MESA Coordinators’ and MESA Advisors’ Perceptions
Summary Report

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The purpose of the MESA Perception Interview Summary Report is to understand the perceptions of MESA coordinators and MESA advisors on the different components of the MESA program as well as their perceived roles and the roles of others in the MESA program. MESA coordinators and advisors perceptions were assessed through interviews, which included questions related to the goals of the MESA program, the types of activities involved, the types of academic support, the coordinators’ or advisors’ expectations of the program, and some challenges of the program, if any. Two MESA coordinators and 10 MESA advisors from the Oxnard school districts volunteered to be interviewed.

This evaluation is part of a larger evaluation of the Mathematics, Engineering, Science Achievement (MESA) Program that is under the Hispanic Serving Institution (HSI) Science Technology Engineering Mathematics (STEM) grant, and is funded by the Department of Education.

Results indicate the MESA coordinators and MESA advisors understood their roles and the roles of others in the MESA program. In addition, most of the participants interviewed understood the mission of the MESA program, the various activities involved, the goals of these activities, and the types of academic support services offered. MESA coordinators and advisors perceived the MESA program to be very effective for students. A common response that was shared among the interview participants was that MESA program is an effective program for students to stimulate their math and science interests, as well as foster critical thinking and problem solving skills when engaged in project-based activities. Although the MESA program is perceived to be a great program, the MESA coordinators and advisors perceived there is still room for improvement. Some recommendations on how to improve the MESA program are provided in the conclusion and recommendations section.
MESA

The MESA program is an academic preparation program for educationally disadvantaged students in middle school, high school, community college, and university students. This Perception Summary Report will focus specifically on MESA middle and high schools in the Oxnard school districts. To encourage and support low-income and/or first-generation college-going students interested in Science, Technology, Engineering, or Mathematics (STEM), MESA provides students with hands-on projects and activities, competitions, academic support, college readiness workshops, career exploration, field trips, industry involvement opportunities, and community involvement opportunities.

Purpose

The purpose of the MESA perception interview is to gain a better understanding of the MESA coordinators and advisors’ perceptions of the various components of the MESA program, as well as understanding how the MESA coordinators and MESA advisors perceive their respective roles and the roles of others in the MESA program. This perception interview also provided MESA coordinators and advisors the opportunity to discuss any barriers and/or limitations, and offer any suggestions or recommendations.

Participants

There were a total of two MESA coordinators and 10 MESA advisors who volunteered to be interviewed from the Oxnard School District and Oxnard Union High School Districts. It is important to note that this report is a summary of the Oxnard school districts’ MESA coordinators’ and MESA advisors’ perceptions and does not reflect the perceptions of all coordinators and advisors of the entire MESA program. In addition, not all of the MESA advisors in the Oxnard school districts were interviewed, and thus the summary report of the advisors’ perceptions may not be representative of all MESA advisors in the Oxnard school districts.

Interview Protocol

The interview consists of questions related to the goals of the program, the types of activities involved, the types of academic support, your expectations of the program, and some challenges of the program, if any. Interviews took place at a time that was most convenient for
the advisors and coordinators during the months of May and June 2014. On average, interviews were approximately one hour long. Interview participants signed a consent form that stated the participants’ responses disclosed during the interview will remain confidential and names of the participants will not be used in the report to maintain participants’ anonymity.

The following analyses will present perceptions from the MESA coordinators and MESA advisors in regards to the mission of MESA, activities, academic support, expectations, limitations and any barriers.
MESA Coordinator Perceptions

General Questions

Mission of MESA. MESA’s mission statement is “to create opportunities for educationally disadvantaged students, especially those from groups with low participation rates in college, to prepare for and enter professions requiring degrees in engineering and other mathematics-based scientific fields.” When both coordinators were asked what they perceived to be the mission of MESA, both indicated that MESA is aimed to motivate students to pursue STEM fields; engage in hands-on activities and projects; build critical thinking skills; participate in S&T MESA Day; prepare them for college; and motivate students, support students, and provide resources.

Implementation of the MESA program. One of the coordinators mentioned that the implementation of the MESA program operates differently at the middle school and at the high school level. At the middle school level, the program meets after school with the exception of Haydock Intermediate School, which has a MESA class where students meet every day. One of the coordinators perceived there to be more activities and projects conducted at the middle school level than at the high school level. The MESA programs at the high schools meet during lunch or after school and operate more as an information session or “club” led by student representatives. Due to the short lunch period, there are often not a lot of hands-on activities that are conducted at the high school level. Both MESA coordinators mentioned that most of the high schools hold their MESA program during lunch and not after school because it does not conflict with other club meetings, sports, or other after school activities.

The coordinators perceived that MESA is having an effect on students by creating a college going atmosphere and providing students an opportunity to engage in hands-on projects and activities. In addition, one of the coordinators responded that MESA teaches students critical thinking skills, the engineering process, and builds confidence. One of the coordinators mentioned that “I know we have an impact, but I’m not sure if we have the impact to influence students’ decision to go to college.” The coordinator adds that this may be due to fact that MESA tends to recruit students who are already interested in math and science and have plans to go to
college. In addition, students may be involved in other programs such as Upward Bound and AVID, that may influence students’ decision to go to college.

Even though the MESA coordinators perceived there to be an effect on students through participating in the MESA program, they suggested that more can be done to better support students including having more academic preparation, providing additional support for students, and forming relationships with students to a point where the coordinators become the students’ main point of contact. However, as the coordinators noted, due to the large number of participants and budget restraints, there is only so much that can be done. Further recommendations will be provided in the conclusions and recommendations section.

Activities

There are many MESA activities, some of which include building straw towers, paper airplanes, paper bridges, paper towers, and spaghetti towers. The MESA coordinators perceived the goals of the MESA activities are to practice the engineering process, develop critical thinking and problem solving skills, learn team work, gain confidence in oneself, engage students in STEM, and stimulate excitement about working on projects and activities. The coordinators were asked how effective the following activities were: MESA orientation, workshops, MESA Days, Family STEM activities, hands-on STEM projects/activities, and collaborating with partners to share and exchange information. The coordinators perceived the MESA orientation to be somewhat effective in the sense that there were people signing up, however, there were no enrollment forms available at the time of the orientation. Thus it was difficult to recruit students to enroll in MESA. One coordinator also mentioned that there should be some sort of tracking system that accounts for the number of students who initially enrolled at orientation and the number of students who persisted throughout the program. This will enable the coordinators to compare the list of those who signed up with those who are actually enrolled and determine student retention rates.

In terms of workshops, there were UC application college workshops and financial aid workshops. The coordinators perceived these workshops to be effective for the 15 students who showed up, but could have been more effective if there were more students who attended. It is recommended to advertise these workshops more broadly and invite parents to come, if possible. Both MESA coordinators perceived MESA Days to be very effective in the sense that students were excited about STEM and provided an opportunity for students to attend college campuses
and interact with college students. One of the MESA coordinators noted that there have been low turnouts for the academic workshops at the MESA Days and suggested that more students should take advantage of the academic workshops. One MESA coordinator suggested having a stamped booklet demonstrating students’ attendance at the academic workshop, and students need to have completed a stamped booklet before getting lunch.

Both MESA coordinators indicated that Family STEM activities are very effective. Frank Intermediate School held a Family STEM night this past 2013-2014 academic year and welcomed parents and families to attend and work on similar hands-on activities that their child works on during the year. One of the MESA coordinators expressed that

“They [parents] need to have a vested interest in knowing what they [students] are doing. So they can help them, guide them, be involved in what they're doing. A lot of first generation students need information on college readiness things, it’s going to help students and parents understand why it’s important to go to college. If parents don't know, how are they going to help them?”

Family STEM nights may be one way to get more parents involved in their child’s education. It is suggested to continue having Family STEM nights to foster these types of interactions and increase parental involvement.

One MESA coordinator perceived that the hands-on activities and projects are effective in keeping students challenged, interested, and motivated in doing more activities and projects. One of the coordinators mentioned “that’s what the kids want. They’re really good at it.” In terms of collaborating with partners and schools, the coordinators would like to work more closely with schools and partner with counselors to determine what the counselors are doing with academic preparation. Both coordinators mentioned that doing more academic preparation is one area in which they can improve on for next year.

**Academic support**

Academic support is provided through a variety of workshops and activities such as the college readiness workshops, MESA period, MESA program meetings, academic advising, and field trips. MESA coordinators were asked what they perceived to be the goals of these academic supports. One of the MESA coordinators perceived the goals of these academic supports are to inform students and prepare them for college. The college readiness workshops include a review of the A through G requirements, study skills, academic preparation, and college and career
exploration. One of the coordinators recommended inviting guest speakers into the classrooms next year, which will allow students to experience what a STEM professional does and understand how they got to be where they are in their profession. In terms of the MESA period and program meetings, the coordinators perceived one of the goals is to on competition projects and get feedback. However, after the competitions are over, one coordinator emphasized that it is important to continue motivating students and encouraging them to do math and science.

At the high school level, one MESA coordinator is trying to gain a better understanding of what being in MESA means. For example, the coordinator noted that the meetings at the high school are treated more like a club and not as a program as it is at the middle school. The coordinator would like to strengthen the program to increase student involvement and participation, and possibly incorporating more academic preparation and guest speakers might help. In terms of academic advising, one coordinator mentioned that there should be more of it and that this might strengthen the program. The coordinator expressed that they would like to see MESA coordinators to be the “go to person” when it comes to academic advising.

In terms of field trips, there have not been many trips due to budget restraints. However both coordinators emphasized the importance of field trips and would like to have more in the future. More specifically, the coordinators felt that having college trips for juniors and seniors would help them think about college and experience college life for a day. One coordinator suggested another academic support that could be effective is for MESA to provide tutoring and mentoring services, which would help students with their homework and study skills. The coordinator indicated that there were at least two students who expressed interest in seeking tutoring. Perhaps this tutoring and mentoring service is something that could be incorporated into next year’s program.

**Expectations**

MESA coordinators were asked what they perceived their roles and responsibilities are as a MESA coordinator. Both coordinators perceived their roles as supporting the advisors and helping them run and organize their meetings. One coordinator mentioned this level of support differs at the middle school and high school level, where at the middle school, coordinators give feedback on students’ projects and the advisors handles the logistics. On the other hand, at the high school level, the coordinators help the student leaders organize the meetings and provide structure to the meetings. Both coordinators also expressed their roles as organizing activities for
students and preparing students for S&T MESA Day. One coordinator added that they are also responsible for hosting workshops and providing additional support for advisors and students.

The coordinators were also asked what they perceived to be the roles of MESA advisors, the MESA director, Office of Education Partnerships (OEP) director, Oxnard College STEM director, and graduate student evaluators. Both coordinators expressed the roles of the MESA advisors are to provide a space where students can meet, facilitate the program meetings, distribute and collect enrollment forms, provide information about summer programs, scholarships and other financial aid, and act as a support system for students. For the MESA director, Phyllis Brady, both coordinators perceived her responsibilities include ensuring the MESA program meets its intended goals, providing funds for the program, handling the budget, writing reports and sending deliverables to the statewide office, contacting districts and principals, and managing day-to-day issues. One coordinator added that she also oversees and motivates the coordinators and provides guidance and support to them. The coordinator noted that it might be helpful, in terms of professional development, if the director allowed for more autonomy with respect to the coordinators carrying out their assigned duties.

Both coordinators perceived the OEP director, Mario Castellanos, as the executive director for the department who supervises the coordinators. However, both coordinators noted that Mario is not involved in MESA and thus does not have any major responsibilities when it comes to the MESA program. In regards to the OC STEM director, Cynthia Herrera, both coordinators noted that she funds the MESA program in the Oxnard school districts. Although she provides resources in terms of bringing people from the community, one coordinator noted that they could improve their partnerships. For example, the coordinator noted that the MESA program could work together with the networks that Cynthia has in order to provide more support and opportunities for MESA students in Oxnard. One coordinator expressed enjoying that collaboration with OC when they hosted the STEM Expo a few years ago. This coordinator perceived the STEM Expo was a great opportunity for MESA students to experience hands-on activities and projects at the community college.

Regarding the graduate student evaluators, both coordinators emphasized the importance of evaluation and that it is critical in demonstrating what the MESA programs do. In addition, the coordinators perceived that evaluation can help determine if the program is effective or not. One coordinator mentioned that,
“It [evaluation] is vital to show stakeholders, these programs aren’t just using your tax dollars, but there are results. And because of that, we can apply for grants, to get more money for programs, and get it back to what it used to be. To get the voice out there that these programs are important and they are working. It’s data that drives it. If you don’t have data that shows that it’s not working, then it’s not working”

The coordinator added that there is a lot that can come out of an evaluation, and there needs to be more of it done; however, at this point, the MESA program has not had any evaluations conducted in the Oxnard school districts.

**Support**

The coordinators were also asked the extent to which they have received the support from the following people: MESA director, OEP director, OC STEM director, MESA advisors, MESA school personnel, UCSB OEP/MESA staff, MESA statewide office (University of California Office of the President (UCOP)), OC STEM Center, MESA college students, and parents of MESA students. The coordinators indicated that they have support from the MESA director, MESA advisors and school personnel, UCSB OEP/MESA staff. However, the coordinators indicated they do not interact much with Mario or Cynthia regarding MESA, nor do they interact much with the MESA statewide office, MESA college students, or parents of MESA students. The coordinators added that they each provide support to one another and help each other when needed.

**Barriers**

The MESA coordinators were asked if they have encountered any barriers with the following people: students, parents, advisors, and UCSB MESA Center. There have not been any challenges with students; however, there was an incident that involved a parent, where the student indicated that he/she was not going to participate in S&T MESA Day. As a result, the coordinator found a replacement, but a few days before the event, the student, who originally was not going to participate, indicated that he/she was going to participate after all. This issue involved the parents and administration and the coordinator felt it was not handled in the right manner. In the future, the coordinator suggested having a form that indicates whether or not a student is planning on participating in S&T MESA Day and having both the student and parent sign the form. This might prevent any confusion in the future.
The coordinators both expressed facing some barriers with the MESA advisors, and would like to change how the advisors have been conducting MESA for years. For example, the coordinators expressed that they would like the advisors at the high schools to meet more regularly and provide additional hands-on support for the students. In addition, one coordinator expressed not only giving students the materials, but also teaching them the concepts behind the activity or project, which may stimulate interest in STEM and develop a better understanding of how things work. One coordinator also mentioned having better lines of communication between the co-advisors at each site.

In terms of the UCSB MESA Center, one coordinator mentioned that there were issues of mileage reimbursement. The coordinator expressed that driving up to UCSB for OEP meetings once a month were not conducive, given the amount of time it takes to travel to UCSB and back to Oxnard, and that they could have easily participated in the meeting over the phone. The coordinator indicated that if they are expected to drive to UCSB, they should be reimbursed for mileage.

In addition, one of the coordinators mentioned that there should be a manual that describes the job description and what is involved in being a MESA coordinator. There is not a lot of support or guidance provided, and thus the coordinator expressed feeling lost in figuring out what their role is. One coordinator also mentioned that it would be helpful if the UCSB MESA Center shared the budget with them so that the coordinators can relay the information to the advisors as to what equipment and supplies they can purchase. One coordinator added that having an idea of what the budget looks like will enable the coordinators to plan activities in advance and possibly host a field trip if they know how much money is remaining in the budget. Currently the coordinators have to request for the supplies and receive approval from the MESA director. Furthermore, the coordinators indicated they are not aware of how much money is available for certain activities, which limits how much they can plan for.

Limitations

In terms of limitations, both coordinators agreed that the budget is a big limiting factor, which affects the number of students who can compete in a project, the number of supplies for students, the number of field trips taken, and so forth. One coordinator noted that MESA needs to improve their partnerships with school districts and become more involved in collaborating with schools that are moving toward a cohort or academy model. The coordinator perceived
MESA lacking the funds to do this model, and thus, it would be beneficial for students if MESA collaborated with school districts that have this model in place. For example, the MESA program at Hueneme High School is beginning to collaborate with and share resources with the Engineering Academy. The MESA coordinator indicated that this is a good start; however there should be more efforts in continuing this collaboration.

One coordinator expressed that it would be great to provide professional development opportunities, however, due to the lack of budget, this has not occurred. Both coordinators expressed that they would like to be more involved with the budget. One coordinator suggested that it would be ideal if they could have their own budget to work with instead of going through the process of requesting and waiting for approval, which prevents the coordinators from planning ahead.

One coordinator also emphasized that there have not been any evaluations conducted on MESA and that this perception interview is the first step in that direction. The coordinator added that there needs to be more evaluations conducted to determine if the MESA program is effective for students. In terms of other limitations, one coordinator expressed that they lack authority with the advisors. For example, the coordinators provide a deadline to get the enrollment forms in, but some of the advisors do not meet the deadline. This coordinator would like to be able to hold advisors more accountable, if possible.

The perceptions describe previously are from the MESA coordinators. The following analyses will present perceptions from the MESA advisors regarding their perceptions of the mission of MESA, activities, academic support, expectations, and any barriers they may have encountered.

**MESA Advisors Perceptions**

**General Questions**

**Mission of MESA.** When advisors were asked what they perceived to be the mission of MESA, most indicated that MESA aims to increase first generation students’ interest in STEM by giving them a hands-on learning experience that incorporates mathematics, critical thinking, and problem solving skills. Some advisors also noted that MESA provides opportunities to students who may not always have such opportunities and encourages students to pursue STEM fields by exposing them to college and providing academic support to go to college. One advisor indicated that the mission of MESA is “to get kids excited in math and science. Hey look this is
cool stuff we’re doing it, not just solving for x, or filling a test tube, there’s cool applications. MESA gears it towards that, more like gaming and types of things that this generation is into.”

**Perspectives of the MESA program.** Advisors provided their perspectives of the MESA program and unanimously noted that it is a necessary program for first generation students to become engaged in STEM activities and STEM fields through a combination of science, engineering, and math competitions and explorations. One advisor noted that MESA “builds a sense of community” and “builds a support network” while “motivating students to follow STEM careers and doing projects/activities to engage students, not just having dry lectures.” One advisor perceived the MESA program to be similar to the AVID program where it supports first generation, underrepresented student populations in math and science.

**Components of the MESA program.** It is clear that all advisors are aware of the different components of the MESA program, which include regular MESA meetings, competitions, hands-on activities, engineering design process, team work, problem solving and critical thinking, college readiness, and exposure to various colleges and universities.

**Implementation of the MESA program.** There were mixed responses regarding the extent to which the MESA program is accomplishing the mission of MESA. Some advisors indicated that their schools are implementing the MESA program well. In particular, one advisor indicated, “We’re doing a pretty good job. A lot of our former students are still involved in high school.” Another advisor mentioned, “I think it’s doing a good job across the roster. We bring students in from lower level schools and higher levels and they are interested in science and going on to college. We have at least 50-60 students come in every year. Last year there were 20 graduating seniors, who were involved more than 2 years. I still keep in touch with students.” It is apparent that advisors measures the success of the implementation of the MESA program through seeing their students graduate and pursue STEM fields in college.

On the other hand, some other advisors indicated that there could be improvements. One advisor noted that the MESA program is functioning as an after school student-led club and the level of involvement and engagement is ultimately up to the student. In addition, this advisor mentioned that at the very least, the opportunities are available; it is simply a matter of reaching out to more students. Another advisor made similar comments and noted that he/she has not been as involved as he/she should be since the students take charge of the meeting. This advisor indicated that there should be lesson plans and activities in place to maximize the time to work
on projects rather than perform logistical tasks. This advisor suggested that the ideal MESA program would include a STEM themed program to work on every time students meet, where students are interested in the activity and can relate it to the real world. Another advisor indicated that “I’m doing my absolute best, but I haven’t covered every area of science.” Another advisor noted, “I think we’re meeting those goals; although there are many other kids that could have participated but aren’t allowed. Ideally that’s what we’re trying to do; but oftentimes they don’t participate in MESA because of the policies put in place, recently.”

Several advisors offered a number of suggestions to improve the implementation of MESA. One advisor suggested, “In the future, we really want to have professionals in the area come into the classroom and give talks, because hearing from the teachers isn’t as much fun as hearing from somewhere who has a real job, in the students’ eyes.” Additionally another advisor suggested having more academic advising such as the A through G requirements, as well as introducing students to the majors offered at the university. One advisor indicated that the scheduling of the meetings should be changed where there will be a weekly lunch meeting to discuss logistics, and an after school meeting to work on projects/competitions. Another advisor indicated there should be more connections made to science and engineering, where students are not just building the projects, but understand the concepts behind it and have advisors and coordinators reinforce the science and engineering involved in the projects.

Furthermore, one advisor indicated that there could be more collaboration between co-advisors. Another advisor suggested there should be more collaboration between Oxnard school districts and Oxnard College. More specifically, the advisor mentioned, “I think we need a better partnership with Oxnard College. We hardly ever see them here. They have a lot of resources and money but oftentimes it doesn’t trickle down to kids who don’t have resources. They can offer PD [professional development] workshops; programming courses for the kids; provide the kids with after school and summer opportunities; provide summer bridge programs for kids interested in these STEM fields; building partnerships to have opportunities available for students.” These recommendations along with other recommendations will be discussed in further detail in the conclusion and recommendations section.

**Selection criteria.** MESA’s selection criteria are that students must be low-income, and both parents must not have graduated from college. Officially, if one of the parents graduated from college, then the student cannot be enrolled. Although it seems the advisors understand and
are aware of these selection criteria, it seems that the advisors open the enrollment to any student who is interested in MESA. One advisor noted that “I’m aware the MESA grants want us to hit a socioeconomic target, and most years we are pretty close by accident. We don’t know the students’ SES background when they sign up.” Thus having the MESA enrollment forms early in the registration would be critical for knowing if the student meets the selection criteria. One suggestion to this issue was provided by one advisor who noted, “In the past we had always taken whoever wanted to be a part of it. And I know in the beginning of this year, the MESA plan, [which] we have to follow now because we had broken the guidelines in the past by allowing whoever wanted to be in MESA to be in MESA. We’re looking to revamp what we’re doing to not turn away kids; they don’t meet the requirements, maybe transfer students into a STEM club.” Offering another STEM club that does not have these restrictions may be one solution to not turn students away from resources and services.

**Effect of MESA on students and parents.** When asked how advisors know MESA is having an effect on students, several advisors noted multiple indications including students’ level of interest and motivation to work on projects, as well as their interest to become student leaders. In addition, several advisors indicated students’ commitment to participate in MESA for a number of years is a good indication of the positive effect MESA has on students. In particular, one advisor mentioned that when it comes time for graduation, he/she observes first generation senior students, who have been in the MESA program for three to four years, plan on to going to college, where some will major in a STEM field.

Though there has been evidence showing the effect of MESA on students, there is little evident showing the effect of MESA on parents, given that there are few parents involved in the MESA program. Nonetheless, one advisor mentioned that in conversations with parents, the parents expressed excitement for their child to compete at the last regional finals.

**Activities**

There are many different activities and projects conducted at the MESA programs. The most common activities include balsawood glider, catapult, straw towers, stick together bridges, air-powered rockets, and marshmallow blow guns. The activities differ at Frank Intermediate School, where the MESA Program partners with the after school science club to conduct dissections various species including squid, earthworm, and eye ball. They also have MESA
activities including straw towers, paper towers, and work on competition projects including mousetrap cars, gliders, ALICE, computer programming, and robotics.

The activities in the MESA period at Haydock Intermediate School also differ since students meet with their MESA advisor every school day. According to the MESA period instructor, students first learn about the engineering design process and annotate their spiral notebooks by drawing the design, testing it, improving it, testing it again, reflecting on the project, and self-grading themselves. Groups of students will also give presentations on what they observed, what they discovered, and what they learned. Some of the activities in the MESA period include spaghetti towers supporting marshmallows, straw towers supporting marshmallows, civil engineering, measurement, cantilever beam out of newspaper to support a soda can, straw shapes, conducting research on tension compression, eraser beam, popsicle stick bridges, bridge stick together, paper cars, rubber band car, mousetrap cars, paper gliders, balsa wood glider, and catapult launcher.

One advisor noted that he did not do many activities this year since the students were in charge of the meetings. This advisor indicated that he/she would like to have more activities involved and felt concerned that there was not more. However when the advisor brought it to the attention to the MESA coordinators, one of the coordinators reassured him that is how the meeting is operated, and is student-led. These concerns about the level of involvement of advisors in the student-led meetings should be addressed and the organization of the after school club structure should be revisited.

**Activity goals.** Advisors indicated the goals of the MESA activities are to introduce students to the ideas of science and engineering; establish team work; develop problem solving skills; develop critical thinking skills; brainstorm ideas; design ideas; follow instructions and follow the MESA guidelines; make connections to science; connect with students’ engineering skills, scientific skills, and mathematical skills; have practical application of scientific concepts; have hands-on experiences; and provide opportunities to experience what it takes to pursue engineering or similar fields.

**Effectiveness of activities.** Advisors were asked to what extent the following activities were effective in reaching its intended goals including MESA orientation, workshops, MESA Days, family STEM activities, hands-on STEM projects/activities, and collaborating with partners to share and exchange information. For most of these activities, the advisors perceived
that these activities, where applicable, were effective in reaching its intended goals. Some advisors indicated that they did not have family STEM nights or any collaboration with partners to share and exchange information, but would like to have these activities in the future.

**MESA orientation.** The advisors indicated that MESA orientation was a good opportunity to “get the overall message on what MESA is all about” as well as a “good way to get students.” However some advisors noted that a lot of students signed up but did not follow through and show up to meetings. One advisor suggested have a tracking system that will track students from the day they sign up to the day to the day they attend meetings. Another opportunity for recruitment was the advisors going into the classroom and passing the information out. One advisor noted that both co-advisors went to all honors classes and talked for a few minutes to let students know about the program, but was not sure why they could not go to all classes.

**Workshops.** Advisors indicated that there is a lack of workshops in the MESA program and would like to see more of it in the future. One advisor indicated partnering up with the college and career center to have counselors talk to students about college readiness and explore different college programs.

**MESA days.** All of the advisors interviewed agreed that the MESA days were very effective, where students were excited about competing with other schools. One advisor indicated “that’s what it’s all about. The students are so excited about going and competing with other schools. When you see them getting on stage getting medals, it is inspiring that they accomplished something.” Another advisor noted that “I think, that’s probably the, S&T Day is the best method of reaching its goals” and added “I think UCSB has the best finals, regionals, they always try to have activities for every kid to be involved. Santa Cruz wasn’t as effective. UCSB goes all out. They have the SHPE chapter, student organizations, and professors have awesome workshops for parents and kids. I think that’s the most effective method that we have.” Overall, it is perceived that MESA days are effective in reaching its intended goals.

**Hands-on STEM projects/activities.** Similarly, advisors indicated that the hands-on STEM projects/activities were very effective in helping students think about concepts and applying these concepts to their projects. One advisor indicated that “students are learning by working on projects. When they are asking questions, how does this affect that, to me, it’s not a
regular class, it’s completely hands on, that's what I think makes it work.” Another advisor noted that these activities allow students to “see the applications of science, technology, and math.”

**Other activities.** Advisors had the opportunity to express other activities that can be effective. One advisor suggested having additional opportunities to compete with their projects. For example, the advisor suggested partnering up with the Navy base that organizes an annual engineering competition, which would allow students to practice their projects. Other suggestions offered by advisors include going on field trips (i.e., local engineering firm, California Science Center) to expose students to different careers in STEM; having STEM professionals come into the classroom and give presentations; have the MESA coordinators set up a booth at Back to School Night to tell parents about MESA; have Oxnard College at Back to School Night to give students and parents exposure to the college and show them that the school has a partnership with Oxnard College; have a mini S&T MESA Day competition within schools and districts; and incorporate more technology (i.e., robotics, programming).

**Academic Support**

Advisors were asked what they perceived were the goals of the following academic supports: college readiness workshops (i.e., A through G requirements, study skills, academic prep, college and career exploration); MESA period/class, during school and/or after school meetings; academic advising; summer programs; field trips; academic support (i.e., homework centers, tutoring). The advisors indicated that some of these academic supports were not available at their schools including summer programs and academic support for homework centers or tutoring. Thus this section will focus on perceptions of college readiness workshops, MESA class and meetings, academic advising, field trips, and other academic supports.

**College readiness workshops.** The advisors indicated the goal of college readiness workshops were to make students aware of the A though G requirements and what would be ideal for a college applicant; introduce students to financial aid and scholarships; introduce study skills, organization skills and note taking skills; and develop long term educational plans.

**MESA class/MESA meetings.** MESA advisors perceived the goals of the MESA period/class and/or MESA meetings include getting students interested in math and science; helping students work on their projects; building a support network for students; providing hands-on learning experience; inspiring interest; making sure students are on track academically;
exposing students to different STEM careers; and providing students with opportunities to become student leaders.

**Academic advising.** Although some advisors indicated that there has been a lack of academic advising for students due to time constraints, other advisors indicated they provide academic advising throughout their MESA meetings. The advisors perceived the goals of academic advising include making sure students graduate from high school; providing support for students; making sure students are aware of the different resources available, especially if students are struggling with academics; and helping students realize the importance of academics for scholarships, graduation, and college applications.

**Field trips.** The advisors indicated that the goals of field trips include “exposing students to what is outside of Oxnard,” “letting them [students] know the place exists,” and “letting them know that college is an option.” In the past, the advisors indicated that there have been more field trips including trips to the California Science Center and USC; however, due to budget cuts, there have been few, if any, field trips this past year. One advisor indicated, “Students love field trips, especially USC field trip for college day. I’d like to have more available. Having three within the year would be great, especially if they’re geared toward science and engineering.” It seems that advisors are aware of the budget cuts, but if the budget allowed for it, they would like to have more field trips in the MESA program.

**Other academic support.** A few advisors suggested some other academic supports that could be effective including having accelerated lessons in the MESA period and setting up a group tutoring session. For the MESA period, it is suggested to have accelerated lessons for more advanced that enrich their learning while other students work on the planned lesson activity. This advisor suggested that it will allow students to be actively engaged in the activity, while waiting for other students to catch up. Another advisor suggested having weekly tutoring sessions, similar to what AVID has, where students can bring in a question they have and help each other. The advisor added that seniors can help juniors, who can also both help the freshmen and sophomores. This tutoring session can also be a study session for students to complete their homework.

**Expectations**

**Perceived MESA advisors’ responsibilities.** Advisors were asked what they perceived to be their responsibilities as a MESA advisor. The common responses that emerged involved
administrative tasks, preparing students for S&T MESA Day, and providing support. More specifically, the advisors perceived their administrative responsibilities include the following: “encourage students to participate, to join, to be a part of MESA;” “organize the schedule for the year;” “make sure I have supplies for the events;” “holding a weekly meeting to do hands-on activities and whatever focus we’re doing for the week;” “provide a workspace;” “provide basic materials for whatever they need, help build the program;” and “chaperone on all of the field trips.”

In terms of preparing students for S&T MESA Day, advisors perceived their roles to include the following: “be aware of projects and instructions on how to do those projects;” “prepare students for S&T MESA Day;” “to get students excited about S&T MESA Day;” “provide tools for students who might now have access to it at home;” “to question the kids on what they think is going to happen with their projects;” and “seeing what problems arise and provide possible solutions.” One unique response from one of the advisors include “promoting students to think about STEM fields, thinking outside the box, thinking beyond high school, thinking beyond bookwork, building something and applications to real world situations.”

Lastly, advisors perceived their role is to provide support including the following: “make sure students are aware of opportunities for them to participate;” “giving them the support and awareness;” “provide support to the MESA co-advisor;” “support the students because it’s treated like a club here;” and to “make sure they are aware of opportunities that MESA provides for them to go to college, for example, A through G requirements workshops, extra scholarships, being in MESA for four years, and how this program will help students if they really take advantage of it.”

Perceived MESA coordinators’ responsibilities. Advisors perceived MESA coordinators’ responsibilities to include the following: “Anytime I have questions or need help, they are available to help me out and explain things to me;” “help the clubs function in whatever ways the club or program needs help such as provide supplies;” “support us, answer our questions, give us guidance;” “make sure we are hitting our numbers and we’re targeting the right kids;” “providing us with ideas on how to present the different projects;” “sharing information as to what some other schools have had success in;” and “provide the academic support by having the workshop.”
One advisor mentioned, “They are the boss of the program. They have all the answers to everything. They supply the equipment and materials. They let us know what is going to happen and provide dates for deadlines. I have nothing but good things to say about both of them. They are willing to help with anything.” Another advisor said “they are the link between us, the advisors, the students, and MESA center, which is UCSB. They offer that important link and support to make sure it runs as it should. We are busy with teaching assignments, which is our first responsibility, and they help meet the enrichment opportunity and exposure to what MESA is providing. They help with supplies, updates, what’s going from the center, which I believe is the link to the state office.” One advisor added that the MESA coordinators “have been great and come to the meetings and helping coordinate things, but I don't see that as their responsibility, that's them going above and beyond. I don’t expect they should come to the meetings.”

Specifically regarding Rocio, one advisor stated that “Rocio has been critical this year. Last year, we would have to go to UCSB if we needed supplies. Now we ask Rocio and there’s a quick turnaround. There’s also support from Rocio; she tracked when students are there and who are current members. This is the most support we've had since I've been here.”

Specifically regarding Eliseo, one advisor mentioned that “it's nice to have Eliseo; Eliseo is there to help out. They bring a different perspective for us. They’re very knowledgeable and send us emails about scholarships. It’s easy to communicate with them and they’re pretty quick on email.” Another advisor added that “Eliseo was providing the framework we were looking for. A lot of what he comes to do should be written down; when he’s not there, I don’t have the information to pass it down.” It is evident that the roles and responsibilities of the MESA coordinators are clear to the advisors and that the advisors greatly appreciate all the work the MESA coordinators do and the support that they provide for the MESA advisors.

Perceived MESA Director’s responsibilities. Most of the advisors mentioned that they did not interact much with the MESA Director, Phyllis Brady, but are aware of her responsibilities. More specifically, the MESA advisors perceived the MESA Director’s responsibilities include the following: “deals with coordinators, make sure they do their job;” “coordinating advisor meetings;” “providing information to advisors on what needs to happen, what needs to be filled out;” “recruiting more schools to do it [MESA];” “takes care of logistics such as making sure S&T and regionals go well;” “deals with budgets and scheduling;” and “coordinate with schools to make sure they’re following the plans for MESA itself; making sure
the program is doing what it’s supposed to.” One advisor simply stated, “I guess she’s like the principal at the school. Her job is to do nothing but make sure that everything gets done. Like, I don’t have a job; I just make sure that everyone does theirs.”

One advisor was not sure of her role and responded, “I don’t know. She said she’s done this for many years. You would think they would have a lot of curriculum for us to look at besides the competitions, but it doesn’t make sense to me. They need to build a more coherent, organized curriculum.” Later during the interview, this advisor added that Phyllis “oversees Rocio and Eliseo” and “plans all those things,” referring to MESA activities.

**Oxnard College STEM Director.** When asked about the role of the Oxnard College STEM Director, Cynthia Herrera, the majority of the MESA advisors did not know who she is, or if they did, they stated they did not interact with her. Two advisors mentioned that Cynthia provides the facilities for MESA advisor meetings and office spaces for the MESA coordinators. One advisor mentioned that “the STEM expo were neat” and is a “good way to introduce students what we’re all about.” Another advisor mentioned, “I haven’t really dealt with her. But I assume providing the facilities for Eliseo and Rocio to be able to function and perform their duties in this area.” This advisor added, “It would be nice if she could use her resources to provide or create partnerships in this area to benefit our students,” and suggested that it would be great to work with professors or have more professors go to the schools. This request to develop partnerships with Oxnard College has been echoed previously in interviews with other MESA advisors, which suggests a strong need for this partnership. Further discussion will be provided in the recommendation section.

**Support**

MESA advisors also had the opportunity to describe the extent to which they believe they have the support to execute their role as a MESA advisor from the following people: MESA director, OEP director, OC STEM director, MESA advisors, MESA school personnel, UCSB OEP/MESA staff, MESA statewide office (University of California Office of the President (UCOP)), OC STEM Center, MESA college students, and parents of MESA students. All of the advisors that were interviewed indicated that they received organizational and financial support from the MESA Director, where Phyllis provided information, addressed questions, helped advisor communicate with principals, and handled logistics for S&T MESA day. One advisor stated, “She’s been great with providing advisors with what is needed. I’ve always been
impressed with Phyllis and the amount of personal attention she gives to each of the schools. Sometimes, we’d like to have more, but I know that’s budget constraints, not her.” Another advisor indicated the lack of financial support was an issue and mentioned, “I’m not sure why but obviously it has to do with funding. It seemed like we would get more support like even the stoles, the kids have to buy those in the last two to three years. That was a shocker to me, the kids worked very hard for four years and they are asked to pay for this.” It is important to note that this comment alluded to the budget constraints of the MESA program, not necessarily to the lack of support from the MESA Director.

In terms of support from the MESA coordinators, every MESA advisor indicated they received incredible support from the coordinators, who “helped me with the recruiting, making flyers, pamphlets, and invitations;” attended meetings, “gave me power points, sign in sheets, templates;” and “provide the organizational component; hands-on support; supplies.” Several advisors noted their positive experiences working with Rocio, and stated, “I really enjoyed working with Rocio this year” and “Rocio is gold. Don’t lose her.” It is clear that the advisors received the support from the MESA coordinators in executing their roles as a MESA advisor.

Although the advisors indicated having few interactions with other advisors, some advisors indicated they still received support from other advisors. In particular, the newer MESA advisors indicated that “they helped me understand what my responsibilities are. They were helpful in helping me know what I should do or could be doing.” In addition, one of the new advisors indicated “hearing ideas from other MESA advisors on how they structure their meeting” was helpful. The veteran advisors also expressed receiving support from other advisors in terms of “talking about events, how to do things, how to organize meetings, best practices to get students interested.” Some co-advisors indicated receiving support from their respective co-advisor in terms of collaboration, discussing what went well and what can be improved for next year. However, one co-advisor indicated he/she did not receive much support from their co-advisor. Nevertheless, the advisor indicated that “they [other MESA advisors] would be willing to help if we asked. They’re all doing it because they’re excited to do it; they’re willing to do it.”

In terms of MESA statewide office and the University of California Office of the President (UCOP), most advisors did not know what they did. However, one advisor indicated that UCOP “funds everything,” while another advisor mentioned that UCOP puts together the
MESA website. In terms of support from OC STEM Center, the MESA advisors indicated that it provides a space to host the advisor meeting and store supplies.

MESA advisors also expressed the support they received from both students and parents. One advisor indicated that students were “so patient with me and understanding. When they had questions for me, I’d say, let me get back to you. And they were okay with it.” Another advisor emphasized that “we are student led. All our meetings are run by MESA students. They pass on information to other students about events that they were in. They become student leaders for their events; it’s students teaching students.” Another advisor mentioned that “the kids are very supportive; our leaders have a Facebook page where we disseminate any important information.” In terms of parental support, a few advisors noted that parents have been “verbally supportive in letting us know that they appreciate the program and expressing that it has been a really great experience for their kid.” Another advisor said parents supported in volunteering as chaperones on field trips. It is perceived that MESA advisors receive support from the MESA Director, MESA coordinator, other MESA advisors, UCOP, OC STEM Center, MESA students and parents of MESA students. The follow section discusses the perceived barriers expressed by the MESA advisors.

Barriers

The MESA advisors were asked if they have encountered any barriers with the following people: students, parents, advisors, and UCSB MESA Center. With the students, a few advisors indicated that it is challenging to get students to show up to the MESA club meetings since it is not a MESA class, where attendance is mandatory. For meetings that are held during lunch, advisors indicated that the lunch period is too short to cover everything that they want to do. For meetings that are held after school, some advisors expressed the challenges in getting students to show up. The advisors indicated that students have other obligations after school including sports or other extracurricular activities. One of the advisors suggested moving towards the MESA class model, which would address the attendance and the short meeting time issues. Another barrier that one advisor mentioned is recruiting and maintaining MESA members. One advisor indicated that recruiting students that are not in the advisors’ class is challenging. One possible solution is to advertise widely throughout the school and go into classrooms and speak to students about the MESA program. In terms of maintaining students, another advisor indicated that he/she have not been able to give personal attention to each and every student, and as a
result, students tend to drift away. One solution this advisor suggested was to have five or six advisors in the class to help provide more attention and guidance for the large group of students.

With parents, a few advisors indicated the only barrier is that parents do not save the date or make other plans when it comes to S&T Day. This makes it difficult for advisors to plan which students will participate in which activities/competitions. With other advisors, there have not been any issues or barriers since MESA advisors have been very encouraging and supportive of one another. With the MESA coordinators, the only barrier that advisors expressed is the timeliness of sending in paperwork for deadlines and the timeliness of receiving supplies. Some advisors indicated that they only see students once a week, thus submitting paperwork by a certain deadline may not be reasonable. One advisor suggested having the coordinator let advisors know in advance what is expected from them so they can plan accordingly. In terms of the supplies, one advisor indicated that the delay in receiving supplies further delays how much students can work on their activities or projects. It would be helpful to be able to request supplies in advance and receive them in a timely fashion. With the MESA director, a few advisors indicated that it would be helpful to have itineraries for trips (i.e., S&T MESA Day, regionals) two to three weeks in advance so that advisors know what to expect. Furthermore, it would be beneficial to know about hotels, food, snacks for these trips.

In terms of other barriers, one advisor admitted that “the only challenges that have come up is my lack of not doing stuff,” and is referring to the MESA club model where students run the club meetings. This advisor would like to do more with the MESA club, but given the short meeting time and the structure of the club meeting, it does not provide much time to do more activities. Perhaps having a MESA period may resolve this issue and would provide ample time to do projects and activities, while also giving students leadership opportunities.

Limitations

Some MESA advisors noted that there are limitations in storage space and meeting times. For the MESA period class, there are many activities and projects created, but limited space in storing the projects. For the MESA lunch period meetings, there is a limitation in the amount of time the advisors meet with the students. In terms of financial limitations, the MESA advisors understood there were budget cuts this year, but expressed wanting T-shirts for S&T MESA Day; having field trips or college visits for MESA students that are in addition to competitions and MESA day events; buying and receiving supplies in advance; and introducing more
technology into the MESA program. In terms of communication limitations, one advisor indicated that it is challenging to get information out to students aside from the short announcements in the bulletin. In addition, a few advisors indicated that communication with other MESA advisors, coordinators and the director is best via email. One advisor indicated that there were too many meetings to attend to go over logistics, which could easily be discussed over email.

In terms of parent involvement, all of the advisors interviewed perceived there was a lack of parental involvement and would like to see more in the future. In terms of community involvement, there has also been limited community involvement. A few advisors suggested getting support and resources from the community such as the naval base. One advisor indicated, “I think the community would be supportive if we went out to reach out to them.” In terms of corporate, business, and/or industry contacts, the advisors mentioned they do a great job, but would like to see more involvement. In particular, one advisor indicated the Society for Advancement of Chicanos and Native Americans in Science (SACNAS) group has been supportive in taking students to UCSB for a week, housing them in dorms, mentoring them, and taking them to their classes. Students were able to experience college life during this week. A few other advisors suggested having more guest speakers come into the classroom including involving the Bio-Tech industry in Ventura and possibly having them fund summer programs for students.

Some advisors noted some other limitations include the restriction on who can participate in the MESA program, the lack of STEM Expo this past year, and the need for additional resources to support students. Many advisors mentioned that they would like to open the enrollment for all students, not only first-generation college students. One advisor noted, “It’s hard for students that they couldn’t be in the program because of eligibility. Their friends weren’t able to do it so they weren’t going to do it. I understand the criteria because of the funding, but it’s unfortunate.” Another advisor suggested having the STEM Expo occur again would be a great opportunity for students to go to a college campus and participate in workshops and activities. One advisor perceived there was no limitations and stated, “I think it’s just what you make of it. I think it’s a great program, what you’re willing to put in is what you’re getting out of it. That's what we need to work on. What exactly do we want out of this, and what are we going to put in to get it.”
Other Comments

Advisors had the opportunity to provide additional comments that were not previously discussed during the interview. Three advisors provided comments regarding the training for MESA advisors, developing a stronger partnership with Oxnard College, and developing a stronger connection between Oxnard middle schools and high schools. One advisor perceived the training for MESA advisors to be extremely helpful in understanding the activities and projects, as well as the concepts behind the activities and projects. Another advisor commented on the need for making the partnership between MESA schools and Oxnard College more apparent. The advisor mentioned that many of their students attend Oxnard College, but may not perceive Oxnard College to be a route, since one of MESA goals is to get students to a four-year college or university. This advisor recommended that students should be presented with different pathways to become a scientist or engineer, including the pathway through community college and transferring to a four-year college or university. In addition, this advisor also suggested having Oxnard College more present in the schools and sharing some of their resources with students.

Another advisor commented on being thankful for the opportunity to be a MESA advisor, and noted that the MESA program is “a worthwhile program. For whatever the [MESA] center can do, even if it’s for 30 minutes, it’s worth it.” This advisor perceived a lack of coordination between middle and high school and would like to see more partnerships in the future, where there can be mentorships between grade levels. This would make the transition into high school much easier for students. The following section provides some conclusions and recommendations for improving the MESA program.
Conclusions

This MESA Coordinators’ and MESA Advisors’ Perception Interview Summary Report aimed to gain a sense of how the MESA coordinators and advisors perceived the goals of the MESA program, the different types of MESA activities and the perceived goals of the activities, the various types of academic support, their perceived roles and responsibilities, their perceived roles and responsibilities of other key personnel, the perceived barriers, and the perceived limitations of the MESA program. The responses from two MESA coordinators and 10 MESA advisors revealed that coordinators and advisors understood the goals of the MESA program and its mission to provide opportunities and academic support for low-income, first-generation college-going students interested in STEM fields. To address this mission, the MESA program incorporates many project-based learning activities targeted to develop problem solving and critical thinking skill, while also promoting interest in STEM.

Responses from the interviews also revealed that both coordinators and advisors are aware of their roles and responsibilities and the roles and responsibilities of the MESA director, Phyllis Brady; Oxnard College STEM Director, Cynthia Herrera; and the MESA statewide office at UCOP. In terms of the perceived barriers and limitations, MESA coordinators expressed some barriers in terms of communication with MESA advisors; a lack of academic support services provided this year; and a lack of awareness of the budget. For MESA advisors, the perceived barriers include recruiting and retaining students, getting students to attend MESA meetings, increasing parental involvement, and providing additional support and services for students. Despite these perceived barriers, both MESA coordinators and MESA advisors expressed the need for this program and emphasized the powerful impact this program has on students. For example, MESA advisors indicated that MESA is having an effect on students because they witnessed students’ level of interest and excitement piqued during competitions at S&T MESA Day, and saw students graduate who have been involved in MESA for a number of years.

The responses from the MESA coordinator and advisor interviews not only provided reasons for understanding the different components of the MESA program, but also offered many recommendations, which will be discussed in the following section.
Recommendations

To improve the implementation of the MESA program and activities in the future, some recommendations on student recruitment and retention, MESA program meeting times, MESA curriculum and activities, academic preparation and support, field trips, partnerships, community involvement, parental involvement, communication, and other recommendations are provided below.

Student Recruitment and Retention

- Have enrollment forms available during MESA orientation.
  - One advisor noted that students have to complete an enrollment form to participate in MESA, but UCSB does not get the enrollment forms until one to two months into the school year, after students are already attending meetings.
- Some advisors indicated they would like the program to be open to all students, not just first-generation students, and would like to remove this requirement from the application.
  - One advisor suggested that schools can offer another STEM club that does not have these restrictions, which may be one solution to not turn students away from resources and services.
- Recruit more students by advertising more widely throughout the school, in addition to having MESA advisors and students give a short presentation in math and science classrooms at the beginning of the year.
- The MESA coordinators and several advisors recommended having a tracking system that will allow them to track students to see which students persists throughout the MESA program. It is also recommended to have seniors take an “exit survey” and provide an email address so that MESA can follow up with them.
- One advisor indicated that students may drop out because they are not receiving the attention they need. This advisor suggested recruiting more MESA advisors to provide additional support to these students.

MESA Program Meeting Times

- At the high school, some advisors recommended altering the MESA program meeting period to be after school where there will be more time to work on projects. It was also suggested to meet multiple times a week to accommodate students’ schedule with
multiple advisors, where one advisor can meet with a group on one day and another advisor can meet with another group on another day. This will help get more students involved in the MESA program.

- One advisor indicated that the scheduling of the meetings should be changed where there should be a weekly lunch meeting to discuss logistics, and an after school meeting to work on projects/competitions.

**MESA Curriculum and Activities**

- One of the MESA advisors suggested that MESA should develop a more structured, coherent curriculum for MESA advisors that includes more content than just the activities/projects involved in the competitions.
- One advisor indicated there should be more connections made to science and engineering, where students are not just building the projects, but understand the concepts behind it. Furthermore, advisors and coordinators can work with students to reinforce the science and engineering involved in the projects.
- One advisor suggested having a STEM themed program to work on during each program meeting, where students are engaged in the activity and can relate it to the real world.
- It is recommended that frameworks and other information that coordinators share verbally should be documented and shared as a resource for advisors and students.
- Several advisors recommended there be more opportunities to practice students’ projects before S&T MESA Day
  - One suggestion is to have a mini-MESA day, where students can get a preview of what to expect for S&T MESA Day and can practice the competitions.
  - Another suggestion is to have mini-competitions with middle schools and high schools and get these students to interact. One advisor mentioned that it will allow students at the middle school to connect with students at the high school and provide a smoother transition for middle school students. This will also provide an opportunity for advisors at both middle and high school levels to touch base.

**Academic Preparation and Support**

- Both coordinators mentioned that doing more academic preparation is one area in which they can improve on for next year.
• It was suggested to include more academic advising such as the A through G requirements and introducing students to majors offered at the university

• One advisor indicated partnering up with the college and career center to have counselors talk to students about college readiness and explore different college programs.

• One of the coordinators suggested providing tutoring and mentoring services that would support students with their homework and study skills.

• A few advisors suggested setting up weekly group tutoring sessions, where junior and seniors can tutor freshmen and sophomores.

Field Trips
• If the budget allows for it, most of the MESA advisors recommended having more field trips, especially to other college campuses, the California Science Center, and local engineering firms.

Partnerships
• Improve the partnerships between the Oxnard Elementary School District and the Oxnard Union High School District. Several advisors indicated that they would like to work with the feeder school advisors, which would provide a smoother transition between intermediate schools and high schools. However, some advisors noted the challenge is that the intermediate and high schools are in different districts. Nevertheless, this should be one area that can be improved on in the future.

  • One advisor recommended having a day where all the Oxnard advisors meet with each other to discuss the transition between middle schools to high schools.

  • Another advisor suggested that MESA should collaborate with existing academies to share knowledge and resources (i.e., partnering up with Hueneme High School’s Engineering Academy).

• Improve partnerships with Oxnard College

  • It was suggested that the MESA program work together with Cynthia Herrera at the STEM Center to network and share resources in order to provide more support and opportunities for MESA students in Oxnard.

  • One advisor suggested Oxnard College can offer the following services and resources to build partnerships and provide opportunities for students:
professional development workshops, programming courses, after school opportunities, and summer bridge programs for students interested in STEM field.

- Another advisor suggested having some collaboration with some of the professors at Oxnard College or having the professors give talks in the classrooms at the schools.
- A few advisors suggested bringing STEM Expo back at Oxnard College, which will provide a great opportunity for MESA students to experience hands-on activities and projects at the community college and experience what it is like to be at Oxnard College.
- It was also suggested to invite Oxnard College to Back to School Night to expose students and parents to the college and show them that the school has a partnership with Oxnard College.

*Community Involvement*

- Several advisors suggested increasing the community involvement and collaborate with partners in the community.
- Invite guest speakers to come give presentations in classes/MESA period.

*Parental Involvement*

- Increase parental involvement. It is recommended to have a booth at Back to School Nights, where MESA coordinators can talk to parents about the MESA program.
- Advertise college workshops and financial aid workshops more broadly and invite parents/guardians to attend.
- Have (or continue to have) Family STEM nights where parents and families are invited to attend and work on hands-on activities with their child to promote awareness and increase parental involvement.

*Communication*

- Increase communication and collaboration between MESA advisors and co-advisors.
- Increase lines of communication between MESA coordinators and MESA advisors.
  - A few advisors suggested it would be helpful if the MESA coordinators could purchase the supplies in advance so that the advisors can have their activities ready for students.
In addition, some advisors requested that any paperwork that the MESA coordinator needs from the MESA advisors should be provided to the advisors in a timely matter and provide adequate time to return the paperwork.

- One advisor suggested not having so many advisory meetings, where most of the information provided can be discussed via email

**Other Recommendations**

- One advisor suggested incorporating more technology (i.e., robotics, programming) into MESA.
- One of the MESA coordinators suggested having more professional development opportunities available.

**Recommendations for Data Collection**

- In terms of data collection, and coordinating interview times, consider sending out online surveys for MESA coordinators and advisors to complete. That way, they can complete it on their own time and not have to worry about scheduling time to meet after a busy school day.
Appendix A

MESA Coordinator Perception Interview Protocol

General Questions

1. What is your perspective of the MESA program?
   a. What do you think are the components that make up MESA?
2. What do you think the mission of MESA is?
3. To what extent do you think the MESA program at the middle schools and high schools are accomplishing the mission of MESA?
   a. Are the middle schools consistent with one another in their implementation of the MESA program?
   b. Are the high schools consistent with one another in their implementation of the MESA program?
4. To what extent do you think the MESA program at the middle schools and high schools are NOT accomplishing the mission of MESA?
5. What are the selection criteria for students?
6. When do students typically join the MESA program?
7. How do you know MESA is having an effect on students and parents?
8. What are some resources and/or tools available that may help see the effect of MESA on student performance?

Activities

9. What do you think the goals of the MESA activities are?
10. How effective do you think the following MESA activities are?
    a. MESA Orientation
    b. Workshops
    c. MESA Days: Science & Technology MESA Day (Prelims) and MESA Regional Finals
    d. Family STEM activities
    e. Hands-on STEM projects/activities
f. Collaborating with partners to share and exchange information (i.e., Back to School Night, Higher Ed Week)

11. What other activities do you think can be effective?

**Academic Support**

12. What do you think the goals of the following academic supports are?
   a. College readiness workshops (i.e., A-G requirements, study skills, academic prep, college and career exploration)
   b. MESA period/class, during school and/or after school meetings
   c. Academic advising
   d. Summer programs
   e. Field trips
   f. Academic support (i.e., homework centers, tutoring)

13. How effective do you think these academic supports are?

14. What other academic supports do you think can be effective?

**Expectations**

15. What do you perceive to be your responsibilities as a MESA coordinator?

16. What do you perceive to be the roles of the:
   a. MESA advisors
   b. MESA director, Phyllis
   c. Mario
   d. Cynthia
   e. GSR evaluators

17. To what extent do you believe that you have the support to execute your roles as a MESA coordinator? Types of support include institutional, organizational, and financial support. In particular, please describe the support you receive from the following people/groups:
   a. Phyllis
   b. Mario
   c. Cynthia
   d. MESA advisors
e. MESA school personnel (i.e., MESA administrators, counselors)
f. UCSB OEP/MESA Staff
g. MESA statewide office (UCOP)
h. Oxnard College STEM Center
i. MESA college students
j. Parents of MESA students

Barriers

18. What are some of the challenges, if any, that you have encountered as a MESA coordinator with the following people:
   a. Students?
   b. Parents?
   c. Advisors?
   d. UCSB MESA Center (Phyllis, Lisa Fell, student assistants)

19. What are some of the limitations, if any, of the MESA program? Use the following probes if respondent does not touch upon these areas. If there are no limitations, we do not need to use these probes.
   a. Institutional - i.e., Infrastructure – having space available
   b. Financial - i.e., Budget – Do you need student assistants, more resources/equipment, food, etc.?
   c. Communication with
      i. MESA students
      ii. MESA advisors
      iii. MESA school personnel (i.e., MESA administrators, counselors)
      iv. UCSB OEP/MESA staff
   d. Marketing the program
   e. Parent involvement (or lack of)
   f. Community involvement and resources (or lack of) (i.e., museums, marine sanctuary)
   g. Professional development opportunities/resources (i.e., Transcript Evaluation Service (TES), workshops, conferences)
h. Corporate/Business/Industry contacts (i.e., Society of Hispanic Professional Engineers (SHPE))

i. Other limitations?

20. Is there anything else that you would like to add that we have not previously discussed?
Appendix B

MESA Advisor Perception Interview Protocol

Interviewee:
Date and Time:
School:
Subject:
Number of years teaching:
Number of years as a MESA Advisor:
Co-advisors:
Students:
Parents:
Meeting type (i.e., during school, after school, or MESA period):

General Questions

1. What is your perspective of the MESA program?
   a. What do you think are the components that make up MESA?
2. What do you think the mission of MESA is?
3. To what extent do you think the MESA program at your school is accomplishing the mission of MESA?
4. To what extent do you think the MESA program at your school is NOT accomplishing the mission of MESA?
5. What are your selection criteria for students?
6. When do your students typically join the MESA program?
7. How do you know MESA is having an effect on students and parents?
8. What are some resources and/or tools available that may help see the effect of MESA on student performance?

Activities

9. What kinds of activities do you use in the MESA program?
   a. When do they occur?
   b. How often?
   c. What do you do to prepare for the activities?
10. What do you think the goals of the MESA activities are?

11. How effective do you think the following MESA activities are in reaching its intended goals?
   
   a. MESA Orientation
      i. In terms for recruiting students
   
   b. Workshops
   
   c. MESA Days: Science & Technology MESA Day (Prelims) and MESA Regional Finals
   
   d. Family STEM activities
   
   e. Hands-on STEM projects/activities
   
   f. Collaborating with partners to share and exchange information (i.e., Back to School Night, Higher Ed Week)

12. What other activities do you think can be effective?

**Academic Support**

13. What do you think the goals of the following academic supports are?
   
   a. College readiness workshops (i.e., A-G requirements, study skills, academic prep, college and career exploration)
   
   b. MESA period/class, during school and/or after school meetings
   
   c. Academic advising
   
   d. Summer programs
   
   e. Field trips
      a. Academic support (i.e., homework centers, tutoring)

14. How effective do you think these academic supports are?

15. What other academic supports do you think can be effective?

**Expectations**

16. What do you perceive to be your responsibilities as a MESA advisor? What do you perceive to be the roles of the:

   a. MESA Coordinators, Eliseo Gonzales and Rocio Castaneda
   
   b. MESA Director, Phyllis Brady
   
   c. Oxnard College STEM Director, Cynthia Herrera
17. To what extent do you believe that you have the support to execute your roles as a MESA advisor? Types of support include institutional, organizational, and financial support. In particular, please describe the support you receive from the following people/groups:
   a. Phyllis
   b. Cynthia
   c. Eliseo/Rocio
   d. Other MESA advisors
   e. MESA school personnel (i.e., MESA administrators, counselors)
   f. MESA statewide office (UCOP)
   g. Oxnard College STEM Center
   h. MESA students
   i. Parents of MESA students

**Barriers**

18. What are some of the challenges, if any, that you have encountered as a MESA advisor with the following people:
   a. Students?
   b. Parents?
   c. Other advisors?
   d. MESA Coordinators (Eliseo/Rocio)?
   e. MESA Director, Phyllis?

19. What are some of the limitations, if any, of the MESA program? Use the following probes if the respondent does not touch upon these areas. If there are no limitations, we do not need to use these probes.
   a. Institutional - i.e., Infrastructure – having space available
   b. Financial - i.e., Budget – Do you need student assistants, more resources/equipment, food, etc.?
   c. Communication with
      i. MESA students
      ii. Other MESA advisors
      iii. MESA school personnel (i.e., MESA administrators, counselors)
      iv. UCSB OEP/MESA staff
d. Marketing the program

e. Parent involvement (or lack of)

f. Community involvement and resources (or lack of) (i.e., museums, marine sanctuary)

g. Professional development opportunities/resources (i.e., Transcript Evaluation Service (TES), workshops, conferences)

h. Corporate/Business/Industry contacts (i.e., Society of Hispanic Professional Engineers (SHPE))

i. Other limitations?

**Other**

20. Can you identify two to three parents and their children who we can interview that:

a. Are involved vs. are not very involved in the MESA program?

b. Bilingual or monolingual

21. Is there anything else that you would like to add that we have not previously discussed?