

# Motivations that Matter

## Exploring Why SBAE Teachers Engaged in NGSS and 5E-Based Professional Learning

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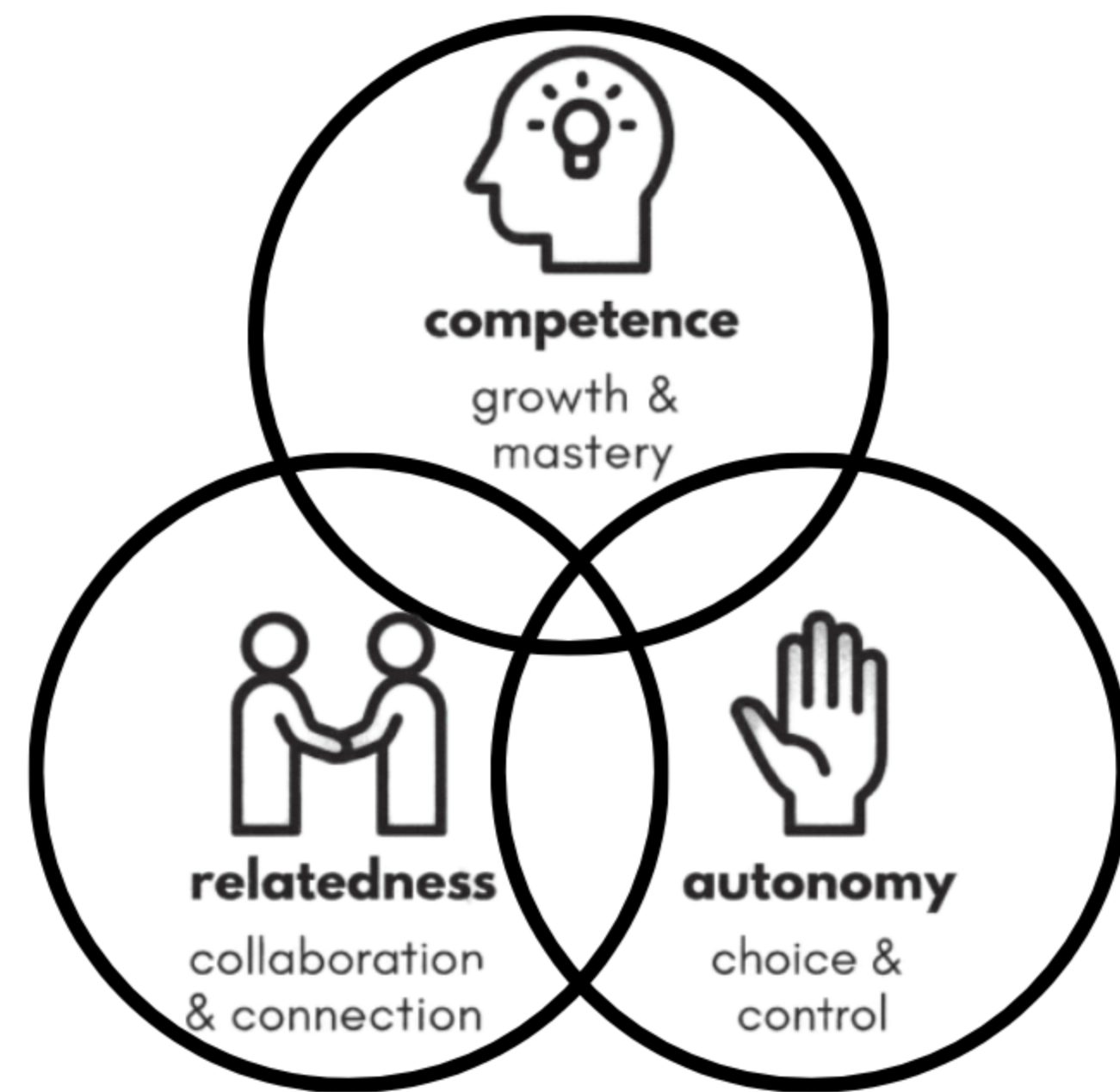
### Introduction & Need

- **Overview:** This study explored what motivated SBAE teachers to engage in a NGSS and 5E-based workshop entitled "Storylines that Stick: Real-World Agricultural Phenomena Meets NGSS."
- **Need:** understanding what drives teacher participation in professional learning helps ensure future opportunities are meaningful for teachers and teacher educators.
- **NGSS integration:** within school-based agricultural education (SBAE) has become increasingly important (Barrick et al, 2018 ).
- **5E:** The 5E instructional design model (engage - explore - explain - elaborate - evaluate) is rooted in constructivist learning (Bybee et al., 2015), and is highlighted as a preferred methodology for instruction within the NGSS (National Research Council, 2015).

### Framework

#### Ryan & Deci's Self-Determination Theory (2017)

Humans are most motivated when these three needs are met.



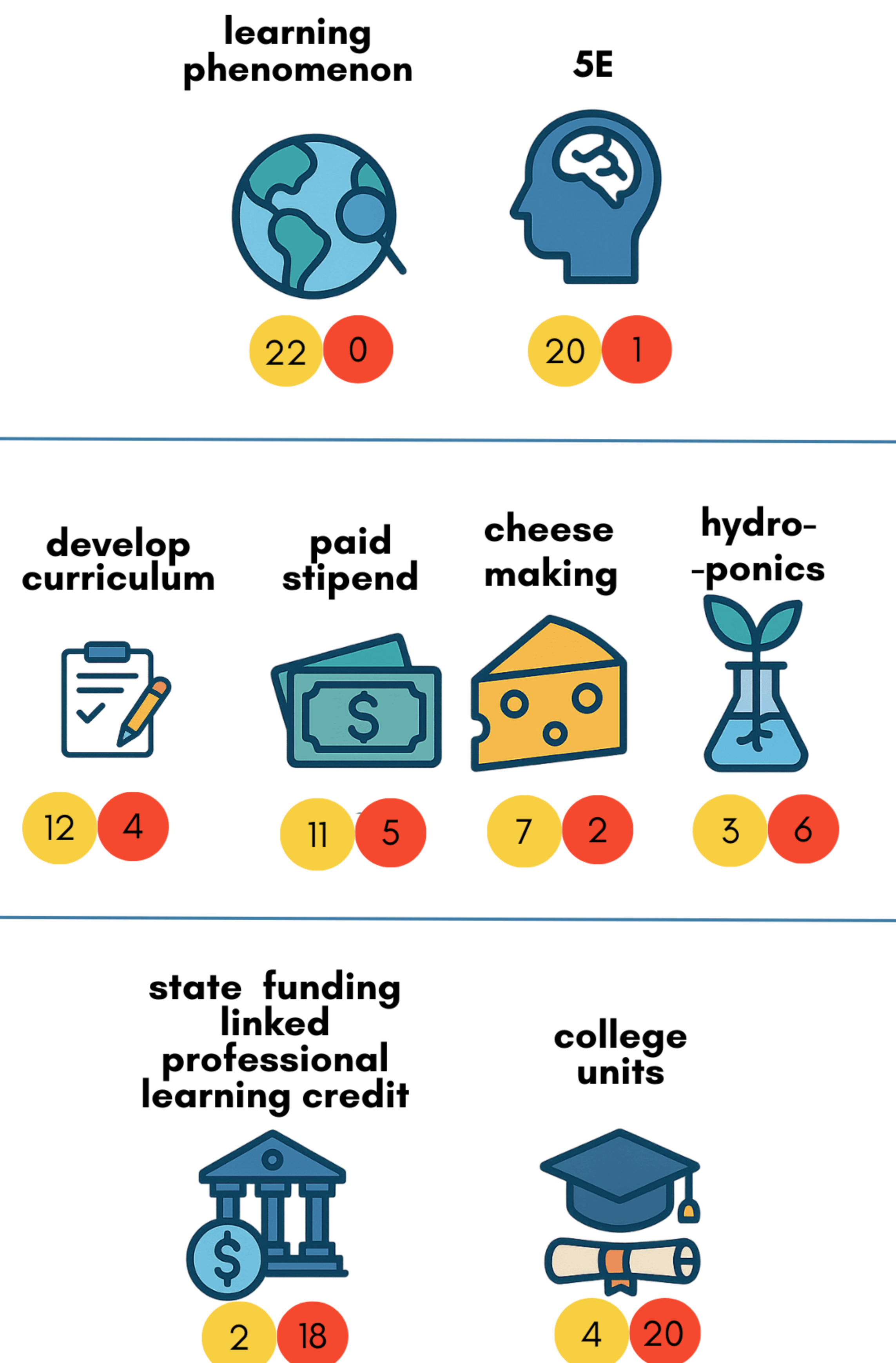
### Methodology

- **Population:** This study surveyed 27 SBAE teachers before they attended a NGSS and 5E-focused workshop entitled "Storylines that Stick: Real-World Agricultural Phenomena Meets NGSS." Participants attended a 3-part workshop including a hands-on cheese making or hydroponics session (their choice), and two supporting sessions to learn about and implement phenomenon-based 5E instruction.
- **Instrument Design:** The survey was distributed via Qualtrics, and participants ranked their motivations for enrolling using a drag-and-drop format. Anticipated motivations were determined by grant staff, and a free response was provided in the event there were unanticipated motivations. There were only 2 free responses, and they were determined to be duplicative of the existing options.
- **Data Analysis:** To identify key motivators, response frequencies were ranked priorities, 1 representing the highest, 9 the lowest. An aggregated approach (Marden, 1995; Orme, 2009) was used to examine the top third (ranks 1-3) and bottom third (ranks 7-9) of participant priorities. Data is reported as frequencies of participants placing the items in the top and bottom third of their motivations for taking the course.

### Results

- **Highest Ranking:** professional learning on the topic of phenomenon (f = 22), followed by the topic of the 5E (f = 20).
- **Lowest Ranking:** eligibility to purchase college units (f = 20), professional learning credit for state funding (f = 18).

- Frequency of respondents who placed item in their top 1/3
- Frequency of respondents who placed item in bottom 1/3



### Conclusions

Consistent with Self-Determination Theory, SBAE teachers were motivated by the opportunity to:

- build **competence** in phenomenon and 5E instruction.
- **connect** with peers on curriculum.

SBAE teachers did not rank **extrinsic motivators** highly.

Autonomy was present in the workshop (ability to choose sessions) but was not measured as a motivator item.

### Implications & Impacts

This research highlights how SBAE teachers **choose** to learn professionally, which can inform teacher educators on how to **increase participation and effectiveness** of future workshops.

In the face of new educational developments, future work should continue examining teacher motivations and carefully consider how grant-funded programs can **use motivators** to attract participants.

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Abstract & References