

Performance Measures Status and Certification (See instructions.)

12. Performance Measures Status

- a. Are complete data on performance measures for the current budget period included in the Project Status Chart? ☒ Yes ☐ No
b. If no, when will the data be available and submitted to the Department? ____/____/____ (mm/dd/yyyy)

13. By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate and the expenditures, disbursements, and cash receipts are for the purposes and objectives set forth in the terms and conditions of the Federal award. I am aware that any false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise. (U.S. Code Title 18, Section 1001 and Title 31, Sections 3729-3730 and 3801-33812).
Furthermore, to the best of my knowledge and belief, all data in this performance report are true, complete, and correct and the report fully discloses all known weaknesses concerning the accuracy, reliability, and completeness of data reported.

Darya Courville

Title: Assistant Vice Chancellor, Sponsored Programs

Name of Authorized Representative:


Signature:

Date: 9/24/26



U.S. Department of Education
Grant Performance Report Cover Sheet (ED 524B)

OMB No. 1894-0003
Exp. 07/31/2024

Check only one box per Program Office instructions.

☐ Annual Performance Report ☐ Final Performance Report

PR/Award # (11 characters): _____

(See Instructions)

Ad-hoc Annual Project Report for Award U411C190287

A modern approach to the integration of programming and mathematics

Report Period: October 2023 to September 2024

1 Summary of Year 5

1.1 Project activities

In summer of 2024 we have trained 7 teachers in 4 high schools who we are supporting during the 2024-25 school year. Table 1 displays the number of teachers who received free training and a stipend for their participation in our EIR project during the last five years. In square brackets are the number of schools where those teachers were located. Then, in rounded parenthesis the number of teachers receiving a stipend from our project and the specific sponsor, either directly funds from the EIR award, or funds from one of our study partners. The smaller number of trained teachers in 2024-25 was motivated by a conflict with the LSU Cain Center. Also, from the 2020-21 to the 2023-24 academic year, our team provided training and intervention for free to other districts that did not participate in the study. Those schools paid training fees to the LSU Cain Center, but those fees have not been used to support the sustainability of our program, even though the LSU Cain Center's Director made such promises on multiple occasions. More information about this is provided under *Significant Challenges*.

Table 2 displays the high schools participating in our training during the last five academic years. The number of trained teachers at each school, and the courses where they were trained are included. Schools in *italics* are participating in our study and their teachers received stipends funded by either the EIR award or one of our study partners. The rest of the schools received free training but they are not participating in our study nor their teachers received a stipend.

Courses included in the table are Introduction to Computational Thinking (**ICT**), Cybersecurity (**Cyb**), Survey of Computer Science (**SCS**), Introduction to Biomedical Sciences (**Bio**), and Introduction to Engineering (**Eng**). Cybersecurity, Intro to Biomedical Sciences and Intro to Engineering are the comparison courses for the RCT study. Although the Survey of Computer Science is no longer a comparison course, we also include it here because our team is recommending to offer the Survey to students entering 9th-grade who are not ready to be enrolled in Algebra I with the goal of motivating them to enroll in the courses included in the study the next year.

In Spring of 2024 we recruited 4 new high schools to participate in our project for a total of 42 high schools since the 2020-21 academic year. From those 42 schools participating in our project, 10 are currently participating during this academic year, and 32 schools participated in previous

Teach. train. 2020-21	Teach. train. 2021-22	Teach. train. 2022-23	Teach. train. 2023-24	Teach. train. 2024-25
35 [22] (22 EIR, 3 EBRPSS)	46 [29] (37 EIR, 1 EBRPSS)	35 [26] (23 EIR, 1 LSU Cain, 2 EBRPSS)	24 [20] (14 EIR, 1 EBRPSS)	7 [4] (7 EIR)

Table 1: The number of teachers who received free training during the last five years. In square brackets are the number of schools where those teachers were located. Then, in rounded parenthesis the number of teachers receiving a stipend from our project and the specific sponsor, either directly funds from the EIR award, or funds from one of our study partners.

years but not this year. Two of the middle schools supported by our NSF CSforAll:RPP award have enrolled one 9th-grade each to our Survey of Computer Science. Those two middle schools are not counted in this report. This year the most common reason provided by school administrators for not participating was the confusion created by several Cain Center employees, including Director Dr. Neubrander, in their communications with schools where they misrepresented themselves as authorized to speak for my projects while spreading wrong information. More information about this is provided under *Significant Challenges*.

School (District)	Teach. train. 2020-21	Teach. train. 2021-22	Teach. train. 2022-23	Teach. train. 2023-24	Teach. train. 2024-25
<i>Baton Rouge Magnet (EBRPSS)</i>	2:ICT;Cyb/SCS				
<i>Belaire (EBRPSS)</i>	3:ICT;Eng;SCS			1:ICT	
<i>Broadmoor Senior (EBRPSS)</i>	2:ICT;Bio/Cyb	1:ICT	1:Cyb		
<i>Glen Oaks (EBRPSS)</i>	2:ICT;Eng/Cyb	2:ICT;Cyb/SCS			
<i>Istrouma (EBRPSS)</i>	1:Cyb/SCS	2:ICT;Cyb/SCS	2:ICT;Cyb		
<i>Liberty (EBRPSS)</i>	3:ICT	1:ICT	2:ICT	1:ICT	
<i>McKinley Senior (EBRPSS)</i>	2:ICT;Bio/Cyb	1:ICT			
<i>Northeast (EBRPSS)</i>	1:SCS		1:ICT		
<i>Scotlandville Magnet (EBRPSS)</i>	2:ICT;Cyb	1:ICT	1:ICT		
<i>Tara (EBRPSS)</i>	2:ICT;Cyb/SCS	5:ICT;Cyb/SCS(2); SCS;ISPC			
<i>Woodlawn (EBRPSS)</i>	1:ICT	1:Cyb	1:Cyb	3:ICT/Cyb; ICT(2)	
<i>Helix Mentorship STEAM Ac. (EBRPSS-Charter)</i>			2:ICT;Cyb/SCS	1:Cyb/SCS	
<i>Booker T. Washington New Tech. (Caddo)</i>				1:ICT	
<i>Caddo Virtual Ac. (Caddo)</i>					1: ICT
<i>Washington/Marion Mag. (Calcasieu)</i>			2:ICT;Eng		
<i>Einstein-Sarah T. Reed (Charter)</i>		2:ICT;Cyb	1:ICT/Cyb		
<i>GEO Next Gen. HS (Charter)</i>					1: ICT
<i>New Orleans Sc. & Math (Charter)</i>				2:ICT,SCS	
<i>New Orleans Mil. & Marit. Ac. (Charter)</i>		2:ICT;Cyb/SCS			
<i>General Trass (East Carroll)</i>		1:SCS	2:ICT;Cyb		
<i>North Iberville (Iberville)</i>				1:ICT	
<i>Bonnabel Magnet Ac. (Jefferson)</i>			2:ICT;Cyb		
<i>Grace King (Jefferson)</i>		2:ICT;Cyb/SCS	1:ICT		
<i>L.W. Higgins (Jefferson)</i>				1:ICT	
<i>Carencro HS</i>					2:ICT;SCS

<i>(Lafayette)</i>					
<i>Madison (Madison)</i>		2:ICT;Cyb	1:ICT	1:ICT	
<i>Bastrop (Morehouse)</i>		2:ICT;Cyb			
<i>Delores Taylor Arthur Sch. Young Men (Orleans)</i>				1:ICT	
<i>Pointe Coupee SMA (Pointe Coupee)</i>	2:ICT;Bio/Cyb				
<i>Delhi HS (Richland)</i>					2:ICT(2)
<i>College & Career Ac. (St. Helena)</i>	1:Bio/SCS				
<i>Beau Chene (St. Landry)</i>		2:ICT;Cyb/SCS	2:ICT;Cyb/SCS		
<i>Eunice (St. Landry)</i>		2:ICT;Cyb/SCS			
<i>North Central/Port Barre (St. Landry)</i>		1:Cyb/SCS	2:ICT;Cyb	1:Cyb	
<i>Northwest (St. Landry)</i>		2:ICT;Cyb/SCS			
<i>Port Barre (St. Landry)</i>		1:ICT	1:Cyb/SCS		
<i>Breaux Bridge (St. Martin)</i>		2:ICT;Cyb/SCS			1:Cyb
<i>Amite (Tangipahoa)</i>				1:ICT	
<i>Ponchatoula (Tangipahoa)</i>				1:ICT	
<i>Leesville (Vernon)</i>		2:ICT;Cyb/SCS			
<i>Pine HS (Washington)</i>	1:ICT				
<i>Winnfield (Winn)</i>		2:ICT;Cyb/SCS	2:ICT;Cyb/SCS		
<i>NOLA_CODE</i>			2:ICT;Cyb/SCS		
<i>Dutchtown (Ascension)</i>			1:ICT		
<i>East Ascension (Ascension)</i>	1:ICT				
<i>St. Amant (Ascension)</i>		1:ICT			
<i>Baker (Baker)</i>	1:SCS	1:Cyb			
<i>Alfred M. Barbe (Calcasieu)</i>		1:ICT			
<i>Lake Charles Boston Ac. (Calcasieu)</i>				1:ICT	
<i>Sulphur (Calcasieu)</i>				1:ICT	
<i>Central (Central)</i>	1:ICT			1:ICT	
<i>Bard Early Coll. New Orleans (Charter)</i>			1:Cyb		
<i>Delta Charter School MST (Charter)</i>			1:SCS		
<i>IDEA Bridge (Charter)</i>			1:ICT		
<i>New Orleans Sc. & Math (Charter)</i>			1:SCS		
<i>East Feliciana (East Feliciana)</i>			1:ICT	1:ICT	
<i>Haynes Academy Adv. St. (Jefferson)</i>		1:ICT			
<i>Kenner Discovery Health Sc. Ac. (Jefferson)</i>				1:ICT	
<i>MSA East (Iberville)</i>			1:ICT		
<i>Denham Springs STEM & Robotics</i>	2:ICT;Cyb		1:Cyb		

Center (Livingston)					
Morehouse Magnet (Morehouse)		1: ICT			
Peabody Magnet (Rapides)	2: ICT				
St. James SMA (St. James)	1: ICT				
College & Careers Center (St. James)				1: ICT	
St. John the Baptist SMA (St. John)		1: ICT			
St. Martinville Senior (St. Martin)		1: ICT	1: ICT	2: Cyb,SCS	
Ponchatoula (Tangipahoa)	1: Cyb				
Zachary (Zachary)	1: ICT				

Table 2: High schools (districts) with teachers trained during the academic years 2020-21, 2021-22, 2022-23, 2023-24, and 2024-25. The schools whose teachers received stipends from the EIR award are in italics. These schools participate in our study at the time of the training. Number of teachers and courses in which they were trained are included. If a teacher is trained in two courses their names are separated by / (e.g. Cyb/SCS).

Table 3 displays the schools currently offering Intro to Computational Thinking (ICT), Cybersecurity, and Survey of Computer Science. Cybersecurity was a comparison course for the RCT study. Although the Survey of Computer Science is not a comparison course, we also include it here because our team is recommending to offer the Survey to students entering 9th-grade who are not ready to be enrolled in Algebra I with the goal of motivating them to enroll in more advanced courses the next academic year. The table includes the school locale code, percentage of underrepresented (URM) and percentage of economically disadvantaged students, and number of enrolled students in each school and course. The percentages of underrepresented and of economically disadvantaged students are taken from the data compiled by the Louisiana Department of Education in February 2023 (*Multiple Statistics By Site For Total Public Students - February 1, 2023* at <https://www.louisianabelieves.com/resources/library/student-attributes>). Totals for each course are also displayed. Some of our schools follow a 4x4 schedule and will offer the courses in spring 2025. Therefore, we do not know the final number of enrolled students yet.

There are 384 high school students taking ICT, 75 enrolled in Cybersecurity, and 19 in Survey of Computer Science. We are impacting 478 high school students in the 2024-25 academic year. Since we do not collect racial/ethnicity or socio-economical information from our students, we have used the data collected by the Louisiana Department of Education for each school. We believe this is a good approximation to our student population, since enrollment in the courses is not restricted in any way, and we have trained the school counselors on avoiding bias when advising students on computing courses. Using LA DoEd data we concluded that 74.1% of our students are URM, 70.3% economically disadvantaged and 47.9% attend rural schools (with a locale code 32 or above). Looking at the data for each course, we find that 71.2% of our ICT students are URM, 67.4% economically disadvantaged and 40.1% attend rural schools. Among our Cybersecurity students, 88.8% are URM, 85.1% economically disadvantaged, and 100% attend rural schools. Students in the Survey of Computer Science include 75.6% URM, 69.1% economically disadvantaged, and none rural.

In order to create a community of practice (CoP) we host monthly meetings during the school year. In 2022-2023 we realized that we needed to provide additional support to our 4x4 teachers who cover the course curricula in one semester. During the 2023-24 academic year we hosted year-

School (District)	Loc. code	% URM students	% econ. disadv. st.	Enroll. course
Introduction to Computational Thinking				
Totals: 384 students, 71.2% URM, 67.4% econ. disadv., 40.1% rural				
Caddo Virtual Ac. (Caddo)	41	63.8	65.8	17
Lake Charles Boston Ac. (Calcasieu)	13	28	39	58
GEO Next Generation HS (GEO)	12	99	81.6	90
Carencro HS (Lafayette)	21	75.5	68.9	29
Madison HS (Madison)	41	98.5	88.6	13
Pointe Coupee SMA (Pointe Coupee)	32	61	74	69
Delhi High School (Richland)	32	95.1	84.6	41
Breaux Bridge HS (St. Martin)	41	52	61.1	14
Zachary HS (Zachary)	21	64.6	48.8	53
Cybersecurity				
Totals: 75 students, 88.8% URM, 85.1% econ. disadv., 100% rural				
General Trass HS (East Carroll)	33	100	93.6	41
Madison HS (Madison)	41	98.5	88.6	17
Breaux Bridge HS (St. Martin)	41	52	61.1	17
Survey of Computer Science				
Totals: 19 students, 75.6% URM, 69.1% econ. disadv., 0% rural				
Carencro HS (Lafayette)	21	75.5	68.9	17
East St. John Prep. Ac. (St. John)	21	93.9	87.4	1
John L. Ory Communications Mag. Elem. (St. John)	21	58.9	54	1

Table 3: Schools (districts) currently offering Cybersecurity, Survey of Computer Science, Intro to Engineering, and Intro to Biomedical Sciences including their locale code, % of underrepresented (URM) and % of economically disadvantaged students (data from Louisiana Department of Education), and number of enrolled students in each course. The schools participating in the EIR study are shown in italics. Totals for each course are also displayed.

long CoP sessions and meeting one-to-one with the 4x4 novice teachers to resolve content questions during the first semester they taught the course. To allow easy daily communications, we also created several chat rooms at the project website. A Town Square room is designed for discussions of interest to all teachers. Chat rooms for each course open to all teachers active in teaching that course complement the Town Square room. The chat system also allows to send direct messages to each of the course instructors.

This year, we published three papers which we include with the report:

1. The impact of a computational thinking course on Louisiana students' high school outcomes: Findings from an Education Innovation and Research (EIR) early-phase grant, *Michelle Hodara, Ming Yin, and Juana Moreno*, SREE 2024 Conference, September 18-21, 2024.
2. Re-imaging classroom tools: modeling mathematics in microprogramming environments, *Amber Jackson, Fernando Alegre, and Juana Moreno*, Proceedings of the Forty-Sixth Annual Meeting of the North American Chapter of the International Group for the Psychology of

Mathematics Education, pag. 2004–2008, Editors: K. W. Kosko, J. Caniglia, S. A. Courtney, M. Zolfaghari, and G. A. Morris, Cleveland, Ohio, November 2024.

3. Working group report: The power of Computational Thinking in Mathematics and Data Science Education, *Zuhal Yilmaz, Terri M. Galanti, Brian R. Lawler, and Fernando Alegre*, Proceedings of the Forty-Sixth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, pag. 2202–2211, Editors: K. W. Kosko, J. Caniglia, S. A. Courtney, M. Zolfaghari, and G. A. Morris, Cleveland, Ohio, November 2024.

We gave 8 presentations on different aspects of the project:

1. BRBytes: how to offer high quality computing courses at no cost to your school, *Amber Jackson and Juana Moreno*, Louisiana STEM (LaSTEM) Annual Summit, Lafayette, October 2023.
2. BRBytes: how to offer high quality computing courses at no cost to your school, *Fernando Alegre, Amber Jackson and Juana Moreno*, Louisiana Association of Computer Using Educators (LACUE), New Orleans, November 2023.
3. Enhancing Educational Performance: A Comprehensive Analysis of Student Activity and School Dynamics, *Juana Moreno, Fernando Alegre, Angela Roccograndi, Michele Hodara*, 2024 Education Innovation and Research (EIR) Project Directors and Evaluators Technical Assistance Meeting: Champions in Innovation, February 8-9, 2024.
4. The impact of a computational thinking course on Louisiana students' high school outcomes: Findings from an Education Innovation and Research (EIR) early-phase grant, *Michelle Hodara, Ming Yin, and Juana Moreno*, SREE 2024 Conference, September 18-21, 2024.
5. BRBytes: how to offer high quality computing courses at no cost to your school, *Amber Jackson and Juana Moreno*, Louisiana STEM (LaSTEM) Annual Summit, Lafayette, October 9, 2024.
6. Re-imagining Classroom Tools: Modeling Mathematics with Computer Science, *Amber Jackson*, Louisiana Association of Teachers of Mathematics Conference, October 21-22, 2024.
7. Re-imaging classroom tools: modeling mathematics in microprogramming environments, *Amber Jackson, Fernando Alegre, and Juana Moreno*, Forty-Sixth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Cleveland, Ohio, November 2024.
8. Working group report: The power of Computational Thinking in Mathematics and Data Science Education, *Zuhal Yilmaz, Terri M. Galanti, Brian R. Lawler, and Fernando Alegre*, Proceedings of the Forty-Sixth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Cleveland, Ohio, November 2024.

1.2 Significant Challenges

Since January 2023, my team has faced significant challenges due to an ongoing conflict with Dr. Frank Neubrandner, Executive Director of LSU Gordon A. Cain Center for STEM Literacy. I reached out to LSU upper administration requesting mediation without any success. As of today, December 31, 2024, there is still an injunction pending at the 19th Judicial District Court, Baton Rouge, Louisiana, on behalf of Mr. Alegre for the unlawful rescission of his LSU employment contract, and the fact that LSU deemed Mr. Alegre ineligible for any employment within the statewide LSU system without any wrongdoing from Mr. Alegre.

Introduction. My research team had been collaborating with Dr. Neubrandner since 2015. All the computer science courses we have developed were part of the LSU STEM Pathways, which are managed by the Cain Center. When the EIR proposal was submitted in spring, 2019, Dr. Neubrandner, and others at the Cain Center, Dr. Kirshner and Mr. Alegre, were listed as essential personnel. In particular, Mr. Alegre was the main developer of the Computing Pathway curriculum.

As part of the mutual collaboration with Dr. Neubrandner, I offered to provide support to other initiatives at the Cain Center with the understanding that this project will also benefit from the investment in those initiatives. In particular:

- From the 2020-21 to the 2023-24 academic year, the EIR funds provided training and support for free to other districts that were not participating in the EIR study. Even though those schools had to pay training fees to the LSU Cain Center, their fees were diverted to fund other Cain Center projects.
- With EIR funds, my team was developing an automated system to manage teacher and student registration and track their progress for implementation and research purposes. Due to lack of an automated system at the Cain Center, data exchange was manually intensive and error prone. I offered to extend our system to automate the teacher and student registration for all the Pathways, which my team operated between 2021 and 2024 without any financial contribution from the Cain Center.
- EIR funds were used to support the LSU-Code.org partnership hosted at the Cain Center by paying part of the salary of Mr. Alegre, Code.org partnership lead, and Ms. Kendrick, Code.org Louisiana manager. Our goal in supporting the Code.org partnership was to improve the sustainability and scaling of our intervention by building a collaborative community of computer science educators in Louisiana.

Dr. Neubrandner violated the trust of our mutual collaboration. While other programs at the Cain Center benefited financially of our federal funds, Dr. Neubrandner took several decisions that deprived our project of staff crucial for the project sustainability and scaling, and he backed the spreading of damaging, false information about our project to schools and districts.

Here is a brief description of the main facts:

LSU Cain Center's Director redirected an employee I hired, Dr. Yilmaz, to work on alternative projects. I hired Dr. Yilmaz in January 2022 with the purpose of analyzing the project accumulated data and publishing several papers. On February 2023, I found out that Dr. Yilmaz had started working on non-EIR matters at an office that Dr. Kirshner provided for her. When Dr. Neubrandner finally disclosed his intention of hiring Dr. Yilmaz, I requested him to sign a good faith transition agreement that included giving proper credit to future publications based on Dr. Yilmaz's work on the EIR project, but he refused and supported Dr. Yilmaz's refusal to include proper credits in an imminent submission. The whole incident impacted the publication record of this project.

Removal of EIR investigators from discussions with the Louisiana Department of Education. In August 2022, Louisiana established the Computer Science Education Advisory Commission. Mr. Alegre and I were members of the Commission. Our involvement was motivated by our interest on the new state policies, and how our project could contribute to statewide computer science education. In July, 2022 LSU applied for and became the Louisiana Code.org Regional Partner. Since I was heavily involved in the negotiations with Code.org representatives, Dr. Neubrandner and I reached an agreement that Mr. Alegre would be the leader of the partnership and represent the interest of the EIR project.

In August 2023, to implement the recommendation of the Commission of providing teacher training on Computer Science, the Louisiana Dept. of Education (LADOE) started discussions with the Regional STEM Center hosted at LSU Cain Center. Dr. Neubrandner and Ms. Dann, STEM Center Director, concealed that information from Mr. Alegre and I, and they decided to contact Code.org headquarters directly and invite them into the discussions with LADOE, excluding our initiative of any involvement in the new state-sponsored project. Finally, in September, 2023, Mr. Alegre and myself were summarily removed from the Code.org Partnership by Dr. Neubrandner after Mr. Alegre found by chance about an irregular procedure on the selection of Code.org facilitators and raised concerns about it.

We reached to upper administrators requesting mediation, but the LSU administrators concluded they could not do anything about Dr. Neubrandner violating verbal agreements with my research team. All this left our team out of important discussions at the state level, and deprived us from key knowledge to sustain and scale our program.

Dr. Neubrandner attempts to misappropriate the intellectual property of the EIR project. On February 2, 2024, in a meeting with upper administrators, Dr. Neubrandner requested Mr. Alegre to relocate the EIR-supported curricular platform to the college-readiness.lsu.edu domain, which was under Dr. Neubrandner's control. Mr. Alegre's was warned that fulfilling this request was a condition for his continued employment at the Cain Center. Mr. Alegre replied that he lacked the authority to decide on behalf of the EIR project, and he reported the request to me.

I found this request uncalled for, since granting it would violate the conditions of the EIR grant, which demanded open licensing to the public, as the college-readiness site did not provision for that. Furthermore, it would have been technically unfeasible to relocate the platform while more than 4,000 students were using it daily. Therefore, on February 28, 2024, I sent an email to Dr. Neubrandner communicating my decision of restricting his access to my research server until I could understand the reasons for Dr. Neubrandner's unexpected request.

Firing Mr. Alegre from the Cain Center. On March 1, 2024, Dr. Neubrandner emailed Mr. Alegre a 90-day notice of non-reappointment after 9 years of employment and *exceptional* employee evaluations. Mr. Alegre was fully supported with grants, where he played an essential role, and could not be replaced on a short notice without damaging the EIR project. Despite that fact, Dr. Neubrandner did not inform me before taking that decision.

Removing EIR-funded courses from LSU Pathways. On March 6, 2024, I was notified that the Cain Center will no longer use the EIR-funded courses as the basis for the LSU Computing Pathway. Thereafter, I started conversations with the Louisiana Department of Education to have the EIR-funded courses added to the Louisiana Computing and Cybersecurity Pathway without mediation from the Cain Center. While our team applies for re-approval, the LA Dept. of Education has provided a transition plan to allow us to train teachers and have schools offer the courses during the 2024-25 academic year.

The LSU Legal Counsel coerced me to support the business operations of the Cain Center. When it became clear to me that Dr. Neubrandner had no intention to resume collaboration

with my team, I uploaded all the Cain Center data I had to an LSU secure folder following the LSU policy for those matters and discontinued the operation of our software to service the Cain Center. Nevertheless, on March 14, 2024, the LSU Counsel ordered me to continue maintaining the automated teacher and student registration system for the college-readiness.lsu.edu webpage, and threatened to start the process to revoke my tenure if I did not comply with his request. I had to keep providing business operations to the Cain Center using EIR-funded resources until the beginning of September, 2024. I really felt uncomfortable about this misappropriation of federal funds to support the business operations of the Cain Center after the collaboration had ended.

Mr. Alegre's instructor position offer is retroactively rescinded. Given the essential role that Mr. Alegre plays on the EIR project, he applied for other positions within LSU that could allow him to continue supporting the program. Then, on May 3, Mr. Alegre received an offer of a full-time instructor position at the LSU Computer Science Department, effective May 14, 2024. The earlier starting date was needed to allow him to fulfill his obligations for the EIR grant during the summer. However, on June 21, Mr. Alegre's offer was rescinded retroactively by LSU HR, on the basis that he was not eligible for re-employment with LSU until "full resolution of the Cain Center data issues about which you [Mr. Alegre] are aware", without providing any hint of what those issues were.

This decision took place only two weeks before our teacher summer training. To avoid canceling the teacher training, Mr. Alegre decided to volunteer his time and continue supporting the EIR project without monetary compensation. He also hired a lawyer. On July 31st, Mr. Alegre petitioned an injunction hearing at the 19th Judicial District Court, Baton Rouge. On behalf of LSU, the Louisiana Attorney General has hired 6 lawyers from two independent law firms, and they have been requesting multiple delays of the hearing, which has not taken place yet.

LSU's Office of Academic Affairs' personnel coerced me to get access to my research database under the threat of revoking my tenure. On May 2024, Dr. Neubrander falsely accused me of hiding STEM Pathways business data, without any clarification on what specific data items he was missing. On June 20, Provost Haggerty requested me to provide him with a whole copy of the EIR research database, and communicated that Academic Affairs was prepared to initiate proceedings to revoke my tenure if I failed to comply in full. I carried a hard drive with a full copy of the EIR program database to Academic Affairs. More than two months later, on August 26, Provost Haggerty ordered me to provide administrative credentials of my research server to LSU Information Technology Systems, which I provided. Shortly after Mr. Alegre filed a law suit, on September 5, Provost Haggerty notified me that LSU "considers this matter closed now".

Since the EIR-funded database included private and confidential research data for which I am the custodian, I requested multiple times confirmation that the data would be kept safe and used only for the intended research purpose. I never received a reply to this request. Therefore, I have reported these facts as an Adverse Event to the LSU Institutional Review Board.

Dr. Neubrander and other Cain Center's employees spreaded damaging, false information about the EIR project to schools and districts. I found by chance that Cain Center's personnel in their communications with schools were misrepresenting themselves as authorized to speak on behalf of the EIR research project and were "informing" them that the project had ended. I wrote a formal complaint to the LSU Counsel, which has not been acknowledged.



**U.S. DEPARTMENT OF EDUCATION
BUDGET INFORMATION
NON-CONSTRUCTION PROGRAMS**

OMB Control Number: 1890-0004
Expiration Date: 10-31-2007

Name of Institution/Organization

Louisiana State University

Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

**SECTION A - BUDGET SUMMARY
U.S. DEPARTMENT OF EDUCATION FUNDS**

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	50,118	226,666	329,470	414,227	545,734	1,566,215
2. Fringe Benefits	11,856	36,879	59,123	62,453	97,877	268,188
3. Travel	59	0	447	4,757	17,967	23,229
4. Equipment						0
5. Supplies	1,701	4,341	2,749	249	358	9,398
6. Contractual		205,652	266,641	234,414	277,462	984,169
7. Construction						0
8. Other	0	27,193	25,742	103,137	319,029	475,099
9. Total Direct Costs (lines 1-8)	63,734	500,731	684,172	819,236	1,258,427	3,326,299
10. Indirect Costs*	16,571	123,120	86,488	128,346	174,691	529,216
11. Training Stipends						0
12. Total Costs (lines 9-11)	80,304	623,851	770,660	947,582	1,433,118	3,855,515

***Indirect Cost Information (To Be Completed by Your Business Office):**

If you are requesting reimbursement for indirect costs on line 10, please answer the following questions:

(1) Do you have an Indirect Cost Rate Agreement approved by the Federal government? ☒ Yes ☐ No

(2) If yes, please provide the following information:

Period Covered by the Indirect Cost Rate Agreement: From: ___/___/___ To: ___/___/___ (mm/dd/yyyy)

Approving Federal agency: ☐ ED ☐ Other (please specify): _____

(3) For Restricted Rate Programs (check one) -- Are you using a restricted indirect cost rate that:

☐ Is included in your approved Indirect Cost Rate Agreement? or ☐ Complies with 34 CFR 76.564(c)(2)?

Name of Institution/Organization Louisiana State University		Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.				
SECTION B - BUDGET SUMMARY NON-FEDERAL FUNDS						
Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel		15,199	11,970	5,022	35,814	68,004
2. Fringe Benefits		6,687	5,267	2,210	15,758	29,922
3. Travel						0
4. Equipment						0
5. Supplies						0
6. Contractual		56,123	56,123	56,123	112,247	280,617
7. Construction						0
8. Other						0
9. Total Direct Costs (Lines 1-8)	0	78,009	73,360	63,355	163,819	378,543
10. Indirect Costs	0	5,690	4,482	1,880	13,409	25,461
11. Training Stipends						0
12. Total Costs (Lines 9-11)	0	83,700	77,842	65,235	177,228	404,004
SECTION C – BUDGET NARRATIVE (see instructions)						

Instructions for ED 524

General Instructions

This form is used to apply to individual U.S. Department of Education (ED) discretionary grant programs. Unless directed otherwise, provide the same budget information for each year of the multi-year funding request. Pay attention to applicable program specific instructions, if attached. Please consult with your Business Office prior to submitting this form.

Section A - Budget Summary U.S. Department of Education Funds

All applicants must complete Section A and provide a breakdown by the applicable budget categories shown in lines 1-11.

Lines 1-11, columns (a)-(e): For each project year for which funding is requested, show the total amount requested for each applicable budget category.

Lines 1-11, column (f): Show the multi-year total for each budget category. If funding is requested for only one project year, leave this column blank.

Line 12, columns (a)-(e): Show the total budget request for each project year for which funding is requested.

Line 12, column (f): Show the total amount requested for all project years. If funding is requested for only one year, leave this space blank.

Indirect Cost Information:

If you are requesting reimbursement for indirect costs on line 10, this information is to be completed by your Business Office. (1): Indicate whether or not your organization has an Indirect Cost Rate Agreement that was approved by the Federal government. (2): If you checked "yes" in (1), indicate in (2) the beginning and ending dates covered by the Indirect Cost Rate Agreement. In addition, indicate whether ED or another Federal agency (Other) issued the approved agreement. If you check "Other," specify the name of the Federal agency that issued the approved agreement. (3): If you are applying for a grant under a Restricted Rate Program (34 CFR 75.563 or 76.563), indicate whether you are using a restricted indirect cost rate that is included on your approved Indirect Cost Rate Agreement or whether you are using a restricted indirect cost rate that complies with 34 CFR

76.564(c)(2). Note: State or Local government agencies may not use the provision for a restricted indirect cost rate specified in 34 CFR 76.564(c)(2). Check only one response. Leave blank, if this item is not applicable.

Section B - Budget Summary Non-Federal Funds

If you are required to provide or volunteer to provide matching funds or other non-Federal resources to the project, these should be shown for each applicable budget category on lines 1-11 of Section B.

Lines 1-11, columns (a)-(e): For each project year, for which matching funds or other contributions are provided, show the total contribution for each applicable budget category.

Lines 1-11, column (f): Show the multi-year total for each budget category. If non-Federal contributions are provided for only one year, leave this column blank.

Line 12, columns (a)-(e): Show the total matching or other contribution for each project year.

Line 12, column (f): Show the total amount to be contributed for all years of the multi-year project. If non-Federal contributions are provided for only one year, leave this space blank.

Section C - Budget Narrative [Attach separate sheet(s)] Pay attention to applicable program specific instructions, if attached.

1. Provide an itemized budget breakdown, and justification by project year, for each budget category listed in Sections A and B. For grant projects that will be divided into two or more separately budgeted major activities or sub-projects, show for each budget category of a project year the breakdown of the specific expenses attributable to each sub-project or activity.
2. If applicable to this program, provide the rate and base on which fringe benefits are calculated.
3. If you are requesting reimbursement for indirect costs on line 10, this information is to be completed by your Business Office. Specify the estimated amount of the

base to which the indirect cost rate is applied and the total indirect expense. Depending on the grant program to which you are applying and/or your approved Indirect Cost Rate Agreement, some direct cost budget categories in your grant application budget may not be included in the base and multiplied by your indirect cost rate. For example, you must multiply the indirect cost rates of "Training grants" (34 CFR 75.562) and grants under programs with "Supplement not Supplant" requirements ("Restricted Rate" programs) by a "modified total direct cost" (MTDC) base (34 CFR 75.563 or 76.563). Please indicate which costs are included and which costs are excluded from the base to which the indirect cost rate is applied.

When calculating indirect costs (line 10) for "Training grants" or grants under "Restricted Rate" programs, you must refer to the information and examples on ED's website at:
<http://www.ed.gov/fund/grant/apply/appforms/appforms.html>.

You may also contact (202) 377-3838 for additional information regarding calculating indirect cost rates or general indirect cost rate information.

4. Provide other explanations or comments you deem necessary.

Paperwork Burden Statement

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is **1890-0004**. The time required to complete this information collection is estimated to vary from 13 to 22 hours per response, with an average of 17.5 hours per response, including the time to review instructions, search existing data sources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to: U.S. Department of Education, Washington, D.C. 20202-4651. If you have comments or concerns regarding the status of your individual submission of this form, write directly to (insert program office), U.S. Department of Education, 400 Maryland Avenue, S.W., Washington, D.C. 20202.



**U.S. Department of Education
Grant Performance Report (ED 524B)
Project Status Chart**

PR/Award # : U411C190287

SECTION A - Performance Objectives Information and Related Performance Measures Data (See Instructions. Use as many pages as necessary.)

1. Project Objective ☐ Check if this is a status update for the previous budget period.

The Introduction to Computational Thinking (ICT) curriculum is piloted and adapted in an iterative manner, with emphasis on the following categories: (1) project-based learning (PBL), (2) alignment with math standards, (3) computational thinking practices, (4) culturally relevant pedagogy, and (5) streamlined online delivery system.

1.a. Performance Measure	Measure Type	Quantitative Data					
Expert researchers and/or practitioners, called experts, will be asked to rate the curriculum, determining it to be ADEQUATE in at least 4 of the 5 categories listed above. MET	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
			4 / 5			5 / 5	

1.b. Performance Measure	Measure Type	Quantitative Data					
Interviews and survey results of pilot teachers show satisfaction with the curriculum, determining it to be ADEQUATE according to the measures listed above. MET	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
			4 / 5			5 / 5	

Explanation of Progress (Include Qualitative Data and Data Collection Information)

In 2020 the curriculum was reviewed by two Computer Science Professors from University of Louisiana at Monroe, ranking all categories as adequate. In 2021 the curriculum was evaluated by an External Advisory Board for the NSF SCforALL:RPP award, concluding “While there is room for improvement, they have good momentum in the right direction during a time of immense challenge.” In 2023 EdNW administered two focus groups with 14 classroom teachers, during which the teachers were asked about the extent to which the curriculum materials address the categories listed above. **Zero teachers expressed dissatisfaction in any of the categories.** In the summer of 2022, a math teacher with ten years of teaching experience attended the summer training. She prepared a report on the curriculum and training ranking all five categories as adequate. She reported **“The curriculum is well organized. The exercises are written carefully and in a sequential order so the students build up new skills from previous ones. Problems are tackled with different approaches, in order to judge which approach is more appropriate.”** The curriculum was approved by the state as a part of the Jumpstart Pathways. In 2025 BRBYTES submitted the revised Introduction to Computational Thinking to the Louisiana Department of Education to be reviewed by their hand-selected panel of experts. While they did not use the exact rubric outlined above, evaluators noted strengths in (1) Project-based learning design, and (3) emphasis on the core computer science practices which are strikingly similar to the main aspects of computational thinking. Ultimately, the course was **approved as part of the Louisiana STEM Pathways**, indicating it was evaluated as at least, overall, ADEQUATE to be offered as an official element of the Computing Pathway.

2. Project Objective [] Check if this is a status update for the previous budget period.

LSU delivers a comprehensive teacher training on ICT covering: programming and computational thinking; connections with math standards; pedagogical content knowledge, including PBL; culturally relevant pedagogy; mechanisms to create a long-term community of practice.

2.a. Performance Measure	Measure Type	Quantitative Data					
Expert panel reviews PD schedule and training materials and rates it, determining it to be ADEQUATE in at least 4 of the 5 categories listed above. MET	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
			4 / 5			5 / 5	

2.b. Performance Measure	Measure Type	Quantitative Data					
Participating teachers rate that all components are integrated well according to an adapted form of Kent’s professional Development Evaluation scoring at least a 3 on a 5 point Likert scale. MET	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
			3 / 5			3.42 / 5	

2.c. Performance Measure	Measure Type	Quantitative Data					
Teachers remain engaged during PD, with about 30 completing the training regiment each training period. MET	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
		30	/		33.6	/	

Explanation of Progress (Include Qualitative Data and Data Collection Information)

In PD, teachers took the course they would be teaching, simply at a quicker rate than the students, with reflections of pedagogy. Therefore, you may view the answer to 1.a. to support measure 2.a.. Additionally, the reviewers from the Louisiana Department of education noted that one of **ICTs strengths were the “Comprehensive teacher training system – Preparation includes structured initial training, ongoing professional development, and rigorous assessments that ensure teacher readiness.”**

In 2021 survey data was collected; in 2022 analysis of the collected data revealed a Likert scale score of 3.42.

In 2020, 32 teachers completed the training regiment; in 2021, 46; in 2022 37; in 2023, 24; and in 2024, 29. This averages to about 34 teachers a summer.

3. Project Objective ☐ Check if this is a status update for the previous budget period.

Year-long coaching and teacher tracking is effective in helping teachers deliver the ICT course.

3.a. Performance Measure	Measure Type	Quantitative Data					
At least 77% of teachers will use the online system to provide ongoing feedback to their students. NOT MET	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
			/	77		/	73.2

3.b. Performance Measure	Measure Type	Quantitative Data					
Monthly review meetings show that the year-long coaching is effective, as evidenced by at least 72.5% of trained teachers attending monthly community of practice meetings. MET	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
			/	72.5		/	74.14

Explanation of Progress (Include Qualitative Data and Data Collection Information).

In Y1 and Y2, performance measure 3.a. was not met, and percentages not reported. Effort was put into determining the best methods in which define “timely feedback” and the best approaches to train teachers to provide it, support them in doing so. These efforts demonstrated significant gains, boasting goals that were nearly met in Y3 (71.5%), Y4 (74.9%). While we encouraged and trained teachers to grade and provide feedback in a timely manner, and made significant progress, **many teachers still struggled on a personal level with grading backlog**, a widely reported issue not unique to this projects classrooms, but likely compounded by the courses emphasis on student re-submissions. In Y1, trained teachers attended 80.5% of monthly COP meetings; in Y2, 89.6%; in Y3, 80.6%; in Y4, 75%; and in Y5, 45% of trained teachers attended at least 80% of the monthly meetings.

4. Project Objective ☐ Check if this is a status update for the previous budget period.

Teachers implement the ICT curriculum with fidelity.

4.a. Performance Measure	Measure Type	Quantitative Data					
Teachers cover and assign at least 67.5% of the curricula activities as indicated by the on-line system. MET	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
				67.5		/	70.5%

4.b. Performance Measure	Measure Type	Quantitative Data					
At least 70% of teaches will implement the curriculum and pedagogy strategies with fidelity. MET	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
				70		/	70

Explanation of Progress (Include Qualitative Data and Data Collection Information): In Y3, teachers assigned about 60% of the material; in Y4 72.2%; in Y5 79.3%. In 10 classroom visits in Y4, 7/10 students were comfortable asking teachers and peers questions- **demonstrating a culture of growth mindset and peer supported exploration**.

5. Project Objective [] Check if this is a status update for the previous budget period.

Students complete the projects and activities in the ICT curriculum

5.a. Performance Measure	Measure Type	Quantitative Data					
Online system data shows students are completing at least 72.5% of the curriculum.	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
				72.5		/	67

5.b. Performance Measure	Measure Type	Quantitative Data					
Sample student work shows a large number of students expressing themselves in culturally relevant ways, aiming for at least 75% of students doing so at least once.	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
				75		/	NA
SUBSTANTIALLY MET							

Explanation of Progress (Include Qualitative Data and Data Collection Information)

This project objective was not recorded or reported in Y1 or Y2. However, in Y3 reports indicate that year-long students completed 73.3% of the curriculum, and semester-long students completed 73.7% of the curriculum. In Y4, year-long students completed 73.2% of the curriculum and semester-long students completed only 59%. In Y5, 57.3% overall. The curriculum was designed as a year long course, giving teachers ample time to scaffold, and students ample time to process new information and work on large detailed projects, making it unsurprising that classrooms required to complete the course at twice the speed would not make it as far into the materials as their year-long counterparts. Teachers who taught the course multiple years were more likely to progress students further into the curriculum in their subsequent years.

The performance measure 5.b. was never directly quantitatively measured. However, non-exhaustive qualitative measures **(teacher feedback, direct observations, random samples of student submissions, etc)** indicate that **this goal was met**. With PBL activities in each unit in which students must make their own decisions, topics, and designs, a students submission will reflect their interests and cultures, especially the projects that directly prompt students to do so (such as the Quilts project). Many examples of students expressing themselves creatively can be found in the student sub-
missions, many being featured in our publications, however it was infeasible to quantitatively measure if each submission was reflecting a students culture at scale.

6. **Project Objective** [] Check if this is a status update for the previous budget period.

Increase access to the Introduction to Computational Thinking Course for Urban and Rural Students.

6.a. Performance Measure	Measure Type	Quantitative Data					
Starting at 25% in Y2, the average percentage of students enrolled in Introduction to Computational Thinking at a returning school will increase by 3.5% each year, ending in 35% of students attending at a returning school in Y5. MET	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
				35		/	91.2

6.b. Performance Measure	Measure Type	Quantitative Data					
Starting at 696 enrolled students in target demographic groups in Y1, the number served will increase by about 250 students a year, ending with about 5,796 students in this category served over the project period. NOT MET	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
		5,796			4,267	/	

6.c. Performance Measure	Measure Type	Quantitative Data					
Starting with about 500 enrolled students in target economic groups in Y2, the number served will increase by about 500 a year, ending with about 5,000 students in this category served over the project period. NOT MET	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
		5,000			4,177	/	

Explanation of Progress (Include Qualitative Data and Data Collection Information)

The original project aimed to measure the number of students enrolling in pre-engineering pathways. We were unable to access the data required to report on this measure the way it was originally written. It has been re-written to reflect measures we were able to track more efficiently. The intention of the rewritten 6.a. was to track increased school retention and class sizes. Ultimately, the final percent of enrollment from returning schools in was 91% of the Y5 enrolled. While on the surface it seems this goal was vastly exceeded, long term retention of schools has been a weakness, with only 3 schools participating in all 5 years of the project period, and only 50% of schools enrolling students for multiple school years. The intention of 6.b. and 6.c. was to track how many students enrolled in ICT were in the targeted subgroups. The numbers reported were estimated using the “6,397” students enrolled in ICT reported in Project Objective 12 (GPRA 1), multiplied by the percentages reported in objective 13 (GPRA measure 2). This project objective was not met. After some of the original project team members began offering similar training and curriculum alternate to this project’s version of ICT, they took many of our returning teachers with them, as well as significantly negatively impacting our recruitment efforts in areas formerly served together. **These issues are described in more detail in the submitted “significant challenges” section of the executive summary.**

8. Project Objective [] Check if this is a status update for the previous budget period.

Increased Math achievement

8.a. Performance Measure	Measure Type	Quantitative Data					
ICT students (treatment) will score 0.25 standard deviations higher on their Algebra 1 state test scores than their peers (control). EXCEEDED	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
		0.25			2.11	3.8 / 1.8	
8.b. Performance Measure	Measure Type	Quantitative Data					
ICT students (treatment) will score 0.25 standard deviations higher on their Algebra 1 state test scores than their peers (control). EXCEEDED	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
		0.25			1.6	2.4 / 1.5	
8.c. Performance Measure	Measure Type	Quantitative Data					
ICT students (treatment) will be 10% more likely to enroll in more advanced mathematics courses than their peers (control). MET	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
				10		/	10
8.d. Performance Measure	Measure Type	Quantitative Data					
ICT students (treatment) will score 10% higher on AP and dual enrollment courses than their peers (control). INSUFFICIENT DATA	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
				10		/	NA

Explanation of Progress (Include Qualitative Data and Data Collection Information)

The impact report published by Education Northwest concluded that “students who participated in ICT and Algebra I concurrently **scored 3.8 points higher on the LEAP 2025 Algebra I state assessment** than students who only took Algebra I, and this result is statistically significant,” with a standard deviation of 1.8. Additionally, “students who participated in ICT and Algebra I concurrently scored 2.4 points higher on the LEAP 2025 geometry state assessment than those who only took Algebra I, but the finding is not conclusive as the result is not statistically significant” with a standard deviation of 1.5. Finally, “Students who participated in ICT were **10 percentage points more likely to take and pass Algebra II or higher** than their counterparts who did not take ICT.”

9. Project Objective [] Check if this is a status update for the previous budget period.

Demonstrated student achievement in computational thinking practices

9.a. Performance Measure	Measure Type	Quantitative Data					
Increased student enrollment in AP computer science (CSP, CSA) NOT MET / INSUFFICIENT DATA	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
				20		/	0.002

9.b. Performance Measure	Measure Type	Quantitative Data					
Increased student qualifying scores in AP CS courses. NOT MET / INSUFFICIENT DATA	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
				10		/	0.002

Explanation of Progress (Include Qualitative Data and Data Collection Information)

The impact report published by Education Northwest concluded that **“Students who participated in ICT and Algebra I concurrently were slightly more likely to earn credit in college-level math or computer science courses, but the finding is not conclusive as the result is not statistically significant.”**

10. Project Objective [] Check if this is a status update for the previous budget period.

Improved students attitudinal outcomes towards computing careers

10.a. Performance Measure	Measure Type	Quantitative Data					
An average 12% increase from ICT student pre to post surveys pertaining to their Attitude Towards Computing. NOT MET	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
				12		/	3.9

Explanation of Progress (Include Qualitative Data and Data Collection Information)

The Computing attitudes survey (CAS) (Dorn & Elliot Tew, 2015) was used as the data collection tool. Y3: 4.6% increase, Y4: 3.2% increase.

11. Project Objective ☐ Check if this is a status update for the previous budget period.

Enhance access to computer science education throughout the state of Louisiana.

11.a. Performance Measure	Measure Type	Quantitative Data					
Train teachers to offer computer science classes in at least 12 Louisiana schools. EXCEEDED	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
		17	/		69	/	

[illegible]

Explanation of Progress (Include Qualitative Data and Data Collection Information)

This project objective was vastly EXCEEDED.

At the time of submitting the original proposal, BRBYTES courses were being offered in 8 school districts in the Baton Rouge area. The goal was to continue expansion in the Baton Rouge area but also to expand to at least 4 rural districts, namely the Evangeline, Pointe Coupee, Washington and West Feliciana Parish School Districts. During the project time period, **aided by EIR funds, BRBYTES was able to serve these and many more, totaling 69 schools, in 38 school districts spanning 26 Louisiana Parishes.**

12. Project Objective ☐ Check if this is a status update for the previous budget period.

BRBYTES will increase the number of Louisiana teachers and students proficient in the Computer Sciences.

12.a. Performance Measure	Measure Type	Quantitative Data					
BRBYTES aimed to train at least 59 Louisiana teachers in the Computer Sciences. EXCEEDED	PROJECT	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
		59	/		140	/	

12.b. Performance Measure	Measure Type	Quantitative Data					
BRBYTES aimed to offer BRBYTES computer science courses to least 2270 Louisiana students. EXCEEDED	GPRA 1	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
		2,270	/		8,764	/	

12.c. Performance Measure	Measure Type	Quantitative Data					
BRBYTES aimed to serve 2270 students with \$3,401,053.00 in expenditures, averaging to spend, at most \$335.64 per student. EXCEEDED	GPRA 6	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
		\$1,498.26	/		\$417.99	/	

Explanation of Progress (Include Qualitative Data and Data Collection Information)

This project goal was vastly EXCEEDED.

For the purposes of this project, “served” students are defined as students enrolled in BRBYTES computer science courses, whose teachers were trained in the BRBYTES teacher training regiment. Not every teacher trained participated in the study. 2020/2021: 20 of 35 trained teachers participated in the study. 2021/2022: 38 of 46. 2022/2023: 26 of 35. 2023/2024: 15 of 24. 2024/2025: 7 of 17. In the total project period 106 of 157 trained teachers participated in the study. Both of these numbers exceed the goal of 59 teachers trained. **6397 of the 8,764 students served were enrolled in ICT.**

With actual expenditures amounting to \$3,663,280.00, and BRBYTES vastly exceeding the goal for students served, the actual cost per student served was only \$417.99.

13. Project Objective [] Check if this is a status update for the previous budget period.

To maximize impact BRBYTES will focus recruitment efforts on populations with statistically low participation in terms of Computer Science education and careers.

13.a. Performance Measure	Measure Type	Quantitative Data					
BRBYTES will focus recruitment efforts on schools with high percentages of demographic groups with low participation in computer science education and careers, aiming for 71.6% of students served falling into this category. SUBSTANTIALLY MET	GPRA 2	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
			/	71.6%		/	66.7%

13.b. Performance Measure	Measure Type	Quantitative Data					
BRBYTES will focus recruitment efforts on schools serving high populations in income brackets with low participation in computer science education and careers, aiming for 73.8% of students served falling into this category. SUBSTANTIALLY MET	GPRA 2	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
			/	73.8%		/	65.3%

13.c. Performance Measure	Measure Type	Quantitative Data					
BRBYTES will make a concentrated effort to recruit from geographic areas that have low participation in computer science education and careers, aiming for 34.5% of areas served falling into this category. SUBSTANTIALLY MET	GPRA 2	Target			Actual Performance Data		
		Raw Number	Ratio	%	Raw Number	Ratio	%
			/	34.5%		/	18.3%

Explanation of Progress (Include Qualitative Data and Data Collection Information)

For the purposes of this project, populations considered “high need” were defined as demographic, economic, and geographic groups with relatively low participation in computer science according to annual Code.org *State of Computer Science* Reports. Although these performance measures were technically Not Met, they were **SUBSTANTIALLY MET** for the following reasons:

1) Of the 69 schools that offered ICT, 50 (72.5%) were majority populated by target demographic groups, and 61 (87.1%) were majority populated by target economic groups. Since we do not collect individual student demographic data, to estimate the percent of ICT students that fall into these categories, we weighed the number of students enrolled in ICT at each school by the publicly available demographic data for each school, assuming student enrollment in the course is consistent with the schools demographic distribution (as they were advised by the PIs). When weighed, the percents of students estimated to be enrolled fell below the ambitious performance measure goals. This is due in part to just 4 of the 69 schools; these 4 schools had some of the highest ICT enrollment numbers, yet some of the lowest percentages of the targeted populations, significantly skewing the student population percentage.

2) 57.7% of the geographical parishes served being classified as “Rural” or “Town,” demonstrating success in reaching the target group. The Parishes in which ICT was offered had the following NCES locale code distribution: City, 19.1% (Large, 3.8%. Mid, 11.5%. Small, 3.8%); Rural, 34.6% (Distant, 23.1%. Fringe, 11.5%); Suburb, 23.1% (Large, 15.4%. Mid, 7.7%); Town, 23.1% (Distant, 7.7%. Fringe, 7.7%. Remote, 7.7%). However, two of the “CITY: Large” school districts sent more teachers serving more schools, with significantly larger and more numerous sections of ICT courses, leading to the deceptively low representation among the total enrolled.



**U.S. Department of Education
Grant Performance Report (ED 524B)
Project Status Chart**

OMB No. 1894-0003

PR/Award # (11 characters): U411C190287

SECTION B - Budget Information (See Instructions. Use as many pages as necessary.)

Total Federal Costs: \$3,855,515.00 + Non Federal Funds: \$404,004.00 = GRAND Total: \$4,259,519

\$596,239.00 of which was spent on evaluation, leaving \$3,663,280 in expenditures.

Details Can be found in the attached ED524(hyperlink) and the attached spreadsheet(hyperlink).

SECTION C - Additional Information (See Instructions. Use as many pages as necessary.)

The Education Innovation and Research (EIR) project, *A Modern Approach to the Integration of Programming and Mathematics*, investigated whether integrating computational thinking instruction concurrently with Algebra I could improve mathematics achievement while expanding access to high-quality computer science education throughout Louisiana. Over the five-year award period, the project developed, refined, implemented, and evaluated the Introduction to Computational Thinking (ICT) curriculum; expanded statewide teacher capacity to deliver rigorous computer science instruction; and generated evidence of statistically significant improvements in student mathematics achievement. **The project team, curriculum, portal and services became known under the public name “BRBYTES.”** The additional information below provides project changes, and other closeout information not fully captured elsewhere in this report.

Curriculum Iteration. Throughout the award period, the project continuously refined the ICT curriculum and teacher training regiment using an iterative improvement process informed by classroom implementation, teacher feedback, expert review, and external evaluation. The curriculum emphasized project-based learning, alignment with mathematics standards, computational thinking practices, culturally relevant pedagogy, and accessible online delivery. During the project period, the curriculum was approved by the Louisiana Department of Education for inclusion within the Jumpstart Pathways. In 2023 the ICT curriculum was reviewed and modified by a small team of ICT teachers with mathematics background to structure the materials for teacher friendliness and student scaffolding. When Jumpstart re-branded, ICT was approved again in 2025 to be a part of the Louisiana STEM Pathways, supporting its continued use beyond the grant period.

Teacher Training Iteration. After teacher training went 100% virtual during the pandemic, it became clear that on-site training was impractical for many teachers, deterring enrollment; we therefore maintained a virtual model, improving access to teachers in more various geographic regions of the state. Many teachers were originally displeased with the length of the training, inspiring us to cut the training hours down in later years.

We learned, while this allowed teachers to enjoy more of their summer, it also caused some teachers to feel rushed to learn the curriculum in the shorter time frame. The conclusion is that the shortened 13 day is a sufficient amount of time to cover the necessary curricular elements, but time spent in training is more intense, and often involve follow-up and remedial training for struggling teachers. In the later years of the project our monthly Community of Practice meetings were hosted in partnership with the ECEP alliance, who provided the SCiP Computer Science Pedagogy training to BRBYTES instructors and teachers.

Project Closeout Challenges. As PI and Project Director, Dr. Moreno's passing impacted the closure of the project period. To ensure project continuity, despite her deteriorating health, Dr. Moreno submitted a detailed ad-hoc report documenting project activities, outcomes, research products, implementation history, as well as significant challenges during the project period. Her ad-hoc report has been submitted as the executive summary for ED524B Part 1. Other than some Y5 data compiled from the BRBYTES teacher portal, the data reported in ED524B Part 2 is compiled by project staff from Dr. Moreno's annual EIR reports, ad-hoc report, and her extensive documentation in the BRBYTES Cloud.

Geographic Expansion. The proposal originally only initially intended to continue to service the Baton Rouge area, expanding in the Baton Rouge area but also the Evangeline, Pointe Coupee, Washington and West Feliciana Parish School Districts. While all of these parishes and districts were reached, many of these originally targeted schools were not retained due to loosing the original partnership with the LSU Cain center, whose alternate curriculum became BRBYTES direct competitors in these regions. More details regarding this project challenge are provided in the Executive Summary (Dr. Moreno's Ad-Hoc Report). While this challenge was persistent, it was overcome by extending recruitment efforts to dozens of additional Louisiana Parishes and Districts in need of Computer Science Teacher Training and Curricula.

Conclusion. Despite implementation and project closeout challenges, the BRBYTES Education Innovation and Research (EIR) project achieved or exceeded many of its original objectives. The project established a scalable instructional model, expanded access to quality computer science education across Louisiana, developed sustainable curriculum and professional development resources, and generated evidence demonstrating that integrating computational thinking with Algebra I can positively impact student mathematics achievement.

Cost Sharing
GR-00006156
as of accounting date 11/20/2025

	Year 1	Year 2	Year 3	Year 4	Year 5	Required	Total Documented	Met/(Short)
Salaries: Chen						0.00	0.00	0.00
Salaries: Yimaz	1,738.00	1,790.00	1,844.00	1,899.00	1,956.00	9,227.00	0.00	(9,227.00)
Salaries: Kirshner	2,251.00	2,319.00	2,389.00	2,461.00	2,535.00	11,955.00	0.00	(11,955.00)
Salaries: Moreno	2,449.00	2,522.00	2,598.00	2,676.00	2,756.00	13,001.00	43,259.00	30,258.00
Salaries: Alegre	1,571.00	1,617.00	1,666.00	1,716.00	1,767.00	8,337.00	0.00	(8,337.00)
Salaries: Neubrander	4,479.00	4,613.00	4,751.00	4,894.00	5,041.00	23,778.00	24,745.26	967.26
Fringe - 44%	5,495.00	5,659.00	5,829.00	6,004.00	6,184.00	29,171.00	29,921.87	750.87
F&A - 26%	4,676.00	4,815.00	4,960.00	5,109.00	5,262.00	24,822.00	25,460.79	638.79
In-Kind (EBRPSS)	53,175.00	54,770.00	56,413.00	58,106.00	59,848.00	282,312.00	280,617.00	(1,695.00)
Total	75,834.00	78,105.00	80,450.00	82,865.00	85,349.00	402,603.00	404,003.93	1,400.93

Dr. Yimaz replaced Dr. Chen

November 18, 2019

IRB#: 226

Project Title: Evaluation of Introduction to Computational Thinking (ICT)

Dear Dr. Hodara:

Thank you for submitting your application for exemption to the Education Northwest Institutional Review Board (IRB). Your proposal was evaluated in light of the federal regulations that govern the protection of human subjects.

The Common Rule identifies low-risk studies that are exempt from IRB review, including research that involves normal educational practices conducted in established or commonly accepted educational settings; research with adults that includes educational tests, survey or interview procedures, or observation of public behavior; and research that receives a limited review by the IRB.

The IRB determined your proposed project meets at least one of these criteria and is exempt. However, as your research is funded by an agency bound by the Common Rule, we do need to review your protocols.

The Common Rule also allows exempt projects to not need annual continuing review. Your project falls under this category. You must still conduct your research according to your proposal. If substantive changes to the research plan or protocols occur that change the level of risk associated with this project, or your project spans more than one year, you must submit a modification/renewal request by completing the form on the IRB dashboard.

If your project uses a survey collecting data via Survey Gizmo, please request a Survey Gizmo Project Team through the IRB Dashboard.

Please refer to the protocol number denoted above in all communication or correspondence related to your application and this approval. Should you have additional questions or require clarification of the contents of this letter, please contact the IRB coordinator.

Sincerely,

Fiona Helsel

Fiona Helsel

Co-chair, Education Northwest Institutional Review Board



CERTIFICATION OF IN-KIND COST SHARING

AS560

General Information

Name of In-Kind Contributor East Baton Rouge Parish School System Award ID AWD-002680 / U411C190287
Sponsor US Department of Education Period Covered 10/1/2019 - 6/30/2025
Project Title A modern approach to integration of programming & mathematics Education Innovation & Research (EIR)

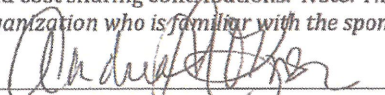
Contribution Details

Description	Value of In-Kind Contribution*
Salaries	191,659.00
Fringe Benefits	65,906.00
Equipment	0.00
Facility Use	0.00
Travel	0.00
Operating Service	0.00
Materials & Supplies	0.00
Other (attach detail)	23,052.00
TOTAL	280,617.00

*Attach supporting documentation detailing contributions.

Certification

I certify that goods or services indicated above were contributed to the referenced project in fulfillment of the committed in-kind cost sharing contributions. *Note: This form should be signed and dated by a certifying official of the contributing organization who is familiar with the sponsored project and the non-cash contributions made by the applicable organization.*


Contributor's Authorized Representative

Andrea O'Konski

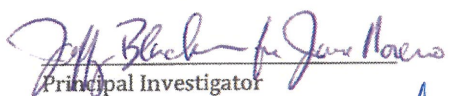
Print Name

Chief of Accountability & Assessment

9/8/2025

Date

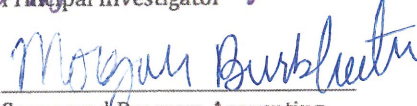
Approvals


Principal Investigator

Juana Moreno

Print Name

9/8/2025
Date


Sponsored Program Accounting

Morgan Burkhalter

Print Name

9/8/2025
Date