

New Hampshire State Board of Education
Department of Education
Hugh J. Gallen State Office Park
101 Pleasant Street
Concord NH 03301

July 13, 2017



REVISED AGENDA

- I. **CALL TO ORDER - 9:00 A.M.**
- II. **PLEDGE OF ALLEGIANCE**
- III. **PUBLIC COMMENT** *(LIMITED TO 5 MINUTES, BOARD WILL ASK CLARIFYING QUESTIONS ONLY, OTHERWISE NO FEEDBACK PROVIDED)*
- IV. **SPECIAL PRESENTATIONS**
- V. **OPEN BOARD DISCUSSION**
 - A. Review and Revision of the English Language Arts (ELA) and Mathematic Academic State Standards
- VI. **LEGISLATIVE ISSUES/RULES**
 - A. 11:30-12:00 PM – PUBLIC HEARING - Ed 507.52 and Ed 612.3 Educator in Computer Science
 - B. INITIAL PROPOSAL – Ed 507.28 and Ed 612.22 Science Teacher 5-8
 - C. INITIAL PROPOSAL – Ed 507.29 and Ed 612.23 Science Teacher; General Requirements
 - D. INITIAL PROPOSAL – Ed 507.30 and Ed 612.24 Earth and Space Science Teacher
 - E. INITIAL PROPOSAL – Ed 507.31 and Ed 612.25 Life Science Teacher
 - F. INITIAL PROPOSAL – Ed 507.32 and Ed 612.26 Chemistry Teacher
 - G. INITIAL PROPOSAL – Ed 507.33 and Ed 612.27 Physics Teacher
 - H. INITIAL PROPOSAL – Ed 507.51 and Ed 612.34 Physical Science Teacher
 - I. FINAL PROPOSAL – Ed 507.24, Ed 507.25, Ed 612.05 and Ed 612.06 English Language Arts Teacher
 - J. FINAL PROPOSAL – Ed 507.29, Ed 507.30, Ed 612.30 and Ed 612.31 Social Studies Teacher

- K. FINAL PROPOSAL – Ed 507.23 and Ed 614.09 School Speech-Language Specialist
- L. FINAL PROPOSAL – Ed 306.12, Ed 504.07, Ed 505 various sections, Ed 508.06 and Ed 512.07 School Nurse
- M. INTERIM RULE - Ed 1410 Robotics Education Fund
- VII. REPORT AND NEW DEPARTMENT BUSINESS
- VIII. OLD BUSINESS
 - A. Amendments to the Keene School District’s Authorized Regional Enrollment Area (A.R.E.A.) Plans
- IX. CONSENT AGENDA
 - A. Meeting Minutes of June 8, 207
 - B. Haverhill Cooperative and Bath School Districts Tuition Agreement
 - C. Haverhill Cooperative and Piermont School Districts Tuition Agreement
- X. TABLED ITEMS
- XI. NONPUBLIC SESSION
- XII. ADJOURNMENT – 2:00 P.M.

If accommodations are needed for communication access such as interpreters, please call (603) 271-3144 at least 5-business days before the scheduled event. We request 5-business days’ notice so that we may coordinate interpreters’ schedules. Although we will attempt to accommodate any requests made, we cannot guarantee the presence of the service. Thank you for your cooperation.

SIGN IN SHEET
State Board of Education
 July 13, 2017
Public Comment

*(Limited to 5 minutes, the Board will ask clarifying questions only,
 otherwise no feedback will be provided.)*

Name <i>(Please print clearly)</i>	Address or Organization
1. Jill Lizier <i>(provided written testimony)</i>	SAU 16
2. Kathleen Desmarais <i>(provided written testimony)</i>	SAU 16
3. Melissa Crotto-Young <i>(provided written testimony)</i>	SAU 29
4. Todd Allen <i>(submitted an article from fosters.com)</i>	SAU 5
5. Kathleen Murphy	SAU 90
6. Pam Stile <i>(provided written testimony)</i>	SAU 72
7. Donna Couture, Karen Thompson, Anne Banks & Doug Cullen	NH Extended Learning Opportunities Network
8. Mark McLaughlin	Nashua Parent
9. Maureen Redmond-Scura	Concord School Board
10. Melissa Hinebauch	Concord, Kent Street Coalition
11. Lorrie Carey	SAU 46
12. Elizabeth Moore, Michelle Hautanen, & Greg Morris	SAU 1
13.	
14.	
15.	

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Name (Please print clearly)	Address or Organization
✓ 1. Jill Lizier	SAU 16
✓ 2. Kathleen Desmarais	SAU 16
✓ 3. Melissa Crofto-Young	SAU 29
✓ 4. Todd Allen	SAU 5
✓ 5. Kathleen Murphy	SAU 90
6. Patricia	Patricia
✓ 7. Pam Stiles	SAU 72
✓ 8. Donna Couture, Karen Thompson Anne Banks, Doug Cullen	NH ELO Network
✓ 9. Mark McLaughlin	Nashua parent
✓ 10. Maureen Redmond-Swain	Concord - citizen - school board member
✓ 11. MELISSA HINEBAUCH	*(May need to leave early, will submit written statement) CONCORD, KENT STREET COALITION
✓ 12. Lorrie Carey	SAU 46
✓ 13. Elizabeth Moore, Greg Michelle Hautereri, Morris	SAU #1
14.	
15.	

Jill Lizier
Swasey Central School
Curriculum Coordinator

As a former first grade teacher and current curriculum coordinator, I am happy to speak to you about my experience in the classroom with NH College and Career Ready Standards. When the CCRS were first adopted, my colleagues and I spent time looking them over and reflecting on our current practices. From the beginning, these standards never felt overwhelming for me or my students, as they are not curriculum. They are structure for our grade levels, but nothing more than that. As a teacher, I still had the flexibility to teach the way my students learned best, and the scope and sequence for lessons were not dictated by the standards- as that is not the purpose of the standards.

For example, when teaching reading, one of the first grade reading standards is for students to **compare and contrast adventures and experiences of characters in stories**. The language of the standard says nothing of what type of books I have to choose, when in the year I do this, and how I deliver my instruction. I was able to work on comparing and contrasting with a small group of students at the beginning of the year-as they were ready for it! Other students weren't there yet, so I focused on other reading skills at that time until I felt like they were ready. I know that this focus on comprehension supports their learning in all areas. For students that are not able to read the words, they still get the experience of listening to a story and talking about what happened. That matters. That is valuable. The standards cover a wide range of reading skills-foundational and comprehension. I loved this as a teacher because it acknowledges that there is more to reading than just word calling.

The NH state standards are appropriate. The way we deliver our instruction, curriculum we choose to use, and assessments we use are made at local levels.

Kathleen Desmarais

Swasey Central School

July 13, 2017

Good morning, my name is Kathleen Desmarais and I am a kindergarten teacher and I am happy to speak to you today about my experiences using the NH state standards with our youngest students. The standards are my guide as I plan instruction for the whole class, small groups, and individual students. The NH state standards don't impede my ability to meet the developmental needs of students. As an early childhood professional, I cannot remove my understanding of child development from my instructional practices. Yes, I use the standards, but I teach children. I always see them through the lens of development, recognizing the learning strengths and needs of five and six year olds.

I want to give you a picture of what that looks like in my kindergarten classroom. The math standards for kindergarten focus on widely accepted foundational concepts and skills. For example, one math standard states that students should understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. That standard comes to life in my classroom as we read books and students act out stories involving eating cookies, monkeys falling off beds, and more and more animals crowding into a house. They use counting chips and figures to represent number stories. And over time, with many opportunities to practice, they eventually represent their understanding of addition and subtraction with drawings and equations or number sentences. My instruction is guided by the standard, but how I engage students in that learning is my choice based on what I know about development in general and what I know about specific student needs. State standards and developmentally appropriate practice can co-exist when teachers make decisions about instructional practices to meet needs of their students.

The standards provide a consistent structure and a path of learning throughout the grade levels. But it is the leadership and culture of the local school and the individual classroom that determines instructional practices and shapes the student's view of him or herself as a learner.

I look forward to another year in kindergarten this fall. I know that, with the standards as my guide, I will plan and implement instruction to meet the varying needs of my students. My students will have opportunities to learn and grow because I understand the core standards and I have the support of my administration to use the instructional practices that best fit the needs of my students.

Thank you for including teachers in this conversation.

July 10, 2017

To: the Commissioner of NH Education

There are many reasons why the teachers at Westmoreland School in Westmoreland, NH believe that the Common Core standards are working and should not be reviewed.

From Melissa Crotto-Young, ELA and reading teacher for grades 5-8:

- ✶ • The standards are broad and allow teachers, principals, and curriculum coordinators to choose the means to teach that will work with their students. They encourage the important shift away from “one size fits all education”.
- The standards allow collaboration between teachers that allows for vertical alignment. They are easy to follow K-12 to understand what the final goal is and each teacher’s place in that alignment.
- They readily allow collaboration between subject areas, such as social studies and ELA and math and science. At our school, we teach several collaborative projects that involve the above combinations, plus technology.
- ✶ • As a middle school ELA teacher, I have found the emphasis on expository writing and providing text evidence to be particularly helpful in focusing my instruction on what will help the students in high school and especially college. I still find time to have the students engage in creative writing and poetry, but those are the not the elements that most students will need to pursue success in the workforce.
- ✶ • Replacing the Common Core standards will take power away from teachers, principals, parents, students, and school districts, which is the opposite direction that education in NH needs to go.
- ✶ • The focus of the Common Core standards is a deeper understanding of the material, which allows for teachers to take a creative approach to designing curriculum to allow students to meet the goals. This creativity was largely absent with the last standards that we used.

From Caragh McManus, math and algebra teacher, grades 5-8:

- Allows teachers to know exactly what needs to be covered in each section
- ✶ • Helps me design projects, lessons, games, etc and allows me to ensure all topics are covered, easy to check off which standards are in the activity.

- I do not think it takes away creativity but allows us to create fun lessons around the topic.
- Although for math there are a lot of standards, it helps teachers and students to achieve a high level of math concepts in a year and helps them better prepare for high school.

From Paul Deschenes, social studies teacher, grades 5-8:

- ✱ • -create a common set of expectations and goals between schools, districts and states- especially important in schools with high amount of student mobility and transferal
- ✱ • -By providing us with common goals and standards to work for, it actually frees us to use our creativity and talent to individualize our instruction and planning to design better unit and curriculum that will be more specific and tailor-made for our own students, our school and our districts
- -Gives educators a common "language" and targets among the wide range of schools and students in the country.
- -It gives us a base on which we can add the creativity and student-based curriculum that will engage and best educate our children

Sincerely,

Melissa Crotto-Young, Caragh McManus, Paul Deschenes

From: Melissa Crotto-Young ELA Teacher Westmoreland School

I would like to give you an example of a Common Core Success story. Our 7th grade students were in the middle of a unit in reading class where they were reading A Long Walk to Water, which is about crises in South Sudan. Our principal brought in a newspaper article about the current famine and warfare in South Sudan. The students were outraged - this is still going on? We need to do something! At that point, the reading teacher and I (as homeroom and ELA teacher) decided to collaborate to encourage a real-world learning experience.

Our time with students is valuable, and we knew that this project would take some time. However, we knew that this project would fit with our Common Core curriculum because the standards are so broad - write pieces of varied lengths for various purposes. Use authentic audiences when possible.

The students got to work. They brainstormed two fundraisers and wrote all of the following: a proposal to the principal, to start the fundraisers; a proposal to the PTA to hold one fundraiser during their Screen Free events; public announcements for both elementary and middle school families; a letter to the editor of the Keene Sentinel; informational flyers; a recap of the success of the fundraisers, which, incidentally raised almost \$1500.00; and various emails to the superintendent and school community.

Because of the nature of the Common Core, we were able to facilitate this educational experience, which I dare say will continue to impact these students for a long time after their 7th grade year.

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Oyster River math overhaul leads to better test scores

By Laurene Ramsdell / news@fosters.com

Posted Mar 21, 2017 at 12:07 PM

Updated Mar 21, 2017 at 12:07 PM

DURHAM — Oyster River math SAT scores are the highest in district history, an accomplishment school Superintendent James Morse attributes to the district's complete overhaul of its math programs.

For the past four years, Oyster River administrators and staff have focused heavily on mathematics in an effort to ensure that more students are exposed to a wide variety of curriculum come graduation. This focus isn't solely reserved for the high school, however.

Starting as early as kindergarten, students at Oyster River are introduced to higher and more concentrated levels of math than ever before. According to Assistant Superintendent Todd Allen, the district chose to implement a program known as Eureka Math for all students in kindergarten through fifth grade.

"Eureka is a program created by teachers for teachers," said Allen.

Eureka is data driven and provides teachers with sequenced curriculum modules that allow students to progress as they obtain the skills needed to meet specific learning standards. Allen noted that the district has implemented Eureka to take a systematic approach to ensuring that all students are proficient in math before entering the upper middle school and high school levels. Because students are exposed to a more aggressive and progressive math curriculum at such a young age, students are entering the middle school with a vast understanding of math.

Gone are the days where math curriculum is focused on the skills needed to meet the standards for a particular age and grade level. Oyster River staff have worked hard to sequence their math programs in ways that incorporate what students

will need to know later on in their education, rather than solely focusing on what they need to know currently, administrators said.

"In addition to making sure everyone is proficient in math, our teachers are also focused on what students need to know two years down the line," said Allen.

"We have always had great math instruction here, but what has challenged us is making sure that our middle school teachers are aware of what high school students need to know. I can't say enough good things about our teachers and their investment in this approach."

This systematic approach to math curriculum has served the district well thus far, as enrollment in higher level math courses has more than doubled in the past few years, administrators said.

"We've always had our highest math students meet the highest end of our curriculum sequence," said Allen, "but we've opened the door for a lot more kids to challenge themselves and excel."

According to middle school Principal Jay Richard, the number of students taking algebra in their eighth grade year has grown significantly in the past few years. Out of 174 eighth grade students at ORMS, 111 are currently enrolled in algebra. This enrollment has nearly tripled in the past few years, which, according to Richard, is a testament to what staff is doing at the earlier grades to advance math education.

"It's a positive reflection of our teachers and how they are delivering good math instruction to our students," said Richard. "Due to good instruction and the continuous professional development of our staff, we are seeing more students than ever before qualify for algebra in eighth grade."

The desire to enroll students in algebra at the middle school level was driven by an educational gap that Oyster River High School teachers were noticing in some students.

"If you look at the achievement in math of those that take algebra in eighth grade and those that don't, the gap is significant," said Allen. "If a student doesn't take algebra in eighth grade, we don't want that to be a fatal blow."

In addition to enhancing the level of math curriculum that students are exposed to at a younger age, ORMS has implemented a variety of tools and programs to encourage students to advance their math placement.

“Any student that doesn’t necessarily have the supporting data for automatic algebra placement is still given the opportunity to try and succeed in the class,” said Richard. “Here at Oyster River, we believe in opening up the doors of opportunity for our students, not closing them.”

Eighth-grade students who are not initially enrolled in algebra have the opportunity to partake in math tutoring sessions during and after school, as well as use an online, self-paced math study program known as IXL to sharpen and enhance their skill set. Those students also have the opportunity to take the math portion of the STAR Assessment to provide administrators and teachers with additional data that reflects their understanding of the curriculum.

“We’re putting it in the kids’ hands and telling them that if they want to get to this level of math, they need to take on the challenge,” said Allen. “It’s really motivating kids to excel.”

Richard echoed Allen, noting that fostering growth in education is extremely important.

“What I see with students that don’t initially qualify for placement in algebra is that they end up being successful in the course because they’re willing to work hard and they enjoy the challenge,” he said.

If a student at Oyster River completes algebra in middle school, they have the opportunity to complete more math courses at the high school that are critical for their success on state tests and SATs. According to Allen, the math portion of the SATs is largely based on the content covered in algebra II.

“When our students were not completing algebra in 8th grade, they were not completing algebra II by the time they took the SATs,” said Allen. “In other words, they were missing the information they needed for a huge chunk of that test.”

As a result of the district-wide initiative to revamp the math curriculum, Oyster River test scores are on the rise.

With nearly 70 percent of eighth grade students enrolled in algebra, ORMS has ranked at the top tier on state tests such as the New England Common Assessment Program (NECAP) and Smarter Balanced. In the 2014-2015 school year, the state average was a score of 44, while ORMS eighth graders averaged a score of 63. In the 2015-2016 school year, the state average for eleventh graders was a score of 40, while ORMS earned a score of 71. Scoring 20 to 30 points above the state average each year, it is clear that Oyster River's revamped focus on math education is producing results.

"Across the board, we're showing growth at every grade level," said Allen.

As for SATs, Oyster River is seeing its highest math scores ever. According to a College Board report, the 2016 average math score for New Hampshire was 507, while the national average was 480. Oyster River students scored an average of 584.

Allen expects the progress and success happening in the math program at Oyster River to continue, as even the highest ranked students are seeking out opportunities for tutoring as well as enrolling in accelerated math programs. More students than ever at the middle school level are using the IXL self-paced math program, both during the school year as well as during the summer months to keep the content fresh in their minds.

"As Oyster River students take more and more high-end math courses each year, they are challenging us to open up new advanced opportunities, and that is really exciting," said Morse.

READ NEXT

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and dozens of**

**A toddler fell at a
trampoline park**

**President Trump
'100 percent'**

**'Pen-Pineapple-
Apple-Pen' and**

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July 13, 2017

Good Morning-

My name is Pam Stiles, Superintendent of Schools for the Alton School District.

I appreciate the opportunity to speak to the committee for a few minutes this morning regarding item five on today's agenda – the Review and Revision of the English Language Arts and Mathematics Academic State Standards.

The College and Career Ready standards were embraced and implemented with varying degrees of enthusiasm by school districts throughout New Hampshire. Some have used them since their initial introduction in 2009 while others took a little more time to discuss and debate. In Alton, teachers are still getting comfortable with their English Language Arts and Mathematics grade level standards and are creating assessments that measure student achievement. "I Can" statements have been written, but little "unpacking" has been necessary, as the skills are clearly communicated, for example, "Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing" and "Read, write, and compare decimals to thousandths". Grade level requirements are generally stated in an easy to understand way which ensures that students prepare, practice, and probe skills that are targeted to their grade.

Review of desired levels of learning is always valuable to do. The committees that devoted their time and expertise to identifying competencies and practices in ELA and Math are to be commended. And, with the newly adopted NexGen Science Standards, three of the four content areas have had "eyes on them" during the past recent years. Missing from the list is Social Studies – last revised in 2006. The NH Social Studies Frameworks have an excellent organizational structure: there are 10 themes (i.e. conflict and cooperation; civic ideals, practices, and engagement; global transformation; science, technology, and society), identified Essential Skills, and Five Content Strands –which could be translated into competencies. Not

only are the Frameworks 11 years old, they are written in a cumbersome manner with several layers of expectation, for example, "Analyze the extent to which democratic ideals, economic motives and empire building have influenced United States foreign policy in events and policies, e.g., the Louisiana Purchase or the Marshall Plan". Many of the Framework standards include historical events on which instruction should focus. However, because the standards are dated, important events are absent- The Rise of North Korea, the election of the first African American President, the impact of tsunamis, hurricanes, and earthquakes on populations and geographic areas, the death of Osama bin Laden, the spread of Isis and Al-Queda, the Tea Party Movement, Occupy Wall Street, Russian expansionism, diplomatic relations reestablished between the United States and Cuba, the new "normal" of terrorism in daily life, and yes, the introduction of Common Core Standards in 2009.

Although we tend to address what is assessed, the importance of civics and government, economics, geography, history, and world history should not be overlooked. We must stay mindful to the fact that English Language Arts and Mathematics skills are practiced and developed so that they might be used to analyze, problem solve, and critically examine local, community, national, and global questions and concerns.

I would like to respectfully ask the committee to consider convening a Social Studies standards committee to review the 2006 Frameworks and to build on the structure that is currently in place. Our students deserve to be engaged in learning opportunities that require them to utilize the most up-to-date, meaningful, authentic standards possible. We can and should make Social Studies as vibrant and exciting as all other content areas.

Thank you for your time.

Amend Ed 505.05(a)(2), effective 9/16/2011 (Doc #9992), by inserting (a)(2)d. so that Ed 505.05 (a) intro., Ed 505.05(a)(1), (a)(2) intro., and (a)(2) a., b., and d. are cited and read as follows:

Ed 505.05 Alternative 5: Site-Based Certification Plan.

(a) The site-based certification plan shall be available in elementary and secondary teaching areas, excluding career and technical specialty certification under Ed 507.03 and special education, for those individuals who qualify under the following specific conditions:

(1) The applicant shall possess a bachelor's degree from an institution approved by the New Hampshire postsecondary education commission or equivalent regional accrediting agency such as but not limited to the Northeast Regional Association of Schools and Colleges;

(2) The applicant shall meet one of the following criteria:

a. For secondary education, the applicant shall possess at least 30 credit hours in the subject to be taught and an overall grade point average of at least 2.5, or equivalent; or

b. For elementary education, applicants shall have successfully completed courses in mathematics, English, social studies, and science with an overall grade point average of at least 2.5, or equivalent;

d. For computer science education, applicants shall:

1. Possess at least 30 credit hours in the subject to be taught and an overall grade point average of at least 2.5; or

2. Have a current computer science major assignment, as determined by the Bureau of Credentialing, during or after the 2014/2015 school year and prior to June 30, 2018, and have applied for a computer science education credential during that time period.

Adopt Ed 507.52 to read as follows:

Ed 507.52 Educator in Computer Science

(a) To be certified as an educator in computer science for grades K-12, the candidate shall have:

(1) At least a bachelor's degree; and

(2) Qualify for certification under one of the alternatives in Ed 505.01 – Ed 505.05.

(b) The Department of Education shall assess the skills, competencies and knowledge of candidates for certification as educators in computer science by reviewing evidence, such as, but not limited to, college course work, documented professional experience, letters of recommendation, professional development hours or CEU's, and artifacts of professional practice.

(c) A candidate for certification as an educator in computer science for grades K-12 shall have the following skills, competencies, and knowledge through a combination of learning activities such as but not limited to academic and supervised field-based experience in the following areas:

(1) In the area of impacts of computing, the candidate shall have the ability to:

- a. Use computing to:
 - i. Express creativity;
 - ii. Solve problems;
 - iii. Communicate;
 - iv. Collaborate; and
 - v. Innovate in a variety of fields and careers;
 - b. Assess obstacles to equal access to computing as well as the impacts of these obstacles;
 - c. Assess impacts of computing innovations and practices with respect to:
 - i. Beneficial and harmful effects;
 - ii. Ethical and unethical practices; and
 - iii. Privacy, security, and legal issues;
 - d. Keep current with knowledge on emerging technologies and their potential impacts.
- (2) In the area of algorithms and computational thinking, the candidate shall have the ability to:
- a. Analyze algorithmic processes and develop algorithms using:
 - i. Pattern recognition;
 - ii. Problem decomposition; and
 - iii. Abstraction;
 - b. Convert between binary, decimal, and hexadecimal number systems;
 - c. Use different formats to represent, develop and analyze algorithms including, but not limited to natural language, flowcharts, and pseudocode;
 - d. Use heuristic solutions to address computing limitations including, but not limited to, time, space, and solvability;
 - e. Use standard algorithms including, but not limited to, searching and sorting algorithms and analyze implementations of those algorithms for correctness, efficiency, and clarity;
 - f. Use simple recursive algorithms including, but not limited to, fractals, Zeno's paradox, and Towers of Hanoi;
- (3) In the area of programming, the candidate shall have the ability to:

- a. Write and modify computer programs in block-based and at least one text-based programming language;
- b. Analyze computer programs in terms of:
 - i. Correctness;
 - ii. Usability;
 - iii. Readability;
 - iv. Extensibility;
 - v. Modifiability; and
 - vi. Reusability;
- c. Program using the following elements:
 - i. Basic control structures;
 - ii. Standard operators;
 - iii. Variables and data types;
 - iv. Functions; and
 - v. Data structures;
- d. Write event-driven programs that respond to external events including, but not limited, to sensors, messages, and clicks;
- e. Use libraries and APIs;
- f. Use and evaluate multiple development and execution environments;
- g. Facilitate collaboration in the development of software;
- h. Program user interactions with graphical and other user interface components;
- i. Demonstrate knowledge of various software development models;
- j. Model practices in software development, including:
 - i. User requirements analysis;
 - ii. Program design;
 - iii. Implementation and documentation;
 - iv. Testing and debugging; and

- v. Evolution driven by feedback.
 - k. Develop object-oriented programs;
 - l. Model the process of program compilation and interpretation.
- (4) In the area of data and analysis, the candidate shall have the ability to:
- a. Model concepts of processing data, including:
 - i. Encoding
 - ii. Compression
 - iii. Encryption
 - b. Create and use models and simulations.
 - c. Work with data using computational tools, including to:
 - i. Collect, aggregate, and generate;
 - ii. Store, manage, and manipulate;
 - iii. Process, analyze, visualize, and
- (5) In the area of computing systems and networks, the candidate shall have the ability to:
- a. Evaluate and compare computing systems using various criteria.
 - b. Model computing systems in terms of:
 - i. Hardware and software abstraction layers; and
 - ii. Computer program execution (fetch-decode-execute cycles);
 - c. Evaluate and compare local, network, and cloud computing and storage;
 - d. Model computer networks in terms of:
 - i. Protocol stack components; and
 - ii. Network protocols, such as, transmission control protocol/internet protocol (TCP/IP), domain name servers (DNS), and hypertext transfer protocol secure (HTTPS);
 - e. Demonstrate fundamental concepts of cybersecurity including, but not limited to, confidentiality, integrity, availability, non-repudiation, and authentication.

Adopt Ed 612.23 to read as follows:

Ed 612.33 Computer Science Education. The program for computer science shall provide the candidate with the skills, competencies, and knowledge through a combination of academic and supervised practical experiences as outlined in Ed 507.52(c).

Appendix I

Rule	Statute
Ed 505.05(a) intro., (a)(1), (a)(2) intro., (a)(2) a., b., & d.	RSA 21-N:9, II(s)
Ed 507.52	RSA 21-N:9, II(s); RSA 186:11, X
Ed 612.33	RSA 21-N:9, II(r)

Notice Number	2017-83	Rule Number	Ed 505.05(a) intro., (a)(1), & (a)(2) (various); Ed 507.52; Ed 612.33
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<p>1. Agency Name & Address:</p> <p>State Board of Education c/o Department of Education 101 Pleasant Street Concord, NH 03301</p>	<p>2. RSA Authority: RSA 21-N:9, II(s); RSA 186:11, X</p> <p>3. Federal Authority: _____</p> <p>4. Type of Action:</p> <p>Adoption <u> X </u></p> <p>Amendment <u> X </u></p> <p>Repeal _____</p> <p>Readoption _____</p> <p>Readoption w/amendment _____</p>
<p>5. Short Title: Educator in Computer Science</p>	

6. (a) Summary of what the rule says and of any proposed amendments:

Ed 505.05 addresses the alternative 5 pathway to certification (site-based certification plan), and paragraph (a) specifies the conditions for certification. Ed 505.05(a)(2) is being amended to provide in (a)(2)d. the details specific to the computer science educator's alternative 5 pathway to certification. Ed 507.52 is a new rule being adopted to provide the criteria for obtaining an educator certificate in computer science, and Ed 612.33 is a new rule being adopted to provide the requirements for a computer science teacher preparation program.

Ed 505.05 (a)(2) is being amended in another rulemaking proceeding to insert (a)(2)c. relative to school nurses.

6. (b) Brief description of the groups affected:

Educators, institutes of higher education, and local school districts are affected by this rule.

6. (c) Specific section or sections of state statute or federal statute or regulation which the rule is intended to implement:

Rule	Statute
Ed 505.05(a) intro., (a)(1), (a)(2) intro., (a)(2) a., b., & d.	RSA 21-N:9, II(s)
Ed 507.52	RSA 21-N:9, II(s); RSA 186:11, X
Ed 612.33	RSA 21-N:9, II(r)

NN 2017-83 Continued

7. Contact person for copies and questions including requests to accommodate persons with disabilities:

Name: **Amanda Phelps** Title: **Program Assistant III**
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TTY/TDD Access: Relay NH 1-800-735-2964
or dial 711 (in NH)

8. Deadline for submission of materials in writing or, if practicable for the agency, in the electronic format specified: **July 21, 2017**

Fax E-mail Other format (specify):

9. Public hearing scheduled for:

Date and Time: **July 13, 2017 at 11:00 a.m.**
Place: **State Board Room, Department of Education**
101 Pleasant Street, Concord, NH 03301

10. Fiscal Impact Statement (Prepared by Legislative Budget Assistant)

FIS # 17:072, dated 5/30/17

1. Comparison of the costs of the proposed rule(s) to the existing rule(s):

There is no difference in cost when comparing the proposed rules to the existing rules.
Not applicable to Ed 507.52 or Ed 612.33 as these are new rules.

2. Cite the Federal mandate. Identify the impact on state funds:

No federal mandate, no impact on state funds

3. Cost and benefits of the proposed rule(s):

A. To State general or State special funds:

None.

B. To State citizens and political subdivisions:

None.

C. To independently owned businesses:

None.

11. Statement Relative to Part I, Article 28-a of the N.H. Constitution:

Relative to Part I, Article 28-a of the NH Constitution, there are no added costs for these proposed rules to the state or to political subdivisions. These rules provide the requirements for the credentialing and educator preparation program approval processes. These processes are already in place. The credentialing and program approval procedures are self-funded activities of the NH Department of Education from the credentialing fee revenues. Therefore, there is no violation of Part I, Article 28-a.

Readopt with amendment, Ed 507.28, effective 10-16-09 (Doc #9566), as amended effective 1-17-14 (Doc#10506), to read as follows:

Ed 507.28 ~~Middle Level Science Teacher For Grades 5-8. The following requirements shall apply to the certification of a middle level science teacher for grades 5-8:~~

(a) To be certified as a ~~middle level~~ science teacher for grades 5-8, the candidate shall:

~~(1) Have at least a bachelor's degree;~~

~~(2) Meet the qualifications for certification as a science teacher as provided in Ed 507.29; and~~

~~(3) Qualify for certification under one of the alternatives in Ed 505.01 – Ed 505.05; and~~

(42) Meet the requirements of (bc) below.

(b) The department of education shall assess the skills, competencies and knowledge of candidates for certification as educators in science for grades 5-8 by reviewing evidence, such as, but not limited to, college course work, documented professional experience, letters of recommendation, professional development hours or CEUs, and artifacts of professional practice.

(c) A candidate for certification as a ~~middle level~~ science teacher for grades 5-8 shall have the following skills, competencies and knowledge, ~~gained through a combination of academic and supervised practical experiences,~~ in the following areas:

~~(1) In the area of fundamental content knowledge, T~~the candidate shall have the ability to: *comprehend, apply, evaluate, analyze, synthesize and communicate knowledge in earth and space science, life science and physical science as follows:*

a. ~~Comprehend, apply, evaluate, analyze, and synthesize knowledge of~~*In the area of earth and space science, earth's place in the universe, including, but not limited to:*

1. ~~Earth space sciences in the following areas~~*Earth-sun-moon relationships, including origins, structure and resultant effects on earth;*

2. *Origin, components, characteristics and motions of the solar system;*

3. *Relationships among the solar system, milky way galaxy and the universe;*

4. *Instruments to observe space and the information gained to determine scale properties; and*

5. *History of earth, including, but not limited to, age as determined by rock strata, and the geological time scale;*

(i) ~~Land, atmosphere, and ocean systems including gradual and catastrophic changes on Earth;~~

(ii) ~~Properties, measurements, and classification of Earth materials;~~

- ~~(iii) Changes in the earth including land formation, erosion, evolution, and distribution of living things~~
- ~~(iv) Energy flow and transformation in Earth systems due to oxygen, carbon, and nitrogen~~
- ~~(v) Hydrological features of Earth including distribution and use of water;~~
- ~~(vi) Atmosphere, weather, and climate;~~
- ~~(vii) Origin, evolution, and planetary behaviors of Earth;~~
- ~~(viii) Origin, evolution, properties, and behaviors of the universe;~~
- ~~(ix) Fundamentals of investigating and interrelating sciences as systems including geology, oceanography, meteorology, and astronomy;~~
- ~~(x) Sources and limits of natural resources;~~
- ~~(xi) Applications of Earth space sciences to environmental quality and to personal and community health and welfare;~~
- ~~(xii) Applications of Earth space sciences to society, business, industry, and health fields;~~
- ~~(xiii) Dating of Earth and other objects in the universe;~~
- ~~(xiv) Structures of objects and systems in space; and~~
- ~~(xv) Interactions among populations, resources, and environments;~~

2. Life sciences in the following areas:

- ~~(i) Cycles of matter and flow of energy, through living and nonliving pathways;~~
- ~~(ii) Multiple systems of classification of organisms including animals, plants, fungi, microorganisms, and viruses;~~
- ~~(iii) Natural selection, adaptation, diversity, and speciation;~~
- ~~(iv) Ecological systems, including population dynamics and environmental quality;~~
- ~~(v) General concepts of reproduction, genetics, and heredity;~~
- ~~(vi) Basic structure, function, and reproduction of cells;~~
- ~~(vii) Human anatomy and physiology, including development, allergies, and personal and community health issues;~~
- ~~(viii) Behavior of living systems and the role of feedback in their regulation;~~
- ~~(ix) Applications of biology and biotechnology in society, business, industry, and health fields;~~

~~(x) Factors governing the structures, functions, and behaviors of living systems; and~~

~~(xi) Levels of organization from cells to biomes; and~~

~~3. Physical science in the following areas:~~

~~(i) Properties and applications of sound, light, magnetism, and electricity;~~

~~(ii) Types of energy, energy sources, and simple transformations of energy;~~

~~(iii) Energy flow, both kinetic and potential, in physical and chemical systems, including simple machines;~~

~~(iv) States of matter, including chemical and physical changes, and bonding in relation to molecular behavior and energy;~~

~~(v) Classification of matter, elements, compounds, and energy;~~

~~(vi) Properties of matter, including mass, solubility, and density;~~

~~(vii) Chemical nature of the earth and its living organisms;~~

~~(viii) Nature of radioactive substances;~~

~~(ix) Chemical, electrical, and radiation hazards; and~~

~~(x) Conservation of matter and energy, including energy transfer and flow in physical and chemical systems;~~

~~b. Explain concepts, solve problems through full and partial inquiries, guide field experiences, and perform laboratory techniques in the life, Earth space, and physical sciences. *In the area of earth and space science, earth's systems, including, but not limited to:*~~

~~1. *Materials cycles through the earth driven by a flow of energy;*~~

~~2. *Geoscience processes that reshape the earth's surface;*~~

~~3. *Weather and climate, including, but not limited to:*~~

~~(i) *Role of the water cycle and how it's driven by energy from the sun and gravity;*~~

~~(ii) *Role of air masses in changing weather conditions;*~~

~~(iii) *Role of uneven heating causes circulating patterns in the oceans and atmosphere that determine regional climates; and*~~

~~c. Design and conduct scientific research in Earth space, life, or physical science. *In the area of earth science, earth and human activity, including, but not limited to:*~~

- 1. The uneven distribution of Earth's natural resources resulting from geoscience processes;*
- 2. Natural events showing patterns and providing data for prediction and mitigation;*
- 3. The role of human impact on the environment, methods for monitoring and minimizing the resulting effects;*
- 4. Evidence of increased human population and its relationship to consumption of natural resources and impact on the earth's systems; and*
- 5. Evidence and factors that have caused global temperature changes over time;*

d. ~~Apply mathematical and statistical concepts, at least through the level of college algebra and statistics~~*In the area of life science, the structure and processes from molecules to organisms, including, but not limited to:*

- 1. Structure and function of unicellular organisms, multicellular organisms and interactions of subsystems within an organism;*
- 2. Growth and reproduction: genetic, behavioral and environmental conditions and how they influence reproduction of plants and animals;*
- 3. Cycling of matter and flow of energy: chemical processes of photosynthesis and respiration; and*
- 4. Information processing: how organisms respond to stimuli in the environments; and*

e. ~~Explain and solve problems in the fundamentals of life, Earth space, and physical sciences equivalent to those taught in an introductory college course, including basic concepts and laboratory techniques; and~~*In the area of life science, ecosystems, their interactions, energy and dynamics, including, but not limited to:*

- 1. Independent relationships in ecosystems: biotic and abiotic influences, competition or symbiosis among organisms based on limited resources, and cycling of matter and flow of energy to determine changes in population; and*
- 2. Human impact and influences on the ecosystem; and*

f. ~~Explain historical development and perspectives in life, physical, and Earth space sciences, including contributions of significant figures and underrepresented groups; and~~*In the area of life science, heredity, the inheritance and variation of traits:*

- 1. Growth and development of organisms: asexual and sexual reproduction, inheritance and variation of genetic traits in resulting offspring and alterations to genes; and*

g. In the area of life science, biological evolution regarding unity and diversity, including, but not limited to:

- 1. Evidence of common ancestry diversity: fossil record, comparing anatomical characteristics of past to present organisms and embryological development of different species;*
- 2. Natural and artificial selection: role of each on traits and changes in population over time; and*
- 3. Adaptation: impact on the distribution of traits in a population over time; and*

h. In the area of physical science, matter and its interactions, including but not limited to:

- 1. Structure and properties of matter, including, but not limited to:*
 - (i) Atomic structure of molecules;*
 - (ii) Physical and chemical properties and changes;*
 - (iii) Characteristics and properties of solids, liquids and gases; and*
 - (iv) Relationship among states of matter, molecular motion and temperature; and*
- 2. Chemical reactions: process of chemical reactions, law of conservation of mass and law of conservation of energy; and*

i. In the area of physical science, motion and stability regarding forces and interactions, including, but not limited to:

- 1. Forces and motion: Newton's laws of motion; and*
- 2. Interactions: characteristics, behavior, and influencing factors of electromagnetic and gravitational forces and fields; and*

j. In the area of physical science, energy, including, but not limited to:

- 1. The relationships of potential and kinetic energy;*
- 2. Energy transfer; and*
- 3. Relationship between energy and forces; and*

k. In the area of physical science, waves and their applications in technologies for information transfer, including, but not limited to:

- 1. Properties and behaviors of different types of waves; and*

2. Role of digital signals in communication.

~~(2) In the area of instructional performance, the candidate shall have the ability to:~~

~~a. Design and teach laboratory activities which incorporate scientific processes, promote scientific habits of mind, and meet needs of diverse learners;~~

~~b. Design activities and investigations which teach literacy through integrating:~~

~~1. The knowledge of the methods of teaching reading, writing, communication, and study skills essential to the effective mastery of middle school science content;~~

~~2. The use of scientific drawings, diagrams, bulleted lists, and graphing essential to science investigations and expression of ideas; and~~

~~3. Appropriate quantitative literacy skills and concepts into a science lesson;~~

~~c. Relate middle school science to natural and technological issues that influence society and the ethical and moral consequences of decisions related to those issues;~~

~~d. Model and teach safe laboratory and field practices, including:~~

~~1. Personal safety;~~

~~2. Equipment storage and upkeep;~~

~~3. Safe and ethical handling of animals and other organisms; and~~

~~4. Chemistry and waste inventory, handling, and disposal;~~

~~e. Integrate the common themes exhibited in all of the sciences into teaching and course design including:~~

~~1. Systems and energy;~~

~~2. Models and scale;~~

~~3. Patterns of change, including constancy or stability;~~

~~4. Form and function;~~

~~5. Evolution; and~~

~~6. Nature of science and inquiry;~~

~~f. Integrate knowledge from the history and philosophy of science into Earth space science instruction;~~

~~g. Design learning activities which foster questioning, open ended investigations, the development of cooperative group skills, and promote practice in decision making and problem solving;~~

~~h. Select, adapt, evaluate, and use age appropriate strategies and materials for the learning of middle school science, including the recommendations of national curriculum projects and scientific groups; and~~

~~i. Organize, present, and evaluate Earth space science ideas in a manner which emphasizes conceptual understanding and in ways which provide for optimal learning experiences for middle school students of all ability levels and learning styles.~~

Readopt, with amendment Ed 612.22, effective 10-16-09 (Doc #9566), to read as follows:

Ed 612.22 Middle Level Science For Grades 5-98.

~~(a) ***In addition to meeting the program requirements*** A middle level science program for grades 5-9 shall meet the science program general requirements of Ed 612.23 ***the science program for grades 5-8 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience as outlined in Ed 507.28 (c).***~~

~~(b) In compliance with RSA 193 C:3, IV (f) and consistent with RSA 193 C:3, III, the teacher preparation program in middle level science for grades 5-9 shall require candidate competency in the teaching of middle level science, including techniques for enhancing student learning in this area and the use of assessment results to improve instruction.~~

~~(c) The middle level science program for grades 5-9 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience in the following areas:~~

~~(1) In the area of fundamental content knowledge, the candidate shall have the ability to:~~

~~a. Comprehend, apply, evaluate, analyze, and synthesize knowledge of:~~

~~1. Earth space science in the following areas:~~

~~(i) Land, atmosphere, and ocean systems including gradual and catastrophic changes on Earth;~~

~~(ii) Properties, measurements, and classification of Earth materials;~~

~~(iii) Changes in the earth including land formation, erosion, evolution, and distribution of living things;~~

~~(iv) Energy flow and transformation in Earth systems due to oxygen, carbon, and nitrogen;~~

~~(v) Hydrological features of Earth including distribution and use of water;~~

~~(vi) Atmosphere, weather, and climate;~~

~~(vii) Origin, evolution, and planetary behaviors of Earth;~~

~~(viii) Origin, evolution, properties, and behaviors of the universe;~~

~~(ix) Fundamentals of investigating and interrelating Earth space science as a system including geology, oceanography, meteorology, and astronomy;~~

~~(x) Sources and limits of natural resources;~~

~~(xi) Applications of Earth space science to environmental quality and to personal and community health and welfare;~~

~~(xii) Applications of Earth space science to society, business, industry, and health fields;~~

~~(xiii) Dating of Earth and other objects in the universe;~~

~~(xiv) Structures of objects and systems in space; and~~

~~(xv) Interactions among populations, resources, and environments;~~

2. ~~Life sciences in the following areas:~~

~~(i) Cycles of matter and flow of energy, through living and nonliving pathways;~~

~~(ii) Multiple systems of classification of organisms including animals, plants, fungi, microorganisms, and viruses;~~

~~(iii) Natural selection, adaptation, diversity, and speciation;~~

~~(iv) Ecological systems, including population dynamics and environmental quality;~~

~~(v) General concepts of reproduction, genetics, and heredity;~~

~~(vi) Basic structure, function, and reproduction of cells;~~

~~(vii) Human anatomy and physiology, including development, allergies, and personal and community health issues;~~

~~(viii) Behavior of living systems and the role of feedback in their regulation;~~

~~(ix) Applications of biology and biotechnology in society, business, industry, and health fields;~~

~~(x) Factors governing the structures, functions, and behaviors of living systems; and~~

~~(xi) Levels of organization from cells to biomes;~~

3. ~~Physical science in the following areas:~~

~~(i) Properties and applications of sound, light, magnetism, and electricity;~~

~~(ii) Types of energy, energy sources, and simple transformations of energy;~~

~~(iii) Energy flow, both kinetic and potential, in physical and chemical systems, including simple machines;~~

- ~~(iv) States of matter, including chemical and physical changes, and bonding in relation to molecular behavior and energy;~~
- ~~(v) Classification of matter, elements, compounds, and energy;~~
- ~~(vi) Properties of matter, including mass, solubility, and density;~~
- ~~(vii) Chemical nature of the earth and its living organisms;~~
- ~~(viii) Nature of radioactive substances;~~
- ~~(ix) Chemical, electrical, and radiation hazards; and~~
- ~~(x) Conservation of matter and energy, including energy transfer and flow in physical and chemical systems; and~~

~~b. Explain concepts, solve problems through full and partial inquiries, guide field experiences, and perform laboratory techniques in the life, Earth space, and physical sciences;~~

~~c. Design and conduct scientific research in Earth space, life, or physical science;~~

~~d. Apply mathematical and statistical concepts, at least through the level of college algebra and statistics;~~

~~e. Explain and solve problems in the fundamentals of life, Earth space, and physical sciences equivalent to those taught in an introductory college course, including basic concepts and laboratory techniques; and~~

~~f. Explain historical development and perspectives in life, physical, and Earth space sciences, including contributions of significant figures and underrepresented groups; and~~

~~(2) In the area of instructional performance, the candidate shall have the ability to:~~

~~a. Design and teach laboratory activities which incorporate scientific processes, promote scientific habits of mind, and meet needs of diverse learners;~~

~~b. Design activities and investigations which teach literacy through integrating:~~

~~1. The knowledge of the methods of teaching reading, writing, communication, and study skills essential to the effective mastery of middle school science content;~~

~~2. The use of scientific drawings, diagrams, bulleted lists, and graphing essential to science investigations and expression of ideas; and~~

~~3. Appropriate quantitative literacy skills and concepts into a science lesson;~~

~~c. Relate middle school science to natural and technological issues that influence society and the ethical and moral consequences of decisions related to those issues;~~

~~d. Model and teach safe laboratory and field practices, including:~~

- ~~1. Personal safety;~~
- ~~2. Equipment storage and upkeep;~~
- ~~3. Safe and ethical handling of animals and other organisms; and~~
- ~~4. Chemistry and waste inventory, handling, and disposal;~~

~~e. Integrate the common themes exhibited in all of the sciences into teaching and course design including:~~

- ~~1. Systems and energy;~~
- ~~2. Models and scale;~~
- ~~3. Patterns of change, including constancy or stability;~~
- ~~4. Form and function;~~
- ~~5. Evolution; and~~
- ~~6. Nature of science and inquiry;~~

~~f. Integrate knowledge from the history and philosophy of science into Earth space science instruction;~~

~~g. Design learning activities which foster questioning, open ended investigations, the development of cooperative group skills, and promote practice in decision making and problem solving;~~

~~h. Select, adapt, evaluate, and use age appropriate strategies and materials for the learning of middle school science, including the recommendations of national curriculum projects and scientific groups; and~~

~~i. Organize, present, and evaluate Earth space science ideas in a manner which emphasizes conceptual understanding and in ways which provide for optimal learning experiences for middle school students of all ability levels and learning styles.~~

Appendix I

RULE	STATUTE
Ed 507.28	RSA 186:8, III- IV, RSA 186:11,X(a)
Ed 612.22	RSA 186:8, IV; RSA 186:11, X(c)

Readopt with amendment Ed 507.29, effective 10-16-09 (Doc. #9566), as amended effective 01-17-14 (Doc #10506), to read as follows:

Ed 507.29 Science Teacher; General Requirements.

(a) *To be certified as science teacher, the candidate shall have:*

(1) *At least a bachelor's degree; and*

(2) *Qualify for certification under one of the alternatives in Ed 505.01 – Ed 505.05.*

(b) The department of education shall assess the skills, competencies and knowledge of candidates for certification as educators in science by reviewing evidence, such as, but not limited to, college course work, documented professional experience, letters of recommendation, professional development hours or CEU's, and artifacts of professional practice.

~~(ac)~~ In addition to meeting the requirements for certification under Ed 507.28 for middle level science teacher for grades 5-8, Ed 507.30 for Earth- *and* space science teacher, Ed 507.31 for life sciences teacher, Ed 507.32 for chemistry teacher, Ed 507.33 for physics teacher, or Ed 507.51 for educator in physical science *teacher* for grades 7-12 a science teacher shall have the qualifications listed in ~~(b)~~ (e) and (ef) below.

~~(b) In compliance with RSA 193 C:3, IV(f) and consistent with RSA 193 C:3, III, a candidate for certification as a science teacher shall demonstrate competence in the teaching of science, including techniques for enhancing student learning in the area(s) of science to be taught and the use of assessment results to improve instruction.~~

~~(ee)~~ Qualifications for a science teacher shall include the following skills, competencies, and knowledge *In the area of instructional performance, the candidate shall demonstrate:*

(1) ~~Knowledge of the nature of scientific evidence and ability to use models for explanations~~ *Proficiency in the scientific practices as demonstrated by the ability to:*

a. Integrate the science practices throughout lessons by:

1. Asking questions for science and defining problems for engineering;

2. Developing and using models;

3. Planning and carrying out investigations;

4. Analyzing and interpreting data;

5. Using mathematics and computational thinking;

6. Constructing explanations for science and designing solutions for engineering; and

7. Engaging in argument from evidence;

b. Design and teach grade level appropriate laboratory activities incorporating scientific processes, promoting scientific habits of mind, and meeting needs of diverse learners;

c. Use scientific drawings, diagrams, data tables, models and graphing essential to science investigations and expression of ideas;

d. Design learning activities fostering questioning, open-ended investigations, the development of cooperative group skills, and promoting practice in decision making and problem solving;

e. Use methods of teaching reading, writing, communication, and study skills essential to the effective mastery of grade level science content;

f. Design activities and investigations integrating appropriate quantitative literacy skills and concepts; and

h. Organize , present and evaluate science ideas in a manner emphasizing conceptual understanding of phenomena and optimizing learning experiences for students of all ability levels and learning styles;

~~(2) Ability to use measurement as a way of knowing and organizing observations of constancy and change~~ *Scientific content knowledge that enables the integration of the common themes exhibited in all of the sciences into teaching and course design including::*

a. Systems and system models;

b. Energy and matter;

c. Cause and effect;

d. Scale, proportion, and quantity;

e. Patterns of change, including constancy or stability;

f. Structure and function;

g. Stability, change and evolution; and

h. Nature of science and inquiry;

~~(3) Skill in using multiple ways of organizing perceptions of the world and how systems organize the studies and knowledge of science-~~ *The ability to make connections that::*

a. Establish relationships among all sciences and reflect the role of science systems in science literacy;

b. Relate the sciences to technological issues that influence society and the ethical and moral consequences of decisions related to those issues; and

c. Integrate knowledge from the history and philosophy of science into science instruction;

~~(4) Knowledge of the evolution of natural systems and factors that result in evolution or equilibrium;~~

~~(5) Knowledge of interrelationships of form, function, and behaviors in living and non-living systems;~~

~~(64) Knowledge of science **field and laboratory** safety and emergency procedures, including legal and ethical responsibilities of science teachers for:~~

~~a. The welfare of their students **and care for living organisms as appropriate to the area of study**;~~

~~b. The proper treatment of animals; and~~

~~**eb.** The *proper* maintenance, *storage* and disposal of *laboratory* materials *or chemicals using the Globally Harmonized System for Hazard Communication of 2007 available as specified in Appendix II*;~~

~~(86) Twenty first century skills using information technology to acquire and analyze data, and to collect and communicate information **Knowledge and skills to integrate technological tools for learning, analysis and reporting, including, but not limited to**;~~

~~a. *Skills to plan, design, deliver and incorporate active learning and collaboration*;~~

~~b. *Collect and analyze data using information technology*; and~~

~~c. *Communicate information effectively*;~~

~~(7) **Knowledge and skills of computing and computational thinking as it relates to science, including, but not limited to**:~~

~~a. *Visualizations of scientific concepts*; and~~

~~b. *Modeling and simulating engineering design to communicate science understanding*; and~~

~~(98) Ability to practice good digital citizenship **by understanding the social, ethical, legal, and human issues surrounding the use of technology in schools and model safe, ethical and legal practice with digital tools and resources**; and~~

~~(10) **Demonstration of technology skills necessary to plan, design, deliver, and incorporate active learning and collaboration in the online environment.**~~

(f) The candidate shall demonstrate knowledge of the organizations, agencies, and journals that contribute to the professional growth of the science teacher.

Readopt with amendment Ed 612.23, effective 10-16-09 (Doc # 9566), to read as follows:

Ed 612.23 Science Program; General Requirements.

(a) In addition to meeting the program requirements under Ed 612.22 for ~~middle-level~~ science for grades 5-9~~8~~, Ed 612.24 for Earth *and* space science for grades 7-12, Ed 612.25 for life sciences for grades 7-12, Ed 612.26 for chemistry for grades 7-12, ~~or~~ Ed 612.27 for physics for grades 7-12 *or Ed 612.34 for physical science grades 7-12, a program for science general requirements* program shall ~~meet the requirements listed in (b) below~~ provide the candidate with the skills, competencies, and knowledge through a combination of academic and supervised practical experiences as outlined in Ed 507.29(d-f).

~~(b) A preparation program for science education in grades 7-12 shall provide the teaching candidate with the following skills, competencies, and knowledge through a combination of academic experiences and demonstrated competency and equivalent experiences in the area of science education:~~

- ~~(1) Knowledge of the nature of scientific evidence and ability to use models for explanations;~~
- ~~(2) Ability to use measurement as a way of knowing and organizing observations of constancy and change;~~
- ~~(3) Skill in using multiple ways of organizing perceptions of the world and how systems organize the studies and knowledge of science;~~
- ~~(4) Knowledge of the evolution of natural systems and factors that result in evolution or equilibrium;~~
- ~~(5) Knowledge of interrelationships of form, function, and behaviors in living and non-living systems;~~
- ~~(6) Knowledge of science safety and emergency procedures, including legal and ethical responsibilities of science teachers for:
 - ~~a. The welfare of their students;~~
 - ~~b. The proper treatment of animals; and~~
 - ~~c. The maintenance and disposal of materials;~~~~
- ~~(7) Knowledge of the organizations, agencies, and journals that contribute to the professional growth of the science teacher;~~
- ~~(8) Twenty first century skills using information technology to acquire and analyze data, and to collect and communicate information;~~
- ~~(9) Ability to practice good digital citizenship by understanding the social, ethical, legal, and human issues surrounding the use of technology in schools; and~~
- ~~(10) Demonstration of technology skills necessary to plan, design, deliver, and incorporate active learning and collaboration in the online environment.~~

Appendix I

RULE	STATUTE
Ed 507.29	RSA 186:8, III- IV, RSA 186:11,X(a)
Ed 612.23	RSA 186:8, IV; RSA 186:11, X(c)

Appendix II

Rule	Title	Obtain At
Ed 507.29(e)(4)b	The Globally Harmonized System for Hazard Communication of 2007	http://www.unece.org/trans/danger/publi/ghs/ghs_rev02/02files_e.html

Readopt with amendment Ed 507.30, effective 10/16/09 (Doc #9566), to read as follows:

Ed 507.30 Earth *and* Space Science Teacher For Grades 7-12. ~~The following requirements shall apply to the certification of an Earth space science teacher for grades 7-12:~~

(a) To be certified as an earth *and* space science teacher for grades 7-12, the candidate shall:

~~(1) Have at least a bachelor's degree;~~

~~(2) Meet the qualifications for certification as a science teacher as provided in Ed 507.29;~~
and

~~(3) Qualify for certification under one of the alternatives in Ed 505.01—Ed 505.05; and~~

(42) Meet the requirements of (bc) below.

(b) The department of education shall assess the skills, competencies and knowledge of candidates for certification as educators in earth and space science by reviewing evidence, such as, but not limited to, college course work, documented professional experience, letters of recommendation, professional development hours or CEUs, and artifacts of professional practice.

~~(bc) A candidate for certification as an Earth *and* space science teacher for grades 7-12 shall have the following skills, competencies and knowledge, gained through a combination of academic and supervised practical experiences, in the following areas:~~

(1) In the area of fundamental content knowledge, the candidate shall have the ability to:

a. Comprehend, apply, evaluate, analyze, and synthesize knowledge of:

~~1. Land, atmosphere, and ocean systems, including gradual and catastrophic changes on Earth~~ *Structure of earth systems, such as the geosphere, atmosphere, hydrosphere, and biosphere, including the properties, measurements and classification of their constituent materials and structures;*

~~2. Properties, measurements, and classification of Earth materials~~ *Changes in earth systems to include the geosphere, atmosphere, hydrosphere and biosphere, including the gradual and catastrophic changes that occur in those systems at different spatial and temporal ranges, such as tectonic activity, weather and climate, population dynamics and the evolution of life;*

~~3. Changes in the earth including land formation, erosion, evolution, and distribution of living things~~ *Relationships between earth systems to include the geosphere, atmosphere, hydrosphere and biosphere, including, but not limited to the flow of energy and matter between and among those systems;*

~~4. Geochemical cycles, including biotic and abiotic systems~~ *The origin, evolution, properties, and behavior of planetary and geologic structures, including the use of relative and absolute dating techniques to derive systems of chronological dating such as the geologic time scale;*

- ~~5. Energy flow and transformation in Earth systems and Earth as a system~~***The origin, evolution, properties and behavior of the universe, including energy, matter and astronomical objects;***
 - ~~6. Hydrological features of Earth, including distribution and use of water~~***Fundamentals of investigating and interrelating the fields of study within earth space sciences, including geology, oceanography, meteorology and astronomy;***
 - ~~7. Atmosphere, weather, and climate~~***The impact of human activity on earth systems, including the geosphere, atmosphere, hydrosphere and biosphere;***
 - ~~8. Origin, evolution, and planetary behaviors of Earth~~***The application of earth space sciences relating to societal issues such as environmental quality, personal and community health and welfare, business and industry; and***
 - ~~9. Origin, evolution, properties, and behaviors of the universe, including energy and matter and structures and functions~~***The application of earth space sciences relating to the sources, limits and management of renewable and nonrenewable natural resources;***
 - ~~10. Fundamentals of investigating and interrelating Earth space sciences as systems including geology, oceanography, meteorology and astronomy;~~
 - ~~11. Sources and limits of natural resources;~~
 - ~~12. Applications of Earth space sciences relating to environmental quality and to personal and community health and welfare;~~
 - ~~13. Applications of Earth space sciences relating to society, business, industry, and health fields; and~~
 - ~~14. Dating of Earth and other objects in the universe;~~
- b. Apply knowledge of Earth space sciences through ~~full and partial inquiries~~***inquiry***, field experiences, laboratory investigations, and the use of scientific models ***and scientific research***;
- c. ~~Design and conduct scientific research in Earth space sciences;~~
- d. Apply mathematical and statistical concepts~~models~~, at least through the level of college calculus and statistics ***as they relate to earth and space***;
- e. Explain and solve problems in ~~the fundamentals of chemistry and physics equivalent to those taught in introductory college chemistry and college physics courses,~~***earth space science, incorporating the fundamental concepts of chemistry, physics, and life sciences***, including basic concepts and laboratory techniques; ***and***
- f. ~~Examine concepts in Earth space sciences, including evolution, ecology, population dynamics, and flow of energy and matter through Earth systems; and~~

g. Explain *the* historical development ~~and perspective in of Earth~~ *and* space sciences, including contributions of significant figures and underrepresented groups, and the evolution of theories in *Earth and* space sciences; ~~and~~.

~~(2) In the area of instructional performance, the candidate shall have the ability to:~~

~~a. Design and teach laboratory activities which incorporate scientific processes, promote scientific habits of mind, and meet needs of diverse learners;~~

~~b. Design activities and investigations which teach literacy through integrating:~~

~~1. The knowledge of the methods of teaching reading, writing, communication, and study skills essential to the effective mastery of middle school science content;~~

~~2. The use of scientific drawings, diagrams, bulleted lists, and graphing essential to science investigations and expression of ideas; and~~

~~3. Appropriate quantitative literacy skills and concepts into a science lesson;~~

~~c. Demonstrate connections among all sciences and understand the role of Earth space science systems in science literacy;~~

~~d. Relate Earth space sciences to technological issues that influence society and the ethical and moral consequences of decisions related to those issues;~~

~~e. Model and teach safe laboratory and field practices, including:~~

~~1. Personal safety;~~

~~2. Equipment storage and upkeep;~~

~~3. Safe and ethical handling of animals and other organisms; and~~

~~4. Chemistry and waste inventory, handling, and disposal;~~

~~f. Integrate the common themes exhibited in all of the sciences into teaching and course design including:~~

~~1. Systems and energy;~~

~~2. Models and scale;~~

~~3. Patterns of change, including constancy or stability;~~

~~4. Form and function;~~

~~5. Evolution; and~~

~~6. Nature of science and inquiry;~~

~~g. Integrate knowledge from the history and philosophy of science into Earth space sciences instruction;~~

~~h. Design learning activities which foster questioning, open ended investigations, the development of cooperative group skills, and promote practice in decision making and problem solving;~~

~~i. Select, adapt, evaluate, and use age appropriate strategies and materials for the learning of Earth space sciences, including the recommendations of national curriculum projects and scientific groups; and~~

~~j. Organize, present, and evaluate Earth space sciences ideas in a manner which emphasizes conceptual understanding and in ways which provide for optimal learning experiences for students of all ability levels and learning styles.~~

Readopt with amendment Ed 612.24, effective 10/16/09 (Doc #9566), to read as follows:

Ed 612.24 Earth and Space Science For Grades 7-12.

~~(a) In addition to meeting the program requirements under A teacher preparation program in chemistry for grades 7-12 shall meet the science program general requirements of Ed 612.23, *the earth and space science program for grades 7-12 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience as outlined in Ed 507.30(c).*~~

~~(b) In compliance with RSA 193 C:3, IV(f) and consistent with RSA 193 C:3, III, the teacher preparation program in Earth space science for grades 7-12 shall require candidate competency in the teaching of Earth space science, including techniques for enhancing student learning in this area and the use of assessment results to improve instruction.~~

~~(c) The Earth space science program for grades 7-12 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience in the following areas:~~

~~(1) In the area of fundamental content knowledge, the candidate shall have the ability to:~~

~~a. Comprehend, apply, evaluate, analyze, and synthesise knowledge of:~~

- ~~1. Land, atmosphere, and ocean systems, including gradual and catastrophic changes on Earth;~~
- ~~2. Properties, measurements, and classification of Earth materials;~~
- ~~3. Changes in the earth including land formation, erosion, evolution, and distribution of living things;~~
- ~~4. Geochemical cycles, including biotic and abiotic systems;~~
- ~~5. Energy flow and transformation in Earth systems and Earth as a system;~~
- ~~6. Hydrological features of Earth, including distribution and use of water;~~
- ~~7. Atmosphere, weather, and climate;~~
- ~~8. Origin, evolution, and planetary behaviors of Earth;~~

~~9. Origin, evolution, properties, and behaviors of the universe, including energy and matter and structures and functions;~~

~~10. Fundamentals of investigating and interrelating Earth space science as a system including geology, oceanography, meteorology and astronomy;~~

~~11. Sources and limits of natural resources;~~

~~12. Applications of Earth space science relating to environmental quality and to personal and community health and welfare;~~

~~13. Applications of Earth space science relating to society, business, industry, and health fields; and~~

~~14. Dating of Earth and other objects in the universe;~~

~~b. Apply knowledge of Earth space science through full and partial inquiries, field experiences, laboratory investigations, and the use of scientific models;~~

~~e. Design and conduct scientific research in Earth space science;~~

~~d. Apply mathematical and statistical concepts, at least through the level of college calculus and statistics;~~

~~e. Explain and solve problems in the fundamentals of chemistry and physics equivalent to those taught in introductory college chemistry and college physics courses, including basic concepts and laboratory techniques;~~

~~f. Examine concepts in Earth space science, including evolution, ecology, population dynamics, and flow of energy and matter through Earth systems; and~~

~~g. Explain historical development and perspective in Earth space science, including contributions of significant figures and underrepresented groups, and the evolution of theories in Earth space science; and~~

~~(2) In the area of instructional performance, the candidate shall have the ability to:~~

~~a. Design and teach laboratory activities which incorporate scientific processes, promote scientific habits of mind, and meet needs of diverse learners;~~

~~b. Design activities and investigations which teach literacy through integrating:~~

~~1. The knowledge of the methods of teaching reading, writing, communication, and study skills essential to the effective mastery of middle school science content;~~

~~2. The use of scientific drawings, diagrams, bulleted lists, and graphing essential to science investigations and expression of ideas; and~~

~~3. Appropriate quantitative literacy skills and concepts into a science lesson;~~

~~e. Demonstrate connections among all sciences and understand the role of Earth space science systems in science literacy;~~

~~d. Relate Earth space science to technological issues that influence society and the ethical and moral consequences of decisions related to those issues;~~

~~e. Model and teach safe laboratory and field practices, including:~~

~~1. Personal safety;~~

~~2. Equipment storage and upkeep;~~

~~3. Safe and ethical handling of animals and other organisms; and~~

~~4. Chemistry and waste inventory, handling, and disposal;~~

~~f. Integrate the common themes exhibited in all of the sciences into teaching and course design including:~~

~~1. Systems and energy;~~

~~2. Models and scale;~~

~~3. Patterns of change, including constancy or stability;~~

~~4. Form and function;~~

~~5. Evolution; and~~

~~6. Nature of science and inquiry;~~

~~g. Integrate knowledge from the history and philosophy of science into Earth space science instruction;~~

~~h. Design learning activities which foster questioning, open ended investigations, the development of cooperative group skills, and promote practice in decision making and problem solving;~~

~~i. Select, adapt, evaluate, and use age appropriate strategies and materials for the learning of Earth space science, including the recommendations of national curriculum projects and scientific groups; and~~

~~j. Organize, present, and evaluate Earth space science ideas in a manner which emphasizes conceptual understanding and in ways which provide for optimal learning experiences for students of all ability levels and learning styles.~~

Appendix I

RULE	STATUTE
Ed 507.30	RSA 186:8, III- IV, RSA 186:11,X(a)
Ed 612.24	RSA 186:8, IV; RSA 186:11, X(c)

Readopt with amendment Ed 507.31, effective 10/16/09 (Doc #9566), to read as follows:

Ed 507.31 Life Sciences Teacher For Grades 7-12. ~~The following requirements shall apply to the certification of a life sciences teacher for grades 7-12:~~

(a) To be certified as a life sciences teacher for grades 7-12, the candidate shall:

~~(1) Have at least a bachelor's degree;~~

~~(2) Meet the qualifications for certification as a science teacher as provided in Ed 507.29; and~~

~~(3) Qualify for certification under one of the alternatives in Ed 505.01–Ed 505.05; and~~

(42) Meet the requirements of (bc) below.

(b) The department of education shall assess the skills, competencies and knowledge of candidates for certification as educators in life science by reviewing evidence, such as, but not limited to, college course work, documented professional experience, letters of recommendation, professional development hours or CEUs, and artifacts of professional practice.

~~(bc) A candidate for certification as a life sciences teacher for grades 7-12 shall have the following skills, competencies and knowledge, gained through a combination of academic and supervised practical experiences, in the following areas:~~

(1) In the area of fundamental content knowledge, the candidate shall have the ability to:

a. ~~Comprehend, apply, evaluate, analyze, and synthesize knowledge of~~***Explain concepts, solve problems, use models and perform both field and laboratory experiences in the following fundamental areas of life science:***

~~1. Life processes in living systems, including organization of matter and energy~~***Structure and functions, from molecules to organisms, as follows:***

(i) Evidence for structure of DNA determining structure of proteins;

(ii) Hierarchical organization of interacting systems; and

(iii) Feedback mechanisms that ensure homeostasis;

~~2. Similarities and differences among animals, plants, fungi, microorganisms, and viruses~~***Inheritance and variation of traits as follows:***

(i) Role of mitosis to maintain complex organisms;

(ii) Role of DNA and chromosomes in coding instructions that are passed through generations;

(iii) New genetic combinations are a result of meiosis and/or mutations; and

(iv) Statistics and probability explain the variation and distribution of expressed traits;

3. ~~Principles and practices of biological classification;~~ *Matter and energy in organisms and ecosystems as follows:*

(i) Role of photosynthesis, respiration, and or fermentation in the needs of organisms as well as in the cycling of carbon in the biosphere, atmosphere, hydrosphere and geosphere;

(ii) Carbon based molecules form the basis for life;

(iii) Explain the cycling of matter and flow of energy in aerobic and anaerobic conditions; and

(iv) Cycling of matter and flow of energy among organisms and ecosystems;

4. ~~Theory and principles of biological evolution;~~ *Interdependent relationships in ecosystems; and*

5. ~~Ecological systems, including population dynamics, environmental quality, and personal and community health~~ *Natural selection and evolution;*

6. ~~General concepts of genetics and heredity;~~

7. ~~Cells and multicellular systems;~~

8. ~~Human anatomy and physiology, including development;~~

9. ~~Regulation of biological systems, including homeostatic mechanisms; and~~

10. ~~Applications of biology and biotechnology in society, business, industry, and health fields;~~

b. ~~Apply knowledge of interrelationship of living organisms with their biotic and physical environment through full and partial inquiries, field experiences, laboratory investigations, and use of scientific models~~ *Apply mathematical modeling, statistical concepts, and manipulation of variables as they apply to life science; and*

c. ~~Design and conduct scientific research in life sciences~~ *Explain and solve problems in life science, incorporating the fundamental concepts of chemistry, physics, and earth space science, including basic concepts and laboratory techniques.;*

d. ~~Apply mathematical and statistical concepts, at least through the level of college calculus and statistics;~~

e. ~~Explain and solve problems in the fundamentals of chemistry and physics equivalent to those taught in introductory college chemistry and college physics courses, including basic concepts and laboratory techniques;~~

~~f. Examine concepts in Earth space sciences, including energy and geochemical cycles, climate, oceans, weather, natural resources, and changes on Earth; and~~

~~g. Explain historical development and perspectives in life sciences, including contributions of significant figures and underrepresented groups, and the evolution of theories in life sciences; and~~

~~(2) In the area of instructional performance, the candidate shall have the ability to:~~

~~a. Design and teach laboratory activities which incorporate scientific processes, promote scientific habits of mind, and meet needs of diverse learners;~~

~~b. Design activities and investigations which teach literacy through integrating:~~

~~1. The knowledge of the methods of teaching reading, writing, communication, and study skills essential to the effective mastery of middle school science content;~~

~~2. The use of scientific drawings, diagrams, bulleted lists, and graphing essential to science investigations and expression of ideas; and~~

~~3. Appropriate quantitative literacy skills and concepts into a science lesson;~~

~~c. Demonstrate connections among all sciences and understand the role of life sciences in science literacy;~~

~~d. Relate life sciences to natural and technological issues that influence society and the ethical and moral consequences of decisions related to those issues;~~

~~e. Model and teach safe laboratory and field practices, including:~~

~~1. Personal safety;~~

~~2. Equipment use, storage, and upkeep;~~

~~3. Safe and ethical handling of animals and other organisms; and~~

~~4. Chemical and waste inventory, handling, and disposal;~~

~~f. Integrate the common themes exhibited in all of the sciences into teaching and course design including:~~

~~1. Systems and energy;~~

~~2. Models and scale;~~

~~3. Patterns of change, including constancy or stability;~~

~~4. Form and function;~~

~~5. Evolution; and~~

~~6. Nature of science and inquiry;~~

~~g. Integrate knowledge from the history and philosophy of science into life sciences instruction;~~

~~h. Design learning activities which foster questioning, open ended investigations, the development of cooperative group skills, and promote practice in decision making and problem solving;~~

~~i. Select, adapt, evaluate, and use age appropriate strategies and materials for the learning of life sciences, including the recommendations of national curriculum projects and scientific groups; and~~

~~j. Organize, present, and evaluate life sciences ideas in a manner which emphasizes conceptual understanding and in ways which provide for optimal learning experiences for students of all ability levels and learning styles.~~

Readopt with amendment Ed 612.25, effective 10/16/09 (Doc #9566), to read as follows:

Ed 612.25 Life Sciences For Grades 7-12.

(a) *In addition to meeting the program requirements under* ~~A teacher preparation program in life sciences for grades 7-12 shall meet the science program general requirements of Ed 612.23, *the life science program for grades 7-12 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience as outlined in Ed 507.31(c).*~~

(b) ~~In compliance with RSA 193-C:3, IV(f) and consistent with RSA 193-C:3, III, the teacher preparation program in life sciences for grades 7-12 shall require candidate competency in the teaching of life sciences, including techniques for enhancing student learning in this area and the use of assessment results to improve instruction.~~

~~(c) The life sciences program for grades 7-12 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience in the following areas:~~

~~(1) In the area of fundamental content knowledge, the candidate shall have the ability to:~~

~~a. Comprehend, apply, evaluate, analyze, and synthesize knowledge of:~~

~~1. Life processes in living systems, including organization of matter and energy;~~

~~2. Similarities and differences among animals, plants, fungi, microorganisms, and viruses;~~

~~3. Principles and practices of biological classification;~~

~~4. Theory and principles of biological evolution;~~

- ~~5. Ecological systems, including population dynamics, environmental quality, and personal and community health;~~
- ~~6. General concepts of genetics and heredity;~~
- ~~7. Cells and multicellular systems;~~
- ~~8. Human anatomy and physiology, including development;~~
- ~~9. Regulation of biological systems, including homeostatic mechanisms; and~~
- ~~10. Applications of biology and biotechnology in society, business, industry, and health fields;~~

~~b. Apply knowledge of interrelationship of living organisms with their biotic and physical environment through full and partial inquiries, field experiences, laboratory investigations, and use of scientific models;~~

~~c. Design and conduct scientific research in life sciences;~~

~~d. Apply mathematical and statistical concepts, at least through the level of college calculus and statistics;~~

~~e. Explain and solve problems in the fundamentals of chemistry and physics equivalent to those taught in introductory college chemistry and college physics courses, including basic concepts and laboratory techniques;~~

~~f. Examine concepts in Earth space science, including energy and geochemical cycles, climate, oceans, weather, natural resources, and changes on Earth; and~~

~~g. Explain historical development and perspectives in life sciences, including contributions of significant figures and underrepresented groups, and the evolution of theories in life sciences; and~~

~~(2) In the area of instructional performance, the candidate shall have the ability to:~~

~~a. Design and teach laboratory activities which incorporate scientific processes, promote scientific habits of mind, and meet the needs of diverse learners;~~

~~b. Design and teach literacy through integrating:~~

~~1. The knowledge of the methods of teaching reading, writing, communication, and study skills essential to the effective mastery of life sciences content;~~

~~2. The use of scientific drawings, diagrams, bulleted lists, and graphing essential to science investigations and expression of ideas; and~~

~~3. Appropriate numeracy skills and concepts into a science lesson;~~

~~c. Demonstrate connections among all sciences and understand the role of life sciences in science literacy;~~

~~d. Relate life sciences to natural and technological issues that influence society and the ethical and moral consequences of decisions related to those issues;~~

~~e. Model and teach safe laboratory and field practices, including:~~

- ~~1. Personal safety;~~
- ~~2. Equipment use, storage, and upkeep;~~
- ~~3. Safe and ethical handling of animals and other organisms; and~~
- ~~4. Chemical and waste inventory, handling, and disposal;~~

~~f. Integrate the common themes exhibited in all of the sciences into teaching and course design including:~~

- ~~1. Systems and energy;~~
- ~~2. Models and scale;~~
- ~~3. Patterns of change, including constancy or stability;~~
- ~~4. Form and function;~~
- ~~5. Evolution; and~~
- ~~6. Nature of science and inquiry;~~

~~g. Integrate knowledge from the history and philosophy of science into life sciences instruction;~~

~~h. Design learning activities which foster questioning, open ended investigations, the development of cooperative group skills, and promote practice in decision making and problem solving;~~

~~i. Select, adapt, evaluate, and use age appropriate strategies and materials for the learning of life sciences, including the recommendations of national curriculum projects and scientific groups; and~~

~~j. Organize, present, and evaluate life sciences ideas in a manner which emphasizes conceptual understanding and in ways which provide for optimal learning experiences for students of all ability levels and learning styles.~~

Appendix I

RULE	STATUTE
Ed 507.31	RSA 186:8, III- IV, RSA 186:11,X(a)
Ed 612.25	RSA 186:8, IV; RSA 186:11, X(c)

Readopt with amendment Ed 507.32, effective 10-16-09 (Doc #9566), to read as follows:

Ed 507.32 Chemistry Teacher For Grades 7-12. ~~The following requirements shall apply to the certification of a chemistry teacher for grades 7-12:~~

(a) To be certified as a chemistry teacher for grades 7-12, the candidate shall:

~~(1) Have at least a bachelor's degree;~~

~~(2) Meet the qualifications for certification as a science teacher as provided in Ed 507.29;~~

~~(3) Qualify for certification under one of the alternatives in Ed 505.01—Ed 505.05~~ **Meet the qualifications for certification as a physical science teacher as provided in Ed 507.51;** and

(43) Meet the requirements of (bc) below.

(b) The department of education shall assess the skills, competencies and knowledge of candidates for certification as educators in chemistry by reviewing evidence, such as, but not limited to, college course work, documented professional experience, letters of recommendation, professional development hours or CEUs, and artifacts of professional practice.

~~(bc) A candidate for certification as a chemistry teacher for grades 7-12 shall have the following skills, competencies and knowledge, gained through a combination of academic and supervised practical experiences, in the following areas:~~

(1) In the area of fundamental content knowledge, the candidate shall have the ability to:

~~a. Comprehend, apply, evaluate, analyze, and synthesize physical science core knowledge of:~~ **Explain concepts, solve problems and perform laboratory techniques that explore and develop an understanding and application of the following fundamental areas of chemistry:**

~~1. Properties of matter, including mass, solubility, and density.~~ **Structure and properties of matter, including, but not limited to:**

a. Bonding and intermolecular forces;

b. Relationship between molecular structure and the function of designed materials;

c. Chemical engineering;

d. Coordination complexes;

e. Molecular Orbital Theory;

f. Organic chemistry and functional groups in biochemistry, biological compounds and natural products; and

g. Gas Laws;

~~2. Factors affecting the position, motion, and behavior of objects~~
Chemical reactions and energy, including, but not limited to:

- a. Reaction thermodynamics including exothermic & endothermic reactions, entropy, and Gibbs free energy;*
- b. Product prediction in chemical Reactions, based on patterns of chemical properties;*
- c. Complex reaction dynamics, including kinetics and equilibrium;*
- d. Mathematics of reactions, including mole concept, stoichiometry, and Laws of Composition and Conservation, and aqueous equilibria from Acid/Base systems to solubility;*
- e. Application of electrochemistry and REDOX reactions;*
- f. Energy in chemical processes;*
- g. Wave-Particle duality of nature, including the relationship between frequency, wavelength, and speed; and*
- h. Changes in matter due to the absorption of electromagnetic radiation;*

~~3. Conservation of matter and energy, including energy transfer and flow in physical and chemical systems~~
Nuclear and environmental processes, including, but not limited to:

- a. Environmental and atmospheric chemistry, including ground water pollution, plastics, and disposal of fuels; and*
- b. Applications of chemistry in community health and environmental quality;*

~~4. Types of energy, energy sources, and simple transformations of energy~~
Engineering design processes, including, but not limited to:

- a. Analyze a major global challenge to specify qualitative and quantitative criteria and constraints to solutions;*
- b. Design a solution to a complex real-world problem accounting for constraints, cost, safety, reliability, and social, cultural, and environmental impacts;*
- c. Use a computer simulation to model the impact of proposed solutions to a complex real-world problem.*

~~5. Classification of matter, elements, compounds, and energy;~~

- ~~6. Potential and kinetic energies and concepts of work, including simple machines;~~
- ~~7. Properties and applications of sound, light, magnetism, and electricity;~~
- ~~8. Variations in the physical and chemical states of matter;~~
- ~~9. Changes among states of matter;~~
- ~~10. Combinations of matter to form solutions, mixtures, and compounds with different properties;~~
- ~~11. States of matter and bonding in relation to molecular behavior and energy;~~
- ~~12. The chemical nature of the earth and its living organisms;~~
- ~~13. The nature of radioactive substances; and~~
- ~~14. Chemical, electrical, and radiation hazards;~~

~~b. Comprehend, apply, evaluate, analyze, and synthesize specific chemistry knowledge of:~~

- ~~1. Fundamental structures of atoms, molecules, and compounds including basic principles of ionic, covalent, and metallic bonding;~~
- ~~2. Physical and chemical properties and classification of elements, including periodicity;~~
- ~~3. Chemical kinetics and thermodynamics;~~
- ~~4. Mole concept, stoichiometry, and laws of composition;~~
- ~~5. Acids and bases, oxidation-reduction chemistry, electrochemistry, and solution chemistry;~~
- ~~6. Chemical reactivity and molecular structure, including electronic and steric effects;~~
- ~~7. Fundamental biochemistry, including major biological compounds and natural products;~~
- ~~8. Functional and polyfunctional group chemistry;~~
- ~~9. Issues related to environmental and atmospheric chemistry, including groundwater pollution, disposal of plastics, and development of alternative fuels;~~
- ~~10. Molecular orbital theory, aromaticity, metallic and ionic structures, and correlation to properties of matter;~~
- ~~11. Superconductors and principles of metallurgy;~~
- ~~12. Lewis adducts and coordination compounds;~~
- ~~13. Solvent system concepts including non-aqueous solvents;~~

~~14. Organic synthesis and organic reaction mechanisms, including energy flow through chemical systems; and~~

~~15. Applications of chemistry in personal and community health and environmental quality;~~

~~eb. Apply knowledge of chemistry and physical science concepts through full and partial inquiries, laboratory investigations, and the use of scientific models;~~

~~d. Design and conduct scientific research in chemistry;~~

~~ec. Apply mathematical and statistical concepts, at least through the level of college calculus and statistics; *and*~~

~~fd. Explain and solve problems in *chemistry, incorporating* the fundamentals *concepts* of *biology, physics* life sciences and *Eearth and* space sciences equivalent to those taught in introductory college courses, including basic concepts and laboratory techniques; *and*~~

~~g. Explain historical development and perspectives in chemistry, including contributions of significant figures and underrepresented groups, and the evolution of theories in physical sciences; and~~

~~(2) In the area of instructional performance, the candidate shall have the ability to:~~

~~a. Design and teach laboratory activities which incorporate scientific processes, promote scientific habits of mind, and meet needs of diverse learners;~~

~~b. Design activities and investigations which teach literacy through integrating:~~

~~1. The knowledge of the methods of teaching reading, writing, communication, and study skills essential to the effective mastery of middle school science content;~~

~~2. The use of scientific drawings, diagrams, bulleted lists, and graphing essential to science investigations and expression of ideas; and~~

~~3. Appropriate quantitative literacy skills and concepts into a science lesson;~~

~~c. Relate physical sciences and chemistry to technological issues that influence society and the ethical and moral consequences of decisions related to those issues;~~

~~d. Model and teach safe laboratory and field practices, including:~~

~~1. Personal safety;~~

~~2. Proper and safe use of specific chemistry equipment, including fume hoods, demonstration shields, and other specific laboratory equipment;~~

~~3. Equipment storage and upkeep; and~~

~~4. Chemistry and waste inventory, handling, and disposal;~~

~~e. Integrate the common themes exhibited in all of the sciences into teaching and course design including:~~

- ~~1. Systems and energy;~~
- ~~2. Models and scale;~~
- ~~3. Patterns of change, including constancy or stability;~~
- ~~4. Form and function;~~
- ~~5. Evolution; and~~
- ~~6. Nature of science and inquiry;~~

~~f. Integrate knowledge from the history and philosophy of science into physical science and chemistry instruction;~~

~~g. Design learning activities which foster questioning, open-ended investigations, the development of cooperative group skills, and promote practice in decision making and problem solving;~~

~~h. Select, adapt, evaluate, and use age-appropriate strategies and materials for the learning of physical sciences and chemistry, including the recommendations of national curriculum projects and scientific groups; and~~

~~i. Organize, present, and evaluate physical science and chemistry ideas in a manner which emphasizes conceptual understanding and in ways which provide for optimal learning experiences for students of all ability levels and learning styles.~~

Readopt with amendment Ed 612.26, effective 10-16-09 (Doc #9566), to read as follows:

Ed 612.26 Chemistry For Grades 7-12.

~~(a) In addition to meeting the program requirements under A teacher preparation program in chemistry for grades 7-12 shall meet the science program general requirements of Ed 612.23, ***the chemistry program for grades 7-12 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience as outlined in Ed 507.32(c).***~~

~~——(b) In compliance with RSA 193 C:3, IV(f) and consistent with RSA 193 C:3, III, the teacher preparation program in chemistry for grades 7-12 shall require candidate competency in the teaching of chemistry, including techniques for enhancing student learning in this area and the use of assessment results to improve instruction.~~

~~(c) The chemistry program for grades 7-12 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience in the following areas:~~

~~(1) In the area of fundamental content knowledge, the candidate shall have the ability to:~~

~~a. Comprehend, apply, evaluate, analyze, and synthesize physical science core knowledge of:~~

- ~~1. Properties of matter, including mass, solubility, and density;~~
- ~~2. Factors affecting the position, motion, and behavior of objects;~~
- ~~3. Conservation of matter and energy, including energy transfer and flow in physical and chemical systems;~~
- ~~4. Types of energy, energy sources, and simple transformations of energy;~~
- ~~5. Classification of matter, elements, compounds, and energy;~~
- ~~6. Potential and kinetic energies and concepts of work, including simple machines;~~
- ~~7. Properties and applications of sound, light, magnetism, and electricity;~~
- ~~8. Variations in the physical and chemical states of matter;~~
- ~~9. Changes among states of matter;~~
- ~~10. Combinations of matter to form solutions, mixtures, and compounds with different properties;~~
- ~~11. States of matter and bonding in relation to molecular behavior and energy;~~
- ~~12. The chemical nature of the earth and its living organisms;~~
- ~~13. The nature of radioactive substances; and~~
- ~~14. Chemical, electrical, and radiation hazards;~~

~~b. Comprehend, apply, evaluate, analyze, and synthesize specific chemistry knowledge of:~~

- ~~1. Fundamental structures of atoms, molecules, and compounds including basic principles of ionic, covalent, and metallic bonding;~~
- ~~2. Physical and chemical properties and classification of elements, including periodicity;~~
- ~~3. Chemical kinetics and thermodynamics;~~
- ~~4. Mole concept, stoichiometry, and laws of composition;~~
- ~~5. Acids and bases, oxidation-reduction chemistry, electrochemistry, and solution chemistry;~~
- ~~6. Chemical reactivity and molecular structure, including electronic and steric effects;~~

- ~~7. Fundamental biochemistry, including major biological compounds and natural products;~~
 - ~~8. Functional and polyfunctional group chemistry;~~
 - ~~9. Issues related to environmental and atmospheric chemistry, including groundwater pollution, disposal of plastics, and development of alternative fuels;~~
 - ~~10. Molecular orbital theory, aromaticity, metallic and ionic structures, and correlation to properties of matter;~~
 - ~~11. Superconductors and principles of metallurgy;~~
 - ~~12. Lewis adducts and coordination compounds;~~
 - ~~13. Solvent system concepts including non-aqueous solvents;~~
 - ~~14. Organic synthesis and organic reaction mechanisms, including energy flow through chemical systems; and~~
 - ~~15. Applications of chemistry in personal and community health and environmental quality;~~
- ~~e. Apply knowledge of chemistry and physical science concepts through full and partial inquiries, laboratory investigations, and the use of scientific models;~~
- ~~d. Design and conduct scientific research in chemistry;~~
- ~~e. Apply mathematical and statistical concepts, at least through the level of college calculus and statistics;~~
- ~~f. Explain and solve problems in the fundamentals of life sciences and Earth space sciences equivalent to those taught in introductory college courses, including basic concepts and laboratory techniques; and~~
- ~~g. Explain historical development and perspectives in chemistry, including contributions of significant figures and underrepresented groups, and the evolution of theories in physical sciences; and~~
- ~~(2) In the area of instructional performance, the candidate shall have the ability to:~~
- ~~a. Design and teach laboratory activities which incorporate scientific processes, promote scientific habits of mind, and meet needs of diverse learners;~~
 - ~~b. Design activities and investigations which teach literacy through integrating:
 - ~~1. The knowledge of the methods of teaching reading, writing, communication, and study skills essential to the effective mastery of middle school science content;~~~~

- ~~2. The use of scientific drawings, diagrams, bulleted lists, and graphing essential to science investigations and expression of ideas; and~~
- ~~3. Appropriate quantitative literacy skills and concepts into a science lesson;~~
- ~~e. Relate physical sciences and chemistry to technological issues that influence society and the ethical and moral consequences of decisions related to those issues;~~
- ~~d. Model and teach safe laboratory and field practices, including:
 - ~~1. Personal safety;~~
 - ~~2. Proper and safe use of specific chemistry equipment, including fume hoods, demonstration shields, and other specific laboratory equipment;~~
 - ~~3. Equipment storage and upkeep; and~~
 - ~~4. Chemistry and waste inventory, handling, and disposal;~~~~
- ~~e. Integrate the common themes exhibited in all of the sciences into teaching and course design including:
 - ~~1. Systems and energy;~~
 - ~~2. Models and scale;~~
 - ~~3. Patterns of change, including constancy or stability;~~
 - ~~4. Form and function;~~
 - ~~5. Evolution; and~~
 - ~~6. Nature of science and inquiry;~~~~
- ~~f. Integrate knowledge from the history and philosophy of science into physical science and chemistry instruction;~~
- ~~g. Design learning activities which foster questioning, open-ended investigations, the development of cooperative group skills, and promote practice in decision making and problem solving;~~
- ~~h. Select, adapt, evaluate, and use age-appropriate strategies and materials for the learning of physical sciences and chemistry, including the recommendations of national curriculum projects and scientific groups; and~~
- ~~i. Organize, present, and evaluate physical science and chemistry ideas in a manner which emphasizes conceptual understanding and in ways which provide for optimal learning experiences for students of all ability levels and learning styles.~~

Appendix I

RULE	STATUTE
Ed 507.32	RSA 186:8, III- IV, RSA 186:11,X(a)
Ed 612.26	RSA 186:8, IV; RSA 186:11, X(c)

Readopt with amendment Ed 507.33, effective 10/16/09 (Doc #9566), to read as follows:

Ed 507.33 Physics Teacher For Grades 7-12. The following requirements shall apply to the certification of a physics teacher for grades 7-12:

(a) To be certified as a physics teacher for grades 7-12, the candidate shall:

- ~~(1) Have at least a bachelor's degree;~~
- ~~(2) Meet the qualifications for certification as a science teacher as provided in Ed 507.29;~~
- ~~(3) Qualify for certification under one of the alternatives in Ed 505.01—Ed 505.05~~**Meet the qualifications for certification as a physical science teacher as provided in Ed 507.51;** and
- (43) Meet the requirements of (bc) below.

(b) The department of education shall assess the skills, competencies and knowledge of candidates for certification as educators in physics by reviewing evidence, such as, but not limited to, college course work, documented professional experience, letters of recommendation, professional development hours or CEUs, and artifacts of professional practice.

~~(bc)~~ A candidate for certification as a physics teacher for grades 7-12 shall have the following skills, competencies and knowledge, ~~gained through a combination of academic and supervised practical experiences,~~ in the following areas:

(1) In the area of fundamental content knowledge, the candidate shall have the ability to:

~~a. Comprehend, apply, evaluate, analyze, and synthesize physical science core knowledge of:~~

- ~~1. Properties of matter, including mass, solubility, and density;~~
- ~~2. Factors affecting the position, motion, and behavior of objects;~~
- ~~3. Conservation of matter and energy, including energy transfer and flow in physical and chemical systems;~~
- ~~4. Types of energy, energy sources, and simple transformations of energy;~~
- ~~5. Classification of matter, elements, compounds, and energy;~~
- ~~6. Potential and kinetic energies and concepts of work, including simple machines;~~
- ~~7. Properties and applications of sound, light, magnetism, and electricity;~~
- ~~8. Variations in the physical and chemical states of matter;~~
- ~~9. Changes among states of matter;~~
- ~~10. Combinations of matter to form solutions, mixtures, and compounds with different properties;~~
- ~~11. States of matter and bonding in relation to molecular behavior and energy;~~

- ~~12. Chemical nature of Earth and its living organisms;~~
- ~~13. Nature of radioactive substances; and~~
- ~~14. Chemical, electrical, and radiation hazards;~~

~~ba.~~ Comprehend, apply, **quantify**, evaluate, analyze, and synthesize specific physics knowledge of:

- ~~1. Energy, **including kinetic, potential, heat and rest**work, and power;~~
- ~~2. Newtonian principles and laws **as they apply to statics and dynamics**, including, **but not limited to, friction, inclines, circular motion, the rotation of rigid bodies and fluid mechanics and knowledge of how these principles are used in** motion, major forces, momentum, and engineering applications;~~
- ~~3. **Thermodynamics, including t**The ideal gas law, entropy, heat engines and thermodynamic cycles, kinetic and ensemble **theory**laws of thermodynamics and relationships between energy and matter, and conservation of energy, mass, momentum, and charge;~~
- ~~4. **Conservation laws and the relationships between conserved quantities, including the conservation of energy, mass, linear and angular momentum and charge;**~~
- ~~45. **Classical Wave theory, of sound, the and electromagnetism, including the electromagnetic spectrum, optics, and light behavior, including wave-particle duality and models;**~~
- ~~56. Electricity, **electrostatics, electrostatics, electrostatics** and magnetism, including, **but not limited to, circuit theory and the propagation and generation** the electric and magnetic phenomena of electric and magnetic fields, vector analysis, energy, potential, capacitance, and inductance;~~
- ~~67. Fundamental forces of gravity, electromagnetism, weak nuclear force, and strong nuclear force including, **but not limited to, unified field theories**the spectrum of known fundamental particles, the standard model and its known shortcomings;~~
- ~~78. Kinetic molecular motion and atomic models of nuclear and subatomic structures and behavior in n/Nuclear physics, including, **but not limited to** matter-energy duality, reactivity, radioactivity, nuclear reactors, fission, and fusion;~~
- ~~8. Angular rotation and momentum, centripetal forces, and vector analysis;~~
- ~~9. Quantum mechanics, **including wave-particle duality** space-time relationships, and special relativity, **including Lorentz transformations, time dilations, length contraction and conversion of rest mass into energy;**~~
- ~~10. Applications of physics in environmental quality and to personal and community health, including the following issues related to physics:
 - ~~(i) Disposal of nuclear waste;~~~~

~~(ii) Light pollution; and~~

~~(iii) Shielding communication systems.~~

~~11. Historical development and cosmological perspectives in physics, including contributions of significant figures and underrepresented groups, and evolution of theories in physics; and~~

~~12b. Applications of physics for design, engineering, and technology in society, business, industry, and health fields;~~

c. Apply knowledge of physics and physical science concepts through full and partial inquiries, laboratory investigations, and the use of scientific models; **and**

d. ~~Design and conduct scientific research in physics;~~

ed. Understand and be able to aApply mathematical ~~and statistical~~ concepts **and techniques**, at least through the level of college calculus, **vector analysis, equations** and statistics; **and**

~~f. Explain and solve problems in the fundamentals of physics and physical science equivalent to those taught in introductory college courses, including basic concepts and laboratory techniques; and~~

~~g. Explain historical development and perspectives in physics and physical science, including contributions of significant figures and underrepresented groups, and the evolution of theories in physical sciences; and~~

(2) In the area of instructional performance, the candidate shall have the ability to:

~~a. Design and teach laboratory activities which incorporate scientific processes, promote scientific habits of mind, and meet needs of diverse learners;~~

~~b. Design activities and investigations which teach literacy through integrating:~~

~~1. The knowledge of the methods of teaching reading, writing, communication, and study skills essential to the effective mastery of middle school science content;~~

~~2. The use of scientific drawings, diagrams, bulleted lists, and graphing essential to science investigations and expression of ideas; and~~

~~3. Appropriate quantitative literacy skills and concepts into a science lesson;~~

~~e. r~~Relate physics and physical sciences to technological issues that influence society and the ethical and moral consequences of decisions related to those issues;

~~d. Model and teach safe laboratory and field practices, including:~~

~~1. Personal safety;~~

- ~~2. Equipment storage and upkeep;~~
 - ~~3. Safe and ethical handling of animals and other organisms; and~~
 - ~~4. Chemistry and waste inventory, handling, and disposal;~~
- e. ~~Integrate the common themes exhibited in all of the sciences into teaching and course design including:~~
- ~~1. Systems and energy;~~
 - ~~2. Models and scale;~~
 - ~~3. Patterns of change, including constancy or stability;~~
 - ~~4. Form and function;~~
 - ~~5. Evolution; and~~
 - ~~6. Nature of science and inquiry;~~
- f. ~~Integrate knowledge from the history and philosophy of science into physical science and physics instruction;~~
- g. ~~Design learning activities which foster questioning, open ended investigations, the development of cooperative group skills, and promote practice in decision making and problem solving;~~
- h. ~~Select, adapt, evaluate, and use age appropriate strategies and materials for the learning of physics and physical science, including the recommendations of national curriculum projects and scientific groups; and~~
- i. ~~Organize, present, and evaluate physics and physical science ideas in a manner which emphasizes conceptual understanding and in ways which provide for optimal learning experiences for students of all ability levels and learning styles.~~

Readopt with amendment Ed 612.27, effective 10/16/09 (Doc #9566), to read as follows:

Ed 612.27 Physics For Grades 7-12.

(a) ***In addition to meeting the program requirements under A teacher preparation program in physics for grades 7-12 shall meet the science program general requirements of Ed 612.23, the physics program for grades 7-12 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience as outlined in Ed 507.33(c).***

(b) ~~In compliance with RSA 193-C:3, IV(f) and consistent with RSA 193-C:3, III, the teacher preparation program in physics for grades 7-12 shall require candidate competency in the teaching of physics, including techniques for enhancing student learning in this area and the use of assessment results to improve instruction.~~

~~(c) The physics program for grades 7-12 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience in the following areas:~~

~~(1) In the area of fundamental content knowledge, the candidate shall have the ability to:~~

~~a. Comprehend, apply, evaluate, analyze, and synthesize physical science core knowledge of:~~

- ~~1. Properties of matter, including mass, solubility, and density;~~
- ~~2. Factors affecting the position, motion, and behavior of objects;~~
- ~~3. Conservation of matter and energy, including energy transfer and flow in physical and chemical systems;~~
- ~~4. Types of energy, energy sources, and simple transformations of energy;~~
- ~~5. Classification of matter, elements, compounds, and energy;~~
- ~~6. Potential and kinetic energies and concepts of work, including simple machines;~~
- ~~7. Properties and applications of sound, light, magnetism, and electricity;~~
- ~~8. Variations in the physical and chemical states of matter;~~
- ~~9. Changes among states of matter;~~
- ~~10. Combinations of matter to form solutions, mixtures, and compounds with different properties;~~
- ~~11. States of matter and bonding in relation to molecular behavior and energy;~~
- ~~12. Chemical nature of Earth and its living organisms;~~
- ~~13. Nature of radioactive substances; and~~
- ~~14. Chemical, electrical, and radiation hazards;~~

~~b. Comprehend, apply, evaluate, analyze, and synthesize specific physics knowledge of:~~

- ~~1. Energy, work, and power;~~
- ~~2. Newtonian principles and laws including motion, major forces, momentum, and engineering applications;~~
- ~~3. The laws of thermodynamics and relationships between energy and matter, and conservation of energy, mass, momentum, and charge;~~
- ~~4. Wave theory, sound, the electromagnetic spectrum, optics, and light behavior, including wave-particle duality and models;~~

- ~~5. Electricity and magnetism, including the electric and magnetic phenomena of electric and magnetic fields, vector analysis, energy, potential, capacitance, and inductance;~~
 - ~~6. Fundamental forces of gravity, electromagnetism, weak nuclear force, and strong nuclear force including unified field theories;~~
 - ~~7. Kinetic molecular motion and atomic models of nuclear and subatomic structures and behavior in nuclear physics, including matter energy duality, reactivity, radioactivity, nuclear reactors, fission, and fusion;~~
 - ~~8. Angular rotation and momentum, centripetal forces, and vector analysis;~~
 - ~~9. Quantum mechanics, space time relationships, and special relativity;~~
 - ~~10. Applications of physics in environmental quality and to personal and community health, including the following issues related to physics:
 - ~~(i) Disposal of nuclear waste;~~
 - ~~(ii) Light pollution; and~~
 - ~~(iii) Shielding communication systems.~~~~
 - ~~11. Historical development and cosmological perspectives in physics, including contributions of significant figures and underrepresented groups, and evolution of theories in physics; and~~
 - ~~12. Applications of physics for design, engineering, and technology in society, business, industry, and health fields;~~
- ~~e. Apply knowledge of physics and physical science concepts through full and partial inquiries, laboratory investigations, and the use of scientific models;~~
- ~~d. Design and conduct scientific research in physics;~~
- ~~e. Apply mathematical and statistical concepts, at least through the level of college calculus and statistics;~~
- ~~f. Explain and solve problems in the fundamentals of physics and physical science equivalent to those taught in introductory college courses, including basic concepts and laboratory techniques; and~~
- ~~g. Explain historical development and perspectives in physics and physical science, including contributions of significant figures and underrepresented groups, and the evolution of theories in physical sciences; and~~
- ~~(2) In the area of instructional performance, the candidate shall have the ability to:~~
- ~~a. Design and teach laboratory activities which incorporate scientific processes, promote scientific habits of mind, and meet needs of diverse learners;~~
 - ~~b. Design activities and investigations which teach literacy through integrating:~~

- ~~1. The knowledge of the methods of teaching reading, writing, communication, and study skills essential to the effective mastery of middle school science content;~~
 - ~~2. The use of scientific drawings, diagrams, bulleted lists, and graphing essential to science investigations and expression of ideas; and~~
 - ~~3. Appropriate quantitative literacy skills and concepts into a science lesson;~~
- ~~e. Relate physics and physical sciences to technological issues that influence society and the ethical and moral consequences of decisions related to those issues;~~
- ~~d. Model and teach safe laboratory and field practices, including:~~
- ~~1. Personal safety;~~
 - ~~2. Equipment storage and upkeep;~~
 - ~~3. Safe and ethical handling of animals and other organisms; and~~
 - ~~4. Chemistry and waste inventory, handling, and disposal;~~
- ~~e. Integrate the common themes exhibited in all of the sciences into teaching and course design including:~~
- ~~1. Systems and energy;~~
 - ~~2. Models and scale;~~
 - ~~3. Patterns of change, including constancy or stability;~~
 - ~~4. Form and function;~~
 - ~~5. Evolution; and~~
 - ~~6. Nature of science and inquiry;~~
- ~~f. Integrate knowledge from the history and philosophy of science into physical science and physics instruction;~~
- ~~g. Design learning activities which foster questioning, open-ended investigations, the development of cooperative group skills, and promote practice in decision making and problem solving;~~
- ~~h. Select, adapt, evaluate, and use age-appropriate strategies and materials for the learning of physics and physical science, including the recommendations of national curriculum projects and scientific groups; and~~
- ~~i. Organize, present, and evaluate physics and physical science ideas in a manner which emphasizes conceptual understanding and in ways which provide for optimal learning experiences for students of all ability levels and learning styles.~~

Appendix I

RULE	STATUTE
Ed 507.33	RSA 186:8, III- IV, RSA 186:11,X(a)
Ed 612.27	RSA 186:8, IV; RSA 186:11, X(c)

Readopt with amendment Ed 507.51, effective 1-17-14 (Doc #105061), to read as follows:

Ed 507.51 Physical Science For Grades 7-12. ~~The following requirements shall apply to the certification of an educator in physical science for grades 7-12:~~

(a) To be certified as a physical science teacher for grades 7-12, the candidate shall:

- ~~(1) Have at least a bachelor's degree;~~
- ~~(2) Meet the qualifications for certification as a science teacher as provided in Ed 507.29;~~
- ~~(3) Qualify for certification under one of the alternatives in Ed 505.01—Ed 505.05; and~~
- (42) Meet the requirements of (bc) below.

(b) The department of education shall assess the skills, competencies and knowledge of candidates for certification as educators in physical science by reviewing evidence, such as, but not limited to, college course work, documented professional experience, letters of recommendation, professional development hours or CEUs, and artifacts of professional practice.

~~(bc) A candidate for certification as an educator in physical science for grades 7-12 shall have the following skills, competencies and knowledge, gained through a combination of academic and supervised practical experiences, in the following areas:~~

(1) In the area of fundamental knowledge, the candidate shall have the ability to:

a. Represent visually and verbally how the world works at ~~the an~~ atomic, *micro and macro* and molecular levels;

b. ***Demonstrate content knowledge*** ~~Explain concepts, solve problems, and perform laboratory techniques at an introductory level~~ in the following fundamental areas of chemistry:

1. ~~Inorganic~~ ***Structure and properties of matter, including, but not limited to:***

(i) ***Atomic structure and substructure;***

(ii) ***Periodic table and organization;***

(iii) ***Electrical forces between atoms; and***

(iv) ***Types of bonds and behavior of substances, such as solubility, conductivity and malleability;***

2. ~~Organic~~ ***Chemical reactions, including, but not limited to:***

(i) ***Exothermic and endothermic reactions;***

(ii) ***Chemical reactions, products and conservation laws;***

(iii) *Kinetic, thermal and bond energy; and*

(iv) *Transformation of processes;*

3. ~~Physical~~ *Nuclear processes, including, but not limited to:*

(i) *Fusion, fission and radioactive decays; and*

(ii) *Applications of nuclear energy;*

4. ~~Analytical chemistry;~~

c. *Demonstrate content knowledge* ~~Explain concepts, solve problems, and perform laboratory techniques at an introductory level~~ in the following fundamental areas *of physics:*

1. ~~Mechanics~~ *Relationship between energy, forces and matter, including, but not limited to:*

(i) *Newton's laws of motion;*

(ii) *Conservation of momentum;*

(iii) *Universal law of gravitation;*

(iv) *Coulomb's law;*

(v) *Electrical and magnetic forces;*

(vi) *Electromagnetic spectrum;*

2. ~~Conservation laws~~ *Waves, including, but not limited to, properties of waves, interactions with matter and other waves and electromagnetic radiation as follows:*

(i) *Magnetic and electrical forces and the electromagnetic spectrum;*

(ii) *Particle and wave models of electromagnetic radiation;*

(iii) *Electromagnetic interaction with matter; and*

(iv) *Information technologies and instrumentation that transmit data through electromagnetic waves; and*

3. ~~Electricity;~~

4. ~~Magnetism;~~

~~5. Waves; and~~

~~6. Optics;~~

~~d. Apply mathematical concepts, *related to* at least through the level of introductory calculus and *or introductory* statistics;.~~

~~e. Apply computer technology, including hardware and software, to acquire and analyze data, and to collect and communicate information; and~~

~~f. Integrate knowledge from the history and philosophy of science into physical science instruction; and~~

~~(2) In the area of instructional performance, the candidate shall have the ability to:~~

~~a. Design and teach laboratory activities which incorporate scientific processes and promote scientific habits of mind;~~

~~b. Integrate the knowledge of the methods of teaching reading, writing, communication, and study skills essential to the effective mastery of physical science content;~~

~~c. Relate science to technological issues that influence society and the ethical and moral consequences of decisions related to those issues;~~

~~d. Model and teach safe laboratory and field practices, including personal safety and equipment storage and upkeep, and waste handling and disposal;~~

~~e. Identify the organizations, agencies and journals that contribute to the professional growth of the physical science teacher;~~

~~f. Integrate the common themes exhibited in all of the sciences into teaching and course design including:~~

~~1. Systems;~~

~~2. Models;~~

~~3. Constancy or stability;~~

~~4. Change;~~

~~5. Evolution; and~~

~~6. Scale;~~

~~g. Design learning activities which foster questioning, open ended investigations, the development of cooperative group skills, and promote practice in decision making and problem solving;~~

~~h. Select, adapt, evaluate, and use age appropriate strategies and materials for the learning of physical science, including the recommendations of national curriculum projects and scientific groups, and the framework; and~~

~~i. Organize, present, and evaluate physical science ideas in a manner which emphasizes conceptual understanding and in ways which provide for optimal learning experiences for students of all ability levels.~~

Adopt Ed 612.34 to read as follows:

Ed 612.34 Physical Science for Grades 7-12.

(a) In addition to meeting the program requirements under Ed 612.23, the physics program for grades 7-12 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience as outlined in Ed 507.51(c).

Appendix I

RULE	STATUTE
Ed 507.51	RSA 186:8, III- IV, RSA 186:11,X(a)
Ed 612.34	RSA 186:8, IV; RSA 186:11, X(c)

Readopt with amendment Ed 507.24, effective 08/14/2009 (Doc #9525), to read as follows:

Ed 507.24 English Language Arts Teacher For Grades 5-12. ~~The following requirements shall apply to the certification of a teacher in English language arts for grades 5-12:~~

(a) To be certified as an English language arts teacher for grades 5-12, the candidate shall:

- ~~(1) Have at least a bachelor's degree;~~
- ~~(2) Qualify for certification under one of the alternatives in Ed 505.01 – Ed 505.05; and~~
- ~~(3) Meet the requirements of (bc) below.~~

~~(b) In compliance with RSA 193-C:3,IV(f) and consistent with RSA 193-C:3, III, a candidate for certification as an educator in English language arts for grades 5-12 shall require candidate competency in the teaching of English language arts, including techniques for enhancing student learning in this area and the use of assessment results to improve instruction. *The Department of Education shall assess the skills, competencies and knowledge of candidates for certification as educators in English language arts by reviewing evidence, such as, but not limited to, college course work, documented professional experience, letters of recommendation, professional development hours or CEUs, and artifacts of professional practice.*~~

(c) A candidate for certification as an English language arts teacher for grades 5-12 shall have the following skills, competencies and knowledge through a combination of academic and supervised practical experience in the following areas:

- (1) In the area of language uses, knowledge of:
 - a. The cognitive processes by which children acquire and use primary and secondary languages;
 - b. The social, cultural, psychological, and economic factors that affect language learning;
 - c. The grammatical structures and conventions of standard English usage;
 - d. How language changes and develops over time;
 - e. How diction, tone, and voice vary according to audience;
 - f. How language can convey bias, propaganda, persuasion, and points of view; and
 - g. The nature and needs of students whose primary language is not English;
- ~~(2) In the area of language uses pedagogy, the ability to:~~
 - ~~a. Apply and model grammatical rules in reading and writing;~~
 - ~~b. Explain how the application of grammatical rules affects meaning;~~

- ~~e. Show how diction, tone, and voice vary according to audience;~~
- ~~d. Trace how English has changed and developed over time;~~
- ~~e. Distinguish and appreciate regional, ethnic, and standard dialects; and~~
- ~~f. Address the literacy needs of students whose primary language is not English;~~

(32) In the area of reading, knowledge of:

- a. The fundamental processes of reading at the literal, inferential, and evaluative levels;
- b. The criteria used to evaluate and select appropriate fiction, non-fiction, and informational materials based on students' needs and interests;
- c. The techniques to evaluate students' reading comprehension; and
- d. The metacognitive processes and strategies, which are the awareness of the thoughts employed to analyze an issue or complete a task, readers use to construct meaning from print;

~~(4) In the area of reading pedagogy, the ability to:~~

- ~~a. Guide students to employ a variety of reading strategies according to their purpose for reading at the literal, inferential, and evaluative levels;~~
- ~~b. Design instruction to assist students' comprehension with increasing text complexity;~~
- ~~c. Design instruction to enhance students' strategies to expand their vocabulary;~~
- ~~d. Foster and promote independent and reflective readers who enjoy reading; and~~
- ~~e. Implement a variety of assessments to evaluate, monitor, and adjust instruction;~~

(53) In the area of writing, knowledge of:

- a. Various modes of writing for a variety of purposes and audiences, *including, but not limited to, conducting short as well as more sustained research projects based on focused questions, while demonstrating the understanding of the subject under investigation*;
- b. Writing as a recursive and multi-step process; and
- c. The use of rubrics for holistic and analytic scoring of writing;

~~(6) In the area of writing pedagogy, the ability to:~~

- ~~a. Model and guide students as they plan, draft, revise, edit, publish, and share writing for a variety of purposes;~~

- ~~b. Develop students' competence with writing on demand, writing to learn, writing to demonstrate understanding, and writing creatively;~~
- ~~e. Offer constructive and focused response to students' writing;~~
- ~~d. Present authors' works as models to encourage diversity in students' writing;~~
- ~~e. Guide students in proofreading their work with an understanding of how audience, purpose, and formality of form impact language usage; and~~
- ~~f. Implement a variety of assessments, including student writing portfolios, to monitor and evaluate student growth and adjust instruction;~~

(74) In the area of literature, knowledge of:

- a. How literature can be a source for exploring and interpreting human experience;
- b. The rhetorical and literary elements of literature;
- c. Significant developmentally appropriate works and literary movements ~~from~~:
 - ~~1. American literature;~~
 - ~~2. British literature;~~
 - ~~3. World literature;~~
 - ~~4. Young adult literature;~~
 - ~~5. Literature by and about women; and~~
 - ~~6. Literature by and about minorities *concerning or authored by people of various shared traditions, beliefs, customs, genders and ethnicities;*~~
- d. How significant works relate to and influence each other in terms of:
 - 1. Genre;
 - 2. Theme or style; and
 - 3. Social and intellectual ~~history~~*contexts*;
- e. Strategies for analysis, interpretation, and evaluation of various works in the following major genres:
 - 1. Fiction;
 - 2. Non-fiction;

3. Drama;
4. Poetry;
5. Informational texts; and
6. Media;

~~(8) In the area of literature pedagogy, the ability to:~~

- ~~a. Provide opportunities and guide students to analyze, evaluate, and appreciate literature;~~
- ~~b. Provide an environment in which students develop and support critical insights in response to literature;~~
- ~~c. Guide students to read, discuss, and write about literature through various critical lenses such as but not limited to gender, religion, ethnicity, or socio-economic conditions as appropriate; and~~
- ~~d. Guide students in the understanding and appreciation for literary devices and rhetorical strategies;~~

(95) In the area of speaking and listening, knowledge of:

- a. The strategies speakers use to present information, ideas, and feelings in a range of social contexts from informal to formal discourse; and
- b. The processes speakers use to adjust a spoken message for different audiences and purposes;

~~(10) In the area of speaking and listening pedagogy, the ability to:~~

- ~~a. Provide opportunities for students to practice different forms of classroom discourse, including formal and informal conversations and presentations;~~
- ~~b. Explain how speakers and listeners establish and maintain contact with their audience;~~
- ~~c. Promote civil and participatory discourse;~~
- ~~d. Guide students to listen critically and speak purposefully and articulately; and~~
- ~~e. Explain how bias, propaganda, persuasion, and point of view are expressed;~~

(116) In the area of media literacy, knowledge of:

- a. How media and technology can be used to present and interpret the human experience;

- b. How visual and informational media can support or distort messages; ~~and~~
- c. How to select and use digital resources to support and enhance instruction; and
- d. How to make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations; and***

~~(12) In the area of media literacy pedagogy, the ability to:~~

- ~~a. Guide students to construct and interpret meaning from images and information provided by media and technology;~~
- ~~b. Guide students to select, evaluate, and analyze digital resources critically; and~~
- ~~c. Help students to recognize bias, propaganda, persuasion, point of view, and intellectual property.~~

(7) In the area of language uses pedagogy, the ability to:

- a. Apply and model grammatical rules in reading and writing;***
- b. Explain how the application of grammatical rules affects meaning;***
- c. Show how diction, tone, and voice vary according to audience;***
- d. Trace how English has changed and developed over time;***
- e. Distinguish and appreciate regional, ethnic, and standard dialects; ~~and~~***
- f. Model how language functions in different contexts and how to make effective choices about meaning or style;***
- g. Apply and model strategies to determine or clarify the meaning of unknown or multiple meaning words;***
- h. Show how figurative language, word relationships and nuances in word meaning changes meaning; and***
- i. Address the literacy needs of students whose primary language is not English;***

(8) In the area of reading pedagogy, the ability to:

- a. Guide students to employ a variety of reading strategies according to their purpose for reading at the literal, inferential, and evaluative levels;***
- b. Design instruction to assist students' comprehension with increasing text complexity;***
- c. Design instruction to enhance students' strategies to expand their vocabulary;***

- d. Foster and promote independent and reflective readers who enjoy reading; and*
- e. Implement a variety of assessments to evaluate, monitor, and adjust instruction;*

(9) In the area of writing pedagogy, the ability to:

- a. Model and guide students as they plan, draft, revise, edit, publish, and share writing for a variety of purposes;*
- b. Develop students' competence with writing on demand, writing to learn, writing to demonstrate understanding, and writing creatively;*
- c. Offer constructive and focused response to students' writing;*
- d. Present authors' works as models to encourage diversity in students' writing;*
- e. Guide students in proofreading their work with an understanding of how audience, purpose, and formality of form impact language usage; and*
- f. Implement a variety of assessments, including student writing portfolios, to monitor and evaluate student growth and adjust instruction;*

(10) In the area of literature pedagogy, the ability to:

- a. Provide opportunities and guide students to analyze, evaluate, and appreciate literature;*
- b. Provide an environment in which students develop and support critical insights in response to literature;*
- c. Guide students to read, discuss, and write about literature through various critical lenses such as but not limited to gender, religion, ethnicity, or socio-economic conditions as appropriate; and*
- d. Guide students in the understanding and appreciation for literary devices and rhetorical strategies;*

(11) In the area of speaking and listening pedagogy, the ability to:

- a. Provide opportunities for students to practice different forms of classroom discourse, including formal and informal conversations and presentations;*
- b. Explain how speakers and listeners establish and maintain contact with their audience;*
- c. Promote civil and participatory discourse;*
- d. Guide students to listen critically and speak purposefully and articulately; and*

e. Explain how bias, propaganda, persuasion, and point of view are expressed;

(12) In the area of media literacy pedagogy, the ability to:

a. Guide students to construct and interpret meaning from images and information provided by media and technology;

b. Guide students to select, evaluate, and analyze digital resources critically; and

c. Guide students to quote or paraphrase the data and conclusions of others to support claims and reasoning in their work;

d. Help students to recognize bias, propaganda, persuasion, point of view, and intellectual property.

Readopt with amendment and renumber Ed 507.241, effective 08/14/2009 (Doc #9525), as Ed 507.53 to read as follows:

~~Ed 507.241.53 English Language Arts Teacher For Grades 5-8. The following requirements shall apply to the certification of an English language arts teacher for grades 5-8:~~

~~(a) To be certified as an English language arts teacher for grades 5-8, the candidate shall:~~

~~(1) Have at least a bachelor's degree;~~

~~(2) Qualify for certification under one of the alternatives in Ed 505.01–Ed 505.05; and~~

~~(3) Meet the requirements of (b) and (c) below;~~

~~—(b) In compliance with RSA 193-C:3, IV(f) and consistent with RSA 193-C:3, III, a candidate for certification as an educator in English language arts for grades 5-8 shall demonstrate competency in the teaching of English language arts, including techniques for enhancing student learning in this area and the use of assessment results to improve instruction.~~

~~(c) A candidate for certification as an English language arts teacher for grades 5-8 shall have the following skills, competencies and knowledge, gained through a combination of academic and supervised practical experience, in the following areas as outlined in Ed 507.24(c):~~

~~(1) In the area of language uses, knowledge of:~~

~~a. The cognitive processes by which children acquire and use primary and secondary languages;~~

~~b. The social, cultural, psychological, and economic factors that affect language learning;~~

~~c. The grammatical structures and conventions of standard English usage;~~

- ~~d. How language changes and develops over time;~~
- ~~e. How diction, tone, and voice vary according to audience;~~
- ~~f. How language can convey bias, propaganda, persuasion, and points of view; and~~
- ~~g. The nature and needs of students whose primary language is not English;~~

~~(2) In the area of language uses pedagogy, the ability to:~~

- ~~a. Apply and model grammatical rules in reading and writing;~~
- ~~b. Explain how the application of grammatical rules affects meaning;~~
- ~~e. Show how diction, tone, and voice vary according to audience;~~
- ~~d. Trace how English has changed and developed over time;~~
- ~~e. Distinguish and appreciate regional, ethnic, and standard dialects; and~~
- ~~f. Address the literacy needs of students whose primary language is not English;~~

~~(3) In the area of reading, knowledge of:~~

- ~~a. The fundamental processes of reading at the literal, inferential, and evaluative levels;~~
- ~~b. The criteria used to evaluate and select appropriate fiction, non fiction, and informational materials based on students' needs and interests;~~
- ~~e. The techniques to evaluate students' reading comprehension; and~~
- ~~d. The metacognitive processes and strategies, which are the awareness of the thoughts employed to analyze an issue or complete a task, readers use to construct meaning from print;~~

~~(4) In the area of reading pedagogy, the ability to:~~

- ~~a. Guide students to employ a variety of reading strategies according to their purpose for reading at the literal, inferential, and evaluative levels;~~
- ~~b. Design instruction to assist students' comprehension with increasing text complexity;~~
- ~~e. Design instruction to enhance students' strategies to expand their vocabulary;~~
- ~~d. Promote independent and reflective readers who enjoy reading; and~~
- ~~e. Implement a variety of assessments to evaluate, monitor, and adjust instruction;~~

~~(5) In the area of writing, knowledge of:~~

- ~~a. Various modes of writing for a variety of purposes and audiences;~~
- ~~b. Writing as a recursive and multi-step process; and~~
- ~~c. The use of rubrics for holistic and analytic scoring of writing;~~

~~(6) In the area of writing pedagogy, the ability to:~~

- ~~a. Model and guide students as they plan, draft, revise, edit, publish, and share writing for a variety of purposes;~~
- ~~b. Develop students' competence with writing on demand, writing to learn, writing to demonstrate understanding, and writing creatively;~~
- ~~c. Offer constructive and focused response to students' writing;~~
- ~~d. Present authors' works as models to encourage diversity in students' writing;~~
- ~~e. Guide students in proofreading their work with an understanding of how audience, purpose, and formality of form impact language usage; and~~
- ~~f. Implement a variety of assessments, including student writing portfolios, to monitor and evaluate student growth and adjust instruction;~~

~~(7) In the area of literature, knowledge of:~~

- ~~a. How literature can be a source for exploring and interpreting human experience;~~
- ~~b. The rhetorical and literary elements of literature;~~
- ~~c. Significant developmentally appropriate works and literary movements from:
 - ~~1. American literature;~~
 - ~~2. British literature;~~
 - ~~3. World literature;~~
 - ~~4. Young adult literature;~~
 - ~~5. Literature by and about women; and~~
 - ~~6. Literature by and about minorities;~~~~
- ~~d. How significant works relate to and influence each other in terms of:~~

- ~~1. Genre;~~
- ~~2. Theme or style; and~~
- ~~3. Social and historical contexts;~~

~~e. Strategies for analysis, interpretation, and evaluation of various works in the following major genres:~~

- ~~1. Fiction;~~
- ~~2. Non fiction;~~
- ~~3. Drama;~~
- ~~4. Poetry;~~
- ~~5. Informational texts; and~~
- ~~6. Media;~~

~~(8) In the area of literature pedagogy, the ability to:~~

- ~~a. Provide opportunities and guide students to analyze, evaluate, and appreciate literature;~~
- ~~b. Provide an environment in which students develop and support critical insights in response to literature;~~
- ~~c. Guide students to read, discuss, and write about literature through various critical lenses such as but not limited to gender, religion, ethnicity or socio-economic conditions as appropriate; and~~
- ~~d. Guide students in the understanding and appreciation for literary devices and rhetorical strategies;~~

~~(9) In the area of speaking and listening, knowledge of:~~

- ~~a. The strategies speakers use to present information, ideas, and feelings in a range of social contexts from informal to formal discourse; and~~
- ~~b. The processes speakers use to adjust a spoken message for different audiences and purposes;~~

~~(10) In the area of speaking and listening pedagogy, the ability to:~~

- ~~a. Provide opportunities for students to practice different forms of classroom discourse, including formal and informal conversations and presentations;~~

- ~~b. Explain how speakers and listeners establish and maintain contact with their audience;~~
- ~~e. Promote civil and participatory discourse;~~
- ~~d. Guide students to listen critically and speak purposefully and articulately; and~~
- ~~e. Explain how bias, propaganda, persuasion, and point of view are expressed;~~

~~(11) In the area of media literacy, knowledge of:~~

- ~~a. How media and technology can be used to present and interpret the human experience;~~
- ~~b. How visual and informational media can support or distort messages; and~~
- ~~c. How to select and use digital resources to support and enhance instruction; and~~

~~(12) In the area of media literacy pedagogy, the ability to:~~

- ~~a. Guide students to construct and interpret meaning from images and information provided by media and technology;~~
- ~~b. Guide students to select, evaluate, and analyze digital resources critically; and~~
- ~~c. Help students to recognize bias, propaganda, persuasion, point of view, and intellectual property.~~

Readopt with amendment Ed 612.05, effective 08/14/2009 (Doc #9525), to read as follows:

Ed 612.05 English Language Arts For Grades 5-12.

~~(a) In compliance with RSA 193-C:3, IV(f) and consistent with RSA 193-C:3, III, the teacher preparation program in English language arts for grades 5-12 shall require candidate competency in the teaching of English language arts, including techniques for enhancing student learning in this area and the use of assessment results to improve instruction.~~

~~(ba)~~ The English language arts program for grades 5-12 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience *in the following areas: as outlined in Ed 507.24(c).*

~~(1) In the area of language uses, knowledge of:~~

- ~~a. The cognitive processes by which children acquire and use primary and secondary languages;~~
- ~~b. The social, cultural, psychological, and economic factors that affect language learning;~~

- ~~e. The grammatical structures and conventions of standard English usage;~~
- ~~d. How language changes and develops over time;~~
- ~~e. How diction, tone, and voice vary according to audience;~~
- ~~f. How language can convey bias, propaganda, persuasion, and points of view; and~~
- ~~g. The nature and needs of students whose primary language is not English;~~

~~(2) In the area of language uses pedagogy, the ability to:~~

- ~~a. Apply and model grammatical rules in reading and writing;~~
- ~~b. Explain how the application of grammatical rules affects meaning;~~
- ~~c. Show how diction, tone, and voice vary according to audience;~~
- ~~d. Trace how English has changed and developed over time;~~
- ~~e. Distinguish and appreciate regional, ethnic, and standard dialects; and~~
- ~~f. Address the literacy needs of students whose primary language is not English;~~

~~(3) In the area of reading, knowledge of:~~

- ~~a. The fundamental processes of reading at the literal, inferential, and evaluative levels;~~
- ~~b. The criteria used to evaluate and select appropriate fiction, non-fiction, and informational materials based on students' needs and interests;~~
- ~~c. The techniques to evaluate students' reading comprehension; and~~
- ~~d. The metacognitive processes and strategies, which are the awareness of the thoughts employed to analyze an issue or complete a task, readers use to construct meaning from print;~~

~~(4) In the area of reading pedagogy, the ability to:~~

- ~~a. Guide students to employ a variety of reading strategies according to their purpose for reading at the literal, inferential, and evaluative levels;~~
- ~~b. Design instruction to assist students' comprehension with increasing text complexity;~~

- ~~c. Design instruction to enhance students' strategies to expand their vocabulary;~~
- ~~d. Foster and promote independent and reflective readers who enjoy reading;
and~~
- ~~e. Implement a variety of assessments to evaluate, monitor, and adjust instruction;~~

~~(5) In the area of writing, knowledge of:~~

- ~~a. Various modes of writing for a variety of purposes and audiences;~~
- ~~b. Writing as a recursive and multi-step process; and~~
- ~~c. The use of rubrics for holistic and analytic scoring of writing;~~

~~(6) In the area of writing pedagogy, the ability to:~~

- ~~a. Model and guide students as they plan, draft, revise, edit, publish, and share writing for a variety of purposes;~~
- ~~b. Develop students' competence with writing on demand, writing to learn, writing to demonstrate understanding, and writing creatively;~~
- ~~c. Offer constructive and focused response to students' writing;~~
- ~~d. Present authors' works as models to encourage diversity in students' writing;~~
- ~~e. Guide students in proofreading their work with an understanding of how audience, purpose, and formality of form impact language usage; and~~
- ~~f. Implement a variety of assessments, including student writing portfolios, to monitor and evaluate student growth and adjust instruction;~~

~~(7) In the area of literature, knowledge of:~~

- ~~a. How literature can be a source for exploring and interpreting human experience;~~
- ~~b. The rhetorical and literary elements of literature;~~
- ~~c. Significant developmentally appropriate works and literary movements from:
 - ~~1. American literature;~~
 - ~~2. British literature;~~~~

- ~~3. World literature;~~
 - ~~4. Young adult literature;~~
 - ~~5. Literature by and about women; and~~
 - ~~6. Literature by and about minorities;~~
- ~~d. How significant works relate to and influence each other in terms of:~~
- ~~1. Genre;~~
 - ~~2. Theme or style; and~~
 - ~~3. Social and intellectual history; and~~
- ~~e. Strategies for analysis, interpretation, and evaluation of various works in the following major genres:~~
- ~~1. Fiction;~~
 - ~~2. Non fiction;~~
 - ~~3. Drama;~~
 - ~~4. Poetry;~~
 - ~~5. Informational texts; and~~
 - ~~6. Media;~~
- ~~(8) In the area of literature pedagogy, the ability to:~~
- ~~a. Provide opportunities and guide students to analyze, evaluate, and appreciate literature;~~
 - ~~b. Provide an environment in which students develop and support critical insights in response to literature;~~
 - ~~c. Guide students to read, discuss, and write about literature through various critical lenses such as but not limited to gender, religion, ethnicity or socio-economic conditions as appropriate; and~~
 - ~~d. Guide students in the understanding and appreciation for literary devices and rhetorical strategies;~~
- ~~(9) In the area of speaking and listening, knowledge of:~~

~~a. The strategies speakers use to present information, ideas, and feelings in a range of social contexts from informal to formal discourse; and~~

~~b. The processes speakers use to adjust a spoken message for different audiences and purposes;~~

~~(10) In the area of speaking and listening pedagogy, the ability to:~~

~~a. Provide opportunities for students to practice different forms of classroom discourse, including formal and informal conversations and presentations;~~

~~b. Explain how speakers and listeners establish and maintain contact with their audience;~~

~~c. Promote civil and participatory discourse;~~

~~d. Guide students to listen critically and speak purposefully and articulately; and~~

~~e. Explain how bias, propaganda, persuasion, and point of view are expressed;~~

~~(11) In the area of media literacy, knowledge of:~~

~~a. How media and technology can be used to present and interpret the human experience;~~

~~b. How visual and informational media can support or distort messages; and~~

~~c. How to select and use digital resources to support and enhance instruction; and~~

~~(12) In the area of media literacy pedagogy, the ability to:~~

~~a. Guide students to construct and interpret meaning from images and information provided by media and technology;~~

~~b. Guide students to select, evaluate, and analyze digital resources critically; and~~

~~c. Help students to recognize bias, propaganda, persuasion, point of view, and intellectual property.~~

Readopt with amendment and renumber Ed 612.051, effective 08/14/2009 (Doc #9525), as Ed 612.35 to read as follows:

Ed 612.05135 English Language Arts For Grades 5-8.

~~(a) In compliance with RSA 193 C:3, IV(f) and consistent with RSA 193 C:3, III, the teacher preparation program in English language arts for grades 5-8 shall require candidate competency in the teaching of English language arts, including techniques for enhancing student learning in this area and the use of assessment results to improve instruction.~~

~~(b)~~ (a) The English language arts program for grades 5- 8 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience in the following areas: *as outlined in Ed 507.24(c)*.

~~(1) In the area of language uses, knowledge of:~~

- ~~a. The cognitive processes by which children acquire and use primary and secondary languages;~~
- ~~b. The social, cultural, psychological, and economic factors that affect language learning;~~
- ~~c. The grammatical structures and conventions of standard English usage;~~
- ~~d. How language changes and develops over time;~~
- ~~e. How diction, tone, and voice vary according to audience;~~
- ~~f. How language can convey bias, propaganda, persuasion, and points of view; and~~
- ~~g. The nature and needs of students whose primary language is not English;~~

~~(2) In the area of language uses pedagogy, the ability to:~~

- ~~a. Apply and model grammatical rules in reading and writing;~~
- ~~b. Explain how the application of grammatical rules affects meaning;~~
- ~~c. Show how diction, tone, and voice vary according to audience;~~
- ~~d. Trace how English has changed and developed over time;~~
- ~~e. Distinguish and appreciate regional, ethnic, and standard dialects; and~~
- ~~f. Address the literacy needs of students whose primary language is not English;~~

~~(3) In the area of reading, knowledge of:~~

- ~~a. The fundamental processes of reading at the literal, inferential, and evaluative levels;~~
- ~~b. The criteria used to evaluate and select appropriate fiction, non-fiction, and informational materials based on students' needs and interests;~~
- ~~c. The techniques to evaluate students' reading comprehension; and~~
- ~~d. The metacognitive processes and strategies, which are the awareness of the thoughts employed to analyze an issue or complete a task, readers use to construct meaning from print;~~

~~(4) In the area of reading pedagogy, the ability to:~~

- ~~a. Guide students to employ a variety of reading strategies according to their purpose for reading at the literal, inferential, and evaluative levels;~~
- ~~b. Design instruction to assist students' comprehension with increasing text complexity;~~
- ~~c. Design instruction to enhance students' strategies to expand their vocabulary;~~
- ~~d. Foster and promote independent and reflective readers who enjoy reading; and~~
- ~~e. Implement a variety of assessments to evaluate, monitor, and adjust instruction;~~

~~(5) In the area of writing, knowledge of:~~

- ~~a. Various modes of writing for a variety of purposes and audiences;~~
- ~~b. Writing as a recursive and multi-step process; and~~
- ~~c. The use of rubrics for holistic and analytic scoring of writing;~~

~~(6) In the area of writing pedagogy, the ability to:~~

- ~~a. Model and guide students as they plan, draft, revise, edit, publish, and share writing for a variety of purposes;~~
- ~~b. Develop students' competence with writing on demand, writing to learn, writing to demonstrate understanding, and writing creatively;~~
- ~~c. Offer constructive and focused response to students' writing;~~

- ~~d. Present authors' works as models to encourage diversity in students' writing;~~
- ~~e. Guide students in proofreading their work with an understanding of how audience, purpose, and formality of form impact language usage; and~~
- ~~f. Implement a variety of assessments, including student writing portfolios, to monitor and evaluate student growth and adjust instruction;~~

~~(7) In the area of literature, knowledge of:~~

~~a. How literature can be a source for exploring and interpreting human experience;~~

~~b. The rhetorical and literary elements of literature;~~

~~e. Significant developmentally appropriate works and literary movements from:~~

~~1. American literature;~~

~~2. British literature;~~

~~3. World literature;~~

~~4. Young adult literature;~~

~~5. Literature by and about women; and~~

~~6. Literature by and about minorities;~~

~~d. How significant works relate to and influence each other in terms of:~~

~~1. Genre;~~

~~2. Theme or style; and~~

~~3. Social and intellectual history; and~~

~~e. Strategies for analysis, interpretation, and evaluation of various works in the following major genres:~~

~~1. Fiction;~~

~~2. Non-fiction;~~

~~3. Drama;~~

~~4. Poetry;~~

~~5. Informational texts; and~~

~~6. Media;~~

~~(8) In the area of literature pedagogy, the ability to:~~

~~a. Provide opportunities and guide students to analyze, evaluate, and appreciate literature;~~

~~b. Provide an environment in which students develop and support critical insights in response to literature;~~

~~c. Guide students to read, discuss, and write about literature through various critical lenses such as but not limited to gender, religion, ethnicity or socio-economic conditions as appropriate; and~~

~~d. Guide students in the understanding and appreciation for literary devices and rhetorical strategies;~~

~~(9) In the area of speaking and listening, knowledge of:~~

~~a. The strategies speakers use to present information, ideas, and feelings in a range of social contexts from informal to formal discourse; and~~

~~b. The processes speakers use to adjust a spoken message for different audiences and purposes;~~

~~(10) In the area of speaking and listening pedagogy, the ability to:~~

~~a. Provide opportunities for students to practice different forms of classroom discourse, including formal and informal conversations and presentations;~~

~~b. Explain how speakers and listeners establish and maintain contact with their audience;~~

~~c. Promote civil and participatory discourse;~~

~~d. Guide students to listen critically and speak purposefully and articulately; and~~

~~e. Explain how bias, propaganda, persuasion, and point of view are expressed;~~

~~(11) In the area of media literacy, knowledge of:~~

~~a. How media and technology can be used to present and interpret the human experience;~~

~~b. How visual and informational media can support or distort messages; and~~

~~c. How to select and use digital resources to support and enhance instruction; and~~

~~(12) In the area of media literacy pedagogy, the ability to:~~

~~a. Guide students to construct and interpret meaning from images and information provided by media and technology;~~

~~b. Guide students to select, evaluate, and analyze digital resources critically; and~~

~~c. Help students to recognize bias, propaganda, persuasion, point of view, and intellectual property.~~

Appendix I

RULE	STATUTE
Ed 507.24	RSA 186:8, III- IV, RSA 186:11,X(a)
Ed 507.24153	RSA 186:8, III- IV, RSA 186:11,X(a)
Ed 612.05	RSA 186:8, IV; RSA 186:11, X(c)
Ed 612.05135	RSA 186:8, IV; RSA 186:11, X(c)

Readopt with amendment Ed 507.24, effective 08/14/2009 (Doc #9525), to read as follows:

Ed 507.24 English Language Arts Teacher For Grades 5-12.

(a) To be certified as an English language arts teacher for grades 5-12, the candidate shall:

- (1) Qualify for certification under one of the alternatives in Ed 505.01 – Ed 505.05; and
- (2) Meet the requirements of (c) below.

(b) The Department of Education shall assess the skills, competencies and knowledge of candidates for certification as educators in English language arts by reviewing evidence, such as, but not limited to, college course work, documented professional experience, letters of recommendation, professional development hours or CEUs, and artifacts of professional practice.

(c) A candidate for certification as an English language arts teacher for grades 5-12 shall have skills, competencies and knowledge in the following areas:

(1) In the area of language uses, knowledge of:

- a. The cognitive processes by which children acquire and use primary and secondary languages;
- b. The social, cultural, psychological, and economic factors that affect language learning;
- c. The grammatical structures and conventions of standard English usage;
- d. How language changes and develops over time;
- e. How diction, tone, and voice vary according to audience;
- f. How language can convey bias, propaganda, persuasion, and points of view; and
- g. The nature and needs of students whose primary language is not English;

(2) In the area of reading, knowledge of:

- a. The fundamental processes of reading at the literal, inferential, and evaluative levels;
- b. The criteria used to evaluate and select appropriate fiction, non-fiction, and informational materials based on students' needs and interests;
- c. The techniques to evaluate students' reading comprehension; and
- d. The metacognitive processes and strategies, which are the awareness of the thoughts employed to analyze an issue or complete a task, readers use to construct meaning from print;

- (3) In the area of writing, knowledge of:
 - a. Various modes of writing for a variety of purposes and audiences, including, but not limited to, conducting short as well as more sustained research projects based on focused questions, while demonstrating the understanding of the subject under investigation;
 - b. Writing as a recursive and multi-step process; and
 - c. The use of rubrics for holistic and analytic scoring of writing;
- (4) In the area of literature, knowledge of:
 - a. How literature can be a source for exploring and interpreting human experience;
 - b. The rhetorical and literary elements of literature;
 - c. Significant developmentally appropriate works and literary movements concerning or authored by people of various shared traditions, beliefs, customs, genders and ethnicities;
 - d. How significant works relate to and influence each other in terms of:
 - 1. Genre;
 - 2. Theme or style; and
 - 3. Social and intellectual contexts;
 - e. Strategies for analysis, interpretation, and evaluation of various works in the following major genres:
 - 1. Fiction;
 - 2. Non-fiction;
 - 3. Drama;
 - 4. Poetry;
 - 5. Informational texts; and
 - 6. Media;
- (5) In the area of speaking and listening, knowledge of:
 - a. The strategies speakers use to present information, ideas, and feelings in a range of social contexts from informal to formal discourse; and

b. The processes speakers use to adjust a spoken message for different audiences and purposes;

(6) In the area of media literacy, knowledge of:

a. How media and technology can be used to present and interpret the human experience;

b. How visual and informational media can support or distort messages; ~~and~~

c. How to select and use digital resources to support and enhance instruction; and

d. How to make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations; and

(7) In the area of language uses pedagogy, the ability to:

a. Apply and model grammatical rules in reading and writing;

b. Explain how the application of grammatical rules affects meaning;

c. Show how diction, tone, and voice vary according to audience;

d. Trace how English has changed and developed over time;

e. Distinguish and appreciate regional, ethnic, and standard dialects;

f. Model how language functions in different contexts and how to make effective choices about meaning or style;

g. Apply and model strategies to determine or clarify the meaning of unknown or multiple meaning words;

h. Show how figurative language, word relationships and nuances in word meaning changes meaning; and

i. Address the literacy needs of students whose primary language is not English;

(8) In the area of reading pedagogy, the ability to:

a. Guide students to employ a variety of reading strategies according to their purpose for reading at the literal, inferential, and evaluative levels;

b. Design instruction to assist students' comprehension with increasing text complexity;

c. Design instruction to enhance students' strategies to expand their vocabulary;

d. Foster and promote independent and reflective readers who enjoy reading; and

e. Implement a variety of assessments to evaluate, monitor, and adjust instruction;

(9) In the area of writing pedagogy, the ability to:

a. Model and guide students as they plan, draft, revise, edit, publish, and share writing for a variety of purposes;

b. Develop students' competence with writing on demand, writing to learn, writing to demonstrate understanding, and writing creatively;

c. Offer constructive and focused response to students' writing;

d. Present authors' works as models to encourage diversity in students' writing;

e. Guide students in proofreading their work with an understanding of how audience, purpose, and formality of form impact language usage; and

f. Implement a variety of assessments, including student writing portfolios, to monitor and evaluate student growth and adjust instruction;

(10) In the area of literature pedagogy, the ability to:

a. Provide opportunities and guide students to analyze, evaluate, and appreciate literature;

b. Provide an environment in which students develop and support critical insights in response to literature;

c. Guide students to read, discuss, and write about literature through various critical lenses such as but not limited to gender, religion, ethnicity, or socio-economic conditions as appropriate; and

d. Guide students in the understanding and appreciation for literary devices and rhetorical strategies;

(11) In the area of speaking and listening pedagogy, the ability to:

a. Provide opportunities for students to practice different forms of classroom discourse, including formal and informal conversations and presentations;

b. Explain how speakers and listeners establish and maintain contact with their audience;

c. Promote civil and participatory discourse;

d. Guide students to listen critically and speak purposefully and articulately; and

e. Explain how bias, propaganda, persuasion, and point of view are expressed;

- (12) In the area of media literacy pedagogy, the ability to:
- a. Guide students to construct and interpret meaning from images and information provided by media and technology;
 - b. Guide students to select, evaluate, and analyze digital resources critically; ~~and~~
 - c. Guide students to quote or paraphrase the data and conclusions of others to support claims and reasoning in their work;
 - d. Help students to recognize bias, propaganda, persuasion, point of view, and intellectual property.

Readopt with amendment and renumber Ed 507.241, effective 08/14/2009 (Doc #9525), as Ed 507.53 to read as follows:

Ed 507.53 English Language Arts Teacher For Grades 5-8

(a) A candidate for certification as an English language arts teacher for grades 5-8 shall have skills, competencies and knowledge, gained through a combination of academic and supervised practical experience as outlined in Ed 507.24(c).

Readopt with amendment Ed 612.05, effective 08/14/2009 (Doc #9525), to read as follows:

Ed 612.05 English Language Arts For Grades 5-12.

(a) The English language arts program for grades 5-12 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience as outlined in Ed 507.24(c).

Readopt with amendment and renumber Ed 612.051, effective 08/14/2009 (Doc #9525), as Ed 612.35 to read as follows:

Ed 612.35 English Language Arts For Grades 5-8.

(a) The English language arts program for grades 5- 8 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience as outlined in Ed 507.24(c).

Appendix I

RULE	STATUTE
Ed 507.24	RSA 186:8, III- IV, RSA 186:11,X(a)
Ed 507.24153	RSA 186:8, III- IV, RSA 186:11,X(a)
Ed 612.05	RSA 186:8, IV; RSA 186:11, X(c)
Ed 612.05135	RSA 186:8, IV; RSA 186:11, X(c)

Readopt with amendment Ed 507.27, effective 8-14-09 (Doc #9525), to read as follows:¹

Ed 507.27 Social Studies Teacher For Grades 5-12. The following requirements shall apply to the certification of a social studies teacher for grades 5-12:

(a) To be certified as a social studies teacher for grades 5-12, the candidate shall:

- (1) Have at least a bachelor's degree; and
- (2) Qualify for certification under one of the alternatives in Ed 505.01 – Ed 505.05.

(b) The Department of Education shall assess the skills, competencies and knowledge of candidates for certification as educators in social studies by reviewing evidence, such as, but not limited to, college course work, documented professional experience, letters of recommendation, professional development hours or CEU's, and artifacts of professional practice.

(c) A candidate for certification as a social studies teacher for grades 5-12 shall have skills, competencies and knowledge in the following areas:

(1) In the area of content, the ability to explain the importance of knowledge in each of the following areas, including ways in which each subject area provides insight into contemporary society:

- a. New Hampshire and United States civics and government;
- b. Economics;
- c. Geography;
- d. United States and New Hampshire history; and
- e. World history;

(2) In the area of content, the ability to exhibit knowledge of the basic concepts, generalizations, and issues of the subject areas, including an in-depth understanding of history and one of the following subject areas:

- a. New Hampshire and United States civics and government;
- b. Economics;
- c. Geography; or
- d. World history;

(3) In the area of related subject content, the ability to explain the importance of at least one of the following behavioral sciences including ways in which it provides insight into contemporary society:

- a. Anthropology;
- b. Psychology; or
- c. Sociology;

(4) In the area of content, the ability to demonstrate the research methodology of professionals in at least one of the 5 subject areas referred to in (c)(1) above, or a related social studies subject area;

(5) In the area of pedagogy, the ability to:

a. Develop comprehensive unit plans which integrate materials and concepts from 2 or more social science disciplines listed in 507.27(c)(1) that envelop essential questions, central themes, issues or problems and that coherently link to daily lessons;

b. Design learning activities that employ research methods unique to the social sciences including activities in which students design inquiries based on compelling essential questions;

c. Demonstrate the capacity to use a variety of social studies learning activities and techniques in order to:

1. Foster in students a commitment to and an ability to engage in democratic processes and decision-making;
2. Provide exposure to and opportunities to express multiple interpretations of issues;
3. Encourage in students a capacity for deliberation and thoughtful exchange of competing viewpoints between citizens within and outside the classroom;
4. Develop students' critical thinking, using a variety of instructional methods including how to assess the quality of information and ethical, legal or policy analyses;
5. Gather and evaluate primary and secondary sources from civics, economics, geography and history with the purpose of using evidence to support claims;
6. Assess how factual information, opinion, entertainment, and advertising are presented differently in various media; ~~and~~
7. Apply a range of deliberative and democratic strategies and procedures to carry out analyses, make decisions and communicate ideas via oral and written expression; and
8. Create structured and varied opportunities for students to participate in informed ways via community resources and projects; and

f. Promote adolescent literacy and incorporate relevant literacy standards by using literacy strategies in order to foster comprehension and develop social studies skills; and

Readopt with amendment and renumber Ed 507.271, effective 8-14-09 (Doc #9525) as 507.54, to read as follows:

Ed 50754 Social Studies Teacher For Grades 5-8

(a) To be certified as a social studies teacher for grades 5-8, the candidate shall meet the requirements of Ed 507.27.

Readopt with amendment Ed 612.28, effective 8-14-09 (Doc #9525), to read as follows:

Ed 612.28 Social Studies For Grades 5-12.

(a) The social studies program for grades 5-12 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience as outlined in 507.27(c).

Readopt with amendment Ed 612.29, effective 8-14-09 (Doc #9525), to read as follows:

Ed 612.29 Social Studies For Grades 5-8.

(a) The teacher preparation program for social studies in grades 5-8 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience as outlined in 507.27(c).

Appendix I

Rule	Statute
Ed 507.27	RSA 186:11, X(a)
Ed 507.271	RSA 186:11, X(a)
Ed 612.28	RSA 186:11, X(c)
Ed 612.29	RSA 186:11, X(c)

Readopt with amendment Ed 507.27, effective 8-14-09 (Doc #9525), to read as follows:

Ed 507.27 Social Studies Teacher For Grades 5-12. The following requirements shall apply to the certification of a social studies teacher for grades 5-12:

(a) To be certified as a social studies teacher for grades 5-12, the candidate shall:

(1) Have at least a bachelor's degree;

(2) Qualify for certification under one of the alternatives in Ed 505.01 – Ed 505.05, ~~including completion of at least 10 courses or the equivalent in social studies at an institution approved by the New Hampshire postsecondary education commission or equivalent regional accrediting agency such as but not limited to the Northeast Regional Association of Schools and Colleges; and~~

~~(3) Meet the requirements of (b) and (c) below.~~

~~(b) In compliance with RSA 193-C:3, IV(f) and consistent with RSA 193-C:3, III, a candidate for certification as a social studies teacher for grades 5-12 shall demonstrate competency in the teaching of social studies, including techniques for enhancing student learning in this area and the use of assessment results to improve instruction. *The Department of Education shall assess the skills, competencies and knowledge of candidates for certification as educators in social studies by reviewing evidence, such as, but not limited to, college course work, documented professional experience, letters of recommendation, professional development hours or CEU's, and artifacts of professional practice.*~~

~~(c) A candidate for certification as a social studies teacher for grades 5-12 shall have the following skills, competencies and knowledge, gained through a combination of academic and supervised practical experience, in the following areas:~~

(1) In the area of content, the ability to explain the importance of knowledge in each of the following areas, including ways in which each subject area provides insight into contemporary society:

a. *New Hampshire and United States* Civics and government;

b. Economics;

c. Geography;

d. United States and New Hampshire history; and

e. World history ~~and contemporary issues;~~

(2) In the area of content, the ability to exhibit knowledge of the basic concepts, generalizations, and issues of the subject areas, including an in-depth understanding of **history and at least 2 one** of the following subject areas, ~~one of which shall be d. or e.:~~

a. *New Hampshire and United States* Civics and government;

- b. Economics;
- c. Geography;
- ~~d. United States and New Hampshire history; and~~
- ed.** World history ~~and contemporary issues;~~

(3) In the area of related subject content, the ability to explain the importance of at least one of the following behavioral sciences including ways in which it provides insight into contemporary society:

- a. Anthropology;
- b. Psychology; or
- c. Sociology;

(4) In the area of content, the ability to demonstrate the research methodology of professionals in at least one of the 5 subject areas referred to in (c)(1) above, or a related social studies subject area;

(5) In the area of pedagogy, the ability to:

~~a. Design social studies unit plans which contain a central theme, issue, or question that coherently links to daily lessons;~~

~~ba.~~ Develop social studies lessons ***comprehensive unit plans*** which integrate materials and concepts from 2 or more social studies strands ***science disciplines*** listed in (1) ***that envelop essential questions, central themes, issues or problems and that coherently link to daily lessons;***

~~e.~~ Develop social studies lessons integrating materials and concepts from outside the social studies;

~~db.~~ Design learning activities ~~which~~ ***that*** employ research methods unique to the social sciences ***including activities in which students design inquiries based on compelling essential questions;***

~~ec.~~ Demonstrate the capacity to use a variety of social studies learning activities and techniques in order to:

1. Foster ***in students a commitment to and an ability to engage in*** ~~the practice of~~ democratic processes and decision-making;
2. Provide exposure to ***and opportunities to express*** multiple interpretations of ***issues;***

~~3. Explore social issues~~***Encourage in students a capacity for deliberation and thoughtful exchange of competing viewpoints between citizens within and outside the classroom;***

~~4. Develop and utilize community resources and community projects;~~

54. Develop students' critical thinking, using a variety of instructional methods including how to assess the quality of information and ethical, legal or policy analyses;

5. Gather and evaluate primary and secondary sources from civics, economics, geography and history with the purpose of using evidence to support claims;

6. Assess how factual information, opinion, entertainment, and advertising are presented differently in various media; ~~and~~

~~7. Promote~~ ***Apply a range of deliberative and democratic strategies and procedures to carry out analyses, make decisions and communicate ideas via oral and written expression through various forms of analysis; and***

8. Create structured and varied opportunities for students to participate in informed ways via community resources and projects; and

f. Promote adolescent literacy ***and incorporate relevant literacy standards*** by using literacy strategies in order to foster comprehension and develop social studies skills; and

~~(6) In the area of professionalism, the ability to:~~

~~a. Develop an understanding of the organizations, agencies, and resources which contribute to the professional growth of the social studies teacher, including how to access the current and best practices in the social studies field;~~

~~b. Understand the differences between middle school, junior high school, and high school philosophies and practices; and~~

~~e. Understand the purpose of an integrated and articulated K-12 social studies curriculum.~~

Readopt with amendment and renumber Ed 507.271, effective 8-14-09 (Doc #9525) as 507.54, to read as follows:

~~Ed 507.271~~***54 Social Studies Teacher For Grades 5-8.*** The following requirements shall apply to the certification of a social studies teacher for grades 5-8:

(a) To be certified as a social studies teacher for grades 5-8, the candidate shall: ***meet the requirements of Ed 507.27.***

~~(1) Have at least a bachelor's degree;~~

~~(2) Qualify for certification under one of the alternatives in Ed 505.01–Ed 505.05, including completion of at least 10 courses or the equivalent in social studies at an institution approved by the New Hampshire postsecondary education commission or equivalent regional accrediting agency such as but not limited to the Northeast Regional Association of Schools and Colleges; and~~

~~(3) Meet the requirements of (b) and (c) below.~~

~~—(b) In compliance with RSA 193-C:3, IV(f) and consistent with RSA 193-C:3, III, a candidate for certification as a social studies teacher grades 5–8 shall demonstrate competency in the teaching of social studies, including techniques for enhancing student learning in this area and the use of assessment results to improve instruction.~~

~~—(c) A candidate for certification as a social studies teacher for grades 5–8 shall have the following skills, competencies and knowledge, gained through a combination of academic and supervised practical experience, in the following areas:~~

~~(1) In the area of content, the ability to explain the importance of knowledge in each of the following areas, including ways in which each subject area provides insight into contemporary society:~~

- ~~a. Civics;~~
- ~~b. Economics;~~
- ~~c. Geography;~~
- ~~d. United States and New Hampshire history; and~~
- ~~e. World history and contemporary issues;~~

~~(2) In the area of content, the ability to exhibit knowledge of the basic concepts, generalizations, and issues of the subject areas, including an in-depth understanding of at least 2 of the following subject areas, one of which shall be d or e.~~

- ~~a. Civics;~~
- ~~b. Economics;~~
- ~~c. Geography;~~
- ~~d. United States and New Hampshire history; and~~
- ~~e. World history and contemporary issues;~~

~~(3) In the area of related subject content, the ability to explain the importance of at least one of the following behavioral sciences including ways in which it provides insight into contemporary society:~~

~~a. Anthropology;~~

~~b. Psychology; or~~

~~c. Sociology;~~

~~(4) In the area of content, the ability to demonstrate the research methodology of professionals in at least one of the 5 subject areas referred to in (c)(1) above, or a related social studies subject area;~~

~~(5) In the area of pedagogy, the ability to:~~

~~a. Design social studies unit plans which contain a central theme, issue, or question that coherently links to daily lessons;~~

~~b. Develop social studies lessons which integrate materials and concepts from 2 or more social studies strands listed in (1);~~

~~c. Develop social studies lessons integrating materials and concepts from outside the social studies;~~

~~d. Design learning activities which employ research methods unique to the social sciences;~~

~~e. Demonstrate the capacity to use a variety of social studies learning activities and techniques in order to:~~

~~1. Foster the practice of democratic processes and decision making;~~

~~2. Provide exposure to multiple interpretations and thoughtful exchange of competing viewpoints;~~

~~3. Explore social issues;~~

~~4. Develop and utilize community resources and community projects;~~

~~5. Develop critical thinking, using a variety of instructional methods;~~

~~6. Assess how factual information, opinion, entertainment, and advertising are presented differently in various media; and~~

~~7. Promote oral and written expression through various forms of analysis; and~~

~~f. Promote adolescent literacy by using literacy strategies in order to foster comprehension and develop social studies skills; and~~

~~(6) In the area of professionalism, the ability to:~~

- ~~a. Develop an understanding of the organizations, agencies, and resources which contribute to the professional growth of the social studies teacher, including how to access the current and best practices in the social studies field;~~
- ~~b. Understand the differences between middle school, junior high school, and high school philosophies and practices; and~~
- ~~e. Understand the purpose of an integrated and articulated K-12 social studies curriculum.~~

Readopt with amendment Ed 612.28, effective 8-14-09 (Doc #9525), to read as follows:

Ed 612.28 Social Studies For Grades 5-12.

~~(a) In compliance with RSA 193-C:3, IV(f) and consistent with RSA 193-C:3, III, the teacher preparation program in social studies for grades 5-12 shall require candidate competency in the teaching of social studies, including techniques for enhancing student learning in these areas and the use of assessment results to improve instruction.~~

~~—(b) The social studies program for grades 5-12 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience in the following areas *as outlined in 507.27(c)*:~~

~~(1) In the area of content, the ability to explain the importance of knowledge in each of the following areas, including ways in which each subject area provides insight into contemporary society:~~

- ~~a. Civics;~~
- ~~b. Economics;~~
- ~~c. Geography;~~
- ~~d. United States and New Hampshire history; and~~
- ~~e. World history and contemporary issues;~~

~~(2) In the area of content, the ability to exhibit knowledge of the basic concepts, generalizations, and issues of the subject areas, including an in depth understanding of at least 2 of the following subject areas one of which shall be d. or e.~~

- ~~a. Civics;~~
- ~~b. Economics;~~
- ~~c. Geography;~~
- ~~d. United States and New Hampshire history; and~~

~~e. World history and contemporary issues;~~

~~(3) In the area of related subject content, the ability to explain the importance of at least one of the following behavioral sciences including ways in which it provides insight into contemporary society:~~

~~a. Anthropology;~~

~~b. Psychology; or~~

~~c. Sociology;~~

~~(4) In the area of content, the ability to demonstrate the research methodology of professionals in at least one of the 5 subject areas referred to in (c)(1) above, or a related social studies subject area;~~

~~(5) In the area of pedagogy, the ability to:~~

~~a. Design social studies unit plans which contain a central theme, issue, or question that coherently links to daily lessons;~~

~~b. Develop lessons which integrate materials and concepts from 2 or more social studies strands in (1);~~

~~c. Develop social studies lessons integrating materials and concepts from outside the social studies;~~

~~d. Design learning activities which employ research methods unique to the social sciences;~~

~~e. Demonstrate the capacity to use a variety of social studies learning activities and techniques in order to:~~

~~1. Foster the practice of democratic processes and decision making;~~

~~2. Provide exposure to multiple interpretations and thoughtful exchange of competing viewpoints;~~

~~3. Explore social issues;~~

~~4. Develop and utilize community resources and community projects;~~

~~5. Develop critical thinking, using a variety of instructional methods;~~

~~6. Assess how factual information, opinion, entertainment, and advertising are presented differently in various media; and~~

~~7. Promote oral and written expression through various forms of analysis; and~~

~~f. Promote adolescent literacy by using literacy strategies in order to foster comprehension and develop social studies skills; and~~

~~(6) In the area of professionalism, the ability to:~~

~~a. Develop an understanding of the organizations, agencies, and resources which contribute to the professional growth of the social studies teacher, including how to access the current and best practices in the social studies field;~~

~~b. Understand the differences between middle school, junior high school, and high school philosophies and practices; and~~

~~c. Understand the purpose of an integrated and articulated K-12 social studies curriculum.~~

Readopt with amendment Ed 612.29, effective 8-14-09 (Doc #9525), to read as follows:

Ed 612.29 Social Studies For Grades 5-8.

~~(a) In compliance with RSA 193-C:3, IV(f) and consistent with RSA 193-C:3, III, a teacher preparation program in social studies for grades 5-8 shall require candidate competency in the teaching of social studies, including techniques for enhancing student learning in the this area and the use of assessment results to improve instruction.~~

~~—(b) The teacher preparation program for social studies in grades 5-8 shall provide the teaching candidate with the skills, competencies and knowledge gained through a combination of academic and supervised practical experience in the following areas as outlined in 507.27(c):~~

~~(1) In the area of content, the ability to explain the importance of knowledge in each of the following areas, including ways in which each subject area provides insight into contemporary society:~~

~~a. Civics;~~

~~b. Economics;~~

~~c. Geography;~~

~~d. United States and New Hampshire history; and~~

~~e. World history and contemporary issues;~~

~~(2) In the area of content, the ability to exhibit knowledge of the basic concepts, generalizations, and issues of the subject areas, including an in depth understanding of at least 2 of the following subject area, one of which shall be d. or e.:~~

~~a. Civics;~~

~~b. Economics;~~

~~e. Geography;~~

~~d. United States and New Hampshire history; and~~

~~e. World history and contemporary issues;~~

~~(3) In the area of related subject content, the ability to explain the importance of at least one of the following behavioral sciences including ways in which it provides insight into contemporary society:~~

~~a. Anthropology;~~

~~b. Psychology; or~~

~~c. Sociology;~~

~~(4) In the area of content, the ability to demonstrate the research methodology of professionals in at least one of the 5 subject areas referred to in (c)(1) above, or a related social studies subject area;~~

~~(5) In the area of pedagogy, the ability to:~~

~~a. Design social studies unit plans which contain a central theme, issue, or question that coherently links to daily lessons;~~

~~b. Develop social studies lessons which integrate materials and concepts from 2 or more social studies strands in (1);~~

~~c. Develop social studies lessons integrating materials and concepts from outside the social studies;~~

~~d. Design learning activities which employ research methods unique to the social sciences;~~

~~e. Demonstrate the capacity to use a variety of social studies learning activities and techniques in order to:~~

~~1. Foster the practice of democratic processes and decision making;~~

~~2. Provide exposure to multiple interpretations and thoughtful exchange of competing viewpoints;~~

~~3. Explore social issues;~~

~~4. Develop and utilize community resources and community projects;~~

~~5. Develop critical thinking, using a variety of instructional methods;~~

~~6. Assess how factual information, opinion, entertainment, and advertising are presented differently in various media; and~~

~~7. Promote oral and written expression through various forms of analysis; and~~

~~f. Promote adolescent literacy by using literacy strategies in order to foster comprehension and develop social studies skills; and~~

~~(6) In the area of professionalism, the ability to:~~

~~a. Develop an understanding of the organizations, agencies, and resources which contribute to the professional growth of the social studies teacher, including how to access the current and best practices in the social studies field;~~

~~b. Understand the differences between middle school, junior high school, and high school philosophies and practices; and~~

~~e. Understand the purpose of an integrated and articulated K-12 social studies curriculum.~~

Appendix I

Rule	Statute
Ed 507.27	RSA 186:11, X(a)
Ed 507.271	RSA 186:11, X(a)
Ed 612.28	RSA 186:11, X(c)
Ed 612.29	RSA 186:11, X(c)

Adopt Ed 507.23, previously effective 3-27-08 (Doc #9117), and expired 3/27/16, to read as follows:

Ed 507.23 School Speech-Language Specialist.

(a) To be certified as a speech-language specialist, a candidate shall meet the following entry level requirements relative to education and experience:

- (1) The general education requirements specified in Ed 505.06, if applicable;
- (2) The professional education requirements specified in 505.07, if applicable; and
- (3) Hold a master's degree in speech-language pathology or communication sciences and disorders and meet the speech-language specialist competencies.

(b) The department of education shall assess the skills, competencies and knowledge of candidates for certification as school speech-language specialists by reviewing evidence, such as, but not limited to, college course work, documented professional experience, letters of recommendation, professional development hours or CEUs, and artifacts of professional practice.

(~~b~~c) A candidate for certification as a speech-language specialist shall have gained the following skills, competencies, and knowledge through a combination of academic and supervised practical experiences in the following areas:

- (1) In the area of core competencies in communication:
 - a. A knowledge of professional conduct including how to understand and respect student and family confidentiality;
 - b. A knowledge of basic communication science, which for this field shall include:
 1. Normal language acquisition and implications for multi-cultural application;
 2. Phonetics and phonology;
 3. Speech and hearing science;
 4. Basic audiology;
 5. Anatomy and physiology of the speech and hearing mechanism;
 6. Neurology of speech and language; and
 7. Swallowing; ~~and~~
 - c. A knowledge of assessment and intervention techniques related to a broad range of disabilities students might exhibit, any one or combination of which might affect their academic performance and thus place them at risk in terms of their receiving a free and appropriate public education in the least restrictive environment. Disabilities include the following:

1. Fluency disorders such as stuttering;
 2. Organic pathologies such as cerebral palsy and traumatic brain injury;
 3. Articulation and phonological disorders;
 4. Language disorders, including expressive, receptive, and social pragmatic language disorders;
 5. Phonological awareness in relation to literacy disorders;
 6. Auditory perception, including central auditory processing disorders;
 7. Voice and resonance disorders;
 8. Augmentative and alternative communication (AAC) modalities such as sign language and speech generating devices; and
 9. Autism spectrum disorders; ~~and~~
- d. The ability to evaluate existing research, conduct and interpret applied research, and utilize evidence-based practices in assessment and intervention;
- e. The ability to administer and interpret the results of a variety of formal and informal screening tools and diagnostic instruments in the areas of:
1. Phonology and articulation; including motor speech disorders;
 2. Early childhood and school age language;
 3. Oral language as it relates to expressive and receptive language;
 4. Dysphagia;
 5. Fluency;
 6. Hearing and auditory processing disorders;
 7. Voice and resonance; and
 8. Augmentative and alternative communication (AAC); ~~and~~
- f. A knowledge of diagnostics and evaluation to identify the presence of a communication disorder and identify an educational disability in the area of speech, language, or hearing impairment which shall include the ability to:
1. Collect quantitative and qualitative data to assist in identifying:

(i) Student learning strengths and needs;

(ii) Learning styles; and

(iii) Interpersonal skills; and

2. Demonstrate the ability to synthesize data and to develop individualized education programs and methods of assessing progress as described in Ed 1109 and 34 CFR 300.320; and

g. A knowledge of and skills necessary to implement various evidence-based models of service delivery such as individual and group; direct, collaborative and consultative relative to specific communication disorders listed in Ed 507.23(b)(1)(c) which shall include the ability to:

1. Coordinate the provision of services with other school personnel who provide non-speech and language services to students;

2. Apply evidence-based practices in developing and integrating therapeutic goals within the classroom, curriculum or both;

3. Demonstrate the ability to evaluate the attainment of treatment goals in relation to the curriculum using:

(i) Qualitative methods, including but not limited to educator reports, student reports, and observations, and;

(ii) Quantitative methods, including but not limited to the use of standardized tests; and

4. Modify individual student programs based on on-going assessment; and

(2) Concerning school-based delivery systems:

a. A knowledge of educational systems including school operations and administrative organizations;

b. A knowledge of general and special education laws, including but not limited to federal statutes and regulations, state statutes and rules, and related case law;

c. The ability to participate in the development of individualized education programs and accommodation plans as outlined in Section 504 of the Rehabilitation Act of 1973;

d. The ability to analyze, evaluate, and employ curriculum and classroom-based teaching techniques and materials to support speech and language development;

e. The ability to understand the relationship between communication, language, and reading and writing in classroom-based instruction;

- f. The ability to develop, evaluate, and modify curriculum and monitor student progress in academic areas as related to speech, language and communication;
- g. A knowledge of school, community, state and federal resources to support students and their families in the school setting;
- h. A knowledge of methods and activities for integrating life skills into specific subject areas and related services to promote independent living, social and interpersonal skills;
- j. The ability to supervise paraeducators, tutors or speech-language assistants in targeting and generalizing speech and language goals; and
- k. The ability to utilize augmentative and alternative communication systems and technology to foster the participation, interaction, and inclusion of children for whom speech is not their primary mode of communication.

(d) Any person who is licensed in the state of New Hampshire as a speech-language pathologist by the board of speech-language pathology shall be considered to have met the requirements of Ed 507.23.

Adopt Ed 614.09, previously effective 3-27-08 (Doc #9117), and expired 3/27/16, to read as follows:

Ed 614.09 School Speech-Language Specialist Program.

(a) The school social worker educator preparation program shall provide the student with the following skills, competencies and knowledge through a combination of academic experiences and supervised practical experiences as outlined in Ed 507.23(c and (d)).

Appendix I

Rule	Statute
Ed 507.23	RSA 186:11, X(a)
Ed 614.09	RSA 186:11, X(c)

Adopt Ed 507.23, previously effective 3-27-08 (Doc #9117), and expired 3/27/16, to read as follows:

Ed 507.23 School Speech-Language Specialist.

(a) To be certified as a speech-language specialist, a candidate shall meet the following entry level requirements relative to education and experience:

- (1) The general education requirements specified in Ed 505.06, if applicable;
- (2) The professional education requirements specified in 505.07, if applicable; and
- (3) Hold a master's degree in speech-language pathology or communication sciences and disorders and meet the speech-language specialist competencies.

(b) The department of education shall assess the skills, competencies and knowledge of candidates for certification as school speech-language specialists by reviewing evidence, such as, but not limited to, college course work, documented professional experience, letters of recommendation, professional development hours or CEUs, and artifacts of professional practice.

(~~b~~c) A candidate for certification as a speech-language specialist shall have gained the following skills, competencies, and knowledge through a combination of academic and supervised practical experiences in the following areas:

- (1) In the area of core competencies in communication:
 - a. A ~~K~~knowledge of professional conduct including how to understand and respect student and family confidentiality;
 - b. A ~~K~~knowledge of basic communication science, which for this field shall include:
 1. Normal language acquisition and implications for multi-cultural application;
 2. Phonetics and phonology;
 3. Speech and hearing science;
 4. Basic audiology;
 5. Anatomy and physiology of the speech and hearing mechanism;
 6. Neurology of speech and language; and
 7. Swallowing; ~~and~~
 - c. A ~~K~~knowledge of assessment and intervention techniques related to a broad range of disabilities students might exhibit, any one or combination of which might affect their academic performance and thus place them at risk in terms of their receiving a free and appropriate public education in the least restrictive environment. Disabilities include the following:

1. Fluency disorders such as stuttering;
 2. Organic pathologies such as cerebral palsy and traumatic brain injury;
 3. Articulation and phonological disorders;
 4. Language disorders, **including** expressive, receptive, **and** social pragmatic language disorders;
 5. Phonological awareness in relation to literacy disorders;
 6. Auditory perception, including central auditory processing disorders;
 7. Voice and resonance disorders;
 8. Augmentative and alternative communication (AAC) modalities such as sign language and speech generating devices; and
 9. Autism spectrum disorders; ~~and~~
- d. ~~The Ability~~ to evaluate existing research, conduct and interpret applied research, and utilize evidence-based practices in assessment and intervention;
- e. ~~The Ability~~ to administer and interpret the results of a variety of formal and informal screening tools and diagnostic instruments in the areas of:
1. Phonology and articulation; including motor speech disorders;
 2. Early childhood and school age language;
 3. Oral language as it relates to expressive and receptive language;
 4. Dysphagia;
 5. Fluency;
 6. Hearing and auditory processing disorders;
 7. Voice and resonance; and
 8. Augmentative and alternative communication (AAC); ~~and~~
- f. A knowledge of diagnostics and evaluation to identify the presence of a communication disorder and identify an educational disability in the area of speech, language, or hearing impairment which shall include the ability to:
1. Collect quantitative and qualitative data to assist in identifying:

- (i) Student learning strengths and needs;
- (ii) Learning styles; and
- (iii) Interpersonal skills; and

2. Demonstrate the ability to synthesize data and to develop individualized education programs and methods of assessing progress as described in Ed 1109 and 34 CFR 300.320; and

g. A knowledge of and skills necessary to implement various evidence-based models of service delivery such as individual and group; direct, collaborative and consultative relative to specific communication disorders listed in Ed 507.23(b)(1)(c) which shall include the ability to:

- 1. Coordinate the provision of services with other school personnel who provide non-speech and language services to students;
- 2. Apply evidence-based practices in developing and integrating therapeutic goals within the classroom, curriculum or both;
- 3. Demonstrate the ability to evaluate the attainment of treatment goals in relation to the curriculum using:
 - (i) Qualitative methods, including but not limited to educator reports, student reports, and observations, and;
 - (ii) Quantitative methods, including but not limited to the use of standardized tests; and
- 4. Modify individual student programs based on on-going assessment; and

(2) Concerning school-based delivery systems, ~~the candidate shall have:~~

- a. ~~A K~~ knowledge of educational systems including school operations and administrative organizations;
- b. ~~A K~~ knowledge of general and special education laws, including but not limited to federal statutes and regulations; state statutes and rules, and related case law;
- c. ~~The A~~ ability to participate in the development of individualized education programs and accommodation plans as outlined in Section 504 of the Rehabilitation Act of 1973;
- d. ~~The A~~ ability to analyze, evaluate, and employ curriculum and classroom-based teaching techniques and materials to support speech and language development;
- e. ~~The A~~ ability to understand the relationship between communication, language, and reading and writing in classroom-based instruction;

f. ***The Ability*** to develop, evaluate, and modify curriculum and monitor student progress in academic areas as related to speech, language and communication;

g. ***A Knowledge*** of school, community, state and federal resources to support students and their families in the school setting;

h. ***A Knowledge*** of methods and activities for integrating life skills into specific subject areas and related services to promote independent living, social and interpersonal skills;

j. ***The Ability*** to supervise paraeducators, tutors or speech-language assistants in targeting and generalizing speech and language goals; and

k. ***The Ability*** to utilize augmentative and alternative communication systems and technology to foster the participation, interaction, and inclusion of children for whom speech is not their primary mode of communication.

(*ed*) Any person who is licensed in the state of New Hampshire as a speech-language pathologist by the board of speech-language pathology shall be considered to have met the requirements of Ed 507.23.

Adopt Ed 614.09, previously effective 3-27-08 (Doc #9117), and expired 3/27/16, to read as follows:

Ed 614.09 School Speech-Language Specialist Program.

(a) The school social worker educator preparation program shall provide the student with ~~the following~~ skills, competencies and knowledge through a combination of academic experiences and supervised practical experiences ~~in the following areas:~~ *as outlined in Ed 507.23(c and (d)).*

~~(1) In the area of core competencies in communication:~~

~~a. Knowledge of professional conduct including how to understand and respect student and family confidentiality;~~

~~b. Knowledge of basic communication science, which for this field shall include:~~

~~1. Normal language acquisition and implications for multi-cultural application;~~

~~2. Phonetics and phonology;~~

~~3. Speech and hearing science;~~

~~4. Basic audiology;~~

~~5. Anatomy and physiology of the speech and hearing mechanism;~~

~~6. Neurology of speech and language; and~~

~~7. Swallowing; and~~

~~c. Knowledge of assessment and intervention techniques related to a broad range of disabilities students might exhibit, any one or combination of which might affect their academic performance and thus place them at risk in terms of their receiving a free and appropriate public education in the least restrictive environment. Disabilities include the following:~~

~~1. Fluency disorders such as stuttering;~~

~~2. Organic pathologies such as cerebral palsy and traumatic brain injury;~~

~~3. Articulation and phonological disorders;~~

~~4. Language disorders; expressive, receptive, social pragmatic language disorders;~~

- ~~5. Phonological awareness in relation to literacy disorders;~~
 - ~~6. Auditory perception, including central auditory processing disorders;~~
 - ~~7. Voice and resonance disorders;~~
 - ~~8. Augmentative and alternative communication (AAC) modalities such as sign language and speech generating devices; and~~
 - ~~9. Autism spectrum disorders; and~~
- ~~d. Ability to evaluate existing research, conduct and interpret applied research, and utilize evidence-based practices in assessment and intervention;~~
- ~~e. Ability to administer and interpret the results of a variety of formal and informal screening tools and diagnostic instruments in the areas of:~~
- ~~1. Phonology and articulation; including motor speech disorders~~
 - ~~2. Early childhood and school age language;~~
 - ~~3. Oral language as it relates to expressive and receptive language;~~
 - ~~4. Dysphagia;~~
 - ~~5. Fluency;~~
 - ~~6. Hearing and auditory processing disorders;~~
 - ~~7. Voice and resonance; and~~
 - ~~8. Augmentative and alternative communication (AAC); and~~
- ~~f. A knowledge of diagnostics and evaluation to identify the presence of a communication disorder and identify an educational disability in the area of speech, language or hearing impairment which shall include the ability to:~~
- ~~1. Collect quantitative and qualitative data to assist in identifying:
 - ~~(i) Student learning strengths and needs;~~
 - ~~(ii) Learning styles; and~~
 - ~~(iii) Interpersonal skills; and~~~~

~~2. Demonstrate the ability to synthesize data and to develop individualized education programs and methods of assessing progress as described in Ed 1109 and 34 CFR 300.320; and~~

~~g. A knowledge of and skills necessary to implement various evidence-based models of service delivery such as individual and group; direct, collaborative and consultative relative to specific communication disorders listed in Ed 507.23(b)(1)(c) which shall include the ability to:~~

~~1. Coordinate the provision of services with other school personnel who provide non-speech and language services to students;~~

~~2. Apply evidence-based practices in developing and integrating therapeutic goals within the classroom, curriculum or both;~~

~~3. Demonstrate the ability to evaluate the attainment of treatment goals in relation to the curriculum using:~~

~~(i) Qualitative methods, including but not limited to educator reports, student reports, and observations; and;~~

~~(ii) Quantitative methods, including but not limited to the use of standardized tests; and~~

~~4. Modify individual student programs based on on-going assessment; and~~

~~(2) Concerning school-based delivery systems, the program shall provide the candidate with the opportunity to acquire the following skills, competencies and knowledge through a combination of academic experiences and demonstrated competency in the following areas:—~~

~~a. Knowledge of educational systems including school operations and administrative organizations;~~

~~b. Knowledge of general and special education laws, including but not limited to federal statutes and regulations; state statutes and rules, and related case law;~~

~~c. Ability to participate in the development of individualized education programs and accommodation plans as outlined in Section 504 of the Rehabilitation Act of 1973;~~

~~d. Ability to analyze, evaluate, and employ curriculum and classroom-based teaching techniques and materials to support speech and language development;~~

~~e. Ability to understand the relationship between communication, language, and reading and writing in classroom-based instruction;~~

~~f. Ability to develop, evaluate, and modify curriculum and monitor student progress in academic areas as related to speech, language and communication;~~

~~g. Knowledge of school, community, state and federal resources to support students and their families in the school setting;~~

~~h. Knowledge of methods and activities for integrating life skills into specific subject areas and related services to promote independent living, social and interpersonal skills;~~

~~j. Ability to supervise paraeducators, tutors or speech language assistants in targeting and generalizing speech and language goals; and~~

~~k. Ability to utilize augmentative and alternative communication systems and technology to foster the participation, interaction, and inclusion of children for whom speech is not their primary mode of communication.~~

Appendix I

Rule	Statute
Ed 507.23	RSA 186:11, X(a)
Ed 614.09	RSA 186:11, X(c)

TITLE XV EDUCATION

CHAPTER 200 HEALTH AND SANITATION

School Health Services

Section 200:29

200:29 School Nurse; Certification. –

I. Each school board may appoint a school nurse to function in the school health program, and provide said nurse with proper facilities and equipment. A school nurse shall be a registered professional nurse currently licensed in New Hampshire and certified by the state board of education.

II. (a) An individual shall have the following entry level requirements to be certified as a school nurse:

(1) Have completed a board of nursing approved registered nursing program at the bachelor's degree level or higher under RSA 326-B; and

(2) Have 3 years current experience in pediatric nursing or other related nursing areas.

(b) An applicant for certification as a school nurse shall have the skills, competencies, and knowledge in the following areas:

(1) In the area of delivery of the school nursing services, the skills and abilities to:

(A) Assess student's health or situation through analysis of data collected and synthesize comprehensive data.

(B) Identify outcomes and develop plans for individual students or situations including strategies and alternatives.

(C) Implement interventions identified in the plan of care/action, coordinating care with school employees and evaluate outcome.

(D) Consult with administration to provide health education and employ strategies to promote health, wellness, and a safe environment.

(E) Systematically evaluate the progress for the quality of practice and effectiveness toward attainment of outcomes for promoting health and a safe environment.

(2) In the area of school nursing, the applicant shall demonstrate the knowledge and ability to:

(A) Provide quality nursing practice in a school setting.

(B) Evaluate his or her nursing practices and continue professional development as required by a school district's professional development master plan.

(C) Collaborate with students, families, school staff, and others in the conduct of school nursing practices.

(D) Integrate ethical provisions and research findings into practice as a school nurse.

(3) In the area of accountability, knowledge, skills, and application in:

(A) Planning and delivering school nursing services factoring in safety, effectiveness,

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cost, and impact on nursing practice.

(B) Providing leadership in the profession and professional nursing practice setting.

(C) Managing school health services.

(D) Complying with professional nursing practice standards, guidelines, relevant statutes, rules, and regulations.

III. The state board of education shall adopt rules, pursuant to RSA 541-A, relative to:

(a) The application process for certification under paragraph II.

(b) Form and content of any forms required under paragraph II.

(c) Application fees for certification under paragraph II.

(d) Further rulemaking necessary for the proper administration of certification under paragraph II.

Source. 1971, 499:1, eff. Sept. 4, 1971. 2016, 285:2, eff. Aug. 20, 2016.

PART Ed 1410 RULES FOR THE ROBOTICS EDUCATION FUND

Statutory Authority: RSA 188-E:24 and RSA 188-E:25

Ed 1410.01 Purpose of the Robotics Education Fund. The purpose of the Robotics Education Fund is to motivate public school and chartered public school students in New Hampshire to pursue education and career opportunities in science, technology, engineering, and mathematics while building critical life and work-related skills.

Ed 1410.02 Scope. Grants from the Robotics Education Fund shall be available to any eligible public school or chartered public school for the purpose of financing the establishment of a robotics team and its participation in competitive events.

Ed 1410.03 Definitions.

- (a) “Competitive event” means an event administered by a national or international organization whose mission is to promote and organize robotics competitions.
- (b) “Eligible public school or chartered public school” means any public school which meets the minimum standards or a chartered public school as defined in RSA 194-B in the state of New Hampshire.
- (c) “Technical resources” shall include, but not be limited to the following: providing mentors, space, equipment, travel to events, use of office equipment, and use of computers.

Ed 1410.04 Uses of Grant Funds for the Robotics Education Fund. Grant funds administered through the Robotics Education Fund shall be limited to the purchase of robotics kits, stipends for coaches, and the payment of associated costs from participation in competitions. Grant funds shall only be used to cover direct costs associated with the cost of the robotics team. Said grants shall not exceed the following amounts per year:

- (a) For elementary school, the amount of the grant that can be applied toward the cost of the kit shall not exceed \$1,000 and the amount of the grant that can be applied toward the stipend shall not exceed \$250;
- (b) For middle school, the amount of the grant that can be applied toward the cost of the kit shall not exceed \$1,500 and the amount of the grant that can be applied toward the stipend shall not exceed \$750;
- (c) For high school, the amount of the grant that can be applied toward the cost of the kit shall not exceed \$5,000 and the amount of the grant that can be applied toward the stipend shall not exceed \$1,500.

Ed 1410.05 Eligibility Criteria. A public school or chartered public school which is applying for a grant from the Robotics Education Fund shall demonstrate the following criteria:

- (a) Has established, or is in the process of establishing, a robotics team or club that is associated with the school;
- (b) Has at least one coach or adult advisor;

- (c) Has established a partnership with, or has a valid letter of commitment from, at least one sponsor, business entity, institution of higher education or technical school for the purpose of participation in a robotics competition;
- (d) Demonstrate that a sponsor, business entity, institution of higher education or technical school will contribute funds and/or technical resources to allow for the school to participate in the competition;
- (e) Anticipated funds from other fundraising projects;
- (f) Has developed a budget for the current year of the application;
- (g) Has not received a grant from the Robotics Education Development Program in the prior year; and
- (h) Has identified at least one competitive event in which the team or club will participate in and that it meets all criteria for participation in the competitive event(s).

Ed 1410.06 Robotics Education Development Program Grant Application.

- (a) A public or chartered public school shall submit a grant application electronically to the department of education, division of career technology and adult learning, bureau of career development.
- (b) The grant application period shall start on September 1 and will close on September 30 of each year.
- (c) The amount of each grant will be sufficient to cover the costs of establishing and supporting a team for two years as set forth in Ed 1410.04.

Ed 1410.07 Review of Robotics Education Development Program Grant Application.

- (a) The bureau of career development shall review all grant applications within 15 working days of the deadlines established in Ed 1410.06(b), with recommendation from the Commissioner or designee. In making a decision the Bureau of Career Development shall approve an application if the school has met all the criteria set forth in Ed 1410.05 (a)-(h).
- (b) If the amount of grant funds requested exceeds the balance in the fund that is available in any year, preference shall be given to schools that have a higher percentage of students in the school's average daily membership in attendance who are eligible for a free or reduced-price meal as defined in RSA 198:38, VII. Secondary preference shall be given to schools which did not receive a grant in the previous year due to lack of funds.

Ed 1410.08 Robotics Education Development Program Grant Disbursement.

- (a) Grants will be awarded and funds made available by October 31 of each year; and
- (b) Grants will be disbursed as a single payment through the Business Office of the Department of Education.

New Hampshire
State Board of Education
Minutes of the June 8, 2017 Meeting

AGENDA ITEM I. CALL TO ORDER

The regular meeting of the State Board of Education was convened at 9:15 a.m. at the State Department of Education, 101 Pleasant Street, Concord, New Hampshire. Drew Cline presided as Chairman.

Members present: Kate Cassady, Cindy C. Chagnon, Drew Cline, Chairman, Bill Duncan, Gary Groleau, Helen G. Honorow. Frank Edelblut, Commissioner of Education and Paul K. Leather, Deputy Commissioner of Education were also present. Ann Lane was unable to attend due to a previous commitment.

AGENDA ITEM II. PLEDGE OF ALLEGIANCE

Cindy Chagnon led the Pledge of Allegiance.

AGENDA ITEM III. PUBLIC COMMENT

Chairman Cline explained that the process of public comment will continue intermittently throughout the meeting due to scheduled public hearing time requirements. He advised everyone that their remarks and written comments will be part of public record.

The following individuals provided comments on various topics to the Board.

- Debra Cinamon Whalen, Exeter, NH; expressed her concern regarding the school voucher program. She provided her written testimony.
- Suzanne Bokak Stone, Exeter, NH; asked the Board to keep choice in the public school system. She provided her written testimony as well as written testimony from friends.
- Matt Grazzier, Exeter, NH; expressed his concerns about a false narrative that New Hampshire schools are in crisis. He noted that the State's academic test scores increased last year and students are graduating at one of the highest rates in the country. He fully supports the Next Generation Science Standards that were approved last year and asked the Board to continue to build on the work they started in 2015 and laid out in Vision 2.0.
- Lauren Provost, STEM Outreach, Dartmouth College and parent strongly advocated for equity in education and spoke to the Board regarding standards, assessment and competency reform.

- Joe Mendola, Bedford, NH; spoke to the Board about the Common Core State Standards and the need for the State and local school boards to take back control of education standards from the Federal government. He provided his written testimony.
- Bonnie Dunham, Merrimack, NH; expressed her concerns regarding the recent introduction and passage of legislation allowing tax dollars intended for public education to be diverted to private institutions and the potential for discrimination based on a child's disability. She asked that the Board establish an advisory group to provide input to the Board on how to protect the integrity of New Hampshire's public school system and that this group include representation from parents of children with and without disabilities, parents from minority populations and other underserved groups, parents from urban and rural communities, as well as, representatives from school boards, educators and school administrators.
- Pam Wilks, Concord, NH; spoke in support of the current English Language Arts and Mathematics standards and asked the Board to reconsider the proposed revision. She provided her written testimony.
- Marie L. Correa, Northwood, NH; asked that the Board to move forward on the proposed revision of the New Hampshire English

Language Arts and Mathematic standards. She provided her written testimony.

- Jon Dipretro, Manchester, NH; spoke in support of the proposed revision of the New Hampshire English Language Arts and Mathematic standards.
- Ed Bryans, Parent from Cheshire County; spoke in support of the proposed revision of the New Hampshire English Language Arts and Mathematic standards.
- Howard Coffman, Nashua, NH; spoke in support of the proposed revision of the New Hampshire English Language Arts and Mathematic standards.
- Tim Soucy, Manchester Health Department; spoke in opposition to the proposed School Nurse Certification Rules. He provided his written testimony.
- Pediatrician Dr. Sarah Henry, Concord, NH; stated that she was there to speak in support of the New Hampshire teachers, superintendents, families and students that had spoken in defense of their schools. She expressed her concerns about getting data from reliable sources and the enormous undertaking it will be to make rational comparisons between different bodies of data when comparing the standards from other States. This was in response to Commissioner Edelblut's earlier presentation on the proposed revision of the New Hampshire English Language Arts and

Mathematic standards. Dr. Henry stated her support of the Board's decision to endorse and approve the Next Generation Science Standards. She noted that there are over a thousand bills introduced every year and to characterize one of those bills as the voice of the people would be disingenuous and that the job of citizens and of this Board is to be leaders when looking at bills and ensure they are they do reflect the voice of the people.

- Janet Ward, Contoocook, NH; spoke in support of the current English Language Arts and Mathematics standards and asked the Board to reconsider the proposed revision.
- Mary Wilke, Concord, NH; spoke in support of the current English Language Arts and Mathematics standards and asked the Board to reconsider the proposed revision.
- Jennifer Manning, Kindergarten Teacher, Sanborn Regional School District; spoke in support of the current English Language Arts and Mathematics standards and asked the Board to reconsider the proposed revision.
- William MacKenzie, Goffstown, New Hampshire; provided documentation on National School-to-Work All Grantee Meeting 1998.
- Evan Czyzowski, English Teacher, Sanborn Regional School District; spoke in support of the current English Language Arts and

Mathematics standards and asked the Board to reconsider the proposed revision.

AGENDA ITEM IV. SPECIAL PRESENTATIONS

A. Reflections on a Multi-tier District Moving into PACE - Christine Landwehrle, Director of Curriculum & Professional Development and Kathy White, Dean of Faculty from SAU 39 (Souhegan/Amherst) along with 2 student presenters - Ms. Landwehrle and Ms. White provided background on the history of the PACE program, professional development supports that PACE provides, PACE scaling and readiness, a review and explanation of Tiers 1, 2, and 3, and the progress and results of the program over the last three years. This year has seen the addition of the New Hampshire teacher leads and work study practices. The end goal is to have self-directed learner and knowledgeable, collaborative, and responsible citizens and the PACE performance assessments provide this. Ms. Lindsey McCool and Ms. Ellie Noble, recent high school graduates, presented their views and feedback on the PACE assessments and their experiences as students.

B. Ed 505.01 through Ed 505.07 - Qualifying Methods for Obtaining a Teacher Credential (Alternative 1-5) Expiring 9/16/19 – Ginny Clifford, Administrator, Bureau of Credentialing, provided a review of background information for the proposed certification standards for educators in computer science for which a public hearing is scheduled for next month's meeting. Ms.

Clifford further explained that a variety of pathway opportunities to certification will be coming up for review over the next year as they will be expiring and are in need of revision. During the revision process, input from educators outside the credentialing office is needed. It would also be beneficial to create a waiver opportunity for exceptional situations. In response to a question from Chairman Cline, Ms. Clifford explained the process used to define critical shortage areas, and also added that districts through their school board have the ability to declare a local shortage for a specific endorsement.

C. STEM and Computer Science – David Benedetto, Director of STEM Education for the Department, reviewed with the Board background information regarding future job growth in the areas of technology and is proposing the Board develop state standards for computer science.

Helen Honorow expressed concern with the timeline presented as there is no allowance for the scheduling of public input, such as listening tours.

Bill Duncan suggested Mr. Benedetto further refine the schedule, outline the process, and return next month for further discussion.

D. English Language Arts (ELA) and Mathematic Academic State Standards

The following individuals offered comments in support of the current state standards:

- Stephen McDonough, Mathematics Teacher, Laconia High School
- Linda Thanas, Kindergarten Teacher, Pleasant Street School in Laconia
- Jen Eccleston, Mathematics Coach, Clark-Wilkins Elementary School in Amherst

The following individuals offered comments in support of reviewing the current state standards:

- Natalie Brankin, Certified NH High School Mathematics Teacher
- Dr. Amy Fahey, Visiting Fellow, English and American Literature, Thomas More College of Liberal Arts, Merrimack, NH
- Dr. Eva Szillery, State of Maine Director of American Mathematics Competition and Founder and Director of Maine Mathematics Science & Engineering Talent Search Program
- Dr. Sandra Stotsky, Professor Emerita in the Department of Education Reform at the University of Arkansas, National Validation Committee for Common Core State Systemic Initiative, 2009-2010, National Mathematics Advisory Panel, 2006-2008
- Frank Edelblut, Commissioner of Education

AGENDA ITEM V. OPEN BOARD DISCUSSION

A. Review and Revision of the English Language Arts (ELA) and Mathematic Academic State Standards

MOTION: Cindy Chagnon made the following motion, seconded by Bill Duncan, that the State Board of Education move this item to the July Board Meeting.

VOTE: The motion was approved by unanimous vote of the Board with the Chairman abstaining.

B. Distribution of Board Documents

Chairman Cline stated that the main issue to be addressed is when and how documents are distributed to Board members and how they are made available to the public. The Chairman and Angela will work together on compiling the documents provided to the Board prior to each meeting to ensure nothing is distributed until it is ready. The logistics and infrastructure for posting the Board's meeting packets on the website with the agenda needs to be reviewed further but can be accomplished.

Written testimony submitted to the Board should also be available on the website for public access and could be an amendment added as a separate document to the meeting minutes. Chairman Cline noted the Board should be

sensitive to posting email addresses as part of the public record and suggested the email addresses be redacted prior to posting.

Memos among Board members need to be done with care and a suggestion for a process is to send all memos to the Chairman who will pass them to Angela for board distribution, at which time they would become public documents.

AGENDA ITEM VI. LEGISLATIVE ISSUES/RULES

A. ADOPTION INTERIM RULE- Ed 1400 Career and Technical Education Program

MOTION: Cindy Chagnon made the following motion, seconded by Gary Groleau, that the State Board of Education adopt Ed 1400 Career and Technical Education Program.

VOTE: The motion was approved by unanimous vote of the Board with the Chairman abstaining.

B. 9:30-10:00 AM – PUBLIC HEARING - Ed 507.27, Ed 507.271, Ed 612.28 and Ed 612.29 Social Studies Teacher - The Public Hearing was opened at 9:35 a.m. The following people provided testimony to the Board:

- Dianna Terrel, Professor at Saint Anslem College and Trustee, New Hampshire Institute for Civics Education
- Martha Madsen, President, New Hampshire Institute for Civics Education
- Chris Herr, Trustee, New Hampshire Institute for Civics Education
- John Lewis, Trustee, New Hampshire Institute for Civics Education
- Christine Rath, Trustee, New Hampshire Institute for Civics Education

The Public Hearing was closed at 9:50 a.m.

C. 10:00-10:30 AM - PUBLIC HEARING - Ed 405.01 Non-Public School

Approval - The Public Hearing was opened at 10:00 a.m. The following individuals provided testimony to the Board:

- Bonnie Dunham, Merrimack, NH

The Public Hearing was closed at 10:30 a.m.

D. 10:30-11:00 AM – PUBLIC HEARING - Ed 507.24, Ed 507.241, Ed 612.05 and Ed 612.051 English Language Arts Teacher - The Public Hearing opened at 10:30 a.m. There was no testimony. The Public Hearing closed at 11:00 a.m.

E. 11:00-11:30 AM – PUBLIC HEARING - Ed 507.23 and Ed 614.09

Speech-Language Specialist - The Public Hearing opened at 11:00 a.m. There was no testimony. The Public Hearing closed at 11:30 a.m.

F. 11:30-12:00 PM – PUBLIC HEARING - Ed 306.12, Ed 504.07, Ed 505

various sections, Ed 508.06 and Ed 512.07 School Nurse - The Public Hearing opened at 11:30 a.m. The following people provided testimony to the Board.

- Barbara C. French, Retired New Hampshire School Nurse.
- Martha Judson, Retired NH School Nurse and New Hampshire School Nurse Association Liaison (provided letter of support).
- Laurie Fleming, School Nurse at Gilbert H. Hood Middle School, Derry, NH.
- Harriet Davenport, School Nurse, Keene School District – NHSNA.

The Public Hearing closed at 12:12 p.m.

AGENDA ITEM VII. REPORT AND NEW DEPARTMENT BUSINESS

Deputy Commissioner Paul Leather notified the Board that the department will be taking a more active role when an educator's credentialing license is being revoked due to a felony. The department will also, where appropriate, be present at court hearings to revoke educator credentialing licenses.

AGENDA ITEM VIII. OLD BUSINESS

A. Amendments to the Keene School District's Authorized Regional Enrollment Area (A.R.E.A.) Plans – Chairman Cline noted that the Board has not received the information requested at the May 11, 2017 meeting. No action was taken.

AGENDA ITEM IX. CONSENT AGENDA

- A. Meeting Minutes of May 11, 2017
- B. Fall Mountain Regional and Lempster School Districts Tuition Agreement
- C. Commissioner's Nonpublic School Advisory Council Nomination
- Laurie G. Hurd, Executive Director, Independent Schools Association of Northern New England, Maine
 - Richard B. Johnson, Founding Head of School, The Beech Hill School, Hopkinton, NH
- D. Bartlett and Jackson School Districts Tuition Agreement

MOTION: Cindy Chagnon made the following motion, seconded by Bill Duncan, that the State Board of Education approve Consent Items, A, B, C, and D.

VOTE: The motion was approved by unanimous vote of the Board with the Chairman abstaining.

AGENDA ITEM X. TABLED ITEMS

A. Bartlett and Jackson School Districts Tuition Agreement

MOTION: Cindy Chagnon made the following motion, seconded by Bill Duncan, that the State Board of Education remove this item from the Table and move it to the Consent Agenda.

VOTE: The motion was approved by unanimous vote of the Board with the Chairman abstaining.

AGENDA ITEM XI. NONPUBLIC SESSION

There was no nonpublic session.

AGENDA ITEM XII. ADJOURNMENT

The meeting was adjourned at 4:45 p.m.

MOTION: Cindy Chagnon made the motion, seconded by Helen Honorow to adjourn the meeting at 4:45 p.m.

VOTE: The motion was approved by unanimous vote of the Board with the Chairman abstaining.

Secretary

**TUITION AGREEMENT
HAVERHILL COOPERATIVE AND BATH
SCHOOL DISTRICTS**

THIS AGREEMENT entered into as of the 10th day of April 2017 by and between the Bath School District (Bath), located in the County of Grafton and the State of New Hampshire, and the Haverhill Cooperative School District (Haverhill), located in the County of Grafton and the State of New Hampshire.

WITNESSETH THAT

WHEREAS said Bath School District, which does not maintain a high school, is desirous of having certain of its students, who seek a high school education, attend high school in said Haverhill Cooperative School District, and has authorized its School Board to enter into a contract therefore on the terms and conditions hereinafter set forth; and

WHEREAS said Haverhill Cooperative School District maintains a high school approved by the State of New Hampshire Board of Education and bound by their rules and regulations, through its School Board, is willing to receive certain students from outside the district and to afford them the complete course of instruction now given in its high school;

NOW, THEREFORE, in consideration of the promise and of the mutual covenants and agreement hereinafter set forth it is mutually covenanted and agreed as follows:

1. This agreement shall become effective upon signing and shall remain in effect through school year 2017-2018.
2. Should either of the parties wish to extend this agreement beyond the 2017-2018 school year, written notice should be given the other party on or before January of the contract year. Any extension may be subject to renegotiation and mutual agreement.
3. Haverhill agrees to accept Bath students as tuition students in Haverhill School District schools, grades 7-12. Such accepted students shall be subject to the rules and regulations pertaining to all Haverhill students. Haverhill further agrees to make available for such high school students facilities and a program of studies comparable in quality to that presently existing.
4. All Bath students in attendance shall be given equal opportunity with Haverhill students to participate in all school programs and activities.
5. Special Education placement of disabled students will be in accordance with State law and regulations.
6. Bath agrees to pay Haverhill tuition (\$15,477.00 for high school and \$14,442.00 for middle school) less 4% if at least 50% of the eligible students attend Haverhill Schools; less 5% if at least 60% of the eligible students attend, less 6% if at least 70% of the eligible students attend, less 7% if at least 80% of the eligible students attend, less 8% if at least 90% of the eligible students attend. If 100% of the eligible students attend Haverhill schools, Bath shall pay Haverhill tuition less 10%. Haverhill agrees to give Bath a 2% discount if annual tuition costs are over \$400,000. Bath agrees to be responsible for the transportation of their eligible students.
7. The term "eligible Bath students" as used above shall mean those Bath students enrolled in regular public school classes in grade 7-12. The term shall not include educationally disabled children or students attending non-public schools.

8. Bath shall be responsible for the actual cost of special education services, which exceed the average cost of services available to all non-coded Haverhill and Bath students. Bath shall be solely responsible for all educationally related services and all other extraordinary costs of special education.

9. A special education surcharge of \$5,533 will be charged for any Bath student enrolled in the Life Skills Integration Program at WHS. If a student attending this program requires a full time IA, the surcharge will be reduced to \$2,500.

10. Haverhill Cooperative School District shall be responsible for the identification, referral and routine screening of any Bath student who may need special educational services. Bath School District shall be invited to all IEP team meeting and attend such meetings at a mutually agreed time and place. Bath School District shall have the final say as the Local Educational Agency (LEA) in making final decisions as to program and placement.

11. Bath shall pay over to the Treasurer of the Haverhill Cooperative School District in a timely fashion all tuition payments and assessed special education costs. Tuition will be billed on a quarterly basis and is due and payable within 30 days.

12. If, at the end of the school year, a refund is due the Bath School District for overpayment of tuition or assessed special education costs, Haverhill may pay to the Treasurer of the Bath School District any excess payments on or before June 30 of the school year in which said costs were paid or credit the Bath School District toward the next years cost.

13. Any Bath student in attendance in Haverhill schools at the time this Agreement may be terminated or expires will be accepted by Haverhill in return for timely payment of tuition in accord with the payment schedule set out above, at tuition rates which will be established annually, until the normal expected time of graduation for each student's class.

IN WITNESS WHEREOF, the parties hereto, acting by their respective School Boards, have executed this agreement in duplicate by the Chairperson or other duly authorized officer thereof as the day and year first above written.

BATH SCHOOL DISTRICT

By: 
School Board Chair

Date: 10 April 2017

HAVERHILL COOPERATIVE SCHOOL DISTRICT

By: 
School Board Chair

Date: 4/17/17

NH COMMISSIONER OF EDUCATION

By: _____
Frank Edelblut, Commissioner of Education

Date: _____

**TUITION AGREEMENT
HAVERHILL COOPERATIVE AND PIERMONT
SCHOOL DISTRICTS**

THIS AGREEMENT entered into as of the 11th day of April 2017 by and between the Piermont School District (Piermont), located in the County of Grafton and the State of New Hampshire, and the Haverhill Cooperative School District (Haverhill), located in the County of Grafton and the State of New Hampshire.

WITNESSETH THAT

WHEREAS said Piermont School District, which does not maintain a high school, is desirous of having certain of its students, who seek a high school education, attend high school in said Haverhill Cooperative School District, and has authorized its School Board to enter into a contract therefore on the terms and conditions hereinafter set forth; and

WHEREAS said Haverhill Cooperative School District maintains a high school approved by the State of New Hampshire Board of Education and bound by their rules and regulations, through its School Board, is willing to receive certain students from outside the district and to afford them the complete course of instruction now given in its high school;

NOW, THEREFORE, in consideration of the promise and of the mutual covenants and agreement hereinafter set forth it is mutually covenanted and agreed as follows:

1. This agreement shall become effective upon signing and shall remain in effect through school year 2017-2018.
2. Should either of the parties wish to extend this agreement beyond the 2017-2018 school year, written notice should be given the other party on or before January of the contract year. Any extension may be subject to renegotiation and mutual agreement.
3. Haverhill agrees to accept Piermont students as tuition students in Haverhill School District schools, grades 9-12. Such accepted students shall be subject to the rules and regulations pertaining to all Haverhill students. Haverhill further agrees to make available for such high school students facilities and a program of studies comparable in quality to that presently existing.
4. All Piermont students in attendance shall be given equal opportunity with Haverhill students to participate in all school programs and activities.
5. Special Education placement of disabled students will be in accordance with State law and regulations.
6. Piermont agrees to pay Haverhill tuition (\$15,477.00 for high school) less 4% if at least 50% of the eligible students attend Haverhill Schools; less 5% if at least 60% of the eligible students attend, less 6% if at least 70% of the eligible students attend, less 7% if at least 80% of the eligible students attend, less 8% if at least 90% of the eligible students attend. If 100% of the eligible students attend Haverhill schools, Piermont shall pay Haverhill tuition less 10%. Haverhill agrees to give Piermont a 2% discount if annual tuition costs are over \$400,000.
7. The term "eligible Piermont students" as used above shall mean those Piermont students enrolled in regular public school classes in grade 9-12. The term shall not include educationally disabled children or students attending non-public schools.

8. Piermont shall be responsible for the actual cost of special education services, which exceed the average cost of services available to all non-coded Haverhill and Piermont students. Piermont shall be solely responsible for all educationally related services and all other extraordinary costs of special education.

9. Haverhill Cooperative School District shall be responsible for the identification, referral and routine screening of any Piermont student who may need special educational services. Piermont School District shall be invited to all IEP team meeting and attend such meetings at a mutually agreed time and place. Piermont School District shall have the final say as the Local Educational Agency (LEA) in making final decisions as to program and placement.

10. A special education surcharge of \$5,533 will be charged for any Piermont student enrolled in the Life Skills Integration Program at WHS. If a student attending this program requires a full time IA, the surcharge will be reduced to \$2,500.

11. Piermont shall pay over to the Treasurer of the Haverhill Cooperative School District in a timely fashion all tuition payments and assessed special education costs. Tuition will be billed on a quarterly basis and is due and payable within 30 days.

12. If, at the end of the school year, a refund is due the Piermont School District for overpayment of tuition or assessed special education costs, Haverhill may pay to the Treasurer of the Piermont School District any excess payments on or before June 30 of the school year in which said costs were paid or credit the Piermont School District toward the next years cost.

13. Any Piermont student in attendance in Haverhill schools at the time this Agreement may be terminated or expires will be accepted by Haverhill in return for timely payment of tuition in accord with the payment schedule set out above, at tuition rates which will be established annually, until the normal expected time of graduation for each student's class.

IN WITNESS WHEREOF, the parties hereto, acting by their respective School Boards, have executed this agreement in duplicate by the Chairperson or other duly authorized officer thereof as the day and year first above written.

PIERMONT SCHOOL DISTRICT

By: 
School Board Chair

Date: 11 April 2017

HVERHILL COOPERATIVE SCHOOL DISTRICT

By: 
School Board Chair

Date: 4/17/17

NH COMMISSIONER OF EDUCATION

By: _____
Frank Edelblut, Commissioner of Education

Date: _____

Public
Correspondence
received by the
State Board of
Education

DL&G DOUGLAS, LEONARD & GARVEY, P.C.

A T T O R N E Y S

Charles G. Douglas, III*
C. Kevin Leonard
Carolyn S. Garvey
Benjamin T. King**
George T. Campbell, III*
Theresa M. Spearing*
Megan E. Douglass

14 SOUTH STREET, SUITE 5
CONCORD, NEW HAMPSHIRE 03301

Telephone: 603-224-1988
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Email: mail@nhlawoffice.com
www.nhlawoffice.com

* also admitted in MA

** also admitted in ME

June 22, 2017

Frank Edelblut, Commissioner
New Hampshire Department of Education
101 Pleasant Street
Concord, NH 03301-3494

Re: Civics

Dear Commissioner:

With the precipitous decline in civics education and history in the last few years, I wanted to share with you and the members of your Board my longstanding interest in this area and my current concerns.

Back in 1981 the legislature created the New Hampshire Constitution Bicentennial Education Commission which was a bipartisan group charged with preparing educational material to teach the state constitution and state history in our schools. Funding came from companies such as Digital Equipment Company, Indianhead Bank and many others as set forth in the enclosed introduction to one of the books. In 1984, your State Board voted unanimously to provide \$175,000 to publish the elementary and senior high school hardbound text books. There were 13,000 copies distributed for free to the schools for two grade levels. Other funds came from private contributions and the state legislature. Governor John H. Sununu strongly supported the 1985 appropriation that made the final printing available for a third book at the middle school level.

We now come to the present reality as set forth in the documents provided by Bill Dunlap, the President of the New Hampshire Historical Society. I just wanted to bring this all to the Board's attention because while it is great to have people know

Frank Edelblut, Commissioner

June 22, 2017

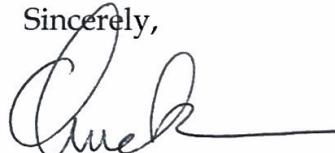
Page 2

math and science if they do not understand their government and have very little knowledge of how it works and why it works the way it does, then we will no longer have a republic but will descend into some other form of government due to lack of knowledge and education.

I hope that the State Board could help influence the superintendents to make this a priority especially at the elementary school level. It is shocking to me that fourth grade students from New Hampshire, with its rich colonial and revolutionary war history, do not know that we fought the British, that they were ruled by a king, etc. It is essentially time to reprint and update these textbooks and provide them to schools once again. A predecessor, Kenneth Paul, said, as State Board of Education Chairman, that he was "extremely impressed with the results of the project." It was bipartisan, thought-provoking and substantive without a bit of criticism or blowback. While times have changed, the need has only gotten worse. While some of the books are available on Amazon (I just paid \$38 for a copy of the Liberty Key), we hope that working with the New Hampshire Institute for Civics Education, the Supreme Court Society and the New Hampshire Historical Society, we can partner to make constitutional literacy a reality once again.

Please let me know how we can move forward together.

Sincerely,



Charles G. Douglas, III

cc: Kate Cassidy, District 1
Cindy C. Chagnon, At Large
Drew Cline, District 4
Bill Duncan, District 3
Gary Groleau, At Large
Helen G. Honorow, District 5
Ann Lane, District 2

CGD/sam



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William W. Upton

11 South Main Street
Suite 500
Concord, NH 03301

June 2, 2017

New Hampshire Board of Education
101 Pleasant Street
Concord, NH 03301-3860

Dear New Hampshire Board of Education members:

We write to respectfully urge the NH Department of Education and State Board of Education to begin the process of revisiting and revising the NH State Framework for Civics and Government immediately. Standards in science, English/language Arts, and mathematics have all been revised and updated within the last few years here in New Hampshire. However, civics and government have been left behind.

As the “first in the nation” state, New Hampshire has a particular responsibility to educate our young people about the rights, responsibilities, skills, and attitudes necessary for participatory citizenship. Providing our youngsters with opportunities to understand democratic processes and to engage in their communities should be among our very top priorities as guardians of education in the state. In fact, citizenship education was the original rationale for the establishment of public schools.

Given the shocking lack of civic knowledge in our country, we cannot afford to delay. The National Council for the Social Studies has created state of the art standards for civics and government. The C3 Standards (The College, Career, and Civic Life for Social Studies State Standards) align with our vision of providing 21st Century educational experiences for our NH students [<https://www.socialstudies.org/c3>].

The C3 standards teach critical thinking by utilizing an inquiry arc for civics and government. Students pose questions, investigate using quality sources, craft their own positions with respectful awareness of an opposing point of view, and take informed action. Two of the authors of the C3 standards, Michelle Herczog and Peter Levine, presented to NH middle and high school teachers over the past two years at our Institute teacher workshops. Their ideas were very well-received and highly evaluated by NH educators.

Iowa recently adopted an adaptation of the C3 standards, as have Arkansas, Connecticut, Illinois, New York, Maryland, and others. It is time for New Hampshire to move our social studies standards into the 21st Century.

We urge you to prioritize civics and government in New Hampshire this year. As New Hampshire's Ken Burns said, "It (civics) is actually how things work, how things stick together. No amount of STEM or no amount of STEAM will work unless you have given the operator's manual. In a democracy that is called CIVICS and we need to bring it back!" As Yale Law School professor Akhil Amar said, presenting to our Institute in 2015 at Dartmouth: "Social studies teachers are doing God's work. They are maintaining our democracy."

Finally, we urge that the NH Department of Education be provided the resources to revisit and make the revisions necessary to bring the NH State Framework for Civics and Government into the twenty first century. It is important that the work be done well.

The Trustees of NHICE and its members are ready and able to support the State Board's work as it pursues this important initiative.

Thank you for your support for public education, the engine that supports our democracy.

Sincerely,



Mary Susan Leahy
Chair



Martha Madsen
President

Enclosure: A Discussion with Justice David Souter (Concord)

cc: Frank Edelblut, Commissioner
Paul K. Leathers, Deputy Commissioner
Trustees of N.H. Institute for Civics Education

June 28, 2017

Mr. Bill Duncan
NH State Board of Education
Box 760
New Castle, NH 03854

Dear Mr. Duncan:

I am writing concerning the ongoing efforts to change the New Hampshire education standards. I worked at the NH Department of Education from 2002 until 2012. During that time, I managed the School Building Aid and School Approval programs. I am currently a member of the Keene Board of Education. Although I am not a professional educator, I have been directly involved in helping local districts understand and implement the standards. I understand the effort and the time that is necessary to change how schools provide instruction.

Most importantly, changing the state education standards at this point would mostly just cause chaos in schools that have finally made the switch to Common Core after several years of transition. Shifting once again will take time that could be better spent on improving instruction and will increase local costs for training classroom staff, purchasing new textbooks etc. There is no compelling need or justification to change the standards.

As you know, there has been considerable political discussion in recent years about Common Core, much of which has been gross misinformation. I often wonder if the people campaigning against Common Core have ever read the standards. It seems that nearly everything that someone might not like about a particular school or education in general is now blamed on Common Core. Common Core is blamed for all sorts of things that it does not do. Many of the concerns being ascribed to Common Core actually come from the No Child Left Behind Act. One major falsehood about Common Core is that it is a product of the federal government. I am sure that you know it was developed jointly by the National Governors Association and the Council of Chief State School Officers. President Obama and the Democratic Party had nothing to do with it. The belief that somehow they are behind the Common Core seems to be the primary reason for opposition from the so called conservative side of our political system. I believe that once Common Core was developed, the U.S. Department of Education looked at it and determined that it is a good idea. That is the extent of federal involvement. At the base level, Common Core is nothing more than a list of what children should know or be able to do at the end of a particular grade in school.

The critical and most important question that does not seem to be asked is, "Are the Common Core Standards good standards?" I believe they are very good and appropriate standards. They encourage critical thinking, not rote memorization. They do not require all schools to implement the same process or use the same textbooks to reach the standards. With due respect to our Governor and the General Court, they are not qualified to be making the choices about educational standards and they are not

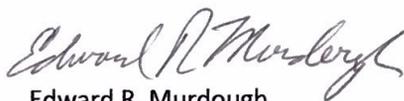
asking that critical question. They are simply trying to satisfy a particular political agenda. They should get out of your business. Unfortunately, I think the near term future will see more attempts to limit the authority of the State Board of Education.

One could argue that the standards themselves are less important than the fact that we have standards. Children are in our schools for thirteen years. Consistency is more important than the list of literature in the curriculum or the grade in which fractions are taught and so forth. As a military parent, whose children moved around to new schools every few years, I can say that common standards among all schools would be a very good thing. Our society today is very transient. Only a small percentage of today's kindergarten students will graduate from the high school in their current school district. Having common expectations of what a student should have mastered at any point in his or her education is a good thing. Let's not sacrifice that good in the name of local control, which often means local stubbornness and local neglect.

My family has lived in New Hampshire since 1720 so I am as much a Live Free or Die advocate as anyone else you will meet. I do not belong to a party and refuse titles like conservative or liberal. I try to practice common sense and good judgment. As a native, I will say that the idea that local New Hampshire school districts are capable of creating better standards is ludicrous. They have neither the time nor expertise to do that. Their students will not live and work in just that one small town for their entire lives, so that local town does not in fact know what education will be best for their children to perform jobs that do not even exist today. What was good enough for me was not good enough for my children and is not now good enough for my grandchildren. If I am honest, it was probably not truly good enough for me and my schoolmates. Too many of them were left behind and have lived less productive and less fulfilling lives as a result.

Please resist the pressure to change the standards for political, rather than educational, reasons.

Sincerely,



Edward R. Murdough

23 Acrebrook Road

Keene, NH 03431

(603) 352-8836

emurdough@ne.rr.com

cc: Commissioner Edelblut

Subject: public input, school nurse certification

Date: June 14, 2017 at 4:16:48 PM EDT

To: "ACBOE@comcast.net" <ACBOE@comcast.net>, "kcassady@allstaffcorp.com" <kcassady@allstaffcorp.com>, "chags@comcast.net" <chags@comcast.net>, "waduncansboe@gmail.com" <waduncansboe@gmail.com>, "ggroleau@nhbb.com" <ggroleau@nhbb.com>, "hhonorow@barrylawoffice.com" <hhonorow@barrylawoffice.com>, "annlanenhsboe@gmail.com" <annlanenhsboe@gmail.com>

Dear New Hampshire Board of Education Members,

I am writing in support of ED 504.07 that requires certification through the Department of Education for school nurses.

I am a Registered Nurse in the state of New Hampshire and wholeheartedly agree that certification for school nurses is essential to provide the highest quality care for our students. My career path started at Portsmouth Regional Hospital in 2003 where I worked in critical care, the ICU, and the emergency room. I performed regularly as the charge nurse in the ER, was a designated mentor for new nurses in my department, and was considered by my supervisors and colleagues to be a well-rounded, experienced nurse who was capable of caring for patients of all ages, with both acute and chronic health conditions. I obtained national certification as an emergency nurse (CEN credentials), and held an Associates degree from Rivier University.

In 2010, I accepted a position as a school nurse in SAU83. Despite my experience, I WAS NOT PREPARED to function independently as a school nurse. I had zero understanding of the purpose of a 504 plan or how it differed from a nursing care plan. I struggled to navigate the complexities of education law and regulations comingled with Nsg 404 and the rules of my nursing licensure. I felt inferior to teachers who held Masters degrees, and discovered that most paraprofessionals held Bachelor degrees in teaching and were more educated than I was. I was the sole RN employed in my district and my principal, superintendent, and other administrators did not understand "nursing language" or "nursing scope of practice". I had no peers to collaborate with, no other nurse or physician nearby to ask for a second opinion: it was me alone who needed to assess every medical condition, every injury, and manage every chronic condition. I quickly discovered that school nursing is a lone island of professional isolation.

I had two choices: 1) do nothing- why not? The state doesn't require anything more than my RN licensure, my non-nursing administration has no idea what I actually do, and I can do the bare minimum and still keep them happy; or 2) enroll in a BSN program to gain additional instruction in communication, leadership, and critical thinking. BSN programs are designed to prepare nurses to take on a wider variety of roles, such as teaching, consulting, research, and administration.

I chose option number two. Bachelors programs require many additional credits in nursing specific instruction (it IS NOT just additional classes in English, mathematics, and liberal arts to fulfill a degree). Requirements for my BSN degree included:

- Advanced Health Assessment
- Health and Wellness Through Nutritional Science
- Professional Roles and Values
- Community Health and Population-Focused Nursing
- Evidence-Based Practice and Applied Nursing Research
- Organizational Systems and Quality Leadership

- Leadership and Professional Image
- Information Management and the Application of Technology
- Capstone focus: Anaphylaxis management in the school setting

I graduated with my BSN in 2012. At this time, I finally felt that I had the educational base to be prepared in my role as a school nurse. I developed wellness initiatives and programs in my school such as the Halloween Candy Buyback for oral health, and a Red Cross Babysitting program for community wellness. Both programs received national recognition and led to a National Nurse Leadership award. I developed and taught nutrition-based curriculum for the first grade, and cardio-pulmonary anatomy lessons for fourth grade students. I worked with our third grade students to identify the bones of the human body and to research the horseshoe crab and how this crustacean is commonly used in medical research. I created “medical math” equations for seventh and eighth grade students, and assisted them with cellular structure models. When I felt we needed to expand on infection control measures, I mapped out a sneeze that traveled 100 feet in all directions to provide a visual. I developed lesson plans on hand washing, the history of influenza and infectious diseases, and green cleaning initiatives. I became a certified CPR instructor so that I could provide annual staff development at a great savings to the district. I became an active participant (vs. a name on the paper, body in the room) member of the safety and wellness committees. I created monthly bulletin boards and presentations to engage students in various topics such as “eat a rainbow”, “share fun, not the flu”, “sun safety”, “eagle eye vision”, “medical literature”, and others. Having a BSN gave me the knowledge, professionalism, and leadership ability to work with teachers across all grades to support student learning, in addition to the assessment skills and clinical competence to perform as a nurse in an independent, isolated setting.

I urge you to consider that small districts in NH have only one nurse. If that one nurse is not prepared both in degree and experience, student learning and wellness will suffer. Management of acute injuries and chronic diseases will suffer, leading to less instructional time in the classroom and increased absenteeism. Safety is an issue if the nurse does not have the confidence, experience, and understanding of evidence based practice to advocate for their student/patient; at times in opposition to staff and administration. It is a difficult balance to adhere to nursing licensure first, and job security second. DOE certification is imperative to provide school nurses equal protection under RSA 189:14.

The cost of DOE certification is minimal. It is not a financial burden or inconvenience, but rather a means of raising the standards to ensure all students have access to the highest quality of nursing care.

Larger departments such as the City of Manchester have the luxury of hiring a large interdisciplinary staff, allowing for collaboration among peers. They also have the staff and facilities to mentor new nurses without regard to related experience or education obtained. After reading comments made by Timothy M. Soucy, MPH, REHS, I feel that his response to certification is biased to his individual needs and those of his department. Mr. Soucy IS NOT A NURSE, he is an administrator. There is a distinct difference between education in Public Health and education in nursing. Manchester is an exception, not the norm of school nursing as it is practiced statewide.

I would like to point out that full-time school nursing positions are considered “elite” and “competitive” from the perspective of RN’s. Positions become available infrequently with most school nurses remaining in their positions until the time they retire. There are currently only three full-time school nurse positions advertised in New Hampshire (obtained from edjobsnh,

school spring, and indeed, with a past 30 days search parameter). There are numerous school nurse positions advertised for part-time, extended school year/summer, and substitute positions (these positions are not elite, pay less, and do not include benefits; therefore making them undesirable and difficult to staff). I can not see the rationale for statements being made that suggest that certification will make the hiring of full time school nurses more difficult.

I left school nursing in 2016 to pursue a role as a nurse educator in higher education. I teach clinical practice, theory, and skills lab to students in preparation for earning their Associates degree in nursing. Expectations are high and the program is comprehensive, intense, and immersed in evidence based practice and critical thinking. I think very highly of my students and know that they will enter the workforce as excellent nurses. The goal is NCLEX; to achieve baseline knowledge to pass the NCLEX and to provide competent and skilled patient care. The Associates degree does not support the advanced skills, application of practice, leadership, and specialty knowledge that is required to work independently in a public school setting.

In her 1859 publication, Notes On Nursing, Florence Nightingale wrote "What cruel mistakes are sometimes made by benevolent men and women in matters of business about which they can know nothing, and think they know a great deal."

I feel those in opposition to school nurse certification are benevolent men and women: they are not seeking to create harm or endanger students, but rather they are not nurses and just do not understand the intricate and complex role of a school nurse.

I urge you to adopt ED 504.07 as presented, unaltered, and maintain the requirements of:

- (1) Have completed a board of nursing approved registered nursing program at the bachelor's degree level or higher under RSA 326-B; and
- (2) Have 3 years current experience in pediatric nursing or other related nursing areas, including, but not limited to public health, community health, family mental health, emergency and primary care nursing.

I respectfully request that my email be entered into the public record as correspondence, public input received.

Sincerely,
Carla J. Smith, RN, MSN, NCSN
Nursing Educator, St. Joseph's School of Nursing
28 Ann Lane
Fremont, NH 03044



University of
New Hampshire

RECEIVED

JUN 09 2017

STATE DEPARTMENT
OF EDUCATION

Office of the President

105 Main Street
Durham, NH 03824

V: 603.862.2450

F: 603.862.3060

TTY: 7.1.1 (Relay NH)

Presidents.office@unh.edu

June 7, 2017

Andrew Cline, Chairman
State Board of Education
101 Pleasant St
Concord, NH 03301

Dear Chairman Cline and Members of the Board,

The University of New Hampshire strongly supports statewide K-12 educational standards that are academically rigorous, informed by current educational research, and effective at preparing students for the rigors of continued education or the requirements of the workforce.

Acceptance to the University of New Hampshire is predicated on successful completion of an appropriate preparatory course of secondary study. Matriculating students face a wide array of new challenges and opportunities. Their transitions are inevitably smoother and more fulfilling – and their prospects for success much greater – if they arrive with a firm academic footing based on K-12 educational standards that are widely accepted, taught and learned. Many UNH introductory courses are designed to continue where high school curriculums, based on the current standards, leave off. We are confident that the current standards are preparing high quality students for the demanding post-secondary requirements at UNH and the state's other colleges and universities.

Further, the existing standards, developed through years of careful coordination with the state's business community, encourage students to consider career pathways that align with their interests, abilities and skills. This planning assists students with making thoughtful decisions upon completion of high school that put them on the best track towards becoming successful and contributing members of the state's workforce, be that through technical training, a four-year degree, service or otherwise. We appreciate fully the value of periodic revisions to the state's K-12 standards, but also caution against unnecessary reconsiderations because of the impact these revisions have on the educational pipeline and the unnecessary potential for adverse impacts on our state's economy.

As they have in the past, UNH faculty and administrators stand ready to work with K-12 education professionals, our state's business leaders and parents if the board deems that a revision to the math and English language arts standards is warranted. However, given the current efficacy of the existing standards, which are stable after being adopted in 2010 and implemented in 2013, we do not see a pedagogical justification for pursuing such a course at this time, and warn that creating new standards could have a quite damaging effect on the reform initiatives currently underway.

Sincerely,

Mark W. Huddleston
President

Nancy M. Targett, Ph.D.
Provost and Vice President for Academic Affairs

July 10, 2017

Dear New Hampshire State Board of Education,

We are writing to let you know how important any revisions or changes to the Common Core State Standards in ELA and Math would be for our learning community. We also want you to know we respect the hard work and effort the board gives to help create an educational system in which students are challenged to meet their fullest potential. The continual process of reviewing and revising standards to make certain we have the very best in place must be an incredibly difficult task, and we appreciate the board giving attention to this issue.

The current ELA and Math standards provide common language around learning goals which help shape and focus our instruction. Through mindful, collaborative work, we have adapted our practices and teaching to address the rigor of the standards to foster continual progress of all students toward meeting the standards. Since the adoption of the current standards, great efforts have been made to become familiar with each core standard, and, through this process, we continue to refine our planning and teaching. As one fourth grade teacher stated, "I ask my students to work hard every day to meet the standards, and each year I become a little more intrigued with my students' levels of understanding and abilities to problem solve and persevere." We would greatly value more time with the current standards. This would allow teachers and students to adapt and grow.

Going forward, if a decision is made to change the standards, it is our hope that all stakeholders: teachers, students, parents, administrators, and other community members, will be included in the process.

Respectfully submitted,

Susan Grover, Fourth Grade Teacher, Symonds Elementary School
Nicki Crank, Fourth Grade Teacher, Symonds Elementary School
Nikole Starkey, Fourth Grade Teacher, Symonds Elementary School
Chrissy Callahan, Fifth Grade Teacher, Symonds Elementary School
Elizabeth Marchi, Third Grade Teacher, Symonds Elementary School
Teresa Morris, Third Grade Teacher, Symonds Elementary School
Angella Joslyn, Second Grade Teacher, Symonds Elementary School
Sarah Owusu, Reading Specialist, Symonds Elementary School

Hello, my name is Cinda Patrie and I am a fifth grade teacher at Lincoln Street School in Exeter, NH. I have been teaching in Exeter for 32 years, first as a special education teacher, and for the past 23 years as a fifth grade teacher.

I have strong feelings about the need for NH Standards for Education. The standards that New Hampshire currently has in place are the map or road work of our curriculum. It is easy for me as an educator to look at the standards and have a pretty good idea of what skills the students have been working on before they reach me and where they will be expected to go once they leave me. This drives my curriculum work. It is important for all NH students to be following the same map.

If curriculum is driven by the NH College and Career Readiness Standards, we are working at every level on attaining the same goal, a New Hampshire student who graduates from high school being ready to enter the next important phase of his or her life. If every town were able to set their own standards, I feel that goal would be far less clear.

In addition, it is important to remember that NH families move around often for jobs and to meet other needs. Without state standards, as students change school districts their education may become more piecemeal. Imagine that the standards from town to town do not agree. There could be many gaps to a child's learning, or a child could be bored in school because what was stressed in third grade in his old school, is the focus of grade 4 in his new school. This situation does exist from time to time when students move from another state.

In my tenure as a New Hampshire teacher, there have been shifts in the standards. Sometimes the shift is major, sometimes the shift is a change of name. Regardless, my teaching practices have not changed. It is important to remember that standards are a map which informs our curriculum. The materials and teaching practices can vary from class to class, but the pathway is the same.

NH College and Career Ready Standards
Presentation for NHDOE 6/8/17

Mathematics, NH College and Career Ready Standards, and Strategies

My name is Jennifer Neal and I am a fourth grade teacher in Stratham, New Hampshire. I am here today to share some thoughts about the NH College and Career Ready Standards and the use of strategies in mathematics at the elementary level.

Along with my colleagues, I focus on how to best meet the individual needs of my students. In doing so, I plan with the standards in mind, and this includes effective lessons/units that are carefully designed to engage all students in learning activities that aim to build mastery. Students can explore a concept and really dive deeply so that they gain a more full understanding and can apply this knowledge in a variety of ways. What is important to know is that our standards allow for this focus of content; providing the basis for student experiences that are rich and deep.

What can be appreciated from the implementation of standards in the real classroom setting is that our students take part in their own learning. They are provided with the opportunity to think more critically about content. They do not simply follow a singular rote method of solving many similar problems, but they are able to truly solve a variety of problems and analyze and explain their reasoning. They understand the why for procedures and algorithms so doing math becomes meaningful because it makes sense.

When we include multiple methods for solving problems, we do so in a way that follows a progression for learning. Students “build their toolbox” so that they can then apply appropriate methods to specific problems. What they gain is a wealth of “go to” methods that allow them to be real strategic problem-solvers. Students have experiences with solving mathematical problems that include scaffolding for instruction: from concrete to pictorial to abstract. They explore differing ways of solving problems--different strategies---as they are challenged to use reasoning that makes sense. Among the strategies that students include in their “toolbox”, there is most definitely a place for standard algorithms---and we do assure they include these! What is different today is that they understand them and better able to use them.

Student success not just for now but for the future is the outcome I strive for each and every day. It's the outcome all teachers work toward----we want what is best for our students along their learning journey.

NH College and Career Ready Standards
Presentation for NHDOE 6/8/17

Early Literacy, NH College and Career Ready Standards, and Developmentally Appropriate Teaching and Learning

My name is Cindy Fitzgerald and I am a Reading Specialist in Stratham, New Hampshire. I have also taught kindergarten, 1st and 2nd grades and am here today to share some thoughts about the NH College and Career Ready Standards for ELA and developmentally appropriate teaching and learning at the primary level.

Our teachers are guided in their practice by the NH College and Career Ready Standards. Standards should be challenging-- but attainable. These are the meaningful goals we set for our students and what makes them attainable is a function of each child's unique experiences and current opportunities for learning. In each classroom, we strive to meet the unique needs of individual students. This means that within the framework of the standards, we assure that goals and experiences are *appropriate* for a child's learning and development, but *challenging* enough to provide for progress and growth. It is not a one-size-fits-all approach, but rather an approach that is specific to each child.

In the early years in particular, students come to school with a variety of experiences and they grow at varying rates throughout the years. One need only look at a child in the fall of their K year and then again in the fall of 1st grade to see what can often include exponential growth----physically, socially, emotionally and academically. Standards provide the framework for teaching and learning. *How* they are implemented by teachers; how they plan, utilize instructional strategies and differentiate, and how they scaffold for instruction are inclusive of ways that meet student needs and provide for experiences that are developmentally appropriate.

Kathleen Desmarais

Kindergarten Teacher

Swasey Central School

June 7, 2017

I am a kindergarten teacher and I am happy to share my experiences using the NH state standards with our youngest students. The standards are my guide as I plan instruction for the whole class, small groups, and individual students. As an early childhood professional I cannot remove my understanding of child development from my instructional practices. The NH state standards don't impede my ability to meet the developmental needs of students. I use the standards, but I teach children. I always see them through the lens of development, recognizing the learning strengths and needs of five and six year olds.

I want to give you a picture of what that looks like in my classroom. The math standards for kindergarten focus on widely accepted foundational concepts and skills. For example, one math standard states that students should understand addition as putting together and adding to, and understand subtraction as taking apart and taking from. That standard comes to life in my classroom as we read books and students act out stories involving eating cookies, monkeys falling off beds, and more and more animals crowding into a house. They use counting chips and figures to represent number stories. And over time, with many opportunities to practice, they eventually represent their understanding of addition and subtraction with drawings and equations or number sentences. My instruction is guided by the standard, but how I engage students in that learning is my choice based on what I know about development in general and what I know about specific student needs. State standards and developmentally appropriate practice can co-exist when teachers make decisions about instructional practices to meet needs of their students.

I would welcome the opportunity to be included in a conversation about implementing standards in kindergarten classroom. I believe teachers value the wide range of students in our classrooms and we have positive views of what they are capable of doing. The standards provide a consistent structure and a path of learning throughout the grade levels. It is the leadership and culture of the local school and the individual classroom that determines instructional practices and shapes the student's view of him or herself as a learner.

As a former first grade teacher and current curriculum coordinator, I am happy to speak to you about my experience in the classroom with NH College and Career Ready Standards. When the CCRS were first adopted, my colleagues and I spent time looking them over and reflecting on our current practices. From the beginning, these standards never felt overwhelming for me or my students, as they are not curriculum. They are structure for our grade levels, but nothing more than that. As a teacher, I still had the flexibility to teach the way my students learned best, and the scope and sequence for lessons were not dictated by the standards- as that is not the purpose of the standards.

For example, when teaching reading, one of the first grade reading standards is for students to **compare and contrast adventures and experiences of characters in stories**. The language of the standard says nothing of what type of books I have to choose, when in the year I do this, and how I deliver my instruction. I was able to work on comparing and contrasting with a small group of students at the beginning of the year-as they were ready for it! Other students weren't there yet, so I focused on other reading skills at that time until I felt like they were ready. I know that this focus on comprehension supports their learning in all areas. For students that are not able to read the words, they still get the experience of listening to a story and talking about what happened. That matters. That is valuable. The standards cover a wide range of reading skills-foundational and comprehension. I loved this as a teacher because it acknowledges that there is more to reading than just word calling.

The NH state standards are appropriate. The way we deliver our instruction, curriculum we choose to use, and assessments we use are made at local levels.

Karla Putney - SAU 16

June 2017

To the NH Board of Education:

I am Kelsey Plourde, a teacher at Kensington Elementary School which is a part of the SAU16 school district. I have experience teaching at both the primary and intermediate levels and in my current position, I teach STEM to students in kindergarten through grade five. For those unfamiliar with the acronym, STEM stands for science, technology, engineering, and math.

As an educator, I have seen great success from having the NH College and Career Ready Standards, essentially, the Common Core ELA and Math standards, being the foundation of our learning. These college and career-reading standards have been a guide to us and have given us a basis as to what to teach, not **how** to teach. This is one of the biggest misconceptions out there. The value in the standards is not being heard. There are many teachers and parents who speak positively about the standards yet their voices are not being heard which is why I'm here today.

As an elementary STEM teacher, I have had the opportunity to integrate both ELA and math Common Core standards into my lessons. This is one benefit of these standards is that they can be integrated across all content areas. With this integration, we as teachers are able to teach more- more content, more depth. We're able to see more rigor in our science and social studies education just as I am in my STEM curriculum. The ELA and math standards are certainly working for our movement towards competency education.

In response to a previous comment made in a prior meeting that the standards were not intended to be for STEM education, I have to disagree. As part of a fairy tale STEM lesson, my first graders designed and tested parachutes to allow Jack, of Jack and the Beanstalk, to safely land on the ground. They recorded the length of the time it took for Jack to hit the ground and put all of their data together. They compared this to their control drop and used the evidence in their data to prove that their parachutes were successful.

In a more recent project, our whole school participated in Trout in the Classroom which included a culminating field trip to release our trout and learn to fish. There was much ELA and math integrated into these lessons as well. Students wrote letters of advice to the trout prior to releasing them, giving them sweet words of wisdom such as "watch out for herons" and "use your camouflage". This essentially was a narrative of all that they had learned, however, it was fun for the students and the writing came very easily to them. Students in another class wrote letters to the newspaper informing them of our project. They also made videos and other arguments to persuade members of our community to recycle and help protect our Earth. I have many more examples of my

students and their successes with the Common Core Standards. One can not simply read the standards and form an opinion on them. One needs to sit down with teachers, see how they are planning their units, and observe the students and their learning. I invite you to come into my classroom and see these standards fully integrated and in action.

I have learned so much from my colleagues at KES. I am lucky to work in the greatest small school with the most dedicated teachers. In our instruction, we have flexibility, we allow creative learning and have a high level of engagement. We are constantly making connections to real-life, allowing students to solve real-life problems and take ownership in their learning through project-based learning and other means.

A group of teachers at my school decided that they wanted to make their student's learning in math even more personalized and to make sure that they were meeting each individual student exactly where they are at, with skills that are just right for them. All students in kindergarten, grade one and grade two were assessed and put into small teams based on where they were, developmentally, with their math skills. This meant that there was not just a kindergarten group or a second grade group. Students, regardless of age or grade would be on a team with other students who all needed work on the same skills. This group of teachers looked at the skills, standards and competencies for math and treated them as a K-2 span.

As the STEM teacher, I was lucky enough to be one of the coaches of their math teams because I was able to see how beneficial and effective the individualized, small groupings were. This was not the only reason I consider myself lucky. You see, I am a stakeholder in another regard too. My five-year-old daughter is a student in the kindergarten class. I was able to see the evidence through her too. She came into the public school system having very little math background. In the opinions of some, Common Core math would have been the worst thing for her, as a kindergartener. However, I do not feel this is true one bit. She was placed in a group that was developmentally appropriate for her and now, months later, she has a passion for math and is always talking about numbers and loves trying to trick Mommy with math problems. Now, again, is she loving math because it's Common Core? No. She's loving math because of the way it's implemented. She has dedicated teachers who make learning fun and try to do as much hands-on learning as possible. Again, it's the teachers who have taken these rigorous standards and turned them into engaging lessons for students to enjoy.

I understand the job as Commissioner of Education is not an easy one. That task involves reviewing standards and making sure they are of high quality. I understand the need to have this discussion but based on the opinions of many educators, our standards are working for us. Our teachers are working hard with them and are students are taking ownership of them. Again, that is the goal of our competency work.

I do also understand that there are parents who have voiced their concerns about the Common Core standards. As a teacher, I've gotten questions about the standards from friends who, in fact, have no experience in education. "What do you think about that common core math? All those worksheets and that backwards multiplication?"

I have to take a deep breath and remind myself that these people do not have a Masters degree in curriculum, like I do, like most educators do. They see these negative comments and memes on social media and that's the extent of their knowledge. I let them know that I can go weeks without a worksheet in my classroom and explain what exactly Common Core is. By the end of our conversation they admit that they never knew exactly. I remind them that the standards were written for teachers as professionals, not for parents.

I think many opposed to common core do not truly understand what common core is. Go to Google and search "Common Core meme". In 0.53 seconds, you will have over one million results. These are all images that are making jokes about common core, most of which simply are not accurate. One of the most famous is of a car built backwards and it jokes about it being the first Common Core-made car. It is unfortunate that people who are posting these misconceptions are undermining the good work that the teachers are doing in their classrooms.

When talking to my principal lately, the best analogy she could use to describe it was to one of a pilot. The standards were written for us as teachers, just as a pilot would be written a manual. The manual isn't one that could be handed out to the passengers on the plane- it just wouldn't make sense to them. If there is one thing those of us in this room can agree on, it's that we want these this plane to keep flying, high and successfully.

There lies our problem. Not the standards themselves, but the realization of their purpose, their function and all of the positives that they entail. Rather than looking at changing the standards, let's focus on consistency and better marketing them to parents. As leaders, as educators, let's work together to educate families. We can share these standards with them in forms of I can statements like we do with our students. We can better promote these standards.

Going back to our school's math initiative for a moment, I want to remind you that this was something that had never been done before. Our three teachers totally took the plunge into it because they knew it was good for our students and they had the support to do so. There were parents who were unsure as to how it would roll out, unsure of the benefit of the math model in this way. For this reason, our principal, Becky Ruel, hosted a special math talk night. She invited all parents in and then she, along with the classroom teachers, presented their initiative to the parents. This opportunity allowed for parents to hear from the professionals. It also allowed parents to ask questions and share their concerns. As an educator, I knew this was a positive, but around the room, I knew and could see there were some who were skeptical. However, I watched as their skeptics became beliefs and support and optimism filled the room. To hold an interactive

informational session was the best decision that the team made and truly made a difference

If our NH standards were to change at this time, I worry that it would undo much curriculum work that has been done at our local level- countless hours that myself and my colleagues have put in. NH educators need to be given the opportunity to have consistency so that they can do what they do best- teach and inspire our children. .

As a teacher, I am in support of keeping our standards consistent. As a parent, I share the same beliefs because I am informed and educated. Let's focus our efforts on continuing to inform and educate the citizens of NH. Let's remind them that our students are our first priority. Together, we can continue to build trust between our parents and our dedicated, top-rated public school system.

Thank you.

Kelsey Plourde

Adams, Angela

Subject: FW: NH State Standards

From: Chris Rath [REDACTED]
Sent: Sunday, July 09, 2017 9:05 AM
To: kcassady@allstaffcorp.com
Subject: NH State Standards

Good morning. I am writing to you this morning to urge you and the State Board of Education to take action at your meeting on July 13 to formally begin the process of reviewing and revising the standards for Social Studies in New Hampshire, instead of revisiting the Math and Language Arts standards - standards that are working quite effectively in our schools.

I have been a public educator in New Hampshire since 1971 so I have benefitted from the leadership of the NH Department of Education and the State Board of Education for much of my career. I have seen the kinds of transformations that can happen with clear leadership and strong support at the Department and State Board. Since 2008 I have been involved in statewide efforts to increase the level of civics knowledge in our public schools and communities, first on a Task Force for Civic Education, then Constitutionally Speaking committee, and most recently, as a board member for the NH Institute for Civic Education. I am keenly aware of the great need we have for revised Social Studies standards.

The time is actually very appropriate to launch this work.

- Recent legislation requires New Hampshire schools to administer a locally developed competency assessment of US government and civics to our high school students.
- This past session SB45 clarifies the expectation that school districts offer a United States and New Hampshire government and civics course at the high school level.
- The Professional Standards Board has revised the certification standards for teachers of social studies in our state.

All of these efforts require a clear set of standards and expectations, of competencies, for our high school students in the area of civics and government.

In addition to my work as a school district administrator, I have also been teaching graduate classes at the University of New Hampshire, and since retirement, for Southern New Hampshire University as well. I am currently teaching a course in Educational Assessment. The most important criterion for quality assessment is to have a clear set of standards that serve as the focus for the development of assessment instruments. As I watch teachers from all over the state work to increase their assessment expertise, those working in the areas of math, language arts and science have a clear set of standards as the foundation for their work. Those working in social studies do not.

Finally, New Hampshire should be leading the way in Civics and Government education. We have a legacy of leadership in citizen involvement.

- Our ratification of the United States Constitution made it the governing document for our nation;
- Our town meeting is a model of civic engagement.

- Our general court is a unique example of grass roots democracy,
- Our primary is first in the nation.
- We should be first in the nation in civics education.

Thank you for your service on the New Hampshire State Board of Education. I am unable to attend the State Board meeting on July 13, 2017 in person but I so hope to hear that the Board has once again provided the kind of leadership that will move our public schools forward and provide guidance for the work of public school educators throughout New Hampshire. Quite frankly, spending time and resources revisiting the Language Arts and Math standards, at this time, would be a great disservice to us all.

Sincerely,

Christine Rath

Adams, Angela

From: waduncan@gmail.com on behalf of Bill Duncan <waduncansboe@gmail.com>
Sent: Saturday, July 8, 2017 9:50 AM
To: Adams, Angela
Cc: Andrew Cline BOE; Kate Cassady; Gary Groleau; Chagnon, Cindy; Helen Honorow; annlanenhsboe@gmail.com
Subject: Re: ELA and Math Standards

This should be added to the "Public Correspondence Since the June Meeting"

On Wed, Jun 21, 2017 at 11:21 AM, Lisa Witte <[REDACTED]> wrote:

Good Morning,

I am aware that State Board of Education will be voting on whether or not to revise the ELA and Math standards at its next meeting on July 13th. I am unable to attend in person, and so I am writing today to urge you to support the work of educators around the state and *keep the current ELA and Math standards in place.*

What, exactly, about the current ELA and Math standards is 'broken' that revising them is necessary? Consider the following:

- Assessment data from the National Assessment of Educational Progress (NAEP) in 2015 places New Hampshire in the top three nationally in the fourth and eighth grades in Reading and in Mathematics.
- The national average SAT score for all 2015 high school graduates was 1490. In New Hampshire, the average score was 1566 - and our SAT scores increased in 2017.
- Our graduation rate has increased from 85.9% in 2010 to 88.2% for 2016.

Clearly, the ELA and Math standards we have in place are having a positive impact on our students. If the Department of Education wishes to improve upon standards, I would suggest that it would be appropriate to embark upon a review and update of the Social Studies and Civics standards - especially in light of recent legislation that clarifies and adds rigor to the civics graduation requirement.

Thank you for all that you do to support our students and education in New Hampshire.

Best,

Lisa

Lisa A. Witte

Superintendent of Schools

SAU # 93

Monadnock Regional School District

600 Old Homestead Highway

Swanzey, New Hampshire 03446

603-352-6955 Extension 6977



"Have the courage to say no. Have the courage to face the truth. Do the right thing because it is right. These are the magic keys to living your life with integrity." -- W. Clement Stone, Philanthropist

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Adams, Angela

From: [REDACTED] on behalf of Bill Duncan <waduncansboe@gmail.com>
Sent: Saturday, July 8, 2017 9:48 AM
To: Adams, Angela
Cc: ACBOE@comcast.net; Ann Lane; Chagnon, Cindy; Edelblut, Louis (Frank); Gary Groleau; Helen; Kate Cassady
Subject: Re: June 22, 2017 SBOE Update to the NHCBE

This should be added to the "Public Correspondence Since the June Meeting"

On Mon, Jun 26, 2017 at 11:49 AM, Tom Raffio <[REDACTED]> wrote:

Hi BOE and DOE (Commissioner Edelblut, Deputy Commissioner Leather, and Angela) Colleagues,

As you know, I continue to chair the NH Coalition for Business and Education (NHCBE), a robust group of business leaders, policy makers, political leaders and educators who have been meeting together for several years. Our tag line is "Education Driven Economic Development" (ED2) and we have supported and lent our name to many key initiatives, such as the 65 by 25 initiative, early learning, full day kindergarten and the Common Core. Our membership is broad, and includes our state wide chamber, the BIA.

We have several standing agenda items, including the above-referenced 65 by 25, early learning, as well as relevant potential legislature and an update from the SBOE.

Our most recent Coalition meeting was last Thursday, June 22. SBOE member, Bill Duncan, filed the attached report, for your interest.

Enjoy your summer.

Sincerely,

Tom R.

Tom Raffio | President & CEO

Northeast Delta Dental

Adams, Angela

From: waduncan@gmail.com on behalf of Bill Duncan <waduncansboe@gmail.com>
Sent: Wednesday, July 12, 2017 8:34 AM
To: Adams, Angela
Subject: Fwd: Revision of Math and English standards

more for the folder

----- Forwarded message -----

From: David Cawley <[REDACTED]>
Date: Wed, Jul 12, 2017 at 7:55 AM
Subject: Fwd: Revision of Math and English standards
To: ABOE@comcast.net, kcassady@allstaffcorp.com, chags@comcast.net, waduncansboe@gmail.com, ggroeleau@nhbb.com, hhonorow@barrylawoffice.com, annlanenhsbow@gmail.com

Ladies and Gentlemen:

I write to urge you to ignore attempts to revise the current mathematics and English standards in New Hampshire's public schools.

It is not clear to me that curriculum standards have a major impact on the ability of our citizenry to express itself clearly, think logically or work as creative scientists or technicians. That said, proposing to revise standards that were recently adopted and for which school districts across the State have spent substantial resources modifying what and how they educate is an unconscionable waste of the funds we raise for public education.

The challenges society asks the public schools to address and, at some level, resolve, are daunting.

I would encourage you to spend your energy finding ways for schools to lengthen the school day and year; help teachers become more effective and insure that all school districts have the resources to prepare our young people to succeed. The differences in the education provided young people in Bedford and Hopkinton versus the education provided in Franklin and Newport will, over time, make New Hampshire less competitive economically and further erode our ability to live in harmony.

You have important things to do as a Board. I don't know if revising non-compulsory statewide standards is ever one of them, but I do know that proposing to revise recently adopted standards right now definitely isn't one of them.

Thank you for consideration .

David Cawley
78 School St,
Concord NH

Adams, Angela

From: waduncan@gmail.com on behalf of Bill Duncan <waduncansboe@gmail.com>
Sent: Saturday, July 8, 2017 9:47 AM
To: Adams, Angela
Cc: Andrew Cline BOE; Kate Cassidy; Gary Groleau; Chagnon, Cindy; Helen Honorow; annlanenhsboe@gmail.com
Subject: Re: Revision of ELA and Math Standards

This should be added to the "Public Correspondence Since the June Meeting"

On Thu, Jun 29, 2017 at 10:20 AM, Joan Murphy <[REDACTED]> wrote:
Dear State Board of Education Committee Members-

I am an elementary school counselor in SAU 29, Keene, NH.

It has come to my attention that the NH Board of Education is thinking of revising the ELA and Math standards, I am concerned that revising these standards, *at this point in time*, would not provide the best educational experience for NH children. Teachers are creating new learning experiences for the Next Gen Science standards and will be addressing learning for updated social studies standards.

Crafting meaningful learning experiences that address the standards requires time, focus and refining of teaching practices. It would be best, in my opinion, for teachers to focus their energies on the science and social study standards to optimize the learning of our students.

Thank you for you time and attention.

Joan Murphy, M. Ed.

Adams, Angela

Subject: FW: Common Core ELA Standards

From: waduncan@gmail.com [<mailto:waduncan@gmail.com>] **On Behalf Of** Bill Duncan

Sent: Saturday, July 8, 2017 9:51 AM

To: Adams, Angela

Cc: annlanenhsboe@gmail.com; Andrew Cline BOE; Kate Cassidy; Chagnon, Cindy; Gary Groleau; Helen Honorow; Edelblut, Louis (Frank)

Subject: Re: Common Core ELA Standards

This should be added to the "Public Correspondence Since the June Meeting"

On Tue, Jun 13, 2017 at 12:17 PM, Mary Wilke <[REDACTED]> wrote:

To the Members of the Board of Education and Commissioner Edelblut:

I would like to address an issue that was raised by some speakers and reiterated by Commissioner Edelblut at the Board meeting last Thursday, June 8. One of the speakers stated that two thirds of the students who enter our technical colleges need remedial writing help. Another speaker said that, as a businessman, he found new employees to be lacking in writing skills.

These statements are certainly very troubling. But I don't see how they support the need for revisiting the Common Core standards.

If you look at the ELA standards, you'll see that for informative/explanatory writing (which is, I assume, what is most needed in college coursework and business contexts), the standards require that high school juniors and seniors "examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content." More specifically, students are expected to master the elements of such writing, including organization and thorough development of ideas, appropriate transitions and syntax, precise language, appropriate style and a supporting conclusion. Similar standards cover narrative and persuasive writing, and additional provisions address the need for students to apply the conventions of grammar, usage, punctuation and spelling.

It seems safe to say, without engaging in an extensive review of the standards, that a high school graduate with full mastery of the above-described skills would not need remedial courses at college and would not be seen by an employer as deficient in writing. If a student is unprepared for college/business writing, it's not because the standards are inadequate, but because for some reason s/he has not achieved them.

Of course, any number of explanations for this failure are possible. The quality of teachers and administrators and/or their certification programs; the nature of training offered by school districts re: implementation of the ELA standards; the impact of poverty, childhood trauma, refugee status or the opioid crisis on the performance of some students; the availability of services for students who struggle academically; and various other factors should be examined to determine why some students have not mastered the skills enumerated in the standards. This is where our focus should be.

But blaming the standards themselves seems illogical. And engaging in a protracted review would only serve to divert precious resources from more critical tasks.

Sincerely,
Mary Wilke
24 Bow St., Concord NH

Chair, NHCBE

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JUN 07 2017

**STATE DEPARTMENT
OF EDUCATION**

June 05, 2017

Drew Cline
Chairman, New Hampshire Board of Education
361 North Amherst Road
Bedford, NH 03110

Frank Edelblut
Commissioner, New Hampshire Department of Education
101 Pleasant Street,
Concord, NH 03301-3494

Dear Chairman Cline and Commissioner Edelblut,

Thank you for the work you do on behalf of the students of New Hampshire.

I am writing to share some research with you both and with the State Board of Education. It is summarized in the enclosed article by Amanda Ripley ([link](#)). Her research compels me to ask that the State Board of Education remain committed to the current state standards in Math and English Language Arts in New Hampshire.

In the article, Ms. Ripley states her thesis succinctly. She studied countries with high performing and rapidly improving schools. This included Finland, South Korea, and Poland. She identified five things those countries do to improve student outcomes:

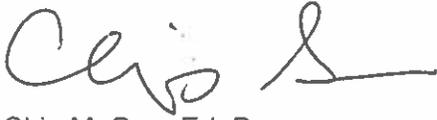
1. Make teaching more prestigious and better paying,
2. Direct resources to needier students,
3. Enroll children in high quality preschool,
4. Establish school cultures of constant improvement, and
5. Apply rigorous consistent standards across all schools.

She points out that the United States has done one of these five. Namely, state standards established rigorous consistent standards across most states in the country, including here in New Hampshire.

I think our collective energy and limited resources at the state level in New Hampshire should be spent on developing the other levers of improvement rather than redoing the one we already have right.

Thank you for taking the time to consider my thoughts on this subject.

Sincerely,

A handwritten signature in black ink, appearing to read "Chip McGee". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Chip McGee, Ed. D.
Superintendent of Schools

The New York Times | <https://nyti.ms/2gKPRXZ>

The Upshot
WORLD RANKING

What America Can Learn From Smart Schools in Other Countries

Amanda Ripley DEC. 6, 2016

Every three years, half a million 15-year-olds in 69 countries take a two-hour test designed to gauge their ability to think. Unlike other exams, the PISA, as it is known, does not assess what teenagers have memorized. Instead, it asks them to solve problems they haven't seen before, to identify patterns that are not obvious and to make compelling written arguments. It tests the skills, in other words, that machines have not yet mastered.

The latest results, released Tuesday morning, reveal the United States to be treading water in the middle of the pool. In math, American teenagers performed slightly worse than they usually do on the PISA — below average for the developed world, which means they scored worse than nearly three dozen countries. They did about the same as always in science and reading, which is to say average for the

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But that scoreboard is the least interesting part of the findings. More intriguing is what the PISA has revealed about which conditions seem to make smart countries smart. In that realm, the news was not all bad for American teenagers.

Like all tests, the PISA is imperfect, but it is unusually relevant to real life and provides increasingly nuanced insights into education for researchers like Andreas Schleicher, who oversees the test at the Organization for Economic Cooperation and Development. After each test, he and his team analyze the results, stripped of country names. They don't want to be biased by their pre-existing notions of what teenagers in Japan or Mexico can or cannot do.

A year later, after their analysis is finished, team members gather in a small conference room at their Paris offices to guess which countries are which. It's a parlor game of the high-nerd variety — or, as Mr. Schleicher put it, “a stress test of the robustness of our analysis.”

When the team started this game back in 2003, it could predict about 30 percent of the variation in scores using its statistical models, Mr. Schleicher said. Now, the models can predict 85 percent of the variation.

So how do the researchers make their predictions? The process is not entirely intuitive. They can't, for example, assume that countries that spend the most will do the best (the world's biggest per-student spenders include the United States, Luxembourg and Norway, none of which are education superpowers).

Nor can they guess based on which countries have the least poverty or the fewest immigrants (places like Estonia, with significant child poverty, and Canada, with more immigrant students than the United States, now top the charts). All those factors matter, but they interact with other critical conditions to create brilliance — or not.

This year, when the PISA team made its guesses, it predicted the United States would show modest improvement. Eventually, it figured, the federal government's ham-handed but consistent push to get states to prioritize their lowest-achieving

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Team members expected Colombia to continue to improve, given policy makers' focus on enrolling more students at younger ages and raising standards for entering teaching. Singapore would probably crush every other country, raising the bar for what children are capable of doing.

"An easy guess, maybe," Mr. Schleicher said a bit sheepishly. "They are constantly looking outside for ways to improve, questioning the established wisdom. That's the classic thing that Singapore has always done."

By contrast, the team did not expect good news out of France, where Mr. Schleicher lives and where his children are enrolled in school. "Most reforms have been on the surface, not reaching into the classroom," he said. "Nobody predicted France would be a star performer."

Finally, it was time for the results: The analysts looked at the country names to see how their predictions held up. It was, by statistician standards, a huge thrill. The United States had not raised its average scores, but on measures of equity, it had improved. One in every three disadvantaged American teenagers beat the odds in science, achieving results in the top quarter of students from similar backgrounds worldwide.

This is a major accomplishment, despite America's lackluster performance over all. In 2006, socioeconomic status had explained 17 percent of the variance in Americans' science scores; in 2015, it explained only 11 percent, which is slightly better than average for the developed world. No other country showed as much progress on this metric. (By contrast, socioeconomic background explained 20 percent of score differences in France — and only 8 percent in Estonia.)

In the end, the PISA team had called virtually every country correctly. Colombia and Singapore had indeed improved. And France had done a bit worse in science and math while improving ever so slightly in reading. "It's hard to surprise us when it comes to these things," Mr. Schleicher said.

Here's what the models show: Generally speaking, the smartest countries tend

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preschools; helped schools establish cultures of constant improvement; and applied rigorous, consistent standards across all classrooms.

Of all those lessons learned, the United States has employed only one at scale: A majority of states recently adopted more consistent and challenging learning goals, known as the Common Core State Standards, for reading and math. These standards were in place for only a year in many states, so Mr. Schleicher did not expect them to boost America's PISA scores just yet. (In addition, America's PISA sample included students living in states that have declined to adopt the new standards altogether.)

But Mr. Schleicher urges Americans to work on the other lessons learned — and to keep the faith in their new standards. “I'm confident the Common Core is going to have a long-term impact,” he said. “Patience may be the biggest challenge.”

President-elect Donald J. Trump and Betsy DeVos, his nominee for education secretary, have called for the repeal of the Common Core. But since the federal government did not create or mandate the standards, it cannot easily repeal them. Standards like the Common Core exist in almost every high-performing education nation, from Poland to South Korea.

Some of the other reforms Americans have attempted nationwide in past years, including smaller class sizes and an upgrade of classroom technology, do not appear on the list of things that work. In fact, there is some evidence that both policies can have a negative impact on learning.

For now, the PISA reveals brutal truths about America's education system: Math, a subject that reliably predicts children's future earnings, continues to be the United States' weakest area at every income level. Nearly a third of American 15-year-olds are not meeting a baseline level of ability — the lowest level the O.E.C.D. believes children must reach in order to thrive as adults in the modern world.

And affluence is no guarantee of better results, particularly in science and math: The latest PISA data (which includes private-school students) shows that America's most advantaged teenagers scored below their well-off peers in science in 20 other

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The good news is that a handful of places, including Estonia, Canada, Denmark and Hong Kong, are proving that it is possible to do much better. These places now educate virtually all their children to higher levels of critical thinking in math, reading and science — *and* do so more equitably than Americans do. (Vietnam and various provinces in China are omitted here because many 15-year-olds are still not enrolled in school systems there, limiting the comparability of PISA results.)

As we drift toward a world in which more good jobs will require Americans to think critically — and to repeatedly prove their abilities before and after they are hired — it is hard to imagine a more pressing national problem. “Your president-elect has promised to make America great again,” Mr. Schleicher said. But he warned, “He won’t be able to do that without fixing education.”

Amanda Ripley is the author of “The Smartest Kids in the World” and a senior fellow at the Emerson Collective.

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A version of this article appears in print on December 8, 2016, on Page A3 of the New York edition with the headline: What the U.S. Can Learn From Other Nations’ Schools.

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Adams, Angela

From: DOE: Info
Sent: Tuesday, June 13, 2017 10:15 AM
To: Clifford, Virginia; Adams, Angela
Subject: FW: School nurse certification

FYI?

From: Margaret Lohmann [REDACTED]
Sent: Tuesday, June 13, 2017 10:08 AM
To: DOE: Info
Subject: School nurse certification

Although my school district has only required an RN license, it is not unusual for us to have only one applicant or sometimes none. **Is it truly better to have no nurse** than one who does not have a BSN or recent pediatric experience?

I understand the reasoning behind the legislation but it is not feasible for a poor town such as Franklin, that is laying off teachers every year, to greatly increase the nurses' salaries in order to attract applicants with a BSN and pediatric experience. Compared to other areas of nursing, school nursing pays very poorly. Add on the nursing license fee, malpractice insurance cost and now \$130-150 certification fee, (none of which is covered by my school district), it is not just not worth it.

Several articles have mentioned nurses being on the teachers' contract. It is my understanding that about half the school nurses in the state are not on the teachers' pay scale, but on a much lower paying contract. Teachers would have to accept the nurses into their union which is unlikely as it would lead to a significant pay increase for the nurses when the budget is already stretched to the breaking point.

I urge you strongly to reconsider this legislation. Please don't leave our students without a nurse.

Sincerely,
Margaret Lohmann RN,BSN,MHSA

Re: public hearing HB 1193

I would like to express my opinion that bill HB 1193 should NOT PASS.

If passed it would create an increased burden on schools when hiring School Nurses in NH. Already there are concerns for a shortage of School Nurses for the growing population of NH students that are in need of having a Registered School Nurse available.

We are ALL REGISTERED NURSES, per the NH Board of Nursing, whether we have an Associate degree, Diploma or Bachelor of Science degree. The same exam is taken by ALL of us in order for us to become RN's. We are Nurses, not Teachers, and have stick guidelines, obligations and numerous LAWS we must follow in order to maintain our professional practice as RNs.

Associate RNs will not gain any increase in pay if they were to obtain the increased education and it would not change their practice within the school. All RNs are professionals dedicated to our practice and we are not Teachers. The increase burden and unnecessary bureaucratic and financial situation put on School Nurses is not needed to improve the quality of care for NH students.

Also is the concern for not having enough Nurses interested in becoming a School Nurse by BSN's as the grandfathered Associate degree School Nurses retire. Note a study done in 2014 (Special Medical services, School Nurse Survey 2014, page 11 of:

https://www.education.nh.gov/instruction/school_health/documents/schoolnursesurvey-2014.pdf)

The survey shows this would affect 41% of NH School Nurse's that have an Associate degree or diploma RN in NH. This is a high percentage and close to the same number of BSN nurses in NH school nursing, 48%. I would ask what have the Associate Degree and Diploma RN nurses done wrong to be determined not be qualified to work as a School Nurse????

Traditionally, BSN nurses look for a higher pay scale. With the increased medical needs ahead of us and the aging population they will be drawn to higher pay scale facilities. NH schools could be at an increased burden financially with their ability to find a School Nurse available to hire for our NH students in need of a RN available to them.

I strongly request that you DO NOT PASS HB 1193. We are ALL professional Registered Nurses and licensed by the NH State Board of Nursing. How is the NH Board of Education qualified to and/or have a need to additionally certify a Registered Nurse????

Tammy L Reardon, RN
School Nurse @ Bethlehem Elementary School
2297 Main Street, Bethlehem, NH 03574
treardon@bethlehem.k12.nh.us

Adams, Angela

From: waduncan@gmail.com on behalf of Bill Duncan <waduncansboe@gmail.com>
Sent: Tuesday, June 27, 2017 8:50 PM
To: Adams, Angela
Subject: Fwd: State Standards

for public correspondence

----- Forwarded message -----

From: Thomas Flaherty <[REDACTED]>
Date: Tue, Jun 27, 2017 at 6:10 PM
Subject: State Standards
To: CBOE@comcast.net, waduncansboe@gmail.com, kcassadv@allstaffcorp.com, ggroleau@nhbb.com, hhonorow@barrylawoffice.com, annlanenhsboe@gmail.com, frank.edelblut@doe.nh.gov

As I understand it, the BOE wants to keep Common Core at the standard for education in NH.

As a parent, I am opposed to a one-size-fits-all, Federal approach. What Washington DC wants isn't necessarily what is best for us in NH.

Education is a LOCAL issue, best managed by people who understand our own needs and have our best interests in mind, which is not always the case in a centralized model.

Sure, learn from other states but retain ultimate control and flexibility by keeping education local.

Tom Flaherty
Weare, Nh

Adams, Angela

From: waduncan@gmail.com on behalf of Bill Duncan <waduncansboe@gmail.com>
Sent: Wednesday, July 12, 2017 2:06 PM
To: Adams, Angela
Subject: Fwd: Proposed revision of Common Core Standards for ELA and Math

for the folder

----- Forwarded message -----

From: Becky Cawley <[REDACTED]>
Date: Wed, Jul 12, 2017 at 1:40 PM
Subject: Proposed revision of Common Core Standards for ELA and Math
To: kcassady@allstaffcorp.com, ACBOE@comcast.net, chags@comcast.net, waduncansboe@gmail.com,
groleau@nhbb.com, annlaneenhsboe@gmail.com, hhonorow@barylawoffice.com
Cc: Frank.Edelblut@doe.nh.gov

Hello,

I'm writing to all members of the New Hampshire State Board of Education from my perspective as a employee of the New Hampshire public schools for 42 years. I retired in June 2015.

I urge you to reject the proposal that Common Core Standards be revised. The process of revising standards is extremely time consuming and it diverts sorely needed resources away from the core mission of the public schools. This is particularly true in light of the fact that the standards that are now in place were only recently approved.

As I hope all of you know, the planning and vetting processes involved in curriculum development are extremely time consuming. In addition, given New Hampshire's meager financial support for education funding, it must be pointed out that revision of standards is not without costs.

Please do what ever you can to facilitate teaching and learning in our public schools. To my way of thinking, the revision of newly adopted standards is antithetical to supporting the important work being done in our public schools.

Thank you for your consideration.

--
Becky Cawley
Concord, New Hampshire
USA

Adams, Angela

From: waduncan@gmail.com on behalf of Bill Duncan <waduncansboe@gmail.com>
Sent: Thursday, July 13, 2017 1:30 PM
To: Adams, Angela
Subject: Fwd: Letter regarding ELA and Math standards

for the PC folder

----- Forwarded message -----

From: Melissa Hinebauch <[REDACTED]>
Date: Thu, Jul 13, 2017 at 11:28 AM
Subject: Letter regarding ELA and Math standards
To: "ACBOE@comcast.net" <ACBOE@comcast.net>, "waduncansboe@gmail.com" <waduncansboe@gmail.com>, "ggroleau@nhbb.com" <ggroleau@nhbb.com>, "kcassady@allstaffcorp.com" <kcassady@allstaffcorp.com>, "chags@comcast.net" <chags@comcast.net>, "hhonorow@barrylawoffice.com" <hhonorow@barrylawoffice.com>, "annlanenhsboe@gmail.com" <annlanenhsboe@gmail.com>

Dear State of New Hampshire Board of Education,

Thank you for taking the time to review my letter. I live in Concord with my husband and three children. I care about public education and am writing you directly to request that you do not revise the state English Language Arts (ELA) and Mathematic academic state standards.

- The state ELA and math standards are working for our students, parents, and teachers here in Concord. It would be detrimental to undo all the work that we have already done on these standards. A review would be disruptive and counterproductive. State standards on ELA and math provide a good structure and framework for teachers while giving educators freedom and flexibility to teach their students in a thoughtful, creative way.
- The current standards are working as demonstrated by the Smarter Balanced test scores that went up last year, our graduation rate increased from 85.9% in 2010 to 88.2% for 2016, and this past spring in 2017, SAT scores went up in both math and ELA. Given this data, why would you change the standards? Please remember that NH also has one of the highest graduation rates in the country.
- The demand for revised standards is not coming from local parents, educators or administrators. Where is it coming from? It appears that the demand for revised standards is now a political issue involving organizations relying on out of state input. This is not the New Hampshire way. Let out of state special interest groups stir up discord somewhere else.

Please spend your time and energy on more important, urgent issues instead. Such issues you should be reviewing include addressing the inequalities in how the state funds education, implementing Universal Design for Learning (and other approaches) to help

every student achieve his or her full potential, determining how the opioid crisis is impacting kids in school, and many others.

Thank you for your time and attention to this matter.

Sincerely,

Mel Hinebauch
15 Rockland Rd
Concord, NH 03301
224-4866