

Hope College

## Hope College Digital Commons

---

19th Annual Celebration of Undergraduate  
Research and Creative Activity (2020)

Celebration of Undergraduate Research and  
Creative Activity

---

4-17-2020

### Inorganic Chemistry Faculty Value Student-Centered Learning, but Time Constraints and Student Evaluations Discourage Change

Jenna Savage  
*Hope College*

Hope Heideman  
*Hope College*

Follow this and additional works at: [https://digitalcommons.hope.edu/curca\\_19](https://digitalcommons.hope.edu/curca_19)

 Part of the [Inorganic Chemistry Commons](#)

---

#### Recommended Citation

**Repository citation:** Savage, Jenna and Heideman, Hope, "Inorganic Chemistry Faculty Value Student-Centered Learning, but Time Constraints and Student Evaluations Discourage Change" (2020). *19th Annual Celebration of Undergraduate Research and Creative Activity (2020)*. Paper 20.

[https://digitalcommons.hope.edu/curca\\_19/20](https://digitalcommons.hope.edu/curca_19/20)

April 17, 2020. Copyright © 2020 Hope College, Holland, Michigan.

This Poster is brought to you for free and open access by the Celebration of Undergraduate Research and Creative Activity at Hope College Digital Commons. It has been accepted for inclusion in 19th Annual Celebration of Undergraduate Research and Creative Activity (2020) by an authorized administrator of Hope College Digital Commons. For more information, please contact [digitalcommons@hope.edu](mailto:digitalcommons@hope.edu).

## RESEARCH QUESTION

- How do inorganic chemistry faculty make choices about teaching?

## INTRODUCTION

- IONiC VIPER
  - Community of inorganic chemists
- 5-year NSF grant to study the impact of IONiC VIPER on inorganic chemistry faculty change (Figs. 1, 2)
- Project collects data from:
  - Classroom observations
  - Student affect surveys
  - Course artifacts
  - Student learning
  - Faculty interviews (Hope College)

## THEORETICAL FRAMEWORKS

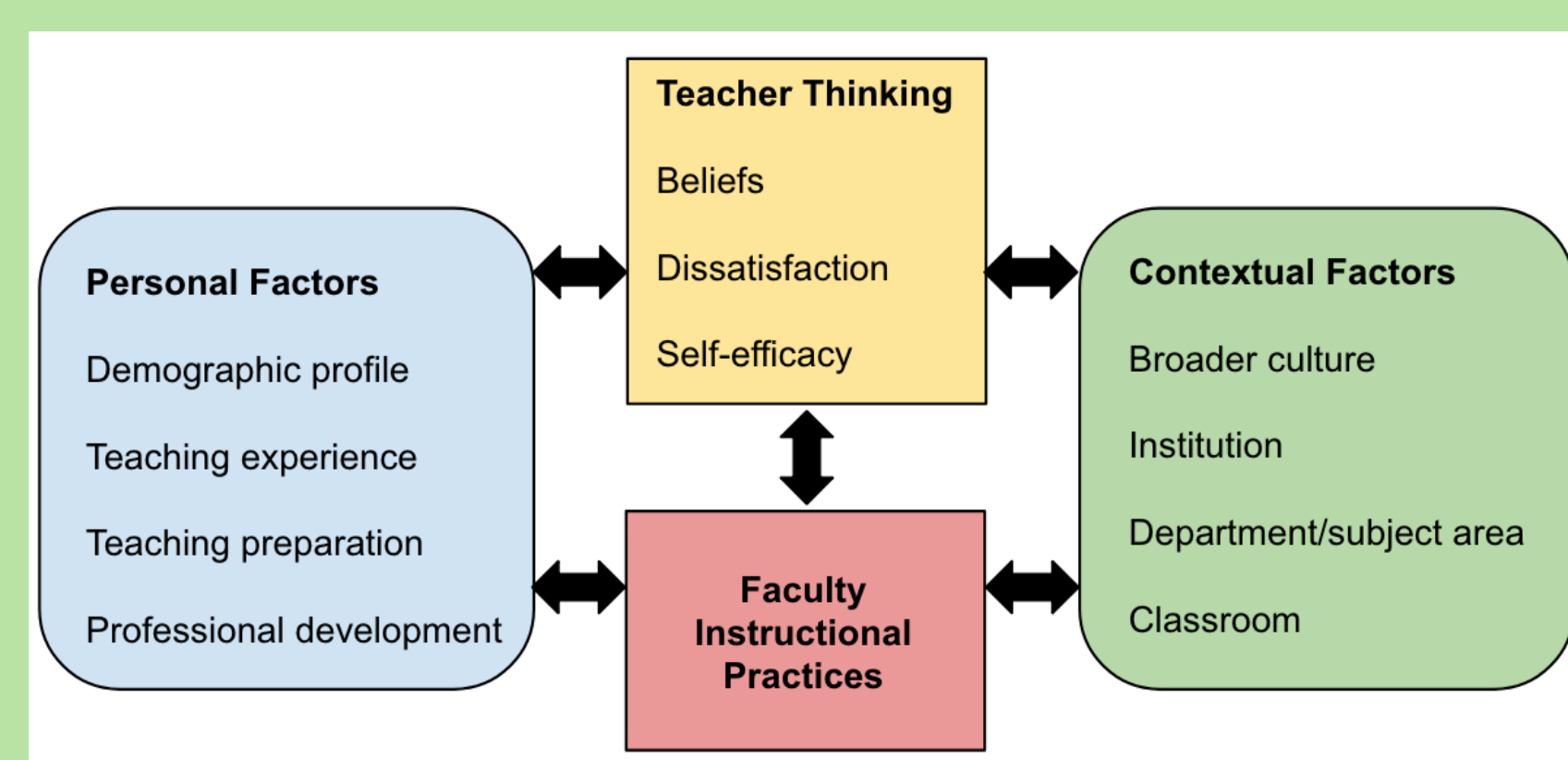


Figure 1. Components of the Teacher-Centered Systemic Reform (TCSR) model. Adapted from Stains, Gess-Newsome et al.

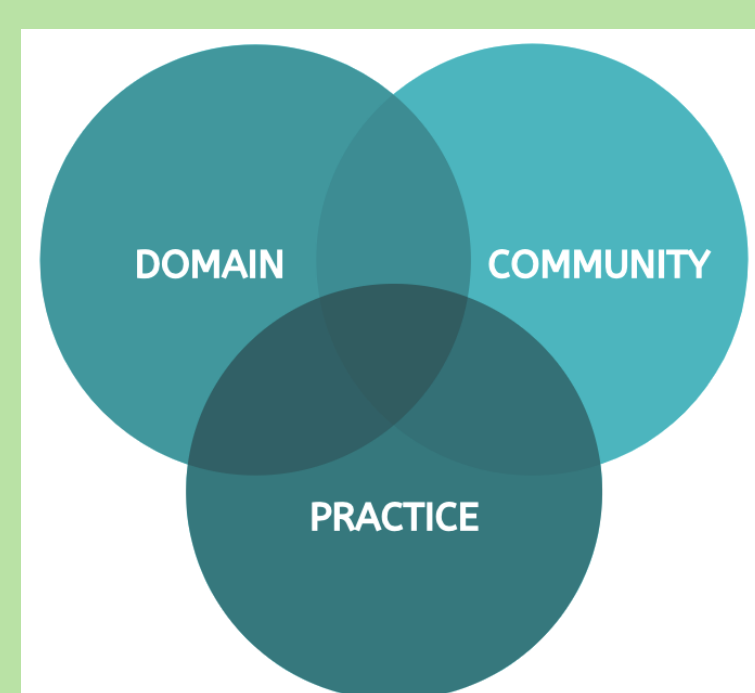


Figure 2. The three essential characteristics of a community of practice (CoP). Adapted from Wenger-Trayner & Wenger-Trayner and Kastens & Manduca.

## METHODOLOGY

- HSRB training
- Recording of researcher biases
- Pre-interview surveys
- 20 faculty interviews
- Transcription
- Coding in NVivo

## REFERENCES

- Gess-Newsome, J., Southerland, S. A., Johnston, A., & Woodbury, S. (2003). Educational Reform, Personal Practical Theories, and Dissatisfaction: The Anatomy of Change in College Science Teaching. *American Educational Research Journal*, 40(3), 731-767.
- Kastens, K., & Manduca, C. (2017). Leveraging the Power of a Community of Practice to Improve Teaching and Learning about the Earth. *Change: The Magazine of Higher Learning*, 49(6), 14-22.
- Stains, M., Pilarz, M., & Chakraverty, D. (2015). Short and Long-Term Impacts of the Cottrell Scholars Collaborative New Faculty Workshop. *J. Chem. Educ.*, 92(9), 1466-1476.
- Wenger-Trayner, B. & Wenger-Trayner, E. (2015). Introduction to communities of practice, [wenger-trayner.com](http://wenger-trayner.com).

We would like to thank NSF-IUSE #1726162 and the Hope College Department of Chemistry for their support of this project.

Inorganic chemistry faculty value student-centered learning, but time constraints and student evaluations discourage teaching reform.

## RESULTS

- Student-Centered, Active Learning
  - "Participation in VIPER workshops has encouraged me to try to increase literature discussions and in class work more."
  - "I encourage group work, and I give them a lot of resources, including lecture videos for hard lectures, and annotated lecture notes."
- Time Constraints
  - "There's only so many hours in a day, and I still want to go home and have some life outside of work."
  - "When I get stressed or rush, I find myself going back to lecture."
  - "I think there's a pressure of getting through a certain amount of material and ... the fastest way to get through it is by lecturing."
- Student Evaluations of Teaching
  - "I think the evaluations are okay, and I keep mentioning them because, you know, even these tiny comments just kind of hurt."
  - "Teaching evaluations, especially student evaluations, are critical for annual evaluation, tenure, and promotion."