

Minutes of the 5th Meeting of the  
National Congress on Science Education  
Bozeman, Montana  
July 7-11, 2004

**Call to Order** - The meeting was called to order by NSTA Retiring President, John Penick at 8:35am on Thursday, July 7, 2004.

**Report of the Credentialing Committee** – Anne Tweed, NSTA President, reported the following information regarding the 2004 NCSE attendees:

Chapter Delegates – 39  
Assoc. Group Delegates - 4  
Chapter Alternates - 22  
Assoc. Group Alternates - 1  
Total # of Registrants - 116  
Total Number Present – 126

**Adoption of Operating Policies** - Section 5 of the Congress Operating Policies - should be corrected to read: three (3) ~~District Directors~~ members of the Council who shall be elected...

**7/04CNG1** Moved by Lloyd Barrow to approve the operating policies as corrected.  
**Passed**

**Adoption of Agenda**

**7/04CNG2** Moved by Charles Baldwin to approve the agenda.  
**Passed**

**Approval of Minutes** There being no changes to the July 2003 minutes, they stand as submitted.

**Request for Additional Focus Groups** – There were no request for additional focus groups. Following are the 2004 focus groups.

*The Highly Qualified Teacher and Professional Development*  
Facilitator: Joyce Tugel, NSTA Director, Professional Development  
Leader: Shelley Lee, Science Consultant, WI Department of Public Instruction

*The Highly Qualified Teacher and Science Content Knowledge*  
Facilitator: Jean May-Brett, District VII Director  
Leader: Melody Orban, District II Director

*The Highly Qualified Teacher and Pedagogical Content Knowledge*  
Facilitator: Linda Crow, SCST President  
Leader: Dee Goldston, CESI President

*The Highly Qualified Teacher Recruiting, Retaining, Recognizing*  
Facilitator: Jack Rhoton, NSELA President  
Leader: Jack Cooper, President, Science Teachers Association Of Texas

*The Highly Qualified Teacher and Assessment and Accountability*  
Facilitator: Gail Hall, Past President, Vermont Science Teachers Association  
Leader: David White, District II Director

*The Highly Qualified Teacher - Equity, ESL, Diversity Issues*  
Facilitator: Cherry Brewton, NSTA Director, Multicultural/Equity in Science Education  
Leader: Tiah McKinney, Past President, Metropolitan Detroit Science Teachers Assn.

**Focus Group Resolutions** – The following resolutions arose from the focus groups:

***Proposed by the Science Teachers of Missouri***

**7/04CNG3** Be it resolved that the National Science Teachers Association (NSTA) update the teaching of evolution position statement to address the intelligent design movement. ***Passed***

***Proposed by the South Dakota Science Teachers Association***

**7/04CNG4** Be it resolved that the NCSE encourage the National Science Foundation to continue the pursuit and financial support of the National Underground Laboratory program, which is so vital to physics research in the United States. ***Passed***

***Proposed by the Focus Group: The Highly Qualified Teacher and Professional Development***

**7/04CNG5** Be it resolved that NCSE affirms that professional conferences are integral and valid parts of a PDP of a highly qualified teacher. ***Passed Unanimously***

**7/04CNG6** Be it resolved that NSTA develop a resource packet that provides guidance for CAGS in structuring and promoting conferences as an integral part of a professional development plan for the development and sustainability of a highly qualified science educator. ***Passed Unanimously***

**7/04CNG7** Be it resolved that in order for teachers to fulfill their professional development plans with valid and high quality PD opportunities, the NCSE requests that CAGS gather information about all relevant professional development opportunities in their state/region and disseminate this information to all science educators in their state. ***Passed Unanimously***

**7/04CNG8** Be it resolved that NSTA will develop a position statement addressing the interrelationships between science, mathematics, and language arts and its implications for PreK-16 science instruction and professional development. ***Passed Unanimously***

***Proposed by the Focus Group: The Highly Qualified Teacher and Science Content Knowledge***

- 7/04CNG9** Be it resolved that the National Congress on Science Education advocate that all elementary preservice teachers should successfully complete at least one physical science, one life science, and one earth/space science course that are inquiry-based and include a lab component that addresses the content as articulated in the NSES for the elementary level. ***Passed***
- 7/04CNG10** Moved by Sandy Pace to reconsider. ***Motion defeated.***
- 7/04CNG11** Be it resolved that the National Congress on Science Education advocate that all middle level preservice science teachers should be required to successfully complete a minimum of thirty semester (or equivalent) credit hours of science content courses to include at least one physical science, one life science, and one earth/space science course that are inquiry-based and include lab components that address the content as articulated in the NSES for the middle level. ***Passed***
- 7/04CNG12** Be it resolved, therefore, that the NCSE advocate the position that highly qualified are those teachers who possess an integrated knowledge of four areas: 1) subject matter; 2) teachers and teaching; 3) learners and learning; and 4) the context or setting in which they work. ***Passed***
- 7/04CNG13** Be it resolved that NSTA develop a clear and concise definition of pedagogical content knowledge (PCK) to help guide professional development programs at local, state, and national levels. ***Passed***

***Proposed by the Focus Group: The Highly Qualified Teacher Recruiting, Retaining, Recognizing***

- 7/04CNG14** Be it resolved that NSTA advocate funding from the federal government for data driven research on recruiting and retaining Highly Qualified preK-12 teachers of science by launching in-depth research and development efforts (that include innovative models), building on what is known about the compensations, preparation, and support that teachers of science need. ***Passed***
- 7/04CNG15** Be it resolved that CAAGS lobby and advocate their state boards of education and other leaders for fully-funded implementation of induction and mentoring programs for entry-level teachers of science for the first three to five years of their careers. ***Passed***
- 7/04CNG16** Be it resolved that CAAGS advocate state and local boards of education to change the culture of teaching by implementing models of staffing designs for the classroom teacher of science that allow for differentiated opportunities for advancements in order to retain those who are Highly Qualified teachers of science. ***Passed***

***Proposed by the Focus Group: The Highly Qualified Teacher and Assessment and Accountability***

- 7/04CNG17** Be it resolved NCSE advocate that all teachers use clearly defined assessments that embed higher order thinking skills, and lab based performance components which include inquiry, manipulation of materials and problem solving skills. *Passed Unanimously*
- 7/04CNG18** Be it resolved that the National Congress on Science Education recommends that the CAAGs encourage their members' involvement in the development of assessments at all levels. Said involvement may include such activities as: CAAGs disseminating information on assessment development opportunities, and urging their members to contact and educate stakeholders on the necessity of teacher involvement in the assessment development process. *Passed Unanimously*
- 7/04CNG19** Be it resolved that NSTA develop an on-going professional development program on assessment that might include:
- Knowledge of research-based assessment models;
  - Emphasis on the “Quality Criteria for Assessment Development” (Buros Institute in Nebraska);
  - Examples of effective science assessment methods;
  - Emphasis on the analysis of assessment data.
- Passed Unanimously.*

***Proposed by the Focus Group: The Highly Qualified Teacher and Equity, ESL, Diversity Issues***

- 7/04CNG20** Be it resolved that NSTA supports the identification and dissemination of effective PreK-16 instructional models that have proven to increase academic achievement among diverse populations. *Passed Unanimously*
- 7/04CNG21** Be it resolved that NSTA place a greater emphasis (such as through conferences, publications, and on-line courses) on how to match instructional strategies to the special needs of individual students. *Passed Unanimously*
- 7/04CNG22** Be it resolved that the NCSE advocates to differentiate instruction based on the authentic quantitative analysis of student achievement data. *Passed*
- 7/04CNG23** Be it resolved that the Congress advocates the creation and development of a study to identify best practices in science instruction as it relates to equity, ESL, and diversity issues for PreK–16. *Passed*

**2005 Planning Committee** The following individuals were elected to serve on the 2005 Congress Planning Committee:

Vanessa Westbrook, Science Teachers Association of Texas  
Nancy Bennett, New Jersey Science Teachers Association  
John Olson, Minnesota Science Teachers Association

**Summary** The Congress resolutions were discussed by both the Council and Board of.

**Session**

Directors. Following are the resolutions with the final wording as passed/defeated by the Board:

**7/04BOD3** Moved by Patricia Simmons in response to CCL5 & CNG4 that NSTA explore the feasibility of developing a resource packet that provides guidance for CAGS in structuring and promoting conferences as an integral part of a professional development plan for the development and sustainability of a highly qualified science educator. **Motion carried.**

**7/04BOD4** Moved by Joyce Tugel in response to CCL12 & CNG6 that NSTA develop a position statement addressing science as a part of the PreK-12 core curricula recognizing its connections to mathematics and language arts. **Motion Carried.**

**7/04BOD5** Moved by Rene Carson in response to CCL7 & CNG10 that NSTA develop a conceptual definition of science-specific pedagogical content knowledge (PCK) with implications for classroom practice and Professional Development programs at local, state, and national levels. **Motion defeated.**

**7/04BOD6** Moved by Patricia Simmons in response to CCL8 & CNG11 that NSTA advocate funding from the federal government for data driven research on recruiting and retaining Highly Qualified preK-12 teachers of science by launching in-depth research and development efforts (that include innovative models), building on what is known about the compensations, preparation, and support that teachers of science need. **Motion carried.**

**7/04BOD7** Moved by Joyce Tugel in response to CCL9 & CNG16 that NSTA examine the feasibility of developing an ongoing professional development program on assessment that might include:

- Knowledge of research-based assessment models;
- Emphasis on the “Quality Criteria for Assessment Development” (Buros Institute in Nebraska);
- Examples of effective science assessment methods;
- Emphasis on the analysis of assessment data. **Motion carried.**

**7/04BOD8** Moved by Cherry Brewton in response to CCL11 & CNG18 that NSTA continue to place special emphasis (such as through conferences, publications, and on-line courses) on how to match instructional strategies to the special needs of individual students. **Motion carried.**