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Dr Penny Gilmer
Chair ASTE Awards Committee
Florida State University
Tallahassee, FL 32306

Dear Penny,

It is an honor to nominate Dr. Kenneth Tobin for ASTE's *Outstanding Mentor Award*. Dr. Tobin's CV, this letter and the three supporting letters can be accessed at <http://www.udel.edu/kscantle/ASTEMentorTobin.htm>

In 1973, Dr. Tobin began his career in science teacher education by studying how teaching mediated science learning. Since then, he has consistently been involved in investigations that have spanned K-16 education, with a primary interest in high school science and the implications for science teacher education. Throughout his career, Ken has mentored science teachers, graduate students, beginning scholars, and colleagues.

Ken's contribution as a mentor is impressive, because of his extent and impact on others within science teacher education, graduate students, mentees, and collaborators. He has supervised masters and doctoral studies, student teachers during their practicum experiences, and provided leadership through his mentoring activities to many scholars within science education. His numerous publications and presentations have introduced science educators to key areas such as wait time, target students, the use of qualitative research methodologies in science education, constructivism, coteaching as an alternative approach to student teaching, urban education, and the application of socio-cultural theory to science education. Ken has collaborated with colleagues within the faculties of Education and Arts and Sciences to conduct research on improving science teacher education. Moreover, his research has significantly influenced scholars outside of science education as evidenced by his appointment as the Presidential Professor in the Ph.D. Program in Urban Education at the Graduate Center of the City University of New York.

In the following sections, I will discuss the highlights of Dr. Tobin's mentoring through his encouragement of science educators in their professional associations, his contribution to the knowledge base of science teacher education, and his support of his mentees professional growth as science educators.

Encouraging Participation in Professional Associations Related to Science Teacher Education, Including ASTE

Ken is an active participant in several professional associations, and for more than 20 years in addition to his activity within ASTE, he has participated in AERA (especially Division K) and NARST. During his decade at Florida State University, while Department Head of Curriculum and Instruction, Ken was involved in elementary, middle, and high school teacher education which necessitated close collaboration with colleagues in Arts and Sciences, and also conducting research on teaching and learning at the college level. Throughout his career, he has collaborated with colleagues in Arts and Sciences to educate them on the nuances of education research and to acknowledge those faculty members as science teacher educators. He has also encouraged the Arts & Sciences faculty to present and participate in our professional organizations.

Ken assumes that his colleagues and students will present their research and discuss their practice at professional meetings such as ASTE, NARST and NSTA. He provides financial support for his students and the teachers he works with to attend those meetings. Before a professional meeting, Ken's research group meets on a regular basis to discuss and present ideas, to practice their presentations, and to receive and provide critical feedback. Ken's commitment to providing his mentees professional development experiences through attending and presenting at conferences also extended to the student-researchers in his Philadelphia, DUS (Discovering Urban Science) group. During a three-year period twenty young women and men, considered 'high-risk' students at their inner-city schools worked as DUS student-researchers. Ten of these students co-presented with Ken and/or his graduate students at conferences such as AERA, NARST and the University of Pennsylvania's Ethnography Forum. The students prepared video vignettes, power points and talks under Ken's guidance. Their powerful presence and voices gave credence to their science teacher education projects, such as developing science curriculum of interest to urban youth, becoming teacher educators by working with student teachers on 'teaching kids like them', and the development of science skills. Many of the DUS students graduated high school, and are now enrolled in college, in part, because of Ken's expectation that they would participate in science teacher education's professional associations.

Encouraging Contributions to the Knowledge Base of Science Teacher Educators

Ken encourages contributions to the knowledge base of science teacher education through the example he provides in the importance of conducting research in science education and making the extra effort required to publish those studies. Since the early 1980s, Dr. Tobin has published over 165 articles in prestigious journals (such as *Teachers and Teaching: Theory and Practice*, *Journal of Teaching and Teacher Education*, *Action in Teacher Education*, *Learning Environments Research*, *Journal of Research in Science Teaching*, *Science Education*, *International Journal of Science Education*, *Science and Education*, *Journal of Moral Education*, *Educational Technology Research and Development* and *Theory Into Practice*), as well as twelve books and more

than 70 chapters in books published by well-known publishing houses such as, Erlbaum, Peter Lang, Greenwood, and Kluwer. In addition, Ken has given more than 270 paper presentations at national and international symposia and conferences.

In the 1990s, Ken edited and co-edited three major books which continue to impact researchers in science education. The first, coauthored with Jane Butler Kahle and Barry Fraser, *Windows into science classrooms: Problems associated with higher-level learning*, paved the way for science educators to understand how qualitative research methodologies could be used to investigate the socio-cultural environment in science classes and how that research could impact teacher education. Several years later, Ken's edited book on constructivism and science education, *The practice of constructivism in science education*, provided another invaluable resource to the field. The third seminal book Ken published in 1998 with Barry Fraser was the *International Handbook of Science Education*.

Moreover, Ken provides opportunities for his co-researchers to publish. Recently, he has two co-edited books, *Improving urban science education: New roles for teachers, students, and researchers* and *Teaching together, learning together. Improving urban science education* is the culmination of research that Ken and his group, which included graduate students, high school teachers, administrators, and students, conducted in urban schools. While, *Teaching together, learning together* focuses on coteaching as a model for teacher professional development, and the implementation of coteaching in various parts of the United States, and countries such as Northern Ireland and Australia.

Ken is also the editor of a forthcoming text entitled, “*An encyclopedia of science education*”. This book has over 70 chapters and provides teachers, parents, policymakers, science education students and others an overview of the key issues in science education. Chapter authors include teachers, graduate students, scientists from industry and academe, school and district administrators and science educators at a various stages of their academic careers.

In addition to his contribution to science teacher educators' knowledge base through thirty years of research, Ken has supervised more than 35 doctoral dissertations and 42 masters theses. A majority of those students have also published their research. Ken uses his expertise in conducting and in communicating research to mentor his students and develop their skills in these areas.

Providing Opportunities for Professional Growth

In spite of his accomplishments, Ken is exceptionally generous with his time and unselfishly shares his ideas, insights, and innovations with other faculty, graduate students, and teachers. Ken is never too busy to help others write proposals, or to develop research papers and presentations, help student teachers understand the nuances of learning to teach in an urban setting, or work with school administrators and teachers to improve the teaching and learning of science. Moreover, as a senior and one of the most

respected scholars in the field, Ken is always available and open to collaborate, mentor and advise colleagues, especially those from the junior ranks. At conferences, Ken will spend time conversing with graduate students and his peers. He is always willing to mentor colleagues regarding research, presentations, grant proposals or career plans and paths.

Mentoring is an active, not passive, enterprise. Because Ken understands the steps one needs to take to achieve academic success, actively works to nominate colleagues for various committees and awards. He also provides high school students, teachers, graduate students, beginning faculty and those scholars outside of science education opportunities to become engaged in our profession through his mentoring. One of his doctoral students, Gale Seiler observed the following about Ken's mentorship:

Ken supported my involvement in presenting at conferences, from ASTE to AERA, NARST, and the Ethnography Forum. My first time at a national conference, he invited me to attend sessions in which he was presenting. And he introduced me as his co-researcher and strategically re-directed questions from the audience to me for response. This may not seem that consequential, but to me as an outsider to academia, it was just the right way to become involved in the discourse of science education and conference participation. Ken always found ways to support and encourage to the right degree. I wrote the following in the Acknowledgements of my dissertation:

My utmost gratitude goes to Ken Tobin, my advisor. Without his support and mentorship I could not have completed the type of research I wanted to do. From the beginning he expressed his confidence in me – a high school teacher trying to become a researcher. While I was writing the dissertation he seemed to sense when to push and when to back off. When I was lost he inevitably was able to provide just what I needed to get me going again – support, an idea, an observation, or a poignant article to read. Most importantly Ken introduced to me the ideas of radical doubt and moving beyond master narratives. He did this in his research and in the way he is as a person. (Gale Seiler, 2006).

Dr. Kenneth Tobin is one of the world's leading science educators and his outstanding mentoring because of his efforts to include faculty, teachers, and students in all aspects of our field. Ken is a deserving recipient of ASTE's *Outstanding Mentor Award* because of his ability to translate his research into practice with a wide variation of participants, from urban high school students to teachers, to research faculty in science departments at public, land grant, or Ivy league institutions. He provides avenues for diverse participants to enter and to remain in science education, and mentors those participants throughout their careers.

Sincerely,



Kathryn Scantlebury, Ph.D.
University of Delaware

Associate Professor of Chemistry & Biochemistry