

**PATHWAYS AND CAREER EXPLORATION IN STEM (PaCES)
PEER MENTOR INTERVIEWS**

Summary Report

Prepared for:



at



Prepared by:

Beth E. Rabin, Ph.D.
2064 Balmer Dr.
Los Angeles, CA 90039
bethrabin@sbcglobal.net

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BACKGROUND AND OBJECTIVES

Two community colleges in Los Angeles, Los Angeles Valley College (LAVC) and Los Angeles Pierce College, have implemented an NSF-funded program to support their STEM students: Pathways and Career Exploration in STEM (PaCES). Both community colleges are Hispanic Serving Institutions. Partnering with them in this program are the University of Southern California and BioscienceLA, an organization designed to promote the Southern California life sciences industry. The goals of the PaCES program are to:

- Increase STEM retention of underrepresented minority students
- Increase the transfer rate from 2-year to 4-year colleges as STEM majors
- Inform changes and improvements of academic resources to support future STEM majors at 2-year institutions

During the 2023-24 academic year, the program enlisted three of the previous year's students to act as peer mentors for this year's students.

The goal of this piece of the evaluation is to gather feedback from the peer mentors on their reflections of the program, best practices and lessons learned to date.

Methodology

In May of 2024 individual Zoom interviews were conducted with the three peer mentors by the independent evaluator; each interview lasted approximately 20-30 minutes. The peer mentors were informed that their comments would be combined with those of other interviewees, and that their responses were anonymous. Topics covered included their understanding of the goals of PaCES, their own role in the program, their feedback on how well the program is meeting the goals, and their suggestions on how the program can meet its goals even more effectively.

Interviews were conducted via Zoom and were recorded. Comments were transcribed from the recordings and were edited for clarity.

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SUMMARY OF FINDINGS

1. These peer mentors felt the PaCES program delivered benefits in two key areas:
 - Showing STEM students a wide variety of careers beyond the medical fields
 - Creating connections with accessible mentors and a supportive community of like-minded peers
2. They believe the roles of the peer mentor are to:
 - Advise students on classes, study skills, and other challenging issues
 - Help with field trip logistics
3. Note, however, that all the peer mentors wished for more guidance from PaCES about the expectations for their role; they felt they were left to create the job responsibilities themselves, and would have welcomed input. In addition, they felt that communication about field trips and scheduling could be improved.
4. PaCES students face several barriers to STEM retention, including cultural barriers (especially for first-gen students), financial barriers, and emotional barriers.
 - The peer mentors felt that the PaCES program, and the peer mentors themselves, can help overcome these barriers with advice delivered with caring and support.
5. One peer mentor stressed the importance of onboarding student participants as early in the semester as possible; this is when students need the most help with classes, study skills, and scholarships.
6. Note that the provided transportation (new this year) has allowed more students to attend field trips this year than in the past.
7. The PaCES program has helped the peer mentors themselves feel more confident and supported in their STEM careers.

PEER MENTORS' UNDERSTANDING OF PaCES GOALS AND BENEFITS

The most-frequently-mentioned program goal was to show students the wide variety of STEM majors available to them, especially beyond the health professions.

- “Expose STEM students to different pathways they can take that are outside healthcare or the medical field. I struggled with finding out the pathway I could be, either pre-med, pre-nursing, or pre-vet. This is a program I wish I had the first time I was going through undergrad. It exposes us to different careers that we didn't know were out there, like teaching.”
- “The main goal is to expose students to different career paths. I'll use myself as an example. The field trips were fun, and people are like, ‘Oh, this is something I could do for a living.’ So one of the main focuses of the program is to find a career path. You get to speak to people who work at those jobs, how they went to school, how they applied, how they got there. You kind of get a cheat sheet for how to get that job. A degree is only as useful as you make it.”
- “To help STEM students figure out what kind of career they want, that's not a traditional STEM career, like a doctor or engineer or something with computer science. It was really effective.”
- “I've heard some students say that they changed majors because of a field trip. The geologist we spoke to at the Natural History Museum, they said, ‘that's my sign to change my major to geology.’ They were in nursing before that.”
- “For me, there were so many other careers for my major that I hadn't even thought of, like the marine biology field, astrobiology as well, and the environmental influence, but they all had the biology aspect. My peers from the first cohort and the second cohort, I think it's opened a lot of student's eyes. I would literally see them going, ‘Oh my God, I didn't know you could do this with this major or that with that major.’ A lot of students are more eager to complete their major because they see that they don't have to actually become a doctor.”

Peer mentors also reflected on how the program helps students succeed in STEM by providing mentoring and building community.

- “Networking. For myself, even though I was just a mentor this year, I was able to speak to my mentors. I know a lot of people from last year, because they were able to speak to Dr. Kim at Catalina, a lot of them were able to get internships at USC because of that.”
- “People come out of themselves more. People are shy at the beginning, nobody wants to talk, they just sign up for the class. But to be able to go to Dr. Green, you can always go to her. That's very, very helpful.”

- “Also, just help guide them through the academics and struggles of being in such a tough major.”
- “It gives us a sense of community because STEM can be a lonely field. Especially those who still live at home with their parents, parents might not understand what it takes to succeed as a STEM major. Especially in a community college setting, you’re just kind of there, you go home, you don’t really have the opportunity to build community and make friends outside of classes. This is the opportunity for a bunch of different STEM focuses to come together. We’re like, ‘Got your back,’ or ‘What are you struggling with?’”
- “Building a community is one of the most special things about PaCES. We are all going on these field trips together, we all spent a week together on an island, we are all forced to get to know each other. We end up becoming really good friends, study tips for a specific professor’s class. Not only are we building really good friendships, we are also helping each other succeed in our classes as well.”
- “The students as well, we all helped each other. I see it now with the second cohort, they are helping each other and keeping each other motivated. I know at a lot of other universities, the STEM communities are very competitive but here it’s the total opposite. Everyone is doing the best they can to help each other out and I think that PaCES really helped foster that kind of community and friendship. This has made such a positive impact in my life and my feelings toward pursuing a STEM major and I hope that everyone else does, too.”

One peer mentor specifically mentioned help with the process of transferring to a four-year college.

- “There has also been a couple of college field trips as well, campus tours. They tell us steps to transfer, our own PaCES professors help us, too. They are super supportive during the whole application process, recommendations, they will help guide you through that.”

REFLECTIONS ON THE ROLE OF PEER MENTORS

Peer mentors are available to advise students on classes, study skills, and beyond.

- “I make myself available twice a week in our MESA center for them to come by if they are needing help in classes or getting organized.”
- “For the younger ones, every time you fail a test, you get imposter syndrome, what am I doing here. But to be able to tell them that one bad grade doesn’t define their career, being there for them.”
- “I tried to make it known that I’m still a peer and that they can always come talk to me and my friends. To be that ear for the students, or if they needed to vent about a hard class. I had some students ask me for transfer advice, what to include in their applications, would this club or this club be best, what professors to take for certain classes. Study tips, advice. Or their personal issues, something’s going on; I was there to listen.”

If a student has a problem, it might be easier for a student to talk to a peer mentor than to a professor.

- “It’s not from a professor’s perspective, it’s from someone more at their level.”
- “It’s easier for students to speak to another student rather than to a professor. Professors can come out scary. I tell everybody that Dr. Green can come off as mean, but you can speak to her. But if they feel more comfortable speaking to us, that’s fine. We can relate a little more, we are the same age, rather than speaking to the professor.”

Peer mentors also play a “camp counselor” role on field trips, helping with logistics and extended the experience.

- “On Catalina I already knew what was going to happen so I was able to help them with their expectations, and I was able to provide them with additional experience that wasn’t part of their scheduled thing, something we could do since we were already there.”
- “When we went to Catalina, one of our jobs was to make sure everyone was there, we were on a tight schedule. Get up, breakfast time. Kayaking, snorkeling, make sure nobody is missing. One student was missing but he was asleep.”
- “During the Catalina trip was when we really had to play our peer mentor roles. We also planned activities, like a sunset hike. On field trips, I was there to make sure they were there and didn’t get lost.”

HOW THE PaCES TEAM CAN SUPPORT THE PEER MENTORS

All the peer mentors wanted to help as much as possible, and suggested that the PaCES program provide them with guidance and structure.

- “As a peer mentor, when we first got this opportunity, we weren’t provided any guidelines on what to do. They said, OK you guys, do what you need. In my cohort, we didn’t have peer mentors so I was a little confused. So we had to trust our own judgement and talk amongst ourselves and say, OK, you do this responsibility and I’ll do this responsibility and switch off.”
- “Provide some guidelines as to what they would like us to do and we are not just playing it by ear. We want the students to get the absolute most out of the program. We want to prepare ourselves so we can do our best. Maybe a job description.”
- “The professors could communicate with the peer mentors more, because things were getting lost, what’s going on, what’s the schedule looking like.”

Another thought was to have the peer mentor program in place at the start of the semester, when students need the most guidance.

- “The only thing I would say is maybe have the schedule out a little earlier. For us to start doing what we had to do, it wasn’t from the start of the semester. But the hardest part for the student is the beginning of the semester. So it would have helped them more if we were there at the beginning, making sure they have their financial aid, making sure they have their books. That would have helped a lot more. Have a list of students before the semester starts, what their majors are, and start from the very beginning.”

One felt there is value in having more input from the peer mentors themselves.

- “Maybe involve the peer mentors more in planning. They have some great ideas on where to take the students, but they already had everything planned out. Or a different perspective of what the students might be interested in.”

PERCEIVED BARRIERS TO STEM RETENTION FOR COMMUNITY COLLEGE, FIRST-GEN COLLEGE, AND UNDERREPRESENTED STUDENTS

The peer mentors mentioned the following barriers that impact STEM retention and transfers to four-year colleges, and how the PaCES program can help overcome those barriers.

Barriers for first-generation college students:

- “One of the hardest things is for first-gen, you don’t have your parents, you do have Dr. Green and Dr. Byrd Williams, too. It makes you feel that yes, you are able to do this. You can reach your goals. This program really does push you.”
- “The majority of our PaCES students are first generation, and people of color. In my culture, our parents sometimes don’t understand exactly how difficult it is to be a STEM major. They are asking to do this, watch our sibling, go to this family party. We get frustrated. We have first generation guilt that we have to do everything with our family but I have this test that I have to study for and have to do well on. Maybe the PaCES program can send a letter explaining what each major might entail and realistically how many hours you should be studying.”
- “We have a couple of undocumented students. Not understanding the restrictions undocumented students have. We were going to visit the Space Command which is basically a military base, and they were excluded from that opportunity.”
- “They might have other things going on at home that takes up a lot of their focus, besides STEM. Encouraging some of those students to become peer mentors.”

Financial barriers:

- “For first-gen, how to pay for your school, your classes, your books. So being part of the program earlier, you can learn about scholarships and how to apply. People don’t even apply because people don’t even know. That’s something that would really, really help.”

Feeling “less than” as a community college student:

- “For community college students, they think that STEM is already hard. What I found really, really cool was that even as community college students, we were able to go on a lot of different field trips.”

HOW THE PROGRAM HAS HELPED THESE PEER MENTORS

Throughout the interview, the peer mentors reflected on how the program has helped them with their academic paths.

- “I found this program to be incredibly helpful to me, I was able to make friends outside of campus and I feel like I belong.”
- “PaCES is one of the best programs I’ve ever been in. It just provided me with a lot of new opportunities and experiences I know I would not have done myself without the push of the program. For example, the trip to Catalina, I never would have gone snorkeling. I have a fear of the ocean and I just threw myself in there. That never would have happened without the PaCES program. The professors who help run it are very supportive and helped me continue on in pursuing a STEM major. There was a point I was thinking about quitting and not pursuing a STEM major, it showed me there are all these other exciting careers for your major and I should keep pursuing it. The students as well, we all helped each other. I see it now with the second cohort, they are helping each other and keeping each other motivated.”
- “This has made such a positive impact in my life and my feelings toward pursuing a STEM major and I hope that everyone else does, too. The program also helped me write my college essays because I had a lot more to talk about.”
- “I remember starting out, getting my mentor and thinking maybe STEM is not for me. But here I am, first-gen, hopefully finishing my STEM degree at community college. The motivation is always there, but what’s bigger is the support you get, about classes, books, jobs, careers. The support is always there for them.”

FINAL REFLECTIONS FROM THE PEER MENTORS

The peer mentors were asked if there was anything else they wanted the program to know about their experience with PaCES.

All three mentioned how valuable it was to have transportation provided on the field trips (as compared to last year when they were part of the program cohort).

- “One of our biggest complaints with last year was not providing transportation to field trips, and they definitely heard that this year. It was so great. We went to some places that were quite far and that would have reduced the number of students.”
- “Being able to provide school buses, that was really, really helpful. I’m glad we got them this year. There was a lot more students who were able to come because of transportation.”

Some talked about how the program has benefited other students in their cohort, or this cohort they were mentoring.

- “When I was participating, there was one student who really took advantage of the program. He was able to go back to Catalina and has really grown that connection with Dr. Kim at USC. Just because of that program, he was not only able to get an internship but also get a relationship with that professor. That connection is going to come a very long way. He was showing us how they have 300 students apply to the program and they only take 8, he was showing us that when you get accepted, they show what school they were coming from. They were coming from all these big schools, and then it was him, a community college student. I tell the new students, if you really want to, go and talk to her, and she will tell you how to get into this program.”
- “Last year we went to the Natural History Museum. It was pouring that day but we were able to look in the lab where they process the stones. The museum opens early in the morning, so coming out of the labs, all the little kids were asking us questions. They see us in the lab, looking at fossils, and when we came out, they would bombard us with questions.”
- “My old mentor went to UCLA in neuroscience and now she’s working at Kaiser. I didn’t even know that I could apply for certain jobs at Kaiser and to have her recommend me so I can apply, I can get more experience in the medical field.”