Table 6: Interns' reasoning for participating in the internship, prior to participation.

<table>
<thead>
<tr>
<th>Question</th>
<th>Not Important</th>
<th>Somewhat Important</th>
<th>Fairly Important</th>
<th>Extremely Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>I wanted to know if going to grad school in science or engineering was for me.</td>
<td>2006</td>
<td>0%</td>
<td>44.4%</td>
<td>11.1%</td>
</tr>
<tr>
<td></td>
<td>2007</td>
<td>22.2%</td>
<td>0%</td>
<td>11.1%</td>
</tr>
<tr>
<td>I wanted to know if geophysics was for me.</td>
<td>2006</td>
<td>11.1%</td>
<td>22.2%</td>
<td>44.4%</td>
</tr>
<tr>
<td></td>
<td>2007</td>
<td>11.1%</td>
<td>0%</td>
<td>77.8%</td>
</tr>
</tbody>
</table>

Figure 7: Student agreement with the statement: "During the summer, I had opportunities to regularly connect with the other undergraduate interns."

Figure 8: Student agreement with the statement: "I used other students' blogs as a way to keep track of how their summers were going and to stay connected."

Figure 9: Student agreement with the statement: "I found the discussion forum to be an important tool to allow me to interact with other interns."

Conclusion: Improving There was a significant increase in the number of students that reported being connected to the other interns via the blogs between 2006 and 2007. This shift, seen in Figure 8, correlates with the key changes to the technical infrastructure of the blogs including the ability to notify interns via email to any changes (new posts or comments) to any of the interns' blogs. Additionally, the improved blogs appear to be more appealing than the discussion forums as a method for connecting with other interns (Figure 9). If the tools for enabling virtual connection between students are improving and being used by nearly 90% of the population, one may assume that the interns are feeling more connected. However, Figure 7, which suggests that interns are feeling less connected with other interns, appears to conflict such assumptions. Summer field experiences may represent one possible explanation for this discrepancy. As a result of being in the field, interns may not have had regular access to the Internet and would not have had "regular" opportunities to connect with the other interns. In this case, while not continual, the connectivity between interns would have been similar to a traditional REU site where the interns worked on different field projects. An analysis of open-ended follow-up questions relating to the blogs supports such an explanation, however, additional exploration of this issue is necessary to draw any further conclusions.

Key Findings Related to Developing a Virtual Cohort of Interns

Advertising – The best method to advertise REU programs to interns may be shifting away from the traditional hardcopy flyers targeted to the bulletin boards in the halls of science departments. A survey of the 48 students that submitted an online application the IRS internship program revealed that the most common way of learning about the internship program was via the web (Figure 10). A probing follow-up question revealed that all of the applicants that visited the website reported reading the website. More interestingly, it revealed that 81% of the interns that used the site sought additional information downloading and watching a slide presentation about the internship program either as an annotated ppt file, or as a narrated QuickTime movie. No students reported downloading the version optimized for viewing on a video iPod, or watching the versions posted on video.google.com or YouTube.com.

Figure 10: Distribution of how applicants (n=31) learned about the internship program. Students were allowed to select more than one.

Orientation – Libon and Kimble (2003), in their study of text based interactions in online learning, noted that technology alone is not enough to create a strong social cohesion and sense of community among virtually interacting individuals. Supporting such a finding, 100% of interns that have participated in the virtual cohort have indicated that the orientation was an important aspect to helping them feel part of a community of interns.

Active, Rather than Passive Blogs – The development of an infrastructure that sends email notifications to all interns anytime anyone's blog was updated between the 2006 and 2007 significantly increased the frequency of blog posts and commenting. This was reflected in both self-reported data (Figure 8) as well as an analysis of individual blog postings. Here we find that 7 of 10 interns had 2 or more posts to their blog while only 2 interns met that threshold in 2006. Similarly, students made the same number of comments on other interns' blogs, while only 2 met this threshold in 2006. Exploring additional ways to increase the number of comments made on each other's blogs is likely to improve the virtual communication overall (Figure 11).

Figure 11: Student agreement with the statement: "I found that comments on my blog by other students were important to motivate me to maintain my blog."

Role of the Alumni Mentor – All 2006 & 2007 interns either agreed or strongly agreed that the alumni mentor served a positive role in their summer experience, found it helpful to receive comments from the alumni mentor on their blog, & looked forward to receiving more. The importance of this mentor in the program is especially pronounced because the program facilitator is not a geologist. Therefore the alumni mentor, a PhD student, serves as a critical role as an unbiased, outside, and experienced third-party to the mentor/intern relationship. In this way, the alumni mentor is able provide interns with pointers along the way, offer suggestions based on experience to help continue to make progress with their research throughout the summer, and ask focusing questions that ensure the students get the most from their internship experience.

For More Information on the Program Please visit www.iris.edu/internship

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References


