# Year 4 Faculty Strategy Implementation Summary

By: Besnik Abrashi (Research Assistant)

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About this Report

The Faculty Strategy Implementation (FSI) survey is appended to the end of the PTaP.HE to ascertain the degree to which GFO materials are used. In order to learn about Professor’s responses to the FSI, we administered the survey directly to this group. We are not able to identify Professors individually within the broader responses to the PTaP.HE. We added some specific questions to the survey about gender, department, and whether the professors are tenured or not.

Research questions and statements include:

- How much opportunity do faculty have/seek to influence their students? (Q52-55)
- How do faculty hear about GFO? (Q56-59)
- Faculty usage of and experience with GFO resources
- Modification of GFO materials
- Anticipated future usage or non-usage of GFO resources
- Other impacts of GFO - Is GFO inspiring action/change?

(Free response questions or questions with “other – specify” sections have numbers stating how many times that general answer was mentioned by respondents. Responses with no number next to it means it was only mentioned once)
**Demographics**

There were approximately 300 respondents that took part in at least one question of the FSI survey. The average amount of responses was around 270 for the earlier questions and decreased to around 10-20 responses per question.

Out of the 299 responses to the question about gender identification, the results are:

<table>
<thead>
<tr>
<th>Gender</th>
<th>Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>113</td>
<td>37.8%</td>
</tr>
<tr>
<td>Female</td>
<td>171</td>
<td>57.2%</td>
</tr>
<tr>
<td>Other</td>
<td>15</td>
<td>5.0%</td>
</tr>
<tr>
<td>Total</td>
<td>299</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Out of the 297 responses pertaining to which department the respondents are affiliated with, the results are:

<table>
<thead>
<tr>
<th>Department</th>
<th>Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
<td>116</td>
<td>39.1%</td>
</tr>
<tr>
<td>Chemistry</td>
<td>63</td>
<td>21.2%</td>
</tr>
<tr>
<td>Physics</td>
<td>58</td>
<td>19.5%</td>
</tr>
<tr>
<td>Comp. Science</td>
<td>5</td>
<td>1.7%</td>
</tr>
<tr>
<td>Engineering</td>
<td>1</td>
<td>0.3%</td>
</tr>
<tr>
<td>Biology</td>
<td>20</td>
<td>6.7%</td>
</tr>
<tr>
<td>Earth Science</td>
<td>13</td>
<td>4.4%</td>
</tr>
<tr>
<td>Other</td>
<td>21</td>
<td>7.1%</td>
</tr>
<tr>
<td>Total</td>
<td>297</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Out of the 299 responses pertaining to whether the respondents were tenured or not, the results are:

<table>
<thead>
<tr>
<th>Type</th>
<th>Respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenured/TT</td>
<td>257</td>
<td>86.0%</td>
</tr>
<tr>
<td>Non-Tenured</td>
<td>42</td>
<td>14.0%</td>
</tr>
<tr>
<td>Total</td>
<td>299</td>
<td>100.0%</td>
</tr>
</tbody>
</table>
Communication and Conversation between students and faculty

Respondents were asked how often they interact with undergraduate and graduate students in classes, meetings, labs, office hours, or other contexts as part of their university role during a typical year. Most respondents interact daily with their undergraduate students, and for graduate students, there is an even spread among never and daily, with the majority being never. There were a significant number of respondents that never communicate with their graduate students.
Respondents were asked how frequently they had had a conversation about teaching as a profession with students, faculty, staff, advisors, and local teachers, within the past year. Most of the respondents typically never or rarely had these conversations with these different groups.

We then asked the faculty respondents how many members of each of the following audiences do they believe they have reached through conversations about teaching or the use of other materials on a scale of 0 to over 100 people. Most respondents indicated 0 people or between 1-10 people.
We also asked respondents how often they actively seek out opportunities to share information about teaching as a profession with others. Over 50% of the respondents rarely sought out opportunities to share information, while many of the other respondents either never share or only share about once a month.
Have faculty heard of GFO?

We asked respondents if they have heard of GFO and how. A majority of the responses said they have never heard of GFO.

<table>
<thead>
<tr>
<th>Values</th>
<th>Total (excl. missing for question)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>298</td>
</tr>
<tr>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>92</td>
</tr>
<tr>
<td>No</td>
<td>182</td>
</tr>
<tr>
<td>Unsure</td>
<td>24</td>
</tr>
</tbody>
</table>

We then mentioned that GFO is a longitudinal NSF study focused on changing the conversation around STEM teacher recruitment by correcting common misperceptions about the teaching profession and that it is a partnership between the Colorado School of Mines, the American Physical Society, the American Association of Physics Teachers, the American Chemical Society, and the Association of Mathematics Teacher Educators. The result led to 12 respondents to say yes.

<table>
<thead>
<tr>
<th>Values</th>
<th>Total (excl. missing for question)</th>
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<tbody>
<tr>
<td></td>
<td>22</td>
</tr>
<tr>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>12</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
</tr>
</tbody>
</table>
Respondents were asked where they have heard of GFO. 34.2% of responses were under “Faculty colleague.” Social media seemed to be the least used source for learning about GFO.

The “other” responses are summarized below:

- Through the same survey from previous years – 9
- Forced to do it
- Through MSU
- Get the Facts Out pilot program outreach from Mines
Respondents were asked to identify a person or venue that referred GFO to them. Most of the responses are colleagues/other faculty.

**Faculty/Colleagues:** (in alphabetical order)

<table>
<thead>
<tr>
<th>Name</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drew Alton</td>
<td>1</td>
</tr>
<tr>
<td>Rachel Bishop-Ross</td>
<td>2</td>
</tr>
<tr>
<td>Thomas Brown</td>
<td>2</td>
</tr>
<tr>
<td>Seth Bush</td>
<td>1</td>
</tr>
<tr>
<td>Tonya Coffey</td>
<td>4</td>
</tr>
<tr>
<td>Mike Dobranski</td>
<td>2</td>
</tr>
<tr>
<td>Steve Elliot</td>
<td>3</td>
</tr>
<tr>
<td>Paige Evans</td>
<td>1</td>
</tr>
<tr>
<td>Chance Hoellwarth</td>
<td>1</td>
</tr>
<tr>
<td>Karel Jacobs</td>
<td>3</td>
</tr>
<tr>
<td>Brian Lawler</td>
<td>2</td>
</tr>
<tr>
<td>Robynne Lock</td>
<td>1</td>
</tr>
<tr>
<td>Karen Magee-Sauer</td>
<td>2</td>
</tr>
<tr>
<td>Paul Miller</td>
<td>4</td>
</tr>
<tr>
<td>Richard Pearson</td>
<td>4</td>
</tr>
<tr>
<td>Monica Plisch</td>
<td>1</td>
</tr>
<tr>
<td>Barbara Reisner</td>
<td>5</td>
</tr>
<tr>
<td>Lake Ritter</td>
<td>3</td>
</tr>
<tr>
<td>Mel Sabella</td>
<td>1</td>
</tr>
<tr>
<td>Kendra Schroeder</td>
<td>1</td>
</tr>
<tr>
<td>Gay Stewart</td>
<td>5</td>
</tr>
<tr>
<td>Donna Stokes</td>
<td>1</td>
</tr>
</tbody>
</table>

Physics = Blue
Chemistry = Yellow
Math = Red
Biology = Purple

**National Societies and Conferences/Universities/Other:**

<table>
<thead>
<tr>
<th>APS</th>
<th>PhysTEC</th>
<th>WVU</th>
<th>Faculty member</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Usage of and experience with GFO Information

Respondents were asked whether they have used GFO information for themselves or for others. The results were 60/40 with the majority answer being no.

<table>
<thead>
<tr>
<th>Values</th>
<th>Total (excl. missing for question)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>104</td>
</tr>
<tr>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>Yes</td>
<td>43</td>
</tr>
<tr>
<td>No</td>
<td>61</td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
</tr>
</tbody>
</table>

For those that said yes, we asked if the respondents would specify how they used GFO materials and in what context.

Their specified responses are summarized below:

- Presented materials in class – 9
- Share information with students/faculty – 7
- Put flyers/posters on door or hand out to students – 6
- Conversations/discussions with students – 4
- Recruitment purposes – 4
- Advising purposes – 2
- Have students read editorial on GFO website – 2
- Direct students to GFO website/resources – 2
- Invited a colleague to provide a GFO presentation to a class.
- With colleagues thinking about marketing new 14 month MAT program, but we're having trouble getting the COE to back it up.
- I do not use them. I do not find them useful and find them insulting at times. I do encourage students to pursue teaching.
Respondents were asked how frequently they have used GFO materials including, student presentation, faculty workshop, posters, brochures, flyers, reaching students via various venues, PTaP survey, PTaP.HE survey, and first conversations guide.

**Frequency of use of GFO materials**

- **Student presentation (n = 19)**
  - Never and no plans to use in the future: 21%
  - Never but plan to use in the future: 16%
  - Once or twice: 32%
  - Several times: 32%

- **Data Handouts (n = 21)**
  - Never and no plans to use in the future: 24%
  - Never but plan to use in the future: 14%
  - Once or twice: 33%
  - Several times: 29%

- **Faculty workshop (n = 20)**
  - Never and no plans to use in the future: 30%
  - Never but plan to use in the future: 20%
  - Once or twice: 50%
  - Several times: 29%

- **Posters (n = 20)**
  - Never and no plans to use in the future: 35%
  - Never but plan to use in the future: 25%
  - Once or twice: 20%
  - Several times: 20%

- **Brochures (n = 20)**
  - Never and no plans to use in the future: 40%
  - Never but plan to use in the future: 15%
  - Once or twice: 30%
  - Several times: 15%

- **Flyer (n = 20)**
  - Never and no plans to use in the future: 40%
  - Never but plan to use in the future: 15%
  - Once or twice: 40%
  - Several times: 5%

- **GFO Website (n = 20)**
  - Never and no plans to use in the future: 10%
  - Never but plan to use in the future: 5%
  - Once or twice: 60%
  - Several times: 25%

- **Reach students (n = 20)**
  - Never and no plans to use in the future: 30%
  - Never but plan to use in the future: 35%
  - Once or twice: 25%
  - Several times: 10%

- **PTaP (n = 18)**
  - Never and no plans to use in the future: 33%
  - Never but plan to use in the future: 22%
  - Once or twice: 17%
  - Several times: 28%

- **PTaP.HE (n = 18)**
  - Never and no plans to use in the future: 33%
  - Never but plan to use in the future: 22%
  - Once or twice: 17%
  - Several times: 28%

**GFO Website, Student presentations, and Data Handouts** are the most commonly used materials on the FSI survey.
Other responses include:

- Would be fair to say that these materials when adapted to regional conditions are useful.

Respondents were asked if they used GFO data in their recruitment efforts without using the pre-made sources.

- No – 3
- no - I prefer to use the pre-made resources to ensure that I do not make errors in the facts.
- I have mentioned the job-satisfaction blurb in a few presentations that I have made.
- We have used posters.
- I have used the flyer for biology undergrad events.
- We also have a Teach program (WVUTeach) and I have advertised that program in conjunction with GFO.
- Again yes when adapted to regional conditions
Respondents were asked in which venues they have used GFO messages or materials.

Other responses include:

- Individual conversations
- Orientation
- Rotary club presentation
- Undergraduate recruitment events.

Respondents (faculty that have heard of GFO and HAVE used the materials) were asked if there were other ways that GFO has influenced them, other than the use of specific materials. The elaborated answers are as follows:

- No – 4
- It changed some of my preconceived ideas about teaching as a career, making it easier to encourage students to look at it as a career option.
- Helped me address some misconceptions I had about the teaching profession.
- As a template
Respondents were asked which of the materials they found the most helpful and if they were pleased with the outcome. The responses are as follows:

- The website is useful because I don't have to have material handy. I find that students don't really like hand-outs.
- PowerPoint slides - yes, I was happy.
- The posters/flyers are most helpful. I am still working on outcomes.
- NA
- The presentations are very helpful

Respondents were asked what challenges they encountered when presenting these materials.

- None – 3
- Remembering the name "get the facts" so that I can find the material on line. I need to bookmark it.
- It was straightforward.
- We're a small program trying to revive our MAT. I think we're still overwhelmed from the pandemic and haven't used the materials as much since we're still struggling to get our program back up and running much less recruit for it. Our major numbers are down as well.
- Much research needed to make them optimally appropriate for recruiting teachers.
Responses about modifying materials

Respondents were asked if they have modified any of the GFO materials to better suit their needs.

<table>
<thead>
<tr>
<th>Values</th>
<th>Total (excl. missing for question)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18</td>
</tr>
<tr>
<td>Yes</td>
<td>7</td>
</tr>
<tr>
<td>No</td>
<td>11</td>
</tr>
</tbody>
</table>

The specific materials that were modified are summarized below:

- Flyers - 3
- Powerpoint slides
- Posters
- Most of them
- Local Salaries
- Presentations

How did you modify them?

- Changing the data to be aligned with regional conditions and requirements - 2
- hid select slides
- We used our university colors and pictures which showed our own faculty/students.
- Colleague in biology modified them and asked for feedback
- Show what the different supplements are
- info about our teacher prep program

Why did you modify them?

- time constraints
- I am using the materials to recruit students for a Robert Noyce Teacher Scholarship Program project at my university. I wanted the posters to reflect our university brand to attract people to our university in addition to attracting them to the teaching profession.
- to make more campus specific
- To make them more effective (not a criticism). Note we already had many of our own versions of the materials and data -- e.g. we have always informed the students about loan forgiveness programs, scholarships, professional earning opportunities etc.
• More local information
• to market our program to our region

**Future usage or non-usage of GFO resources**

Respondents were asked how often they discussed these various topics while discussing grade 7-12 teaching, since GFO, including:

1. Used messaging from GFO
2. Emphasized the key message of GFO in interactions with others
3. Avoided voicing misperceptions about teaching as a profession
4. Corrected common misperceptions about teaching as a career when voiced
5. Compared benefits of teaching as a profession to other academic careers in a positive light
6. Compared benefits of teaching as a profession to other non-academic careers students can get with the same degree in a positive light
7. Mentioned less commonly known advantages of teaching as a profession, such as work-life balance or flexibility in the classroom
8. Shared locally relevant data about teaching as a profession

**Fidelity of Implementation of GFO is moderate -- and use of locally relevant data is especially low.**

<table>
<thead>
<tr>
<th>Question</th>
<th>Frequently</th>
<th>Sometimes</th>
<th>Rarely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1: Messaging</td>
<td>6%</td>
<td>22%</td>
<td>72%</td>
</tr>
<tr>
<td>Q2: Key message</td>
<td>17%</td>
<td>28%</td>
<td>50%</td>
</tr>
<tr>
<td>Q3: Correct misperceptions</td>
<td>22%</td>
<td>22%</td>
<td>50%</td>
</tr>
<tr>
<td>Q4: Compare academic careers</td>
<td>39%</td>
<td>39%</td>
<td>11%</td>
</tr>
<tr>
<td>Q5: Compare non-academic careers</td>
<td>33%</td>
<td>39%</td>
<td>11%</td>
</tr>
<tr>
<td>Q6: Mention advantages</td>
<td>22%</td>
<td>28%</td>
<td>50%</td>
</tr>
<tr>
<td>Q7: Local data</td>
<td>6%</td>
<td>11%</td>
<td>72%</td>
</tr>
</tbody>
</table>

(Omitted question 3 due to poor wording that skewed results)
Respondents were asked since learning about GFO if they have:

1. Looked up or examined local salary, retirement, and other benefit data for grade 7-12 teachers.
2. Looked up or examined local salary, retirement, and other benefit data for other careers students can get with the same degree.
3. Examined your own assumptions or perceptions of grade 7-12 teaching as a career.
4. Created local versions of GFO resources or materials.
5. Spoken to faculty outside of your institution about GFO

Most faculty have **examined their own assumptions about teaching careers** and looked up teacher salary info (n=18)

- Q3: Own assumptions: 67%
- Q1: Teacher salary: 56%
- Q4: Local versions: 33%
- Q5: Faculty outside: 28%
- Q2: Other careers: 28%

6. Attended a GFO workshop
7. Joined the GFO Facebook page
8. Joined the GFO email list
9. Followed the GFO Instagram account
10. Enrolled your institution as a GFO study site

Engagement: Most who know about GFO have **attended a workshop** (n=19)

- Attended a GFO workshop: 47.4%
- Joined the GFO Facebook page: 26.3%
- Enrolled your institution as a GFO study site: 26.3%
- Joined the GFO email list: 0.0%
- Followed the GFO Instagram account: 0.0%
Respondents were asked if they have any other comments or suggestions for the GFO team.

- It is very useful especially for programs that are attempting to grow their STEM teaching populations and lack resources, knowledge, information. Much of it is common sense.

Respondents (faculty that have heard of GFO, but have NOT used the materials) were asked if there were other ways that GFO has influenced them, other than the use of specific materials. Most responses said “no” and the other responses include:

- It has prompted more discussion about 7-12 teaching as a profession
- Not really. It might have slightly improved my view of K-12 teaching in the US. (I still think it is in a terrible state, sorry to disappoint.)
- I haven't used any materials, only gave my students a survey.
- I keep in mind that teaching is a great profession for students. Switching to education is not a topic students I encounter are asking about. They land in my class hoping to major in the sciences, engineering, exercise science, and computer science.
- It has made me seriously reconsider my perceptions of a teaching grades 7-12 in a STEM area.

Respondents were asked if they would be interested in using some of the GFO materials on their campus.

<table>
<thead>
<tr>
<th>Values</th>
<th>Total (excl. missing for question)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>61</td>
</tr>
<tr>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>Yes, I am interested</td>
<td>28</td>
</tr>
<tr>
<td>No, thank you</td>
<td>33</td>
</tr>
</tbody>
</table>

For those respondents that replied no, we asked if they could tell us the main reason why they do not plan on using GFO materials.

1. I don’t have time
2. I couldn’t find what I needed in the materials
3. I don’t really like the materials
4. I don’t have an opportunity to use the materials
5. We do not have a teacher preparation program
6. I do not feel knowledgeable enough about teacher preparation to use these materials
7. I am not comfortable encouraging students to become teachers
8. I don’t trust the information in the materials
9. Other

Other Responses:

- Other colleagues are responsible for it – 5
- I am not actively recruiting teachers.
- I am a part-time faculty member. I feel the materials might be more effective in the hands of the department leads.
- retiring
- Some question are guesses and scientifically nonsense.

For those that replied yes, we asked which of the materials they would use.

We asked respondents how they anticipate using these materials.
- Share/discuss materials with students – 6
- Posting materials around school – 3
- Present materials in class - 2
- Hand out materials in class – 2
- Recruitment purposes – 2
- I’m not sure
- I don’t

We asked respondents **why they anticipate using these materials.**

- To help students know about teaching career options – 4
- To make materials easily accessible for interested students – 2
- Convenient/easy to use – 2
- Because we often have discussions about career goals.
- We need more math and science teachers, especially those with strong academic skills.
- better than nothing!
- Works well in current environment
- Brochures are easy and can be kept on hand for one-off encounters. Data or presentation slides can be integrated into presentations (e.g. given to prospective students or department student groups).
- I don’t