-Risk Youth Design Education Programs SM 60

ANALYST Chavez

ESTIMATED ADDITIONAL OPERATING BUDGET IMPACT (dollars in thousands)

	FY15	FY16	FY17	3 Year Total Cost	Recurring or Nonrecurring	Fund Affected
Total		Minimal	Minimal			

(Parenthesis () Indicate Expenditure Decreases)

SOURCES OF INFORMATION

LFC Files

SUMMARY

Synopsis of Bill

Senate Memorial 60 requests that the Public Education Department (PED) explore funding options for the creation of design education programs for at-risk youth.

FISCAL IMPLICATIONS

There is no appropriation associated with this memorial. Any costs PED incurs in completing the study should be absorbed by existing resources.

SIGNIFICANT ISSUES

SM 60 notes that, at 70 percent, New Mexico's graduation rate ranks near the bottom when compared with other states. While most of the assessments of students' proficiency in schools are made through verbal testing, the memorial argues that at-risk youth may achieve higher academic performance if challenged intellectually through teaching modalities outside the traditional classroom, including through the design studio model.

The memorial notes that the design studio model mimics the training of architects and industrial designers, involves a process that approaches learning through the "what can be" rather than the "what was", and the learning experiences involved in the studio design model reinforce core curriculum standards.

Senate Memorial 60 – Page 2

Finally, the memorial notes that Eubank elementary school has a public school pilot design education program, the first of its kind in New Mexico.

PED is requested to present its findings to the Legislative Education Study Committee and the Legislative Finance Committee before December 1, 2015.

KC/je/aml