

Louisiana Believes

Louisiana Student Standards for Science
BESE Meeting
March 2017

Louisiana Student Standards for Science

Louisiana science standards were last updated in 1997; GLE's based on those standards were written in 2005.

To meet the demands of Louisiana's workforce, STEM education, specifically the science in STEM, must meet current demands. According to [Change the Equation](#):

- STEM jobs in Louisiana will grow 18% before 2024.
- Approximately 24% of Louisiana students who obtain certifications and degrees, earn them in STEM fields.
- Underrepresented and minority groups significantly lag behind their peers in earning engineering degrees.

According to [Louisiana Economic Development](#), "traditional and emerging industries are growing in Louisiana." Among Louisiana's key industries are advanced manufacturing, aerospace, agribusiness, energy, and water management, all of which require STEM skills.

Louisiana Student Standards for Science

In accordance with state law (RS 17:24.4*) and BESE directives (Bulletin 741, §2301**), the Department supported a science standards review process led by content experts, elementary and secondary educators, postsecondary education leaders, and business and industry leaders. This process included extensive participation by parents of Louisiana school students and the general public.

Representatives included 41 school districts, 5 charter schools, 20 organizations, 6 universities, and the Board of Regents.

**Louisiana state law RS 17:24.4 requires BESE to adopt academic content standards, which are defined in the law as statements that define what a student should know or be able to accomplish at the end of a specific time period, grade level or at the completion of a course.*

***BESE Bulletin 741, §2301 states, “The Louisiana content standards shall be subject to review and revision to maintain rigor and high expectations for teaching and learning.”*

Louisiana Student Standards for Science

The drafted Louisiana Student Standards for Science represent the knowledge and skills needed for students to successfully transition to postsecondary education and the workplace.

The proposed standards call for students to:

- Apply content knowledge to real world phenomena and to design solutions
- Demonstrate the practices of scientists and engineers
- Connect scientific learning to all disciplines of science
- Express ideas grounded in scientific evidence

Louisiana Student Standards for Science: Implementation

The new standards call for changes in what teachers teach. To support implementation, school systems, schools, and the Department of Education must work together.

As with the ELA and math standards, implementation will be a strategic, supported effort that is fair to educators and students and includes a focus on quality **curriculum, professional development, and assessment.**

Louisiana Student Standards for Science: Implementation

This path for implementation has a proven history of success in Louisiana.

According to a recent Rand [Study](#):

Compared with other teachers nationally, Louisiana teachers use some [college and career readiness]–aligned instructional resources at a higher rate than other teachers, demonstrate a better understanding of their [college and career readiness]–aligned standards, and report undertaking more instructional activities that align with their standards.

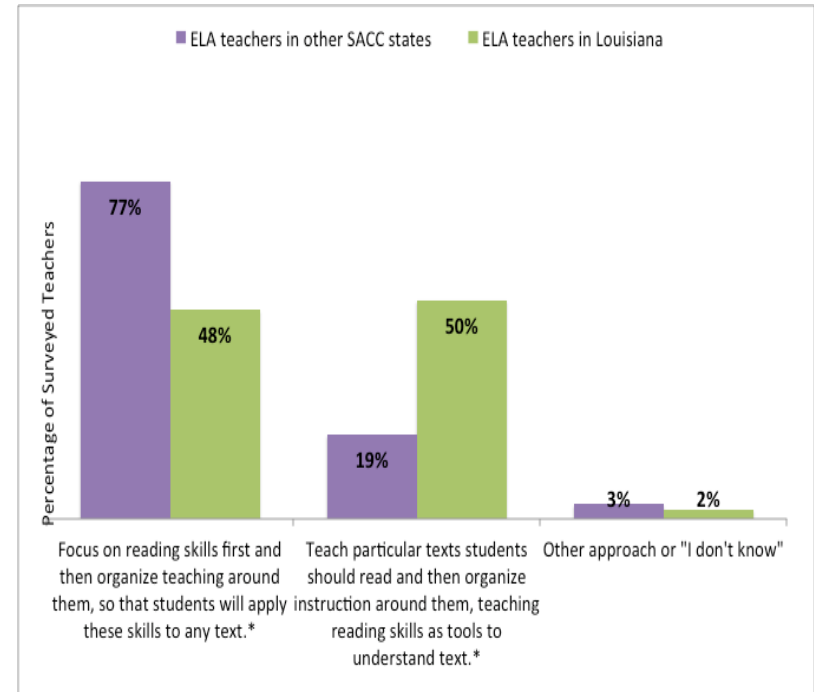
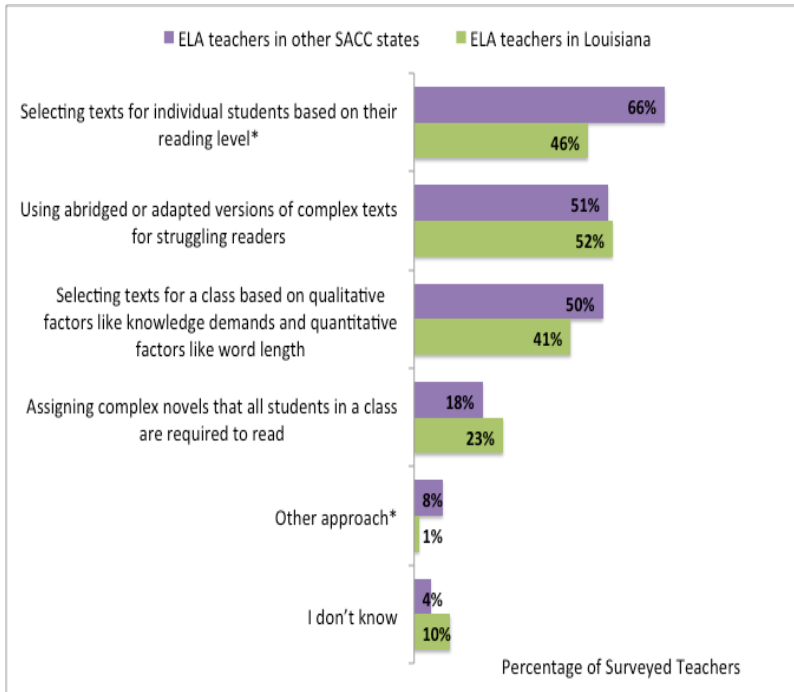
Louisiana Department of Education strategies that could be contributing to these results include their work to create a coherent environment for instruction, transparent and regular communication about academics, and support for local decision making.

According to a recent Collaborative for Student Success [article](#):

Louisiana third graders made the highest gains on the 15-16 math assessment, when compared to over 30 other states.

Louisiana Student Standards for Science: Implementation

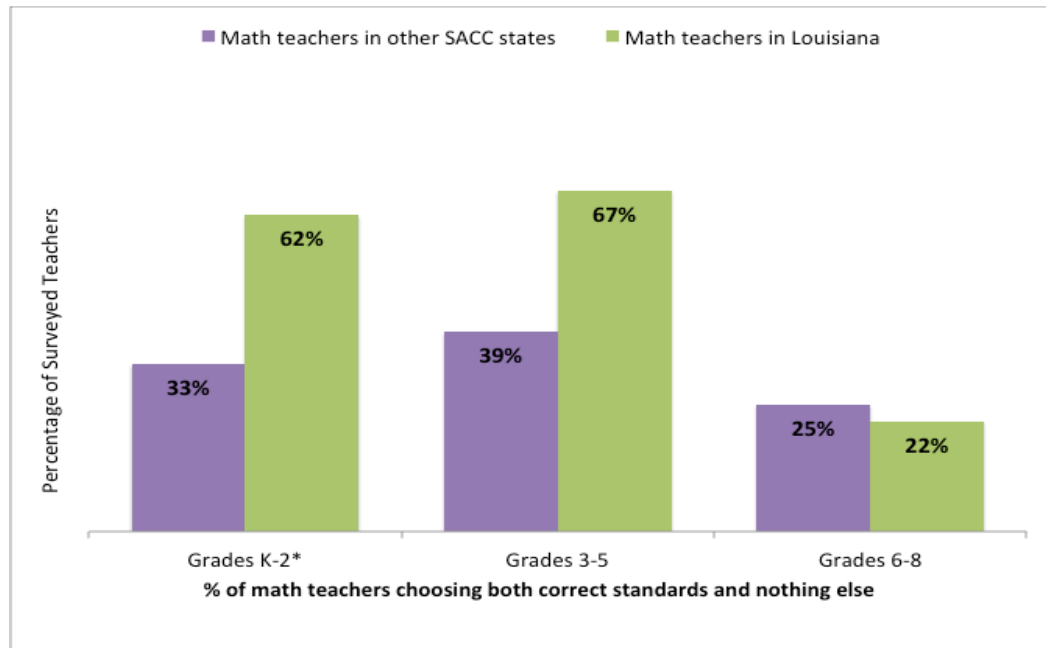
The RAND report published on standards implementation across 5 states. On a number of indicators, Louisiana's educators showed signs of increased understanding.



Louisiana ELA teachers at higher percentages were more accurate in their identification of practices to [college and career readiness] standards, and thought about their instruction in ways that were aligned with [college and career readiness] standards more than when compared to other teachers.

Progress to Date: Informed Math Teachers

RAND also found that more mathematics teachers in Louisiana, compared to teachers in other states, identified the [college and career readiness] mathematics standards topics at their grade level.



Secondary mathematics teachers in Louisiana were also more likely than those in other states to engage students in some [college and career readiness] Standards for Mathematical Practice.

Louisiana Student Standards for Science: Implementation

To support implementation the department will ensure fair policies for educators and students along with strong resources. This timeline will include the following:

Timeline	Action
March, 2017	BESE considers new standards
Spring-Summer, 2017	Curriculum reviews begin, standards resources released, district training & teacher training at the Teacher Leader Summit
2017 – 2018 School Year	Transition Year <ul style="list-style-type: none">- Field test assessments (spring, 2018)- Accountability uses best of previous two years (similar to social studies transition)- Curricular tools released- Training at all collaborations for districts, principals, and teachers
2018 – 2019 School Year	Implementation Year <ul style="list-style-type: none">- Operational assessments per federal requirements (spring, 2019)- Ongoing training at collaborations for districts, principals, and teachers

Louisiana Student Standards for Science: Implementation

Area	Support and Timeline
Curriculum and Resources	<p data-bbox="523 439 1051 472">Instructional Materials Review</p> <ul data-bbox="552 489 1644 625" style="list-style-type: none"><li data-bbox="552 489 1566 525">● Rubric released and call for submissions – <i>Spring 2017</i><li data-bbox="552 539 1644 575">● Hiring and training of Teacher Leader Advisors – <i>May 2017</i><li data-bbox="552 589 1398 625">● First curriculum reviews released – <i>Fall 2017</i> <p data-bbox="523 694 890 726">New Standards Tools</p> <ul data-bbox="552 743 1601 961" style="list-style-type: none"><li data-bbox="552 743 1534 779">● Connections to ELA and math standards – <i>April 2017</i><li data-bbox="552 793 1528 829">● Key shifts and instructional implications – <i>April 2017</i><li data-bbox="552 843 1479 879">● Middle school sample transition plan – <i>June 2017</i><li data-bbox="552 893 1601 929">● Sample scope and sequence documents – <i>Summer 2017</i>

Louisiana Student Standards for Science: Implementation

Area	Support and Timeline
Professional Development	<p data-bbox="523 429 865 465">Self-paced Learning</p> <ul data-bbox="552 486 1734 522" style="list-style-type: none"><li data-bbox="552 486 1734 522">● Live and recorded webinars on new standards – <i>May - July 2017</i> <p data-bbox="523 594 774 629">Collaborations</p> <ul data-bbox="552 644 1263 722" style="list-style-type: none"><li data-bbox="552 644 1263 679">● Session at March 2017 collaboration<li data-bbox="552 694 1263 722">● Sessions at 2017-2018 collaborations <p data-bbox="523 793 935 829">Teacher Leader Summit</p> <ul data-bbox="552 843 1765 879" style="list-style-type: none"><li data-bbox="552 843 1765 879">● Multiple 2-day and 1-day institutes at the Teacher Leader Summit <p data-bbox="523 951 668 986">Vendors</p> <ul data-bbox="552 1001 1760 1186" style="list-style-type: none"><li data-bbox="552 1001 1760 1079">● The Department works with vendors to align trainings to the new standards<li data-bbox="552 1093 1537 1129">● Multiple vendors offering intensive summer sessions<li data-bbox="552 1143 1470 1179">● Vendors offering ongoing coaching opportunities

Louisiana Student Standards for Science: Implementation

Area	Support and Timeline
Assessment	<p data-bbox="523 444 1035 476">State Summative Assessment</p> <ul data-bbox="552 501 1644 654" style="list-style-type: none"><li data-bbox="552 501 1025 539">● Field test – <i>Spring 2018</i><li data-bbox="552 561 1151 599">● Operational test – <i>Spring 2019</i><li data-bbox="552 621 1644 659">● Platform the same as ELA, Math, Social Studies, and EAGLE <p data-bbox="523 732 935 765">EAGLE Assessment Tool</p> <ul data-bbox="552 803 1818 972" style="list-style-type: none"><li data-bbox="552 803 1818 899">● Teacher Leader Advisors help create sample assessment items, hired in April/May 2017 and trained during the summer<li data-bbox="552 932 1663 972">● EAGLE items created throughout the 2017-2018 school year