



THE TEXAS ACADEMY OF SCIENCE

FOUNDED 1892 • CHARTERED 1929

AFFILIATED WITH THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Texas Academy of Science Position Statement on Science Teacher Certification

The Texas Academy of Science supports high science teacher certification standards that ensure Texas students will be taught by well-prepared teachers. Certification must guarantee competency. In addition to the general teaching skills and attitudes the preparation should include adequate:

- **Science content;**
- **Science education pedagogy including scientific inquiry;**
- **Safety;**
- **Laboratory and field experiences;**
- **Exemplary science curriculum and;**
- **Authentic scientific inquiry experience documented by the certifying program and authenticated by external review.**

Valid evaluation requires multiple lines of evidence. The documentation of evidence of competency in the above areas should be in place in the Texas certification process. In addition to a rigorous science TExES, there should be additional evidence of competency before a candidate is allowed to enter the classroom. The documentation of performance both before and after the candidate enters the classroom should be made by science education specialists.



Science Teachers Association of Texas

Celebrating 50 Years of Serving Science Educators

P.O. Box 4828, Austin, TX 78765 - (512) 451-STAT [7828]

April 9, 2010

Texas State Board of Educator Certification
Texas Education Agency
1701 N. Congress
Austin, TX 78701

Dear Members of the Board,

The Science Teachers Association of Texas (STAT) is statewide organization of elementary, middle level, and high school teachers, college educators, supervisors of science, and others dedicated to maintaining the highest levels of science and education in our schools. Its mission is to build a community dedicated to advancing science teaching and learning in a way that:

- Builds and strengthens networks for Texas educators
- Disseminates current scientific research
- Provides quality professional growth opportunities in content and pedagogy
- **Informs policy makers and the public regarding science education issues**
- Establishes STAT as a resource for science education; so that all students are scientifically and technologically literate, responsible, and productive citizens.

It is for these reasons that STAT respectfully and strongly urges you to not support Item 9 on Teaching Assignments in its current state.

- **Allowing generalists to teach secondary science courses will not enhance science education for Texas students.**
- **Moreover, the TExES exams must be strengthened to better ensure competency of our teaching faculty.**

Sincerely,

Sandra S. West, Ph.D.
STAT Policy Chair

To: Texas SBOE
From: Dr. Sandra S. West
Date: June 18, 2010
Re: Teaching Assignments.19 TAC Chapter 231

- We respectfully urge you to not support allowing EC-6 and 4-8 Generalists to teach specialty courses because the rule is inconsistent with research and professional recommendations.
- Historically, the Science Education community has sited the problems in undermining science and mathematics education with this rule. (See below)
- Science and Mathematics specialists are not on Stakeholders Committees
- The 4-8 Generalist practice test contains low level knowledge and skills expectations:
 - 32% - K-5 TEKS
 - 50% - 6-8 TEKS
 - 18% - 9-12 TEKS
- The passing standard should be higher than staff recommendations.
- Current low certification standards allow “certified” science and math teachers to teach grades 4-8 courses without any college coursework.
- 33% of college students have to enroll in remedial courses.
- SBEC’s own data cites a retention, not recruitment, problem in science and mathematics teacher shortage
- Teaching candidates follow the easiest, fastest route to a job. If we raise the standards, the candidates will follow. If we want truly qualified science and math teachers, we should provide the requirement and incentive through bonuses for those who meet the higher standard.

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- 5-5-98 – Science Education community expressed concern with Generalist/Composite certificates
 - 1-3-00 – Composite/Generalist certificates
 - 3-3-00 – Grades 4-8 certificate and the shift from prescriptive (required coursework) to outcome (ExCET/TEXES) based which ignores principles of measurement emphasizing the need to have multiple lines of evidence. We urged support for raising the bar instead of lowering it.
 - 5-2-00 - urged the SBOE to not allow Generalists to teach specialty courses just to “ease staffing.”
 - 11-14-02 - urged the SBEC to adopt Teaching Assignment rules that are consistent with the research or professional recommendations.
 - 1-2-05 – Stakeholder input
 - 5-12-05 - Teaching Assignments, de ja vu.
 - 1-12-7 – EC-6 Generalists certificates
 - 5-4-07 – EC-6
 - 11-12-07 – Physics & Chemistry certificate
 - 4-13-10 - Generalists

Only 3%-4% of Texas Science teachers from Alternative Certification programs have a major in science. (Zientek,L. 2005, Humphre & Wechsler, 2005)

There is an increase of 40% in middle school and 30% in high school in the number of science teachers who are assigned “out of field” (Fuller, 2009).

Too often, the U.S. education system seems to ignore all human resource best practices, instead settling for any teaching candidate who shows interest, training them poorly, deploying them unevenly, failing to support them adequately once they arrive at a school, providing a work environment that is not conducive to teacher or student learning, evaluating and compensating them in a way that fails to recognize strong performers or weed out consistently poor performers, and providing few compelling reasons for good teachers to stay in schools where they are needed most.

– Center for High Impact Philanthropy