LOOKING BACK AND LOOKING FORWARD
by Ambika Silva and Kathryn Kozak

As summer slips away, many of us will see the summer heat fade into beautiful autumn colors. It’s the perfect time to reflect on all the sweet summer moments from the last few months. For us at the StatPREP team, it was a summer filled with virtual workshops on Little Apps, RStudio (Introduction and Intermediate/Advanced), and Data Science. These workshops had registrants from forty states and eight countries with many folks registering for multiple workshops. Though we couldn’t meet in person due to the ongoing pandemic, we were able to connect virtually and introduce the StatPREP philosophy to our attendees.

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In the Little Apps workshop we introduced the tenets of StatPREP to participants as well as several of the Little Apps. Presentations by StatPREP’s hub leaders were given on what it means to teach a data-centric statistics class and the philosophy behind the ASA’s GAISE statement. Hands-on activities on using some of the activities designed for Little Apps and small group discussions helped to both create community and share best practices.

In the Introduction to RStudio workshop, participants new to RStudio were given the opportunity to learn about this powerful statistical software. This hands-on workshop presented the basics of RStudio with no prior knowledge of RStudio expected.

About half of the attendees in each of our Intermediate/Advanced RStudio workshops had also attended the intro RStudio. The other half were those who have some experience with RStudio and wanted to learn more. The Intermediate/Advanced RStudio workshop exposed attendees to some of the more sophisticated commands of RStudio.

Our final topic for StatPREP summer workshops was Data Science. This workshop featured a panel discussion with several two year college faculty who have created data science programs at their institutions. The focus was on community colleges because of the unique issue that community college faces with articulation and workforce development. However, participants from all institution types gained insight for creating a program at their institution.

Speaking of Data, here’s the information about our summer session numbers.

<table>
<thead>
<tr>
<th>Workshop</th>
<th>June</th>
<th>July</th>
</tr>
</thead>
<tbody>
<tr>
<td>Little Apps Day 1</td>
<td>56</td>
<td>91</td>
</tr>
<tr>
<td>Little Apps Day 2</td>
<td>38</td>
<td>50</td>
</tr>
<tr>
<td>Intro to RStudio Day 1</td>
<td>62</td>
<td>90</td>
</tr>
<tr>
<td>Intro to RStudio Day 2</td>
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<tr>
<td>Adv RStudio Day 1</td>
<td>36</td>
<td>84</td>
</tr>
<tr>
<td>Adv RStudio Day 2</td>
<td>39</td>
<td>68</td>
</tr>
<tr>
<td>Data Science</td>
<td>70</td>
<td>83</td>
</tr>
</tbody>
</table>

Key:
- **June**: Blue
- **July**: Blue with yellow

*Includes both presenters and participants

....continued on page 3
In a word, how are you feeling after yesterday’s workshop on RStudio?

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Missed the workshops over summer? Material from all the workshops and a recording from the panel discussions at the Data Science workshops are available at https://www.statprep.org/Workshops_2021.html. In addition, StatPREP is planning two series of monthly webinars for the 2021-22 academic year that will focus on the same topics that were covered in the 2021 summer workshops. These webinars will include how to incorporate Little Apps into a Statistics course and webinars on beginning RStudio, including how to use this statistical software to do data analysis, inference, ggplots, and data wrangling.

**WORDCLOUDS FROM OUR WORKSHOPS**

**How does teaching statistics make you feel?**

from the July Little Apps Workshop

**What does R mean to you?**

from the July Intro to RStudio Workshop

**In a word, how are you feeling after yesterday’s workshop on RStudio?**

from the June Advanced RStudio Workshop
Using data centric lessons and visualization tools such as the "Points and Densities Little App" have supported my students’ understanding of the key role sampling variation plays in statistical investigation. I love overhearing “Hey, my sample looks different from yours!” It opens the door to explore whether there is still a consistent story to tell about a variable.

Join me as we look at an early lesson in my course introducing the language common, unusual, and rare while using standard deviation and z-scores. Although the lesson has a focus on describing common and rare events, it allows students to experience and make sense of sampling variation. These experiences early in an Intro Stats course lay a useful underpinning for introducing later inferential statistical concepts such as the confidence interval.
The StatPREP Little Apps are a collection of free, easy-to-use online tools that help students visualize the statistical concepts using real-world data. We will explore the StatPREP Little App for Confidence Intervals. In this interactive session, we will visualize the characteristics of a confidence interval, demonstrate what a confidence level is, re-sample data, and create side-by-side comparisons. These visualizations can be used to introduce the topic as well as in classroom assessments.

AN INTRODUCTION TO CONFIDENCE INTERVALS: AN INTERACTIVE WEBINAR

Presented by Rona Axelrod

Thursday, October 21
2:00pm ET

REGISTER

Join us on MAA CONNECT
Session: S091, Title: Utilize StatPREP’s Free Little Apps to Teach Data-Centric Statistics
Day: Saturday | Time: 10:45 am - 11:35 am
Room: Deer Valley
Presenters: Helen Burn, Carol Howald, Joe Roith, Rona Axelrod
Learn about free, online tools from StatPREP that can help you and your students learn fundamental concepts in introductory statistics. StatPREP is an NSF-supported faculty development project sponsored by the Mathematical Association of America (NSF DUE-1626337). Faculty leaders from five national StatPREP hubs will share their use of the menu-and-slider Applets made with R markup language.

In-Person Workshop in Fort Myers, Florida, will be held on May 20-21, 2022.
Details on how to register will be coming!
LEADERSHIP TEAM
Mike Brilleslyper, Florida Polytechnic University
Jenna Carpenter, Campbell University
Danny Kaplan, Macalester College
Kathryn Kozak, Coconino Community College
Donna LaLonde, ASA
Ambika Silva, College of the Canyons
Deirdre Longacher Smeltzer, MAA

HUB LEADERS
Joe Roith, St. Olaf’s College, Northfield, MN (2017-18)
Ambika Silva, College of the Canyons, Santa Clarita, CA (2017-18)
Helen Burn, Highline College, Seattle, WA (2018-19)
Hwayeon Ryu, Elon University, Elon, NC (2018-19)
Carol Howald, Howard Community College, Columbia, MD (2019-2020)
Thomas Kinzeler, Tarrant County College, Fort Worth, TX (2019-2010)
Rona Axelrod, Florida SW State College, Fort Myers, FL (2020-2021)