From Occupation to Profession: A Perspective on the American Association of Chemistry Teachers

ARTICLE *in* JOURNAL OF CHEMICAL EDUCATION · DECEMBER 2013

Impact Factor: 1.11 · DOI: 10.1021/ed400764z

1 AUTHOR:

Gregory T Rushton
Stony Brook University
48 PUBLICATIONS **510** CITATIONS

JOURNAL OF CHEMICAL EDUCATION

Commentary

pubs.acs.org/jchemeduc

From Occupation to Profession: A Perspective on the American Association of Chemistry Teachers

Gregory T. Rushton*

Department of Chemistry and Biochemistry, Kennesaw State University, Kennesaw, Georgia 30144, United States

ABSTRACT: With the advent of a new national organization for chemistry teachers comes a much-needed catalytic step in the shift to professional status for members of this community.

KEYWORDS: *General Public, High School/Introductory Chemistry, First-Year Undergraduate/General, Public Understanding/Outreach, Standards National/State*

In 1995, I was offered my first chemistry teaching position at a rural high school outside of Columbia, South Carolina. On my first day of preplanning, I was handed the most recent edition of Zumdahl's textbook for my advanced placement chemistry class and one from Pearson for my on-level courses. I was shown the chemistry stockroom behind my classroom, which was stocked with many chemicals I could not recognize and unfamiliar equipment that I thought could have been taken from the sets of some black-and-white science fiction movies of years past. The only additional "curriculum resource" I remember having was a four-drawer black filing cabinet with a few manila folders containing some compound naming worksheets, crossword puzzles, and word searches. That year, the only other chemistry teacher was also a first-year hire with only a few college chemistry courses under her belt, who apparently felt as overwhelmed as I did teaching her load of honors chemistry classes. I remember really struggling that year with my self-confidence, wondering if I had made the wrong choice to leave an industrial position in Southern California for a high school teaching career in the South given my consistent inability to communicate chemistry concepts coherently and accurately with my eager yet skeptical students.

By the end of my second year, I had met a few other chemistry teachers in my school district and had learned how to do almost half of the homework problems I was assigning without needing the teacher's edition to give me the right answer first. I had also gathered the requisite materials and had deciphered the instructions for approximately 10 laboratory investigations for my yearlong classes. But I was also quickly coming to the conclusion that in many ways, I perceived myself as a failure at what I was trying to do, and thus began to search for other positions at other schools and even outside of teaching.

In my current position, I work closely with 30−50 preservice, induction, and veteran chemistry teachers each year to assist them with their content and pedagogical practices and hear from them similar stories of frustration mixed with the ecstasy of seeing a student's face light up with excitement or self-discovery on a day when the lesson hits its mark. These teachers' up-and-down journey toward a sense of accomplishment, empowerment, and joy in their daily work often mirrors my own, which is why I have so much hope and anticipation around the American Chemical Society's recent decision to financially support the formation of a professional association aimed at recognizing and supporting the 35 000+ precollege chemistry teachers in the United States.

At the core of my personal vision for this organization is the realization of a unique professional identity for this community that resonates with the values, beliefs, aspirations, challenges, and interests of its members. The construct of this identity, which should be crafted, refined, expressed, and valued internally first, may be a key step toward moving the precollege teaching career from the status of "occupation" to "profession". The shift to professional status, in my view, is *the* essential component to achieving a robust, stable, and highly qualified chemistry-teaching workforce, something that our nation has struggled with realizing for at least the last 30 years, but probably much longer than that. A national association of precollege chemistry teachers, being sanctioned, supported, and functioning in collaboration with the largest scientific society in the world lends almost instant credibility to the teaching profession as our STEM graduates (and faculty) consider options for careers in their field of study. Instead of being perceived by some as a "fallback" position if the "real" career dream is not attained, the career can move into the spotlight as a legitimate option for our best and brightest students. As the external and internal perspective on the precollege teaching career changes, so will how the teachers perceive *themselves*, as professionals. Not optional to our school systems; instead, essential. Not a stepping-stone to the greener pastures of higher education, industry, business; instead, a destination in itself. Not an occupation with its members' practice and decision-making dictated to by outsiders; instead, a profession whose best practices are decided within the community and marked by the appropriate balance of autonomy and self-policing. As the paradigm shift in identity occurs within the community, I expect the practices to follow: it will become normative to meet with others in the profession at the local, regional, and national levels to share, argue, and reify the standards of practice based on data and evidence collected from the "clinical" setting of the K−12 classroom. Articles, commentaries, action research, and innovative curricular materials will be written and constructed by the profession's practitioners, working alongside constitu-

Published: December 24, 2013

dx.doi.org/10.1021/ed400764z | *J. Chem. Educ.* 2014, 91, 8−9

encies and communities with related interests and goals. The divide that I too often perceive between chemists working in other professional settings and those in the precollege context will fade and, in its place, rich communities of practice will rise to prominence.

Almost 20 years ago, I watched enviously as some of my physics and biology colleagues would head off to an AAPT or NABT conference and return with a fresh excitement and outlook for their present and future professional work in their disciplines; now, I can envision a time in the very near future where our time has come, and with it a universe of possibilities for progress toward achieving amazing outcomes with ourselves and our students. Thank you to all those who tirelessly sought and dreamed for what may have appeared to be just out of reach...your work is now for me a celebration and a testament to your persistence and dedication of chemistry teachers like me.

AUTHOR INFORMATION

Corresponding Author

*E-mail: grushton@jce.acs.org.

Notes

The authors declare no competing financial interest.

ACKNOWLEDGMENTS

Special thanks to the American Chemical Society task force members and affiliates who worked to realize this historic achievement.