President’s Message
Contributed by Joanne Olson

The Roots of ASTE

Spring is finally reaching the Midwestern U.S. and with this change of the seasons, it’s also time to reflect on changes in ASTE. I recently analyzed an ASTE conference program from 1996 (my first ASTE meeting!) and I noticed a few trends.
First, I was struck by ASTE’s ongoing commitment to graduate students. The cost of registration for me as a graduate student in 1996 was slightly more than graduate students currently pay to attend an ASTE meeting. The cost of food and other expenses for the meeting has increased substantially, yet ASTE has held to its commitment to make the meeting as accessible and affordable for our next generation of science teacher educators.

Second, the percentage of conference sessions that focus on the sharing of research-based practices in science teacher education has decreased. In 1996, 52% of our sessions involved sharing our practices, and 44% involved the presentation of research. In 2014, practitioner-oriented sessions dropped to just 26% of our conference sessions, with research sessions occupying 72% of the program. I've heard members say that they would submit a proposal to ASTE, but they don't have a research paper to present at this time. I want to encourage you to submit practitioner-oriented work. ASTE’s mission statement reflects our commitment to our practitioner roots:

> The Association for Science Teacher Education (ASTE) promotes leadership and support for professionals involved in the education and development of teachers of science at all levels. ASTE advances practice and policy through scholarship, collaboration, and innovation in science teacher education.

I become concerned when people disparage practitioners’ desires to find new activities or share ideas. The work of teacher education should be solidly grounded in research, but we also benefit greatly when we can learn from others how they have translated that research into practice. ASTE’s position statement makes clear that ASTE exists as an organization committed to those who prepare science teachers. This includes our own professional development as well as our research. I'm sure we have all seen practitioner sessions for teachers where the activity was the sole focus, and connections to the research base were vague or absent. In such cases, Moscovici and Nelson’s term “activitymania” comes to mind. The existence of such sessions does not mean that professional development should be abandoned or disparaged; instead, we must work to improve the quality of the professional development itself. ASTE can provide outstanding professional development for our members, and we can do so by submitting proposals for sessions that share our work (in methods courses, content courses for preservice teachers, partnerships, inservice professional development programs, etc.) that are grounded in a solid conceptual framework and have a clear connection to the research base on science teacher education.

The ASTE Board just completed our summer board meeting, and we looked at the data on our membership. We are not reaching a substantial number of individuals who are heavily involved in science teacher education. State-level science curriculum coordinators, area education agency science leaders, and our colleagues from smaller colleges and HBCUs are not well represented at ASTE. Recruiting such individuals to join ASTE is one strategy, but we need to have something for
them when they join. ASTE is more than a research association. We have a unique niche to provide support for all of us who prepare science teachers. Thus, I encourage each of us to work with our regions to recruit those in our area involved in science teacher education, and I also encourage us to share our practices with others.

As a reflection of this commitment to supporting professionals involved in science teacher education, the Board is exploring the creation of a practitioner journal. This journal would be a place for us to publish the work we do in science methods courses, science content courses for preservice and inservice teachers, professional development programs, partnerships, and other innovative practices that improve science teacher education. I am creating an ad hoc committee to develop this idea more fully. This committee is charged with developing a proposal for such a journal to be given to our Publications Committee and eventually to the Board. I think this journal could be a way to provide support for those involved in science teacher education in a way that does not currently exist. Please contact me as soon as possible if you are interested in serving on this important ad hoc committee.

I want to assure all of our members that ASTE remains committed to our roots as reflected in our mission statement. For us to make that mission statement a reality, we must ensure that we have mechanisms in place to support those engaged in science teacher education. Get involved with your region, contact me about the ad hoc committee for exploring a new journal, and present your work at the conference. The proposal submission process for the ASTE conference in Portland is open now; please submit the good work that you do!

Joanne observing that such pretty flowers depend on strong roots.
The 2015 International ASTE Conference will be held January 7-10, 2015 at the Portland Marriott Waterfront Downtown, in Portland, Oregon. The theme of the conference is “Exploring New Frontiers.” In keeping with that theme, the two keynotes will be Mr. Jim Clark and Dr. Bonnie Nagel.

Jim Clark is the President of Hive-FX, a live-action animation studio which has worked on movies (e.g., Hellboy, Spy Kids 2: Island of Lost Dreams, etc.), commercials, children’s programming, and most recently the TV series Grimm. His motto is “Thinking outside the box; and by the way, there is no box.” Mr. Clark will speak about the processes involved in bridging science, technology, and art. He will address questions such as: how does technology meet humanity, what is the “uncanny valley” and how can we spark our students to see that science is not just another school subject.

Bonnie Nagel is a clinical neuropsychologist on the faculty of Oregon Health and Science University. She describes her primary research interest “as exploring typical adolescent brain and cognitive development using structural and functional neuroimaging and neuropsychological assessment techniques.” She will share with us the advances occurring in neuroscience relating to the cognitive development of adolescents to help us improve our understanding of how students learn.

Consider sharing your own research! We have several options for presentations (traditional paper, themed paper set, poster, roundtable, small group roundtables, experiential session, syllabus sharing). Proposals will be accepted through July 8, 2014. Only on-line submissions are considered: theaste.org

Please share this information with others! Don't forget to invite both your education and science faculty colleagues AND send an invite to neighboring colleges/universities as well!
2015 ASTE International Conference Call for Proposals
Contributed by Tisha Morrell

Portland, Oregon
January 7-10, 2015

Who are we: The Association for Science Teacher Education (ASTE) promotes leadership and support for professionals involved in the education and development of teachers of science at all levels. ASTE advances practice and policy through scholarship, collaboration, and innovation in science teacher education.

Our members include science teacher educators, science content faculty, curriculum developers, informal science educators, and others involved with the education of science teachers.

Proposals should address issues concerning science teacher education; these can be a research study, philosophical essay, position paper, innovative idea, etc. Formats include traditional paper presentations, themed paper sets, posters, roundtables, syllabus sharing, and experiential sessions. Proposals will be accepted through July 8, 2014.

For more information or to submit a proposal, please go to the ASTE website: (theaste.org) or contact the conference co-chair, Tisha Morrell, morrell@up.edu
The ASTE Environmental Education Forum will be sponsoring a pre-conference all-day field trip workshop on Wednesday, January 7 from 7:30am – 6:00pm at the ASTE 2015 International Meeting in Portland, Oregon. The field trip will explore the science and cultural development of the Pacific Northwest. Topics include ecology, resource usage, coastal hazards, and cultural maritime events relevant to the Columbia River System and the waters of the North Pacific. The field trip includes stops at the Columbia River Maritime Museum, Ft Clatsop - Lewis and Clark National Historical Park, and Seaside.

Our first stop will be at the Columbia River Maritime Museum in Astoria (http://www.crmm.org). We will learn about the museum's science education and outreach activities for teachers and students and have a guided tour of the museum. Topics will include ecology, resource usage, and cultural maritime events relevant to the Columbia River System and the waters of the North Pacific.

We will have a catered lunch at the museum and have a presentation on Oregon coastal geology and hazards by Dr. Robert Butler, Professor of Geophysics in the Department of Environmental Studies at the University of Portland who will be joining us on the field trip. After lunch, there will be some free time in Astoria.

We will then travel to Ft. Clatsop – Lewis and Clark National Historical Park (http://www.nps.gov/lewi/planyourvisit/fortclatsop.htm) and learn about their new science education and outreach activities for teachers and students from the site’s educational specialist. Topics include the Lewis and Clark River and the development of the Pacific Northwest, and the history and culture related to the Lewis and Clark expedition to the Oregon coast.
We will then travel to Seaside and participate in a tsunami evacuation route activity before returning to Portland.

Cost will be $59/person. Lunch and snacks are included in the price. Like our previous field trips, family and guests are welcome.

For more information, contact Al Bodzin at amb4@lehigh.edu
Mid-Atlantic ASTE Update
Contributed by Sherri Brown

We are pleased to provide more details regarding the upcoming Mid-Atlantic regional meeting of the Association for Science Teacher Education. The conference will be held at the Chetola Resort in Blowing Rock, North Carolina on September 18-20, 2014. The conference will begin Friday morning at 8:00 AM, and will end on Saturday afternoon at approximately 2:00 PM followed by an optional field trip. We hope that you will be able to attend this year’s conference. Last year, we had a very successful conference in West Virginia with over 80 people attending.

The proposal form, conference registration form, and hotel information are available from the 2014 Mid-Atlantic ASTE Regional Conference Webpage: http://ma.theaste.org/meetings/mid-atlantic-aste-regional-conference/. The proposal form is due August 1, 2014. The conference registration cost is $125 for regular members and $105 for graduate students if postmarked by June 30, 2014. This registration includes food for breaks and meals (breakfast Friday and Saturday, lunch Friday and Saturday, and dinner/reception Friday night).

If you are a graduate student, please scroll to the bottom of the conference webpage to review The Mid-Atlantic ASTE Graduate Student Research Presentation Award information. Award details about qualifications and submission are provided.

We look forward to seeing you in the mountains of North Carolina.

Meg Blanchard, Leslie Bradbury, and Lisa Gross
Conference Co-Chairs
**ASTE/NSTA Events**

Contributed by Lisa Martin-Hansen, ASTE President-Elect and Affiliate Representative to NSTA (California State University, Long Beach)

The Association for Science Teacher Education thanks John Tillotson (Syracuse) for his three years of service as the affiliate representative to the National Science Teachers Association (2011-2013). In the ASTE/NSTA affiliate relationship, we represent ASTE on monthly conference calls, attend the national NSTA conference with collaborative ASTE/NSTA sessions, the summer NSTA Science Congress, and create collaborative spaces to engage in professional development at NSTA regional and national conferences.

This year, we have ASTE regional sessions in place in Orlando and Long Beach as well as a fully-booked set of ASTE sessions (ten hours!) for NSTA Chicago 2015. Additionally, the Far-West and Northwest ASTE regions are represented in workshop and poster sessions at NSTA Long Beach regional conference in December. We are currently also requesting meeting space for regional ASTE business meetings as well as a research session, however we still await notification of the acceptance of these requests.

For Chicago 2015, ASTE is sponsoring a special session featuring an ASTE panel of a former recipients of the *ASTE Outstanding Science Educator of the Year* who are sharing how teacher preparation programs are responding to and including the Next Generation Science Standards (NGSS) in teacher preparation. The session titled *Bridging Policy & Practice: Science Teacher Education for the Next Generation includes ASTE members* -- Michael Clough, Deborah Hanuscin, Julie Luft, Joanne Olson, and John Tillotson.

Additionally, ASTE hosts a luncheon with the National Science Education Leadership Association (NSELA) at the national NSTA conference. *Please see the J. Tillotson article regarding NSTA Boston 2014*. We strongly encourage our membership to take advantage of this opportunity as the luncheon includes an invited speaker who addresses an issue or topic of interest to our membership. If you are attending NSTA Chicago, please consider adding this luncheon to your registration.

If you have suggestions or questions regarding our affiliate activities with NSTA, please email or call Lisa at L.martinhansen@csulb.edu or 562-985-4801.
ASTE/NESLA Luncheon Speaker Explores the Long-term Impact of Teacher Quality
Contributed by Lisa Martin-Hansen, CSU-Long Beach and John Tillotson, Syracuse University

As ASTE is an affiliate organization with the National Science Teachers Association, part of our work includes a co-hosted luncheon with the National Science Education Leadership Association (NSELA) organization at the national NSTA conference. This year’s ASTE/NSELA Luncheon, held at the 2014 NSTA Conference in Boston, Massachusetts, featured the invited speaker, Dr. Raj Chetty, Professor in the Economics Department at Harvard University, Co-Director of the Public Economics group at the National Bureau of Economic Research, and Editor of the Journal of Public Economics. Chetty recently became one of the youngest recipients of the John Bates Clark medal given by the American Economic Association to the best American economist under age 40. His talk was titled, “The Long-term Impacts of Teachers: Teacher Value-Added and Student Outcomes in Adulthood” in which he focused on how policy makers advocate increasing the quality of teaching even though there is considerable debate about the best way to measure and improve teacher quality including whether the use of teacher value-added scores serve as a good measure of teacher quality. His research was based on a study of one million children from a large urban school district from 4th grade to adulthood. During the Q&A session following his talk, Dr. Chetty discussed implications for STEM teacher professional development.

Pictured Left to Right: John Tillotson (ASTE, Syracuse University), Raj Chetty (Harvard University), Lisa Martin-Hansen (ASTE, California State University, Long Beach), and Craig T. Gabler (NSELA, Washington Regional Science Coordinator, Educational Service)
Call for Initial ASTE Monograph Proposals
Contributed by Valarie Akerson and Gillian Roehrig

ASTE is seeking initial proposals from ASTE members for a new monograph for the ASTE Series in Science Teacher Education. ASTE monographs are edited volumes that focus on a scholarly theme of interest related to innovation in science teacher education. Recently published monographs include *Practicing What We Teach: Science Teacher Educators as K–12 Teachers*. Monograph themes may include important topics for the field of science teacher education such as technology in science teacher education, inclusion in science teacher education, scientist and science educator collaborations, public policy and science teacher education, or other topics of interest to the ASTE membership. Initial proposals are reviewed by the ASTE Publications Committee followed by the ASTE Board of Directors. If approved, a more detailed proposal will be solicited to move forward with the ASTE publication process with identified contributing chapter authors.

Submission Guidelines

Initial proposals from ASTE members should be no more than 7 pages in length (not including references) and contain the following information:

a. Proposed title

b. Abstract

c. List and qualifications of editors

d. Rationale/statement of need

e. Purpose

f. Proposed format including overview of book sections and chapter ideas. Potential chapter authors may be included.

g. Proposed timeline

Submissions may be sent anytime during the year to Valarie Akerson vakerson@indiana.edu or Gillian Roehrig, roehr013@umn.edu Please contact Valarie and/or Gillian for additional information.
Science Teacher Educators as K-12 Teachers
Practicing what we teach
Series: ASTE Series in Science Education
Dias, Michael; Eick, Charles J.; Brantley-Dias, Laurie (Eds.)
2014, 322 p. 63 illus.

Science teacher educators prepare and provide professional development for teachers at all grade levels. They seek to improve conditions in classroom teaching and learning, professional development, and teacher recruitment and retention.

Science Teacher Educators as K-12 Teachers: Practicing What We Teach tells the story of sixteen teacher educators who stepped away from their traditional role and entered the classroom to teach children and adolescents in public schools and informal settings. It details the practical and theoretical insights that these members of the Association of Science Teacher Educators (ASTE) earned from experiences ranging from periodic guest teaching to full-time engagement in the teaching role.
Science Teacher Educators as K-12 Teachers shows science teacher educators as professionals engaged in reflective analysis of their beliefs about and experiences with teaching children or adolescents’ science. With their ideas about instruction and learning challenged, these educators became more aware of the circumstances today’s teachers face. Their honest accounts reveal that through teaching children and adolescents, teacher educators can also renew themselves and expand their identities as well as their understanding of themselves in the profession and in relation to others.

Science Teacher Educators as K-12 Teachers will appeal to all those with an interest in science education, from teacher educators to science teachers, as well as teacher educators in other disciplines. Its narratives and insights may even inspire more teacher educators to envision new opportunities to serve teachers, K-12 learners and the local community through a variety of teaching arrangements in public schools and informal education settings.

The book can be ordered from the ASTE website for a special ASTE member price of USD 30.
In an effort to continue to improve our flagship journal, *Journal of Science Teacher Education*, the Board voted to approve a motion from the Publications Committee to merge the Elementary Science Teacher Education section into the main journal. Through long and thoughtful discussions it was decided that conceptually it makes more sense to include PreK-16 science teacher education manuscripts within one cohesive journal, rather than parse out the elementary articles into a segregated section. In its current form, one may erroneously believe that the elementary articles were being highlighted in this section, or rather that the elementary articles were segregated for some reason from the main journal. We believe it best for our journal and our ASTE community for all science teacher education manuscripts from all grade levels to be given equal “status” and for the separate section to be subsumed within our journal. This will enable us to sharpen the journal’s focus on PreK-16 science teacher education, which is required for future ISI indexing applications. This change will take place over the course of the next year and a half, with the transition completion to coincide with the conclusion of Elementary Section Teacher Education (ESTE) Section Editor, Deborah Hanuscin’s contract on December 30, 2015. The Board wishes to acknowledge the excellent work done by Debi in the ESTE section.
Research on Science Teacher Education: Myths and Misconceptions
Contributed by Judith Sweeney Lederman and Norman G. Lederman
Co-Editors, Journal of Science Teacher Education

Happy New Year!!! We hope that those of you who attended the ASTE meeting in San Antonio found it as professionally useful as we did. Based on conversations we had during the two workshops on publishing sponsored by the Publications Advisory Committee, and a trend in submitted articles we have seen during our short term as Editors, we think there remains some confusion about what types of manuscripts are appropriate for publication in JSTE.

Our organization has been dedicated to the education of science teachers since 1932. Originally, the organization was called the Association for the Education of Teachers in Science (AETS). The name was often criticized for being awkwardly stated and in the 1990s was changed to the Association for the Education of Teachers of Science. Although the original name of AETS seemed awkward, it was really an accurate description of the focus of the organization’s activities at that time, which were primarily about teaching science teachers more science. The initial focus was heavily weighted on subject matter with little attention to pedagogy. Interestingly, even though "of" had been substituted for "in", most of the organization’s literature, banners, etc. still maintained the "in" in our organization’s name. In any case, the balance between subject matter and pedagogy has become much more equitable over the years. Still, many continued to have trouble with what our organization’s name communicated and as we entered the 21st century the name was changed again to the current Association for Science Teacher Education (ASTE).

Regardless of our continuing schizophrenia about the name of our organization, AETS/ASTE has always been dedicated to science teacher education in one form or another. Interestingly, in the early 1990s, many of our colleagues in science education were of the opinion that teacher education was more "generic" education than science education. At that time, "teacher education" was not a strand at NARST meetings, but has now grown to be the largest strand (actually two strands) in the organization. The recognition of teacher education as being a vital part of science education, as opposed to general pedagogy, was at least partially solidified by the growing popularity of pedagogical content knowledge, as described by Shulman in 1986.

Today, ASTE is the primary international organization dedicated to science teacher education and our journal, JSTE, is virtually the only journal with such a specific focus. However, just as we have been schizophrenic about our organization’s name, there continues to be confusion about the meaning of science teacher education. Throughout the existence of JSTE, a significant number of manuscript submissions are returned to authors because they do not focus on science teacher education. Further, even the briefest perusal of JSTE volumes in past years shows that manuscripts
focusing on topics other than science teacher education have found their way into the pages of our journal.

So, the question that must be answered is, "What makes an article (theoretical or research) on science teacher education an article on science teacher education?" This question goes back to the very roots of our organization’s focus of concern. Perhaps the following examples will help clarify the situation:

The Next Generation Science Standards (NGSS) have replaced the perennial phrase of scientific inquiry with science practices. This change has already become confusing to many teachers and so an ambitious researcher investigates what a large sample (i.e., n=125) of teachers perceive as the similarities and differences between the two constructs. After all, if a change in teaching practices is expected to occur, teachers will need to know what is meant by the NRC’s change in terminology. The study involves both an initial paper and pencil questionnaire, followed by interviews of 20% of the sample. The questionnaire was carefully developed by a team of experts on science teaching and assessment and interview approach was used to insure that the researcher has accurately interpreted questionnaire responses. The data are analyzed and it is clear that teachers do not have an accurate understanding of the differences and similarities between scientific inquiry and science practices. The implications of the findings are discussed in terms of teaching practice, teacher education, and future research. The manuscript is sent to JSTE for consideration, but it is returned as not being research on teacher education. WHY?

The described study focused on teachers' knowledge and perceptions. There was no attempt to impact teachers’ knowledge or perceptions and there was no connection made between aspects of the teachers’ professional development experiences or preservice education. In short, the study had no focus on teacher education. For sure, the teachers’ knowledge and perceptions came from somewhere, but the source was never studied in the investigation. The study has implications for teacher education, but this is true of just about any science education study. For the investigation to be a study of science teacher education, there needs to be some data collection that relates the data collected on teachers’ knowledge and perceptions to a professional development program or teacher education experiences. We are not saying that this study is unimportant, and we predict that you will soon see studies of this type very appearing in other journals. What we are saying is that the study does not a focus on science teacher education and is, therefore not appropriate for publication in JSTE.

In another study, a researcher is interested in how teachers are implementing the NGSS emphasis on engineering practices. The motivation for the research comes from the researcher's concern that most teachers probably have never taken any engineering courses and are, therefore, not knowledgeable about engineering in general, let alone how its practices relate to science. A sample of five biology teachers from two nearby schools are selected for intensive classroom observations.
The researcher observes at least one class period for each of these teachers once week for a full semester. General field notes are used for observations of instruction rather than a well-defined observation coding scheme. After the data are analyzed, the researcher arrives at the conclusion that most teachers rarely address any engineering practices in their science instruction and when they infrequently do so it is in the form of a listing of practices that the teacher connect to the instructional activity just completed. Naturally, the researcher discusses the implications of the research for preservice and inservice teacher education. An article is written and sent to *JSTE* for consideration. The article is returned to the author because it is not a study of science teacher education. WHY?

The study described is simply a study of teaching. In this case, the focus is on how well teachers are implementing what is recommended by the *NGSS*. No doubt this is an important investigation and we again predict you will soon see studies of this nature. However, there was no focus or data collection on any professional development program or preservice program component designed to help teachers address engineering practices. For this study to be considered a study of science teacher education there needs to be some connection between teachers' instructional behavior and some mechanism designed to influence teaching practice. Again, we are not saying this study is poor and unimportant. We are just saying that it is not consistent with the focus of *JSTE*.

Okay, so you may be thinking that it is easy to illustrate research studies that are important, but not appropriate for *JSTE*. But, can you show me examples that are appropriate for publication in our journal?

Let’s consider the first study on teachers' knowledge and conceptions. In an alternative scenario, the researcher could have developed a series of professional develop workshops on scientific inquiry and science practices. The workshops model instruction that illustrates the difference between the two constructs and these model lessons are followed by a de-briefing. In addition, teachers are required to develop lesson plans that appropriately address science practices within science instruction on "traditional" topics. Teachers are pre and post tested using the survey of their knowledge and perceptions of scientific inquiry and science practices. The data are analyzed and the researcher discusses changes, or lack of change, in teachers’ knowledge and perceptions as related to the professional development workshops. This is a study of science teacher education and it would be considered for publication in *JSTE*.

The second study focused on how teachers were integrating engineering practices into their science instruction. An alternative to the described investigation could be as follows:

A researcher is concerned about how well teachers are equipped to address engineering practices in their instruction. She believes that preservice programs will need to change their current offerings. However, it is fully recognized that not all programs will be the same. The researcher selects a sample of teachers from two science methods courses at two different universities. There
approximately 30 preservice teachers in each of these classes so the researcher, out of necessity, decides to focus on five preservice teachers from each of the methods courses. The researcher has not been involved in the development of either of these courses, but her colleagues each claim that they are trying to help their preservice teachers integrate engineering practices into their science instruction. Thus, this is not an experiment, but rather an ex-post facto design. The researcher arranges to make intensive field observations in two science classes for each of the 10 preservice teachers. In addition, the researcher has observed each of the methods classes on three occasions and has collected any relevant artifacts from the instructors. The researcher qualitatively analyzes her field notes and finds a pattern of several clear differences between the teachers from the two methods classes. The differences in teachers’ integration of engineering practices are related to specific activities observed by the researcher in the two methods classes and implications for teacher education are derived. An article is written and submitted to JSTE for consideration. The manuscript is considered appropriate for JSTE and it is sent out for review.

In this variation of the second study, there was an attempt to focus on science teacher education. In this case, the focus was on components of a methods class and how it may have impacted teachers’ integration of engineering practices.

We trust these examples have cleared the waters and not muddied them further. In our minds, the situation is analogous to discussions of research on teaching versus research on learning. It all boils down to the unit of analysis. Are you studying the teacher or the student? Studies of science teacher education have a focus on some aspect of teacher preparation or professional development. Only having implications for science teacher education is not enough. There must be significant attention to one or more of the various mechanisms that promote change in teachers' knowledge, beliefs, and/or practices. We are not saying that studies must be "experiments." Connections between various forms of teacher education and teachers' knowledge, beliefs, and/or practices can be made in studies adopting virtually any design and/or paradigm.

Hopefully, you will find this explanation helpful as you consider the appropriateness of your future manuscripts for submission to JSTE. As usual, if you have any questions or concerns, please feel free to contact us at JSTE@iit.edu.
Position Announcement

Assistant Professor of Education – STEM

Assistant Professor at Buena Vista University

Responsible for teaching elementary and secondary methods courses, to include Elementary Math Methods, Secondary Math Methods, Elementary Science Methods, Secondary Science Methods, and Instructional Technology on campus or in a hybrid manner, including distance education. Collaborate with adjunct instructors and teach courses to students in the University Graduate and Professional Studies program through distance education. Supervise student teachers at the elementary and/or secondary level and serve as an academic advisor to elementary education majors and secondary math or science education students. Utilize instructional technology to enhance learning for all assigned courses. Build and enhance partnerships with PK-12 education throughout the state and provide service to university and surrounding community. May involve teaching university-wide first year seminar course as well as guiding education students in research, professional presentations, and study abroad.

Contact Info:

Please send resume to Meghann Kehoe, Human Resources Manager, Buena Vista University, 610 West Fourth Street, Storm Lake, IA 50588.
CITE Call for Proposals

Submit Today to CITE Journal – Science Education Section! [http://www.citejournal.org](http://www.citejournal.org)

Does your work combine Science Education and Technology? Then CITE – Contemporary Issues in Technology and Teacher Education Journal is a great target for your work. The CITE Science Education Section is a collaboration between ASTE and the Society for information Technology and Teacher Education. Page count limits frustrating you? Want to include video or interactive technologies in your paper? Do you have screen captures that really add to your story? Then CITE Journal Science Education Section might be the right place to submit your work! CITE is open source and online and is very visible in Google scholar results!

For more information contact: Dr. Theresa Cullen, University of Oklahoma tacullen@ou.edu, CITE Journal Science Education Editor. We are looking for submissions and new reviewers. We have room for your work!

Manuscript Information

Manuscripts should directly address technology within science teacher education. Papers may focus on science teachers at any career stage including preservice, new, continuing, or teacher leaders and any grade level including college science teachers. Manuscripts that examine how technologies can improve programs, courses, or professional development as well as collaboration and partnerships are welcome. Papers that describe innovative approaches to technology enhanced science teacher education are specifically encouraged.

Submission Guidelines

1. Go to [http://www.citejournal.org](http://www.citejournal.org)
2. Click on Submissions
3. Login with your AACE login information or create a new login.
4. Select ‘submit article’. Be sure to select CITE (science), as the journal.
Changes to the STEM Teacher Preparation Requirements in Kansas
Contributed by Daniel J. Bergman

Recent Kansas legislative action on school finance reform (HB 2774) included several “add-on" items that could dramatically change educational policies in the state. The action receiving the most attention has been removing public school teachers’ rights for due process hearings, essentially negating any type of tenure (Lowry, 2014). Another item needing serious attention, however, is the added language regarding licensure for teachers in the areas of STEM (science, technology, engineering, and math). The following statement comes from HB 2774’s Section 7:

Notwithstanding any other provision of law, an applicant shall not be required to complete a teacher preparation program prior to licensure as a teacher if . . . . the applicant has obtained at least a bachelor’s degree in the subject matter area of science, technology, engineering, mathematics, finance or accounting. (KSL, 2014, p. 6, emphases added)

Evidently, this Section 7 add-on would extend teaching licensure to individuals that have STEM-related backgrounds but NO preparation or experience in teaching.

Such a proposal is problematic and dangerous to the quality of education in K-12 schools. One would not simply give a medical license to someone with a biology degree. The expectation is that doctors and related medical professionals partake in extensive preparation and training in the specific skills and principles of medicine, ethics, and patient care. In the same way, classroom teachers must be held to high expectations of formal preparation and training in the pedagogical skills, professional responsibilities, and psychological principles of learning and teaching.

Current teacher licensure requirements include extensive preparation and coursework in both content (e.g. science, math, etc.) and education (pedagogy, psychology and learning, methods, assessment, management, etc.). Extensive research has found that, despite some debates on which area is more critical, a general consensus supports this two-pronged preparation approach to foster effective teachers and successful student learning (e.g. Abell, 2007; Borrowman, 1956, 1965; Gage, 1972; Goodlad, 1990, 1994; Harper, 1939; Ingersoll, Merrill & May, 2012; National Research Council, 2007).

The Kansas State Department of Education (KSDE) currently requires a minimum of 30 credit hours of content coursework (e.g. science, math) for prospective teachers seeking licensure to teach a particular subject. In most cases, teacher preparation programs in universities and colleges require even more credit hours and coursework in content subjects. For example, Wichita State University requires 43 credit hours of chemistry and related science courses for the Chemistry Education (gr 6-
12) licensure program. Students often are within a handful of classes from getting a second undergraduate diploma in straight chemistry content. In some instances, students complete two bachelor’s degrees: one in science (or math) education and one in science (or math) content. Fort Hays State University requires all of its secondary science education candidates to complete both degrees.

One primary concern may be finding enough teachers to fill high-needs classrooms (e.g. STEM areas). In this case, there are multiple endeavors in the state of Kansas that recruit and prepare individuals to become effective educators.

- Wichita State University and Fort Hays State University both have "Transition to Teaching" alternative licensure programs, in which individuals who already possess a content degree and work experience can be classroom teachers while completing education-related coursework (pedagogical methods, psychology, etc.).
- Pittsburg State University also has an alternative licensure option, in which individuals with a bachelor’s degree in a content field can earn a Master of Arts in Teaching (MAT) along with their teaching license.
- Another program is UKanTeach at the University of Kansas, in which individuals complete both a degree in science or math content and complete a modified teaching certificate program.
- Kansas State University offers a graduate certificate program in which individuals already possessing a bachelor’s degree in their content area can earn a teaching license in one year. These are just some examples of the many options for preparing teachers with both subject content and teaching skills. Beyond Kansas, numerous other programs prepare individuals who eventually come to teach in the state.

Science teacher educators are encouraged to monitor similar licensure changes in their states or regions. Please advocate for your programs and educate your citizens and leaders about the opportunities and results. Moreover, encourage policymakers to seriously consider ramifications of filling our schools with individuals having no formal preparation in child psychology, adolescent development, teaching methods and strategies, foundations of education, or professional ethics. Such a scenario is not in the best interest of our children and future.

References:


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**Newsletter Information**

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**Issue Items due by**

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Editors: Ron Hermann and Rommel Miranda

Email: [rhermann@towson.edu](mailto:rhermann@towson.edu) or [rmiranda@towson.edu](mailto:rmiranda@towson.edu)

Phone: 410-704-3011 or 410-704-3014