As a fully student run design team, UTAT faces a unique set of challenges onboarding new members and maintaining a strong knowledge base on the team. This poster presents the strategies implemented during the Fall 2020 onboarding process and evaluates them based on existing research using data collected through team-wide surveys and the annual census.

1. Jones model: Categories institutionalized onboarding in 6 dimensions (collective, formal, sequential, fixed, serial, investiture)
2. Bauer model: Adds 4 additional dimensions (self-efficacy, role clarity, social integration and knowledge of culture)

Few studies have focused on onboarding in the unique context of student design teams, which presents interesting challenges due to the voluntary nature, and the limited technical experience of new members.

DATA AND EVALUATION

The Fall 2020 onboarding cycle had one of UTAT’s highest retention rates in recent years, with 68% of members who joined in September staying on until January compared to 47%. While this suggests some level of success in onboarding and retention, UTAT also examined other metrics to evaluate different onboarding processes. One such metric, Slack activity, is shown in Figure 1 below. Members who attended workshops in Fall 2020 sent on average more than double the weekly slack messages than members who did not attend these workshops. UTAT also conducted a survey of members who participated in the onboarding process with questions designed to address each component of the Bauer/Jones onboarding models. Table 1 summarizes the extent to which each criteria was fulfilled based on survey results. Key takeaways from this survey were:

- Investiture was rated highly across all questions. UTAT places an explicit emphasis on inclusion and psychological safety in the Fall 2020 onboarding process, which this metric suggests worked well.
- There was a high level of understanding and comfort during the workshops.
- Many members did not find workshops relevant to their ultimate role on the team. This could be attributed to Fall 2020 projects being primarily research based.

Table 1: Survey-based Evaluation of Onboarding

<table>
<thead>
<tr>
<th>Model</th>
<th>Criteria</th>
<th>Fulfilled</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bauer</td>
<td>Self-Efficacy</td>
<td></td>
<td>Orbit Propagator</td>
</tr>
<tr>
<td></td>
<td>Role Clarity</td>
<td></td>
<td>Imaging Design Challenge</td>
</tr>
<tr>
<td></td>
<td>Social Integration</td>
<td></td>
<td>Mentorship Program</td>
</tr>
<tr>
<td></td>
<td>Knowledge of Culture</td>
<td></td>
<td>Space Systems Kickoff</td>
</tr>
<tr>
<td>Jones</td>
<td>Collective</td>
<td></td>
<td>Onboarding Workshops</td>
</tr>
<tr>
<td></td>
<td>Formal</td>
<td></td>
<td>Imaging Design Challenge</td>
</tr>
<tr>
<td></td>
<td>Sequential</td>
<td></td>
<td>Structures Presentations</td>
</tr>
<tr>
<td></td>
<td>Fixed</td>
<td></td>
<td>Orbit Propagator</td>
</tr>
<tr>
<td></td>
<td>Serial</td>
<td></td>
<td>Mentorship Program</td>
</tr>
<tr>
<td></td>
<td>Investiture</td>
<td></td>
<td>Inclusion Team</td>
</tr>
</tbody>
</table>

The onboarding and recruitment process takes place over a month-long period in September. All events were held virtually, and formal recruitment events such as kickoff and workshops were recorded.

**Kickoff Presentation**
Structure of the team and overview of all subsystem work; showcasing members work; breaking out into smaller groups for Q&A; emphasis on psychological safety and making the team accessible to all.

**Workshop Period (2 Weeks)**
Virtual workshops in each subsystem; varied delivery styles (from presentations to guided tutorials); learning new skills or subjects relevant to future work in each subsystem.

**System Level Onboarding**
Members choose a subsystem that interests them most. Projects designed for new members focus on research and learning, as well as social integration into the subsystem.

**Member Retention**
Mentorship Program: New members are paired with experienced members for guidance and support.
Ongoing workshops: Continuing skill development alongside projects.

**CONCLUSION**

Positive outcomes: 
- High retention rates
- Successful against many high-priority criteria from the models
- Importance of assigning members meaningful work in a volunteer setting
- Focusing on psychological safety which goes beyond social integration from Bauer Model

Strengths outside the models:

Areas to improve:
- Implementing a clearer more sequential onboarding structure
- Employing more consistent feedback systems throughout.

A more detailed overview of the findings and analysis in this poster is available in the paper of the same title.