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## Preview of Award 1601552 - Annual Project Report

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### Cover

Federal Agency and Organization Element to Which Report is Submitted:	4900
Federal Grant or Other Identifying Number Assigned by Agency:	1601552
Project Title:	Opening Pathways to Employment through Nontraditional Geospatial Applications in Technical Education (OPEN-GATE)
PD/PI Name:	Jackson D Cothren, Principal Investigator Tamara Griffin, Co-Principal Investigator Debby King, Co-Principal Investigator Robyn J Lane, Co-Principal Investigator W. Frederick Limp, Co-Principal Investigator
Recipient Organization:	University of Arkansas
Project/Grant Period:	07/15/2016 - 06/30/2019
Reporting Period:	07/01/2017 - 06/30/2018
Submitting Official (if other than PD\PI):	N/A
Submission Date:	N/A
Signature of Submitting Official (signature shall be submitted in accordance with agency specific instructions)	N/A

### Accomplishments

**\* What are the major goals of the project?**

The two major goals of this project are 1) expanding access to education and training in geospatial technologies and 2) increasing adoption of geospatial technologies statewide to support economic development and the growth of a spatially-

enabled workforce. Surveys of businesses across Arkansas indicated a need for a workforce with spatial skillsets rather than geospatial specialists, particularly in rural areas (which is most of Arkansas). This project is designed to address a void in geospatial education and training in Arkansas by building capacity in educators across an educational continuum (K-12 through undergraduate, with a special focus on two-year colleges). Such capacity-building allows educators to integrate geospatial technologies into existing curricula to reinforce content as students develop relevant spatial skillsets that are directly applicable to their studies and marketable to future employers. Our proposal listed specific objectives necessary to accomplish our goals and provided a general timeline for key events that supported these objectives, based on the semester of anticipated completion. Project Goals are listed below with objectives and supporting activities for Year One:

**Goal 1:** Increase adoption of geospatial technologies in industry and government

**1.1** Foster partnerships and close collaboration between industry, educators, and students at all levels to define regionally-specific skillsets, assess performance of new hires, and use this input to fine-tune educational offerings.

1.1.1 Create Employer Advisory Boards (EABs) at each two-year institution, composed of representatives of targeted industry (based on pilot degree program for geospatially-augmented instruction) and local business leaders (to raise visibility of geospatial applications locally).

1.1.2 Conduct one (1) Employer-Institutional Partnership Conference annually in Little Rock for industry, educators, and students to promote direct interaction and collaboration.

1.1.3 Host one (1) Employer-Student outreach event at each partner institution annually, such as a GIS Day, to bring together local employers, GIS professionals, two-year college students, and local secondary school teachers and students.

**1.2** Ongoing outreach to organizations and industry statewide to promote geospatial technologies and build long-term support for project sustainability.

1.2.1 Identify and contact government entities, non-profits, professional organizations, and industry publications not currently identified as collaborators.

**Goal 2:** Expand access to education and training in geospatial technologies at two-year institutions and secondary schools, articulating multiple points of entry and pathways to education and employment.

**2.1** Articulate strategies for the development and expansion of geospatially-augmented curricula in existing degree programs at two-year institutions and develop a system-wide structure for continuing education and certification in applied geospatial technologies.

2.1.1 Conduct one (1) in-person planning meeting in the first year, with teleconference follow-up, for administrators, educators, OPENGATE staff, and external advisor.

2.1.2 Conduct project assessment meetings at each participating college annually for administrators, educators, OPEN-GATE staff, and external advisor.

2.1.3 Formalize agreements between partner institutions that clearly articulate pathways for continuing education and certification to eliminate administrative barriers to smooth student transition from program to program.

**2.2** Build capacity in geospatial technology education at two-year institutions.

2.2.1 Acquire licenses and accounts for geospatial software and applications for partner institutions.

2.2.2 Strategy and professional development workshops each year at partner institutions for campus champions and other interested faculty.

**2.3** Foster adoption of geospatial technologies at the secondary school level in support of STEM learning and the availability of local educational pathways at regional two-year colleges.

2.3.1 Coordinate with the Arkansas Department of Education to build professional development workshops for secondary school educators.

2.3.2 Conduct four (4) week-long professional development workshops for secondary school educators annually (one at each two-year institution, led by campus champion with support from OPEN-GATE staff), that focuses on the use of ArcGIS Online to reinforce STEM content and illustrate real-world application of knowledge.

2.3.3 Coordinate with the Arkansas Department of Career Education (ACE) to update existing curriculum content frameworks for geospatial technologies and increase utilization of curriculum through digital learning.

**2.4** Provide ongoing support and resource development for two-year and secondary school institutions and employers.

2.4.1 Launch and maintain project website.

2.4.2 Ongoing development of instructional materials and resources for insertion into existing courses in established degree programs by campus champions and OPENGATE staff.

2.4.3 Provide technical support as needed by partners and participants in the project.

**\* What was accomplished under these goals (you must provide information for at least one of the 4 categories below)?**

Major Activities:

During year two we accomplished the following under each goal:

**Goal 1:**

**1.1**

**1.1.1** - We revised this goal to better leverage existing partnerships with local industry partners and the community colleges. Local industry partners already participate in community college guidance and activities often providing demonstrations and hands-on experience for students. In strategy session discussions with each community college in February 2018, partners agreed that in lieu of a formal report from the Employer Advisory Boards who often serve as volunteers, each community college would summarize the contributions of the Employer Advisory Board.

**1.1.2** - The first OPENGATE partnership conference was hosted on September 15, 2017 at the Central Arkansas Library in Little Rock, Arkansas. We had an attendance of 24 that included 7 community college students. The second OPENGATE partnership conference is planned for November 2, 2018 to be held in Little Rock, Arkansas at a location to be determined. The focus of the upcoming conference will be to 1) highlight student accomplishments that have resulted from the Summer 2018 activities; and 2) showcase industry employment opportunities demonstrating how spatial thinking is utilized at every level of employment.

**1.1.3** - We have planned one outreach event at each community college location (four total) for the upcoming Fall 2018 to take place on-site at each community college as a collaboratively hosted event that provides a one-day workshop to community college faculty, staff, and students providing an Intro to Spatial Thinking and WebGIS. Two additional events were integrated at UACCBatesville and UACCMorrilton. At UACCMorrilton a spatial thinking presentation is planned for presentation during the "Career Explorations" summer program for 8th - 12th graders. At UACCBatesville a workshop and demonstration on soil science and spatial data is planned for presentation during the UACCBatesville K12 Agriculture Educators In-service. Both events are planned for the last week of June 2018.

**1.2**

**1.2.1** - During year two, project staff had a number of opportunities to share information about the OPENGATE partnership grant at regional conferences; however, no formal presentations or papers were submitted. One partnership developing as a result of this grant is a partnership among the Arkansas Game and

Fish Commission (AGFC) and the Cossatot Community College of the U of A (CCCUA) in De Queen, Arkansas. The lead instructor at CCCUA, Kelli Harris, along with OPENGATE project staff will be coordinating with AGFC to provide community college students opportunities for real-world data collection opportunities in industry employment in natural resources.

## **Goal 2:**

### **2.1**

**2.1.1** - This deliverable was completed during January 2017.

**2.1.2** - Project assessment meetings were completed at each Community College during February and March 2018. These strategy sessions resulted in the completion of the Institutional Plans for each community college. This also served as opportunity to re-visit objectives and make changes to improve implementation and dissemination of knowledge and skills targeted through this grant.

**2.1.3** - No significant progress to report on this item.

### **2.2**

**2.2.1** - Licenses and accounts were created for all community colleges during year 2. Each community college has identified at least one administrator to be the contact person for their Esri organizational accounts. OPENGATE project staff have created reference materials and provided training to two of the four community colleges with the last two trainings planned for July 2018.

**2.2.2** - Year two saw the completion of the first round of professional development and training opportunities for community college faculty and instructors during Summer 2017, and more intensive trainings for both K12 educators and community college faculty and staff during Summer 2018. The chart titled, "OPENGATE Professional Development Registration by Location" shows the increase in participation at each location among the two years.

### **2.3**

**2.3.1** - Arkansas Department of Education-approved professional development content has been developed that allows participants to earn up to 18 PD hours in ADE FOCUS area 8.02.9 (Next generation learning/integrated technology) with a focus on applied geospatial technologies in the classroom to enhance curriculum content and reinforce student learning. Professional Development is approved under the following ADE Assurance Certification IDs: 2017-2018 (Summer 2017 PD) - Robyn Lane 5841051700000; 2017-2018 (Summer 2018 PD, before June 30 2018) - Hanna Ford 5263021800000; 2018-2019 (Summer 2018 PD, after June 30 2018) - Hanna Ford 5146051800000.

**2.3.2** - As a result of strategy sessions with community colleges and low enrollment in Summer 2017 professional development the professional development workshops were scaled back from 4-day to 3-day and training days were reduced from 8-hours per day to 6-hours per day. These modifications reduced the number of overall professional development hours offered to 18 hours; however, saw improved enrollment from K12 educators during Summer 2018 as indicated by increased enrollment. No lesson plans were submitted as a result of the Summer 2017 activities; however, Summer 2018 activities are seeing a number of promising developments are connections with K12 educators that may result in submitted lesson plans and examples.

**2.3.3** - The GeoTech Center is in the process of updating the Geospatial Technology Competency Model (GTCM) which will help guide updates to the Arkansas Department of Career Education (ACE) to update existing curriculum content frameworks for geospatial technologies. The draft GTCM is expected to be released for comment by the GeoTech Center in July 2018.

## **2.4**

**2.4.1** - We completely redesigned the project website, added resources and materials, events, and linkages with social media platforms. The re-designed site is easier to navigate and improved the ease of registration for trainings and workshops: <https://opengate.cast.uark.edu>.

**2.4.2** - During year two, the Institutional Plan was used to outline the implementation plan for each community college targeting at least one course in which spatial activities could be integrated during Fall 2018. The targeted developments for Fall 2018 and Spring 2019 are listed in the attachment, "OPENGATE CC Module Development Summary." These modules have been designed and developed in collaboration with community college instructors and faculty at each institution to include specific fields and training materials that complement their courses and syllabi.

**2.4.3** - Support is ongoing.

Specific Objectives: Preliminary results from a post-workshop survey of the 2018 professional development participants has helped us to modify training as we move forward to better communicate spatial concepts and opportunities for integration into existing curriculum. Preliminary results are provided as an attachment (preliminary-survey-results-professional-development-2018).

Significant Results:

Key outcomes or Other achievements:

### **\* What opportunities for training and professional development has the project provided?**

During the second year of the OPENGATE project multiple opportunities for professional development and training were provided. During this period we provided two specific types of opportunities: 1) professional development opportunities for K12 educators; and, 2) training for community college faculty and instructors.

#### **Professional Development for K12 Educators x 4 workshops, 24 participants**

June 4-6, 2018 at UACCBatesville - 9 K12 educators

June 11-13, 2018 at UACCMorrilton - 10 K12 educators

June 20-22, 2018 at CossatotCCUA - 7 K12 educators

July 11-13, 2018 at PhillipsCCUA - 9 K12 educators\*

\*Professional Development Workshops were planned for the following days and enrollments are accurate as of June 18, 2018.

#### **Training for Community College Faculty and Instructors x 4 workshops, 5 participants**

June 7-8, 2018 at UACCBatesville - 4 UACCB Faculty and Instructors

June 18-19, 2018 at CossatotCCUA - 1 CCCUA Faculty

July 19-20, 2018 at PhillipsCCUA - TBD Faculty and Instructors

July 30-31, 2018 at UACCMorrilton - TBD Faculty and Instructors

During year three we plan to offer additional training opportunities to possibly include:

- 1) One-day training sessions on-site at Community College partner locations focusing on technical proficiency in using ArcGIS Online. This will provide students, faculty, and staff at each Community College the opportunity to gain additional skills in using the online tools introduced through augmented curriculum exercises.
- 2) One-day conference and training event to be hosted in Little Rock, Arkansas - a centrally located metropolitan area convenient to all participating Community College partners. This event will be co-hosted with the Arkansas GIS Users Forum, a user community group, offering students a chance to interface with spatial data users from all levels of expertise and providing a first-hand account of potential jobs markets in their areas.

**\* How have the results been disseminated to communities of interest?**

We are using multiple platforms for sharing information among partners, collaborators, and participants.

**Website:** <https://opengate.cast.uark.edu> is the project website where content regarding the goals and events involved with this project are shared and promoted.

**Box:** <https://tinyurl.com/opengate-docs> is a cloud-based document repository where exercises and materials used during module trainings (Community College Faculty and Staff) and professional development workshops (K12 educators) are maintained and made available to participants during and after participation for their reference and use.

**Community College Esri ArcGIS Online Organizations:** At each Community College partner the Esri ArcGIS Organizations have been setup to include a small number of temporary accounts for K12 educators who participate in K12 Professional Development. Participants are allowed to continue using temporary accounts to explore and create spatial information to integrate into classroom lessons.

**\* What do you plan to do during the next reporting period to accomplish the goals?**

Nothing to report.

**Supporting Files**

Filename	Description	Uploaded By	Uploaded On
OPENGATE-PDparticipation.pdf	OPENGATE Professional Development for K12 educators Registration (confirmed) by Partner Community College Location	Jackson Cothren	06/19/2018
OPENGATE CC Module Development Summary.pdf	2.4.2 - During year two, the Institutional Plan was used to outline the implementation plan for each community college targeting at least one course in which spatial activities could be integrated during Fall 2018. The targeted developments for Fall 2018 and Spring 2019 are listed in the attachment,	Jackson Cothren	06/20/2018
preliminary-survey-results-professional-development-2018.pdf	OPENGATE Professional Development for K12 educators - preliminary survey results for Summer 2018 (3 of 4 workshops completed).	Jackson Cothren	07/02/2018

**Products**

**Books**

**Book Chapters**

## Inventions

## Journals or Juried Conference Papers

## Licenses

## Other Conference Presentations / Papers

## Other Products

## Other Publications

## Patents

## Technologies or Techniques

## Thesis/Dissertations

## Websites

OPENGATE

<https://cast.uark.edu/opengate/index.php>

Provides a more user-friendly explanation of the OPENGATE project, including how and where individuals can get involved, and when opportunities for participation will be coming up.

## Supporting Files

Filename	Description	Uploaded By	Uploaded On
Institutional-Plan-Batesville.pdf	Institutional Plan for U of A Community College at Batesville	Jackson Cothren	07/02/2018
Institutional-Plan-Cossatot.pdf	Institutional Plan for Cossatot Community College of the University of Arkansas	Jackson Cothren	07/02/2018
Institutional-Plan-Morrilton.pdf	Institutional Plan for U of A Community College at Morrilton	Jackson Cothren	07/02/2018
Institutional-Plan-Phillips.pdf	Institutional Plan for Phillips Community College of the University of Arkansas	Jackson Cothren	07/02/2018

## Participants/Organizations

### What individuals have worked on the project?

Name	Most Senior Project Role	Nearest Person Month Worked
Cothren, Jackson	PD/PI	1
Griffin, Tamara	Co PD/PI	1
King, Debbie	Co PD/PI	1
Lane, Robyn	Co PD/PI	4

<b>Name</b>	<b>Most Senior Project Role</b>	<b>Nearest Person Month Worked</b>
Limp, W. Frederick	Co PD/PI	1
Culpepper, Brian	Co-Investigator	2
Ford, Hanna	Co-Investigator	4
Williamson, Malcolm	Co-Investigator	2
Arn, Diana	Community College Faculty	1
Critcher, Matt	Community College Faculty	1
Fitch, Dawn	Community College Faculty	1
Grove, Cindy	Community College Faculty	1
Harber, Zach	Community College Faculty	1
Harris, Kelli	Community College Faculty	2
Holt, Anthony	Community College Faculty	1
Smith, Tarsha	Community College Faculty	1
Strassle, Dana	Community College Faculty	0
Johnson, Tora	Consultant	1
Snyder, Gordon	Consultant	1

**Full details of individuals who have worked on the project:**

**Jackson D Cothren**

**Email:** jcothre@uark.edu

**Most Senior Project Role:** PD/PI

**Nearest Person Month Worked:** 1

**Contribution to the Project:** Dr. Cothren oversees the administration and overall success of this grant.

**Funding Support:** No other funding sources

**International Collaboration:** No

**International Travel:** No

**Tamara Griffin**

**Email:** tamara.griffin@uaccb.edu

**Most Senior Project Role:** Co PD/PI

**Nearest Person Month Worked:** 1



**Contribution to the Project:** Coordinates and oversees efforts at U of A Community College Batesville

**Funding Support:** No other support

**International Collaboration:** No

**International Travel:** No

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**Debbie King**

**Email:** dking@pccua.edu

**Most Senior Project Role:** Co PD/PI

**Nearest Person Month Worked:** 1

**Contribution to the Project:** Coordinates and oversees grant efforts at Phillips Community College of the University of Arkansas

**Funding Support:** No other support

**International Collaboration:** No

**International Travel:** No

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**Robyn J Lane**

**Email:** robyn@cast.uark.edu

**Most Senior Project Role:** Co PD/PI

**Nearest Person Month Worked:** 4

**Contribution to the Project:** Robyn Lane has left the University of Arkansas and this project as of March 2018. Robyn previously served as project director.

**Funding Support:** No other funding support

**International Collaboration:** No

**International Travel:** No

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**W. Frederick Limp**

**Email:** fred@cast.uark.edu

**Most Senior Project Role:** Co PD/PI

**Nearest Person Month Worked:** 1

**Contribution to the Project:** Dr. Limp oversees the development of materials in support of development of sustaining program activities at each location.

**Funding Support:** No other funding support

**International Collaboration:** No

**International Travel:** No

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**Brian Culpepper**

**Email:** brian@cast.uark.edu

**Most Senior Project Role:** Co-Investigator

**Nearest Person Month Worked:** 2

**Contribution to the Project:** Module and professional development materials development and workshop/training instructor

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**Funding Support:** No other funding support

**International Collaboration:** No

**International Travel:** No

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**Hanna Ford**

**Email:** hanna@cast.uark.edu

**Most Senior Project Role:** Co-Investigator

**Nearest Person Month Worked:** 4

**Contribution to the Project:** Current project coordinator (as of February 2018) planning and coordinating grant activities among partners.

**Funding Support:** No other funding support

**International Collaboration:** No

**International Travel:** No

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**Malcolm D Williamson**

**Email:** malcolm@cast.uark.edu

**Most Senior Project Role:** Co-Investigator

**Nearest Person Month Worked:** 2

**Contribution to the Project:** Provides professional development and assists with development of instructional materials and resources

**Funding Support:** No other funding support

**International Collaboration:** No

**International Travel:** No

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**Diana Arn**

**Email:** arn@uaccm.edu

**Most Senior Project Role:** Community College Faculty

**Nearest Person Month Worked:** 1

**Contribution to the Project:** Administers and oversees grant activities at U of A Community College Morrilton

**Funding Support:** No other funding support

**International Collaboration:** No

**International Travel:** No

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**Matt Critcher**

**Email:** mcritcher@uacccb.edu

**Most Senior Project Role:** Community College Faculty

**Nearest Person Month Worked:** 1

**Contribution to the Project:** U of A Community College Batesville Instructor of Networking, Computer Security and Operating Systems; integrating spatial module into existing coursework.

**Funding Support:** No other funding support

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**International Collaboration:** No  
**International Travel:** No

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**Dawn Fitch**

**Email:** fitch@uaccm.edu

**Most Senior Project Role:** Community College Faculty

**Nearest Person Month Worked:** 1

**Contribution to the Project:** Administers and oversees grant activities at U of A Community College Morrilton

**Funding Support:** No other funding support

**International Collaboration:** No

**International Travel:** No

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**Cindy Grove**

**Email:** cgrove@pccua.edu

**Most Senior Project Role:** Community College Faculty

**Nearest Person Month Worked:** 1

**Contribution to the Project:** Campus champion at Phillips Community College of the U of A.

**Funding Support:** No other funding support

**International Collaboration:** No

**International Travel:** No

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**Zach Harber**

**Email:** zach.harber@uaccb.edu

**Most Senior Project Role:** Community College Faculty

**Nearest Person Month Worked:** 1

**Contribution to the Project:** U of A Community College Batesville, Director of Workforce Development and Education; Soils lab practical applications spatial integration

**Funding Support:** No other funding support

**International Collaboration:** No

**International Travel:** No

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**Kelli S Harris**

**Email:** kharris@cccua.edu

**Most Senior Project Role:** Community College Faculty

**Nearest Person Month Worked:** 2

**Contribution to the Project:** Campus Champion and senior personnel at University of Arkansas-Cossatot; instructor in Agriculture and coordinator of institutional efforts

**Funding Support:** No other funding support

**International Collaboration:** No

**International Travel:** No

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**Anthony Holt****Email:** holt@uaccm.edu**Most Senior Project Role:** Community College Faculty**Nearest Person Month Worked:** 1**Contribution to the Project:** Beginning Summer 2018, Holt is Campus Champion at U of A Community College Batesville integrating spatial content into existing curriculum within the sciences**Funding Support:** No other funding support**International Collaboration:** No**International Travel:** No**Tarsha Smith****Email:** tsmith@pccua.edu**Most Senior Project Role:** Community College Faculty**Nearest Person Month Worked:** 1**Contribution to the Project:** Campus Champion at Phillips Community College of the U of A**Funding Support:** No other funding support**International Collaboration:** No**International Travel:** No**Dana Strassle****Email:** Strassle@uaccm.edu**Most Senior Project Role:** Community College Faculty**Nearest Person Month Worked:** 0**Contribution to the Project:** Dana Strassle has left the project as of Summer 2017 Campus champion and Instructor of Biological and Geological Sciences at University of Arkansas-Morrilton; coordination of institutional efforts**Funding Support:** No other funding support**International Collaboration:** No**International Travel:** No**Tora Johnson****Email:** tjohnson@maine.edu**Most Senior Project Role:** Consultant**Nearest Person Month Worked:** 1**Contribution to the Project:** As PI on ATE 0802417, Tora developed expertise in collaborative geospatial education projects geared toward rural populations. She serves as an external adviser on the project.**Funding Support:** No other funding support**International Collaboration:** No**International Travel:** No**Gordon Snyder****Email:** gordonfsnyder@gmail.com

**Most Senior Project Role:** Consultant

**Nearest Person Month Worked:** 1

**Contribution to the Project:** External evaluator

**Funding Support:** No other funding support

**International Collaboration:** No

**International Travel:** No

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**What other organizations have been involved as partners?**

Name	Type of Partner Organization	Location
Arkansas GIS Users Forum	Other Nonprofits	Arkansas
EAST Initiative	Other Nonprofits	Little Rock, Arkansas

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**Full details of organizations that have been involved as partners:**

**Arkansas GIS Users Forum**

**Organization Type:** Other Nonprofits

**Organization Location:** Arkansas

**Partner's Contribution to the Project:**

Other: Workshop and Networking

**More Detail on Partner and Contribution:** Co-hosting and sharing of workshop and networking opportunities to bring community college students and local industry employers together under a common theme.

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**EAST Initiative**

**Organization Type:** Other Nonprofits

**Organization Location:** Little Rock, Arkansas

**Partner's Contribution to the Project:**

Other: Public relations and dissemination

**More Detail on Partner and Contribution:** The EAST Initiative is a K-12 educational non-profit organization that works to get project-based service learning in schools, with programs in 221 schools in Arkansas. Since 1997, this organization has provided access to geospatial technologies to EAST programs while offering training and technological support to students and teachers through collaboration with the UA Center for Advanced Spatial Technologies. EAST has been a partner in promoting OPENGATE by disseminating information about the project to participating schools and actively recruiting teachers to participate in professional development through OPENGATE.

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**What other collaborators or contacts have been involved?**

Name (First and Last) Email

Randy Story randy.story@eagles1.k12.ar.us

Pamela Paige Pamela.jackson@lrsd.org

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Allyson Goodin allyson.goodin@jonesboroschools.net  
Laqueschia (shun) Watson laqueschiawatson@tasd7.net

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## Impacts

**What is the impact on the development of the principal discipline(s) of the project?**

Nothing to report.

**What is the impact on other disciplines?**

Nothing to report.

**What is the impact on the development of human resources?**

Nothing to report.

**What is the impact on physical resources that form infrastructure?**

Nothing to report.

**What is the impact on institutional resources that form infrastructure?**

Nothing to report.

**What is the impact on information resources that form infrastructure?**

Nothing to report.

**What is the impact on technology transfer?**

Nothing to report.

**What is the impact on society beyond science and technology?**

Nothing to report.

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## Changes/Problems

### **Changes in approach and reason for change**

Nothing to report.

### **Actual or Anticipated problems or delays and actions or plans to resolve them**

The PIs intend to apply for a no-cost extension for this project to allow for additional time to implement spatially augmented learning modules at community colleges. Due to several changes in personnel dedicated to the project the project is behind the project schedule for both deliverables and expenditures.

The following are personnel that have left (or are leaving the project):

Dana Strassle (Summer 2017), U of A Community College Morrilton

Robyn Lane (March 2018), U of A Fayetteville

Linda Jaramillo (June 2018), U of A Community College Morrilton

Of special consideration is PI Dr. Tamara Griffin who is currently on catastrophic leave at U of A Community College Batesville due to unforeseen health issues; however, the team in place at UACCB has been dedicated to continuing to make progress in her absence.

### **Changes that have a significant impact on expenditures**

Nothing to report.

### **Significant changes in use or care of human subjects**

Nothing to report.

### **Significant changes in use or care of vertebrate animals**

Nothing to report.

### **Significant changes in use or care of biohazards**

Nothing to report.

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## Special Requirements

**Responses to any special reporting requirements specified in the award terms and conditions, as well as any award specific reporting requirements.**