

An Experience Designed to Onboard New Students into a Multiyear Co-Curricular Program, the Grand Challenges Scholars Program

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Abstract

This paper describes a virtual onboarding experience designed to introduce new students in the Grand Challenges Scholars Program (GCSP) at Arizona State University to their program journey, and its effectiveness at preparing these new students for starting the program. Each student's journey in this multiyear co-curricular program involves an individualized set of courses and/or experiences to achieve five program outcomes, the GCSP Competencies: Talent, Multidisciplinary, Viable Business/Entrepreneurship, Multicultural, and Social Consciousness. Their experience in the program also includes a series of three courses designed to provide mentorship and support their program progress, as well as opportunities to engage with the community through events and receive financial support. The onboarding experience was designed to efficiently and systematically onboard a large number of new students into the program, accommodating variable program start dates due to the program's rolling admissions. The goal is to help new students gain a clear understanding of the program requirements, opportunities to achieve the program competencies, what their program journeys could look like, important program processes, and their program support.

In this paper, the details of the design and implementation of the onboarding experience will be described, and its effectiveness will be discussed based on quantitative and qualitative analyses of data collected from a required survey about the onboarding experience. The results from the survey indicate that students felt prepared to start participating in the program and they had a good understanding of the purpose and value of the program, who is there to support them, and opportunities to achieve the competencies after completing the onboarding experience. Students felt that the onboarding experience was well organized, with clear directions, engaging videos, useful questions, and informative visuals. Students also found learning about the opportunities to achieve the competencies and seeing an example four-year student plan particularly helpful.

Background and Motivation

The Grand Challenges Scholars Program (GCSP) at Arizona State University (ASU) is a co-curricular program that typically spans a student's entire undergraduate career. Majority of the students join the program either before their first semester or during their first year at the university. Throughout their time in the program, each student engages in a personalized combination of courses and/or experiences, all focused on an overarching theme of their choice (Sustainability, Health, Security, Joy of Living), to achieve five program competencies: Talent, Multidisciplinary, Viable Business/Entrepreneurship, Multicultural, and Social Consciousness [1]. Each competency requires sustained engagement through two experiences (75 hours or more

for each) and/or two 3-credit courses, except for the Viable Business/Entrepreneurship competency which requires only one experience or course and the Social Consciousness competency which requires 80 hours of service-learning activities. The GCSP journey also includes required courses taken during the students' first, second, and third years, aimed at introducing students to the themes, guiding and supporting their progress and facilitating their professional development [2] [3]. Students' journeys in GCSP could also include community engagement through events, and opportunities to apply for funding to support research and travel.

Due to the complexity of the program, its duration, and its individualized nature, new students often need guidance in understanding what their journey in the GCSP could look like, what opportunities (types of courses and experiences) would fulfill the competency requirements, and what support and resources are available throughout their journey. This guidance is important for new students to get started on their journey in the program and continue to be engaged. In the past, multiple in-person and virtual group onboarding sessions were scheduled and held at the beginning of the fall semester when a large new student cohort (150+ students) joined the program. Attending an onboarding session was mandatory for those new students who were not enrolled in the required introductory course during the fall semester. New students admitted to the program on a rolling basis after the Fall group onboarding sessions were completed were required to schedule and complete one-on-one onboarding sessions with one of the program faculty directors. Though the onboarding sessions were required, many students did not complete their onboarding and accommodating students' schedules was often a challenge which led to the need for many one-on-one onboarding sessions (10-20 each semester) with students individually, each ranging from 30 minutes to an hour, depending on individual students' questions and familiarity with the program. Thus, it was found that providing the necessary guidance at the beginning of students' GCSP journey individually or to small groups of students was time consuming and often does not reach all students due to scheduling and communications challenges. To address this need in a way that is engaging for each student in a large new student cohort of 150+ students, while also requiring minimal active staff time, a streamlined virtual onboarding experience was designed and implemented for the Fall 2024 semester. By the start of the Spring 2025 semester, 127 students completed this onboarding experience. In the following sections, the design and implementation of the onboarding experience will be described and the results from the required survey about the onboarding experience's effectiveness will be presented and discussed. Areas of future work will also be shared.

Onboarding Experience Design and Implementation

The virtual onboarding experience, developed during the summer of 2024, aimed to provide a consistent, engaging onboarding experience for all new students joining GCSP in Summer 2024 or later. Students in the GCSP typically learn about the program from an email or information

session, and then they complete a brief application to officially join the program. Thus, when students enter the program, their knowledge of the program requirements and opportunities is often limited to high level program goals and maybe a few details they may have read on the program website. The purpose of the onboarding is to ensure students who join GCSP understand in more detail what the program is and what they will be doing in the program, so that they feel prepared to get started in the program. Specifically, the onboarding experience aims to help students (1) understand the purpose and value of the GCSP; (2) understand the program competencies and competency submission process; (3) become aware of opportunities at ASU to complete GCSP competencies; and (4) understand the support available to help them throughout their GCSP journey. When designing this onboarding experience, care was taken to provide enough information to students to meet these aims and get them excited about beginning their GCSP experience while not overwhelming them with too many details.

The virtual onboarding experience was collaboratively designed and developed by the two GCSP faculty directors who previously delivered all onboarding sessions and a Learning Experience Designer and an Instructional Innovation Coach from the Learning and Teaching Hub in the Ira A. Fulton Schools of Engineering at ASU. The experience was designed to be integrated into the existing program page in the Canvas Learning Management System (LMS) as an onboarding module. As Canvas LMS is utilized to track students' progress in the GCSP throughout their experience, integrating the onboarding into the same platform eases students' need to navigate across websites and upon completion of the onboarding students can smoothly transition into participation. Additional factors also informed the decision to integrate this onboarding experience into the program Canvas LMS. For one, LMS platforms were found to support students' autonomy, enhance their engagement, offer flexibility, promote accessibility, include features that can tailor to different learning styles, and provide mechanisms for real-time feedback and support [4]. For another, integration of the onboarding into the program Canvas LMS allowed program leaders to make the onboarding experience mandatory by limiting access to other resources until it was completed. Completion of this Canvas module was made a prerequisite for accessing all other modules that contain important program information, including the comprehensive program manual and other critical resources. New students are informed about the mandatory onboarding requirement in their acceptance emails when they are accepted into the program or when they arrive on campus at the start of their first semester if they are new incoming first year students at ASU. Students are encouraged to complete the onboarding experience soon so that they can access essential program information, but they can choose when to complete the onboarding experience. Thus, this provides an effective way to ensure that students comply with this program requirement while also offering flexibility. The virtual onboarding experience, implemented in the Canvas LMS in this way, eliminates the need to schedule and hold group and/or one-on-one sessions and to repeatedly communicate with a large number of students to enforce this requirement.

The onboarding module starts with a brief text-based introduction that states the objectives of the onboarding experience, its requirements (i.e., what students need to complete), and time estimates for each part of the experience. The onboarding concludes with a required survey and information about students' next steps as well as where and how they can get their questions answered. The main content of the onboarding experience is presented in the form of interactive videos, created using Playposit, an interactive video learning tool [5], which has been used successfully in higher education settings to add formative evaluation and feedback to video lectures and make them more engaging to students [6], [7].

The main onboarding content was organized into two interactive videos: 1) Program Welcome and Overview and 2) Your GCSP Journey. The first video begins with an introduction to the purpose of the GCSP, the GCSP Network [8], and the GCSP community and program staff at ASU. Next the video introduces the five GCSP competencies (Talent, Multidisciplinary, Viable Business/Entrepreneurship, Multicultural, and Social Consciousness), and describes several examples of opportunities (courses and/or experiences) that could be used to complete each competency at ASU. After describing the competencies, this video concludes with an overview of the process students will follow to submit their chosen experiences for approval to track their progress in the program. The second video begins by providing an overview of what the student GCSP experience looks like including completion of the competencies and required support courses. Then, an example student journey is described to help students to visualize what their individualized pathway to complete the five competencies in GCSP might look like. Next, the video describes the support available for the students including GCSP affiliated faculty, opportunities to engage with the GCSP community, and funding opportunities. The second video concludes with a description of the recognition that the student will receive for their accomplishments in the GCSP to help reiterate the value of the program. Slides used in the videos were designed to be an engaging balance of visuals and text. Several new visuals were created to represent the GCSP competencies, the student's overall GCSP experience, and the competency submission process. Care was taken to ensure accessibility of the onboarding experience. For example, Playposit's functionalities including increasing or slowing playback speed, closed captioning, and live transcripts were incorporated to ensure accessibility while also allowing students to control their viewing experience. When designing this new onboarding experience, there were plans to include student quotes and brief video clips featuring students throughout the videos to improve engagement and relatability. Unfortunately, due to time constraints, these student-focused elements were not included in the first implementation of this onboarding module, but there are plans to add them in the future.

After the videos were recorded, Playposit was used to transform them into interactive video experiences. Questions were added to measure students' grasp of the program details and served two purposes: lock students' progress until they correctly answered the question and allow students to self-assess their understanding. Following a mastery-based learning approach,

students could retry each question an unlimited number of times and rewind the video to review the content before they tried again. Each answer choice also featured immediate, customized feedback to either guide students toward the correct answer or reinforce the content. Characteristics of mastery-based learning have been found to improve student learning outcomes and harbor a generally positive attitude toward courses and experiences that utilize them [9]. Using Playposit, ten multiple choice or fill-in-the-blanks type of pop-up questions were incorporated throughout the first video, with five being focused on GCSP overview and the remaining five each focused on one of the program competencies. The questions that focused on the GCSP overview covered the four themes that students can choose from to focus their entire journey on, the duration of the program at ASU, the role of GCSP staff and GCSP student leaders, and the recognition they will receive upon successful program completion. The competency questions each covered the different opportunities to fulfill the specific competency. To check students' understanding of the information covered in the second video, three multiple choice questions were included. The first one focused on students' theme focus for their GCSP experiences. The other two questions gauge students' understanding of the GCSP requirements based on analysis of a fictional example plan similar to what is shown in the video. Additional resources, such as a one-page overview of program requirements, were also incorporated into the videos as pop-ups or links.

A visual representation of the entire onboarding experience can be found in Figure 1 below, showing its overall structure and places where pop-up questions and additional resources are embedded in the videos.

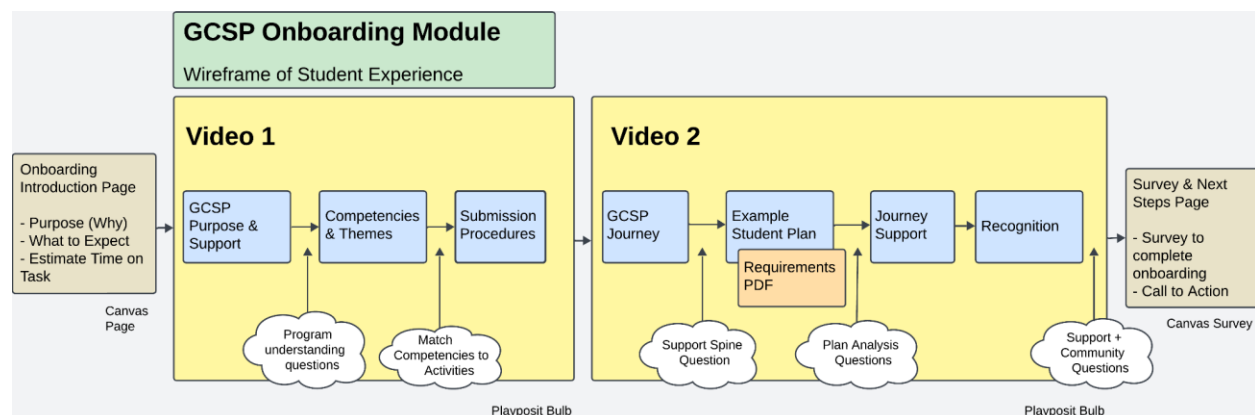


Figure 1. Diagram that visually represents the entire onboarding experience

Student Feedback

As a part of the onboarding experience, each student is required to complete a survey to provide feedback on the effectiveness of this onboarding experience in meeting its desired outcomes. The survey included two sets of Likert scale questions and two open-ended questions. By the time this data analysis was completed, 127 students had completed the onboarding survey. Responses

to the Likert scale questions were analyzed quantitatively and comments collected from the open-ended questions were analyzed qualitatively to identify common themes. The results are presented and discussed below.

The first set of Likert scale questions focused on evaluating the quality of the onboarding experience, including the videos, the questions embedded in the videos, and the onboarding experience completion directions. The questions asked each student to rate their agreement with the following statements on a Likert scale of 1-3 (1=disagree; 2=neither agree nor disagree; 3=agree): 1) the videos were engaging; 2) the questions helped me understand the information; 3) the directions made it clear how to complete the onboarding module; and 4) I feel prepared to start participating in GCSP. Figure 2 below shows the number of participants who agreed, neither agreed nor disagreed, or disagreed with each statement. One of the participants did not answer the last question and thus only 126 responses were collected for that question. Nearly 90% (113) of the 127 students felt that the completion directions were clear. Approximately the same percentage of students (90%, 112 of the 127) felt that the questions embedded in the videos helped them understand the information provided in the videos and this was further supported by the response to the first open-ended question, which is discussed later. Additionally, 82.5% (104) of the 126 students who responded to the last question agreed that they felt prepared to start participating in the program with no students reporting they felt unprepared (0% disagreed with the last statement). While 77.2% of the students (98 of the 127) agreed that the videos were engaging, this percentage is lower than desired. As an area of future improvement of the onboarding experience, the authors will explore strategies to make the videos more engaging.

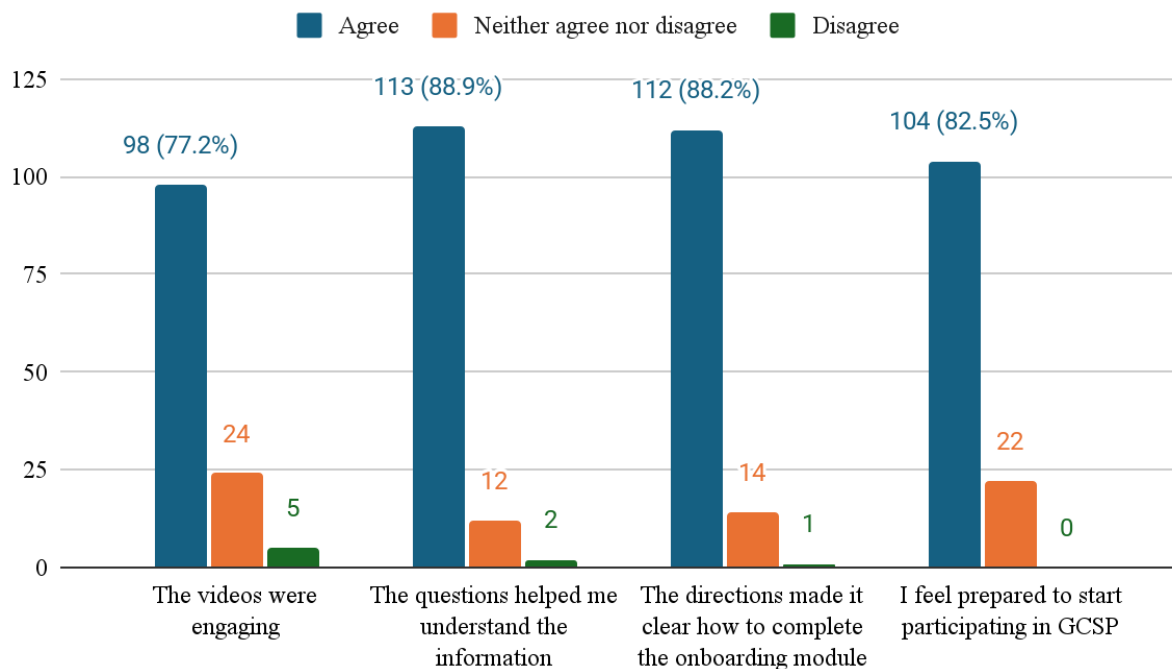


Figure 2. The number of participants that agreed, neither agreed nor disagreed, or disagreed with each statement about onboarding (total n=127, except for the last question for which n=126)

The second set of questions asked each student to rate their understanding of specific topics after completing the onboarding experience on a Likert scale of 1-5 (1=no understanding; 2=minimal understanding; 3=partial understanding; 4=good understanding; 5=complete understanding). The topics included were: 1) purpose and value of the Grand Challenges Scholars Program (GCSP); 2) who your support is and how they can help you; 3) the competency submission process; 4) opportunities at ASU to complete GCSP competencies. The mean scores for each question were calculated and are presented in Figure 3 below. The results indicate that students had a strong understanding of three of these four topics with mean scores near or exceeding 4.20. The competency submission process had a lower mean score. This is not surprising because it is a complicated two-step process that is important for students to become aware of but is not critical for students to fully understand it at the beginning of their program journey. Since additional resources are provided along students' journey to help them understand this process, it is not heavily emphasized in the onboarding experience. Students may better understand this process once they have selected specific experiences and courses they want to engage in to complete the program.

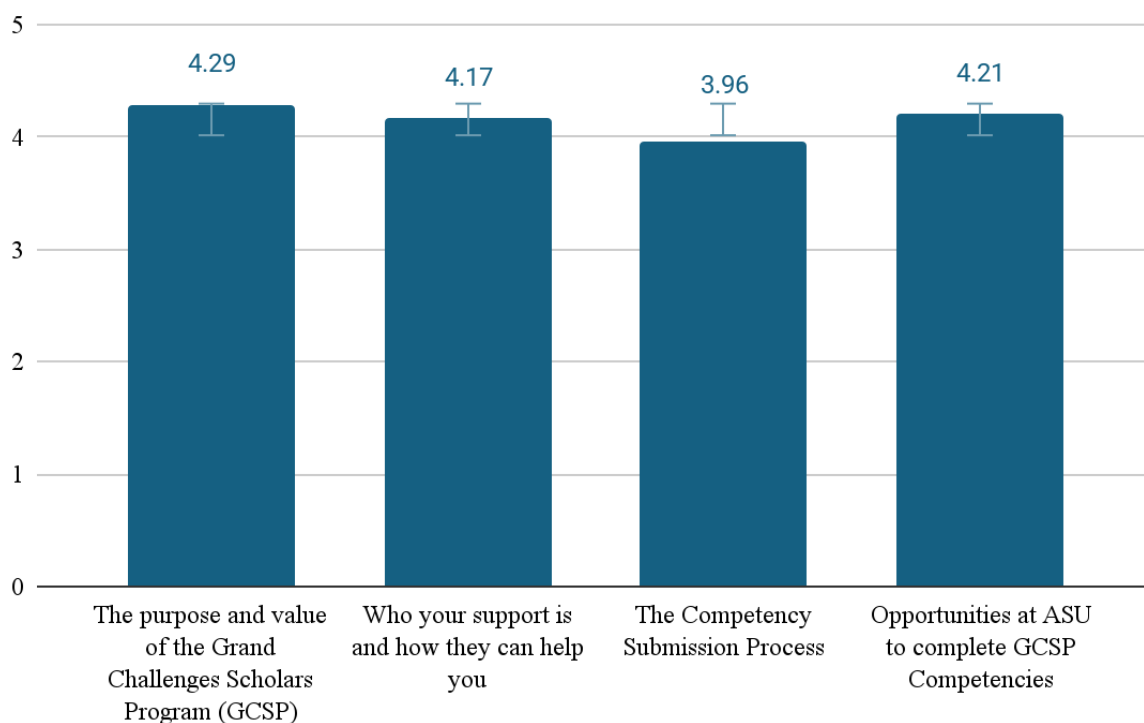


Figure 3. How well students understand the topics after completing the onboarding experience (total n=127)

Two open-ended questions were included in the survey to gather information about what students felt were the most beneficial parts of the onboarding experience, and what should be improved. One hundred and six students provided responses to the first open-ended question: *“Is there anything about the onboarding module that stood out to you in a way that was particularly*

helpful? In other words, is there anything that should definitely be kept?" These responses were analyzed qualitatively, and common themes were identified. The themes that showed up in at least five responses are listed below along with the number of responses in which they each appeared. Sample responses that showed each theme are also shared below.

Table 1. Common themes identified and their frequencies - what stood out to students as particularly helpful

Theme	Number of responses that mentioned theme
Questions embedded in the videos	24
Example 4-year plan	19
Examples of ways to complete competencies	17
Visuals on the slides	10
Style/organization/simplicity	9

Those who thought the questions embedded in the videos were particularly helpful mentioned that the questions kept them engaged and they highlighted the important information covered in the videos. For example, one student said:

"I like the questions that are presented in the videos since they highlighted the important facts and steps about GCSP."

And another student mentioned:

"I think the video questions kept me engaged and made me better understand the requirements."

Students who mentioned the example 4-year plan described it as being particularly helpful because it showed what their program journey could look like, illustrating what they could do and when. They also said that seeing the example made them feel less stressed about meeting the program requirements. Below are a few sample responses:

"I liked the example GCSP journey provided, it demonstrated the requirements in a very tangible and easy to understand way."

"I liked how it showed the example of a student's journey in GCSP because it helped me understand the specific things I need to do and when."

“The model 4 year plan was very helpful and made me less stressed about the workload heading into GCSP.”

Students who found the examples of ways to achieve the competencies shown in the onboarding experience helpful mentioned that the examples helped them better understand what different options are available to them and what they can and need to do to meet program requirements. For example, students mentioned:

“The examples of how to complete each competency were really helpful. It shows that there are different ways to achieve everything.”

“The examples for GCSP Competencies. It really helped me understand what kind of work or effort I will need to put in order to complete them.”

Those who mentioned the visuals being particularly helpful referred to specific visual representations in the videos, such as visuals depicting the required courses, program competencies, opportunities, or recognition. For example, they said:

“I liked the visual displays of possible ways to complete each competency.”

“I liked the diagrams of the courses we need to take for the program as well as the diagrams for all the competencies with a clear list of how to fulfill them.”

Some students noted that the experience was well organized, appreciated the simplistic style, and felt it was engaging. For example, one student said,

“The GCSP onboarding module stands out for its clear overview of the program’s structure, engaging interactive elements, and real-life examples from past scholars. These features provide clarity, inspiration, and a sense of direction. Step-by-step guidance on completing requirements also ensures scholars stay on track throughout the program.”

While less prevalent, some students also mentioned that the onboarding experience provided a good overview of the program and helped them better understand how to navigate the resources (see example response below). A few students also felt the one-page overview of the program competency requirements (an additional resource included as a pop-up within the video) was helpful and is a good resource that they can refer to throughout their program journey. Lastly, two students mentioned how they liked the video captions, which allowed them to better follow the information presented at their own pace and read the information missed while watching the videos.

“The onboarding module helped me navigate resources and understand what the GCSP program is about. It provided clear guidance on how to access important tools and introduced the goals and benefits of GCSP, making it easier to see how the program aligns with personal and academic goals.”

The second open-ended question asked students to share aspects of the onboarding experience that should be changed, removed, or added. Most of the responses mentioned that nothing needed to be changed. The suggestions that appeared in the responses include providing more example student journeys, letting students share their journeys, offering guidance on what classes they should take and how to choose theme focus, adding summaries at the end of the videos, including more questions for better engagement, providing more details on the early stages of GCSP journey, and sharing more information about the requirements, competencies, and the competency submission process. Most of these suggestions are valuable and will be considered as the onboarding experience continues to be improved in the future. While some students mentioned that the experience provided all the information needed to “*get off on the right foot*,” a couple students mentioned that some sections included too much information, and the experience provided a lot of information for someone just going into the program. This feedback will be carefully reviewed to continue to maintain a good balance between providing sufficient information to help new students become familiar with the program and keeping it manageable for new students.

Conclusion and Future Work

A virtual onboarding experience was developed and implemented for the Grand Challenges Scholars Program (GCSP), a multi-year co-curricular program, at Arizona State University (ASU) to prepare new students to get started in the program. An interactive video-based experience was designed and implemented within the program’s existing Canvas LMS page. Two interactive videos were created to introduce the GCSP at ASU, including program outcomes (competencies), requirements, opportunities (experiences, courses) to achieve those competencies, support available for the students, and recognition the students will receive. The videos used creative visual representations and student pathway examples to help students to understand what their experience in the GCSP could look like. Data collected through the survey included at the end of the onboarding experience indicates that the experience was successful at meeting its objectives for the students who have completed the onboarding experience in Fall 2024 (n=127). After completing the experience, students indicated that they understand the purpose and value of the GCSP, opportunities at ASU to complete the program competencies, and the support available to them. Survey responses regarding the quality of the onboarding experience indicate that students find the questions included in the interactive videos helpful, and that the directions for completing the experience are clear. Most students (77%) agreed that the videos were engaging, but that response was lower than desired. Overall students agreed that,

after completing this virtual onboarding experience, they feel prepared to start participating in the GCSP. The implementation of this new virtual onboarding experience has minimized staff time required to communicate, schedule, and conduct group or individual based sessions to onboard a large cohort of new students accepted into the program on a rolling basis, greatly increasing the efficiency of this process. Future work will focus on improving the virtual onboarding experience to make the videos more engaging. These changes may include incorporating student quotes and brief student videos into the experience, as that was part of the original planned design. Further research may be conducted to better understand how this onboarding experience influences students' first steps in the GCSP, and what students do after this onboarding experience to get started in the program.

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