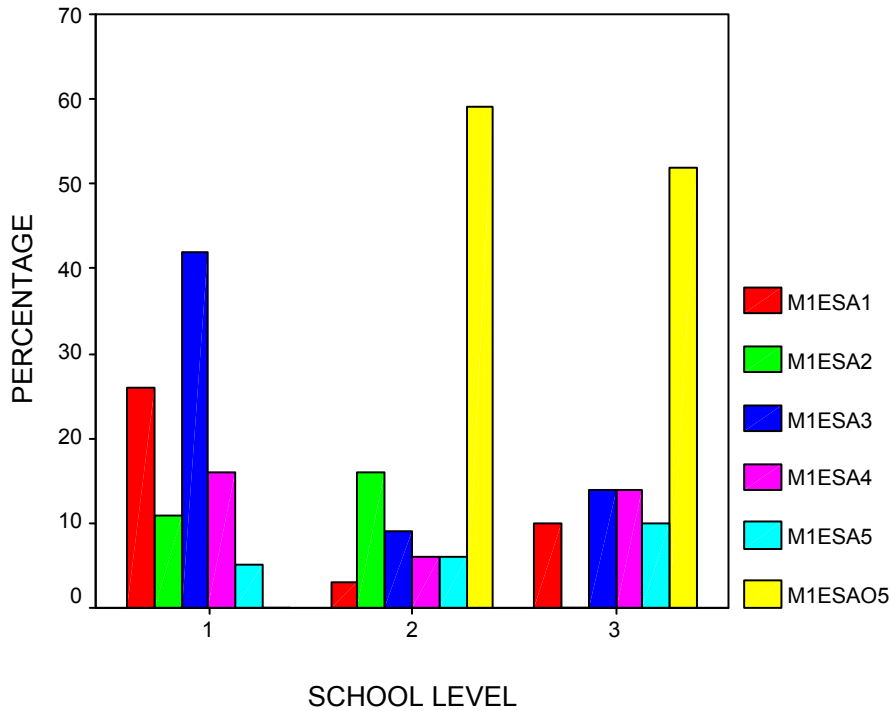


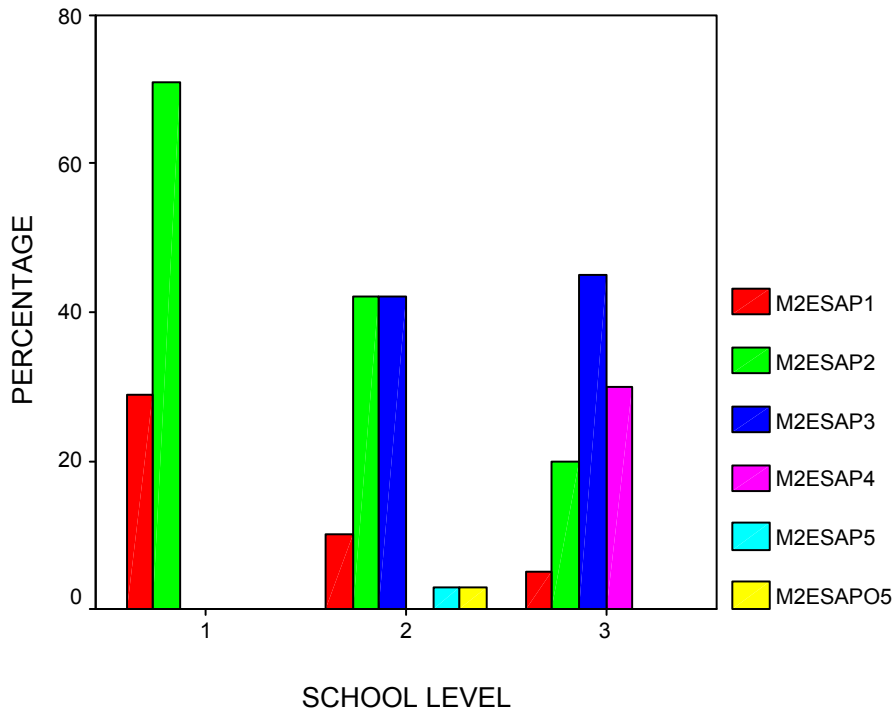
Colorado MESA Evaluation – Aggregate Results from 72 Schools

Q. 1 The MESA program has been offered in our school for:

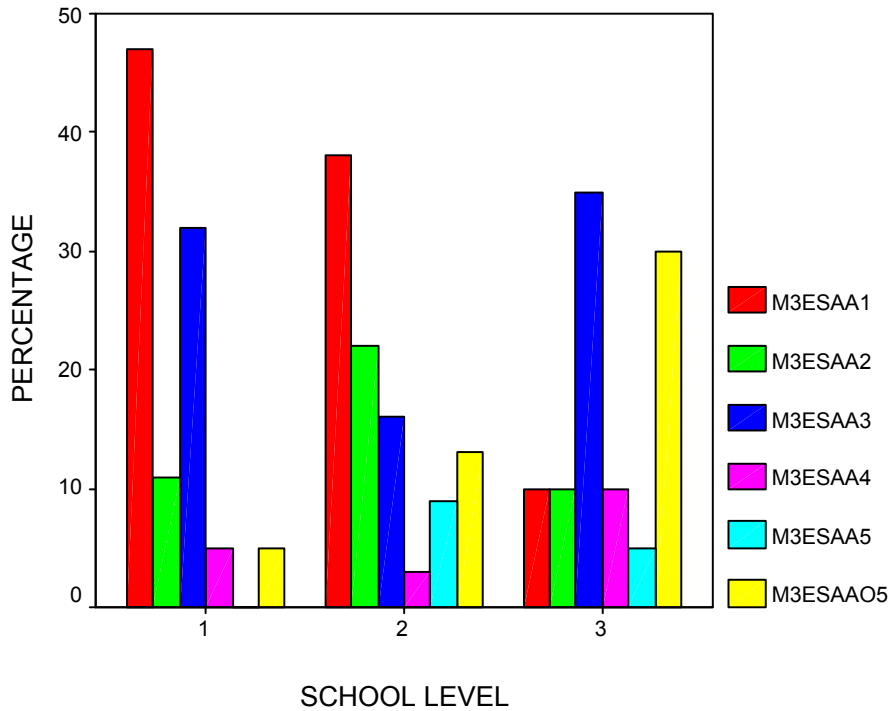


1 = ELEMENTARY (N = 19) 2 = MIDDLE (N = 32) 3 HIGH (N = 21)

Q. 2 Typically, how many years do your students spend in the MESA program?



Q.3 I have been a MESA Advisor for:



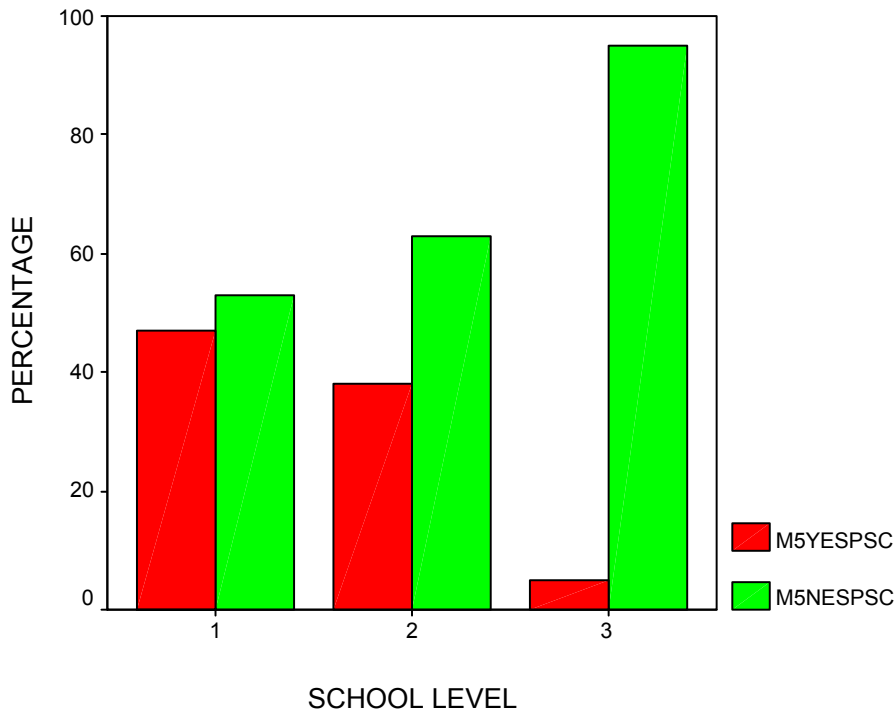
Q.4 Why did your school decide to offer the MESA program?

ELEMENTARY	MIDDLE	HIGH
1. To increase math and sciences. With our population (2/3 Hispanic and all low income) being high-risk for dropout and gang related activity, I feel MESA is a tremendous opportunity that shows students what is possible when they see no way out.	1. Encourages students to set high expectations for themselves.	1. We saw a real need to offer an academic club at our school. We wanted our minority students to have the opportunities MESA offers.
2. The previous principal thought it would be a good program for our students. She also hoped that it would have a positive impact on our math and science scores	2. To support minorities in math and science.	2. We believe in the importance of increasing students' academic achievements in math, science, and engineering.
3. Encourage student interest and academics.	3. We see the need to offer our students enrichment in science and math.	3. Our school has a high percentage of Hispanics and we felt that they needed every opportunity we could

		give them.
4. Opportunity for science/math enrichment for students.	4. The school believes that after school programs motivate students and make it easy for them to establish connection with the teacher.	4. To encourage more students to become involved in the engineering field, and to sharpen their science, math, and English skills.
5. Provide enrichment opportunity of students.	5. To expand the options for students interested in math, science, and engineering.	5. A lot of math and science interest.
6. Thought it would be valuable for 3-5 children.	6. Need a program to support our minority students and increase interest in math/science.	6. To provide opportunities for under-represented groups in engineering.
7. I believe our high-risk population needs exposure to different career paths than they traditionally see in their environments.	7. To increase student participation in science and math, and to give gifted students an outlet.	7. I knew that it would help students.
8. To motivate our minority students' interest in mathematics and science.	8. To offer additional exposure in math and sciences and to develop career awareness and the many options available to the students in this field.	8. To expand science and math education and opportunities to minorities and women.
	9. We have a variety of students who are high achievers.	9. To give minority students an extra push. A place to go for encouragement and to meet with like-minded, motivated peers, college bound peers.
	10. To work with students in math and science.	
	11. To my knowledge, to provide an "outlet" and encouragement for the scientific minded students that MESA targets.	
	12. To get minority and female students interest in engineering fields. To make their learning of science and math fun.	
	13. To encourage math and science participation and enhance opportunities for	

	the students.	
	14. High minority population. Need for support in all areas (financial, comfort level, parental support) towards a college education.	
	15. CSAP revealed that 5 th grade students were scoring Advanced on the Math CSAP, but were not showing up in rigorous math/science studies at the middle and high schools – especially underrepresented populations; women and minorities. Offering MESA as a class instead of a club significantly changed the picture, and was the catalyst for the Pre-Engineering Academy program that is at Centaurus High School now.	
	16. To encourage a primary low socio-economic population to participate in math and science extra-curricular activities.	
	17. We needed an extra opportunity to reach kids that want to excel in science.	
	18. Provide students interested in math and science the opportunity to pursue their passions further.	
	19. Offer extra chance to do cool projects with highly motivated students.	

Q. 5 Does your school use a structured curriculum during the MESA program?



Q. 6 During the MESA program, the major activities in which our school participates are:

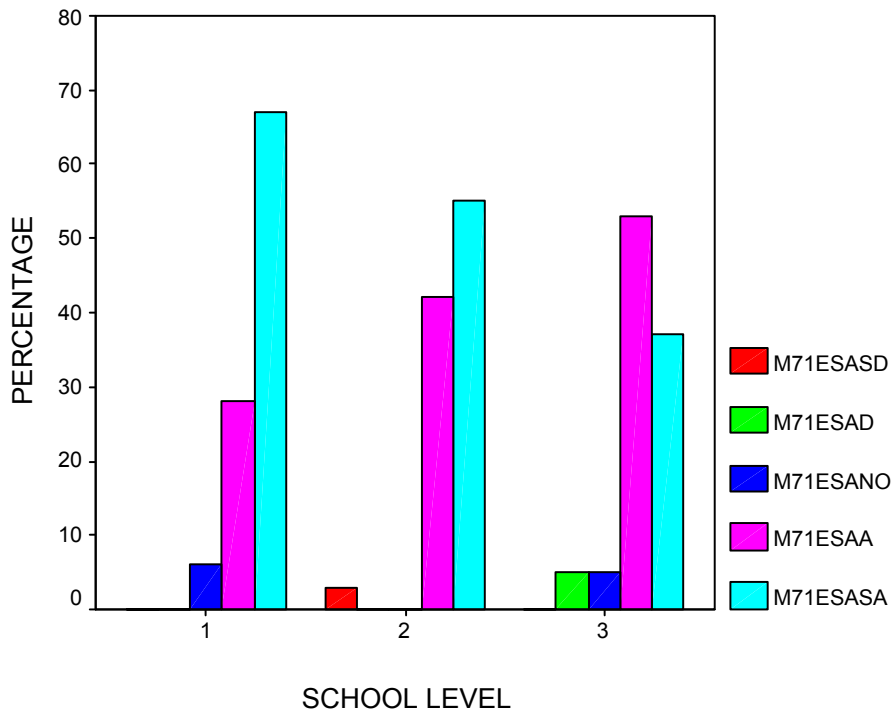
ELEMENTARY	MIDDLE	HIGH
1. Field Trips (5)	1. Competitions (8)	1. Activities
2. In-school Instruction	2. Performance Projects based on Different Disciplines (2)	2. Competitions (7)
3. Peer Interaction	3. Rocket Building (3)	3. Guest Speakers (5)
4. Sponsors Lessons	4. Guest Speakers (4)	4. Field Trips (4)
5. CU Space Grant	5. Science Fair/Labs (2)	5. Projects (2)
6. Young Scientist/Denver Zoo	6. Energy Competition (7)	6. Games
7. JASON Project (7)	7. River Watch	7. Bridge Building (5)
8. Calwood	8. GEAR UP Robotics/Lego Competitions (4)	8. District Competitions
9. Lunch meeting once a week to introduce science concepts	9. Physics Competition	9. State Conference
10. MESA Day at the Mall (5)	10. Career Exploration	10. College Visits (4)
11. End of the year award ceremony	11. MESA Day at the Mall (12)	11. Visits to Corporations/ Industry (4)
12. End of the year project	12. Junior Solar Sprint	12. Fall Fling at CU (9)

13. College Visit	13. Science Bowl	13. Science Olympiad (2)
14. Weekly meetings	14. Environmental Fair	14. Science Bowl (2)
15. Astronomy	15. Egg Drop (4)	15. Colorado Energy Science Center Contest (3)
16. Guest Speakers (2)	16. Field Trips (15)	16. Iron MESA
17. Star Lab	17. Catapult Launch (4)	17. Engineering Jamboree (4)
18. Science Fair (3)	18. Parent Night (4)	18. Monthly recycling
19. Hands-on Science Experimentation/ Investigation (4)	19. Fund Raising (3)	19. Science Fair
20. CU Science	20. Hands-on Demos/Experimentation (3)	20. Third/MS Demonstrations (3)
21. Math Brain Teasers/ Problem Solving (2)	21. Engineering Projects (3)	21. Boat Regatta (3)
22. Kids Extravaganza	22. Mini Competitions	22. Tower Building (2)
23. Building Rockets	23. Help in Science-Math Connections/Class (2)	23. Egg Drop
24. Studying Solar System	24. Bridge/Tower Building (3)	24. Science Labs
	25. Mouse-trap Cars (4)	25. Tie Dying/Some Science Tutoring/Some Science Careers
	26. Solar Cars	26. Forensic Science Activities
	27. Gliders/Kites/ Airplanes (2)	27. Peer Tutoring
	28. Learning how to Program/Assemble	28. Glider Competition
	29. Learning about Safety Procedures	29. Multipurpose Vehicle Competition
	30. Boat Regatta	30. CU Women in Engineering Day
	31. Harvest of Love	31. LASER & Light Presentation
	32. MESA Harrison D2 Expo	
	33. Newspaper Activity	
	34. Denver Bronco Mania	
	35. Art/Design HolidayCard Contest	
	36. CO ₂ Car Competition (2)	
	37. Building & Designing	
	38. Harvest of Food	

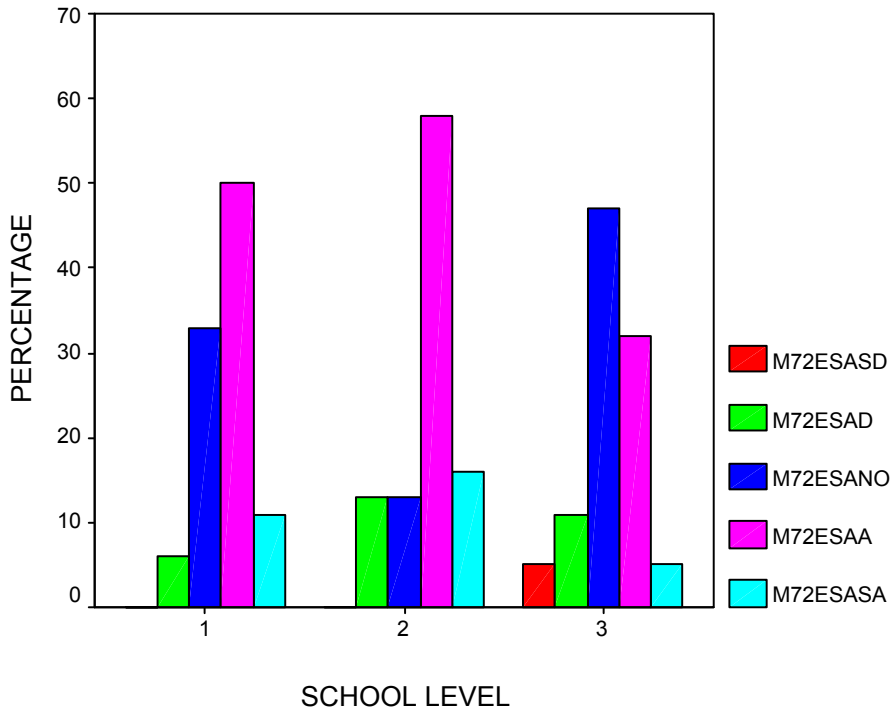
	39. Crane Building	
	40. MARK	
	41. Cooperative Learning	
	42. Math Focus – MathCounts/Zome Tool (4)	
	43. JASON	
	44. National Engg. Week	
	45. Science Olympiad (2)	
	46. MESA Jamboree*	
	47. Summer Engineering Workshops	
	48. MESA Mania & District MS Competitions (4)	
	49. Earth Fair	
	50. Science from CU	
	51. Inventions	

Q. 7 BENEFITS DERIVED FROM THE MESA PROGRAM

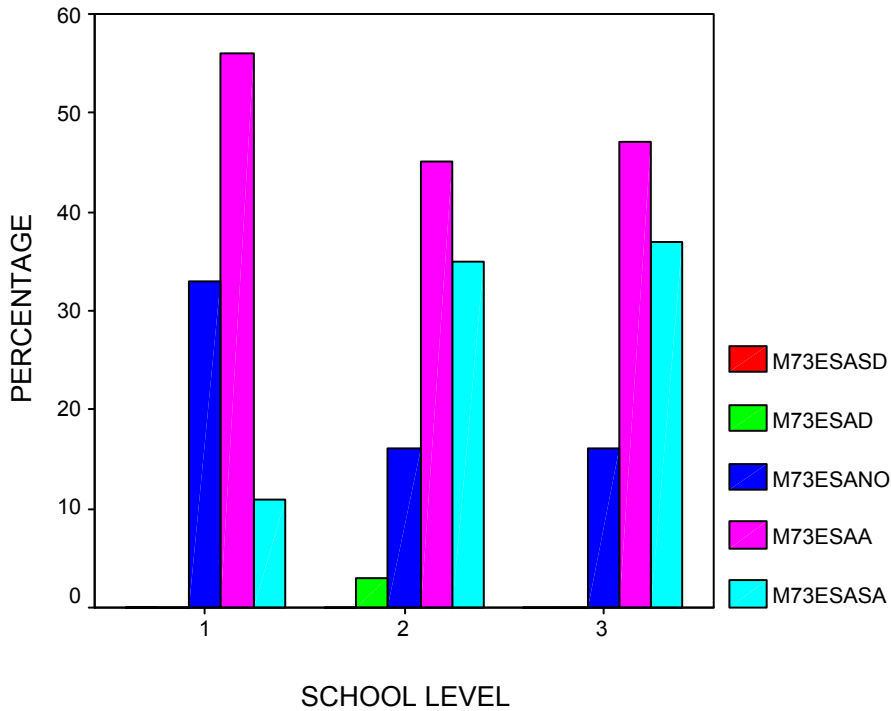
1. The MESA program kindles our students’ enthusiasm in science.



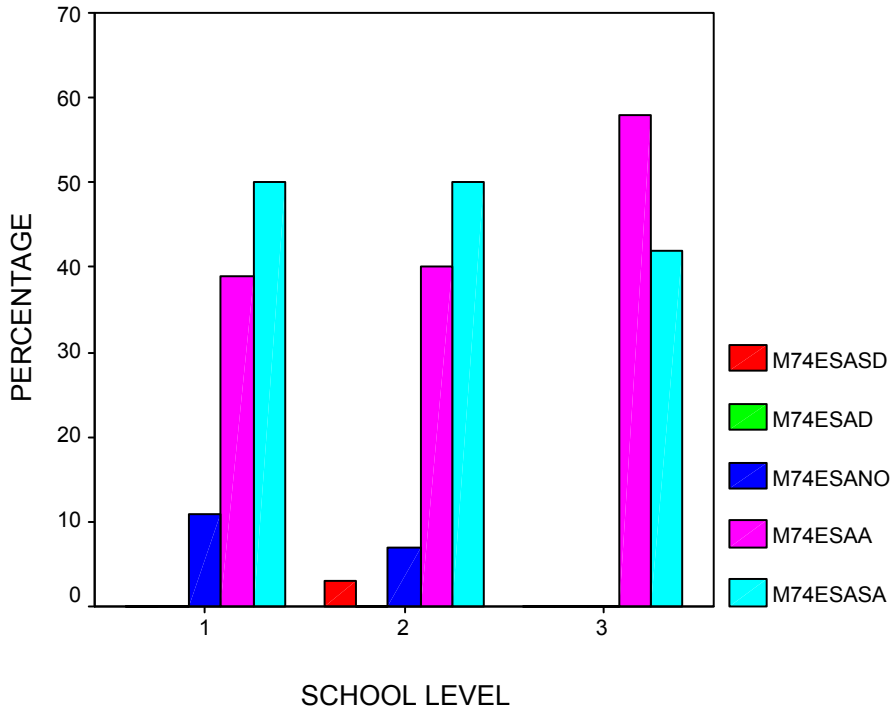
2. The MESA program helps our school forge stronger working relationships with parents.



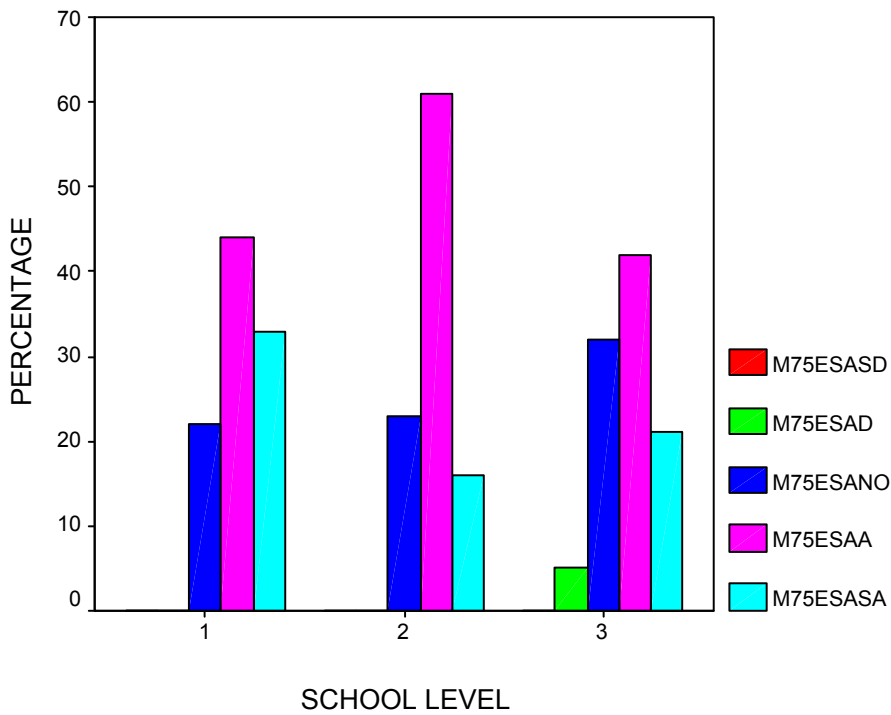
3. Students' explore more career options as a result of changes facilitated through the MESA program.



4. Our students learn “life skills,” including collaboration & working with others during MESA.

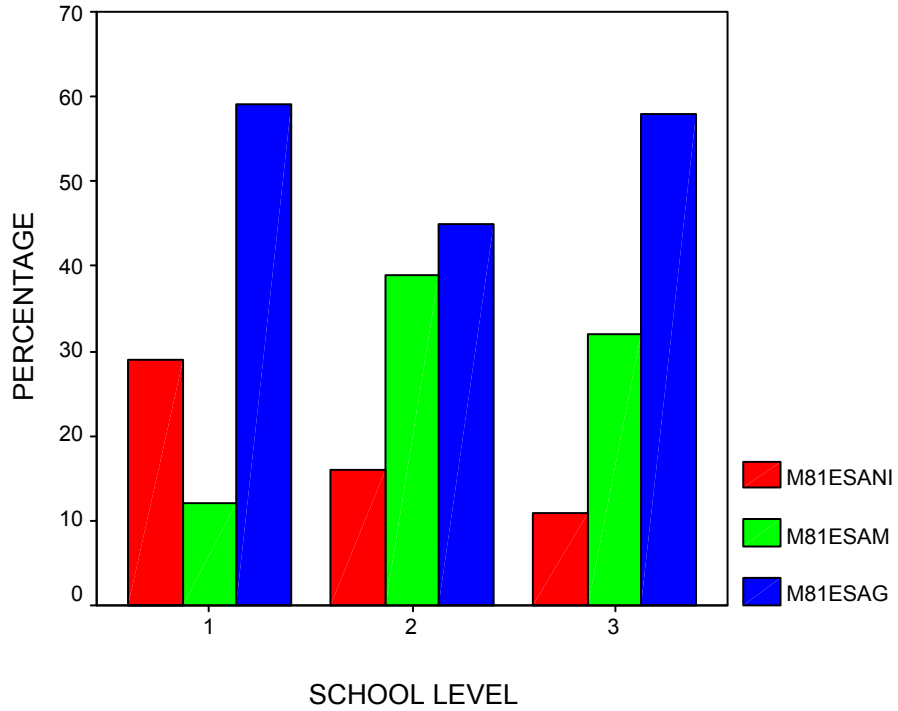


5. The MESA program helps our students pursue science & rigorous math-based courses (majors) in middle/high schools (Universities).

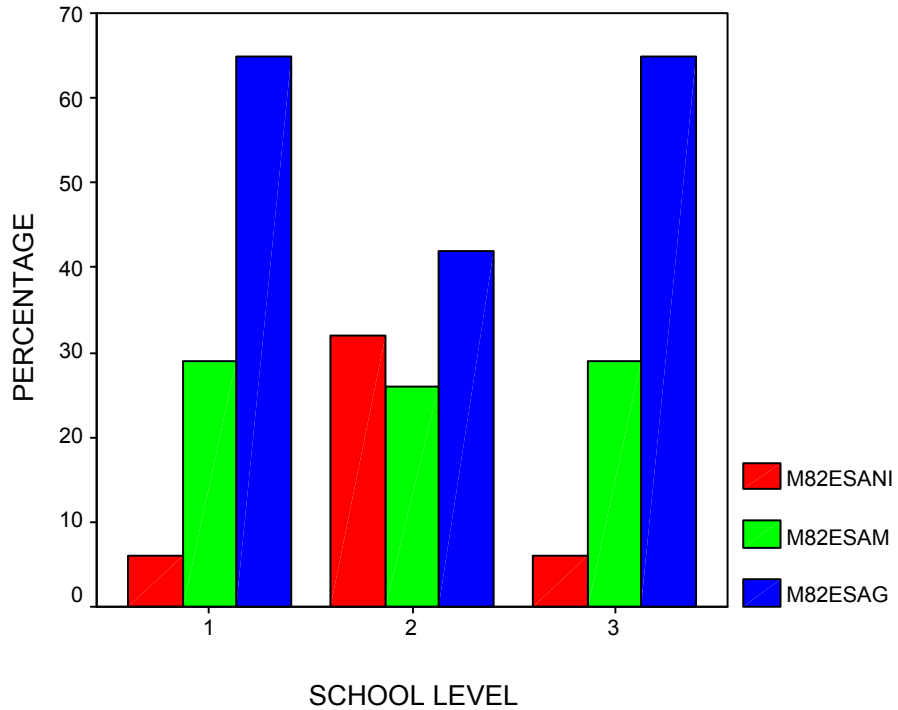


Q. 8 Please rank the kind of support your school receives for the MESA program from the following constituents:

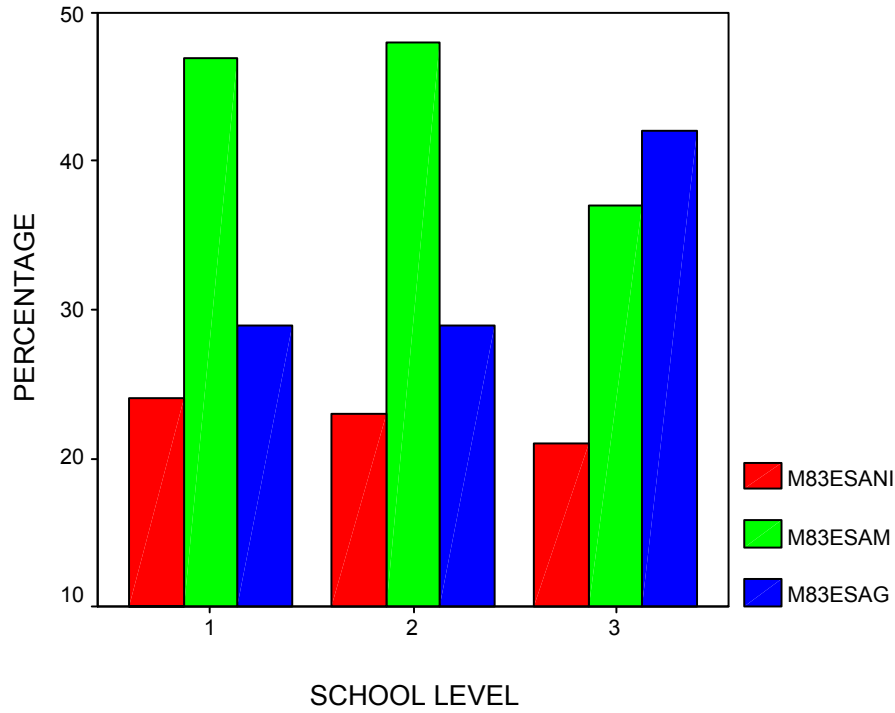
1. The School Administration



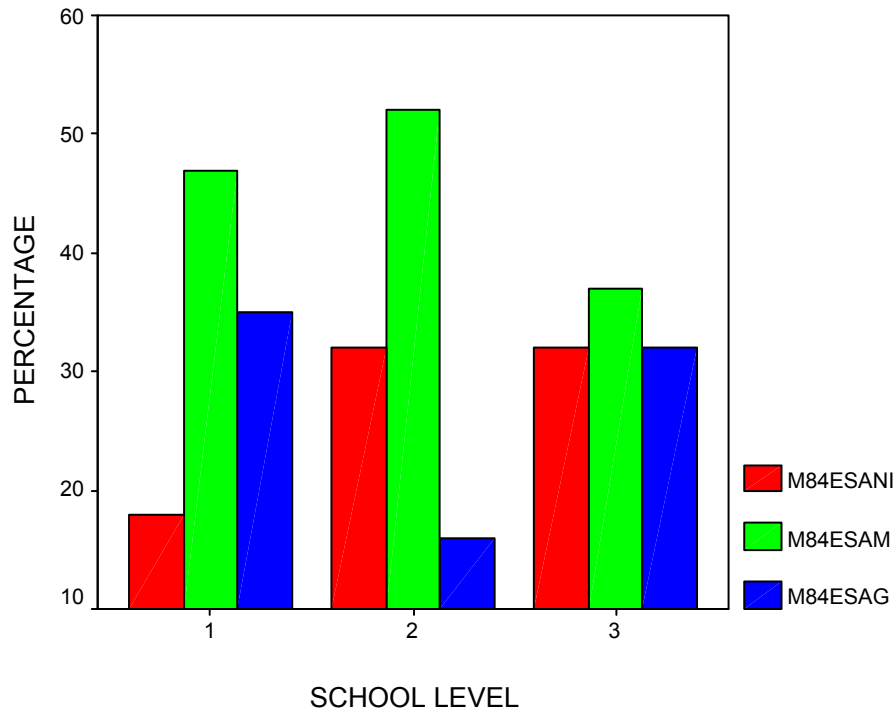
2. The School District



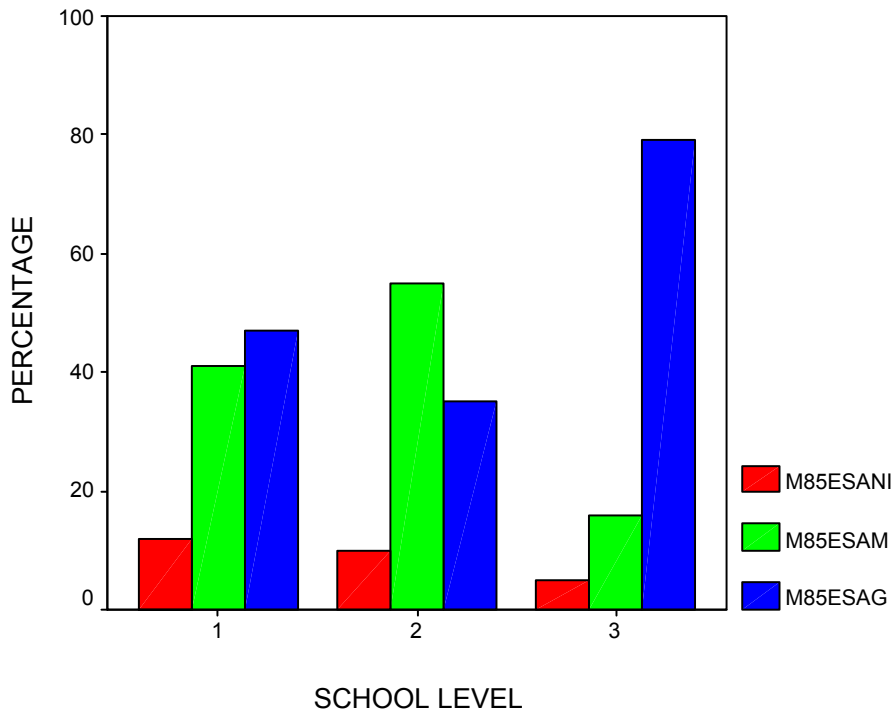
3. Colleagues



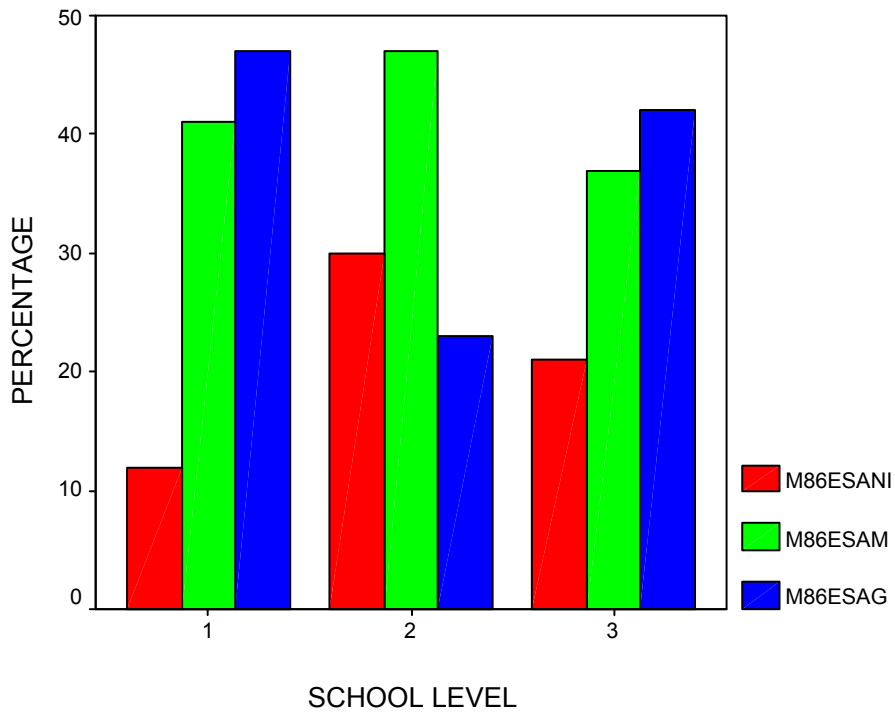
4. Parents



5. Colorado MESA Office

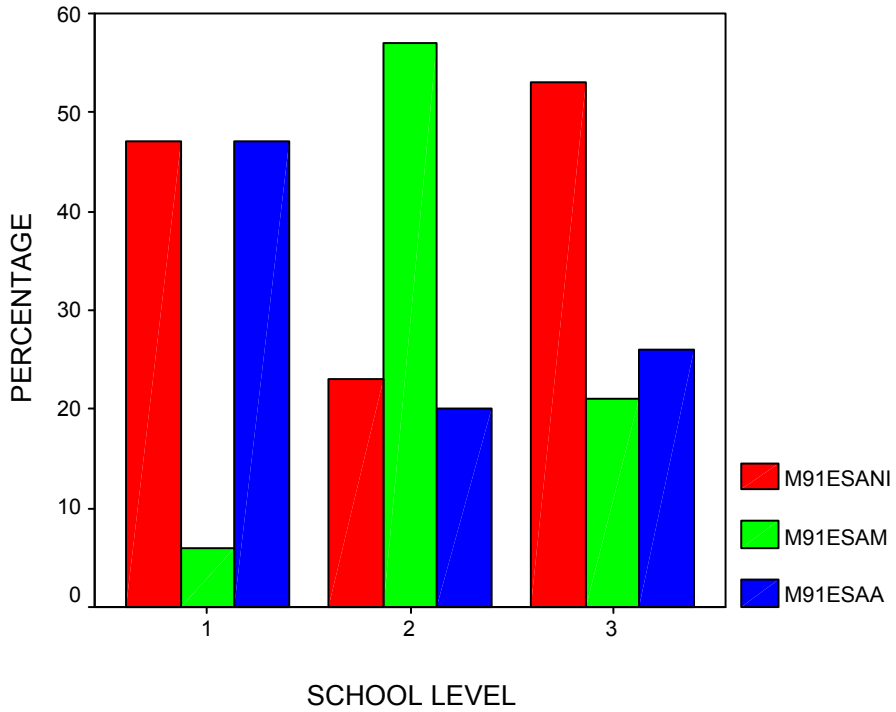


6. Industry/Sponsors

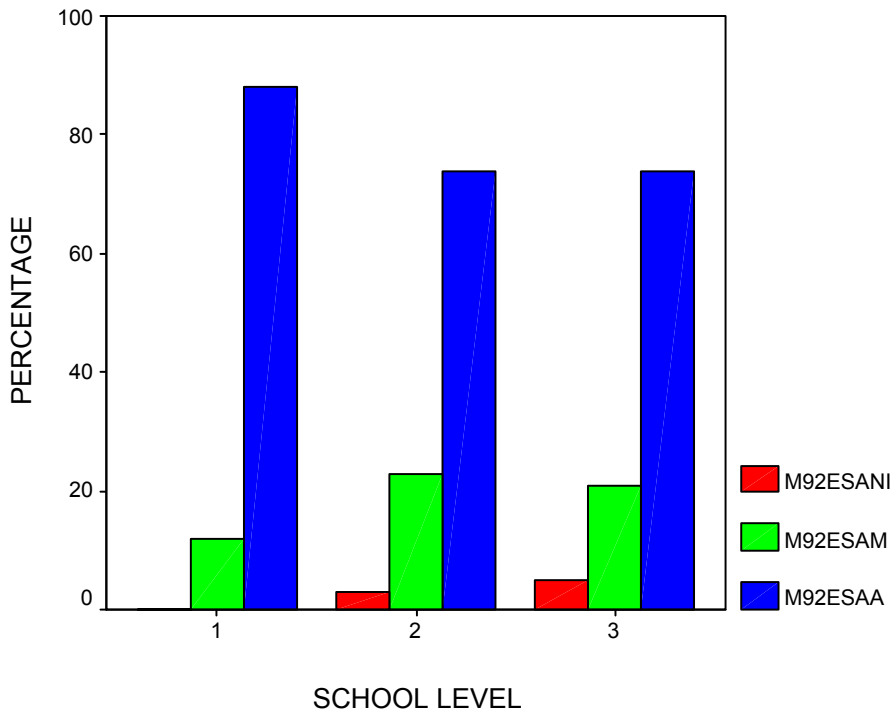


Q.9 Please rank the recruitment of the following minority categories for the MESA program in your school.

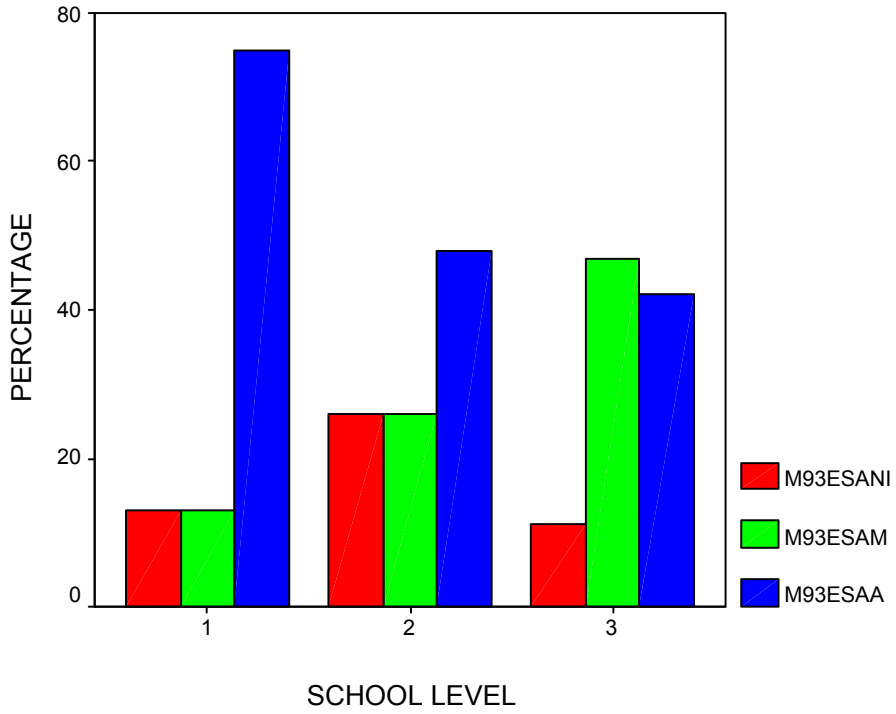
1. African-American:



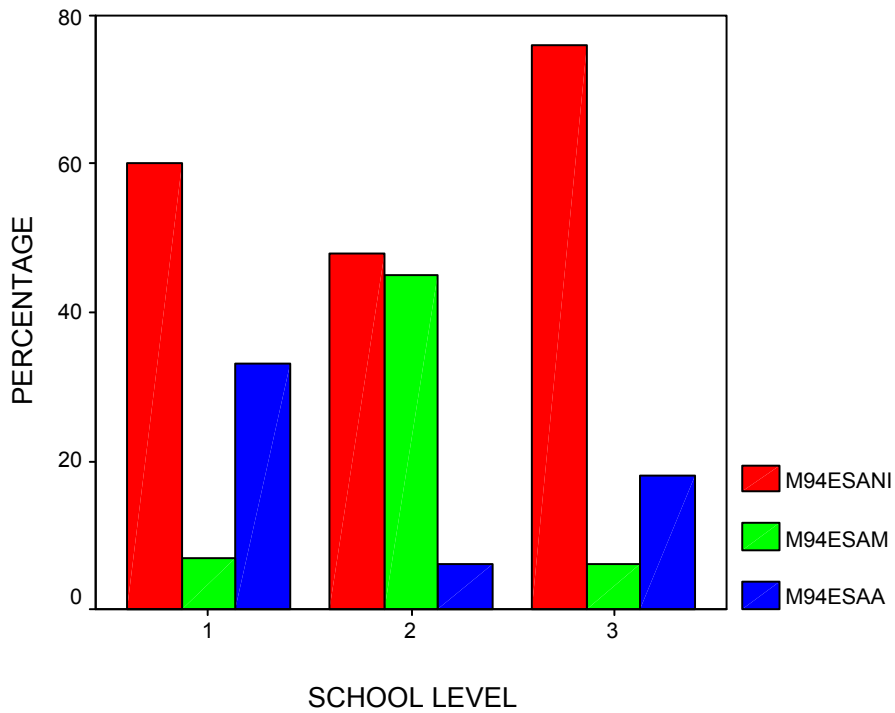
2. Girls:



3. Hispanic:



4. Native American:



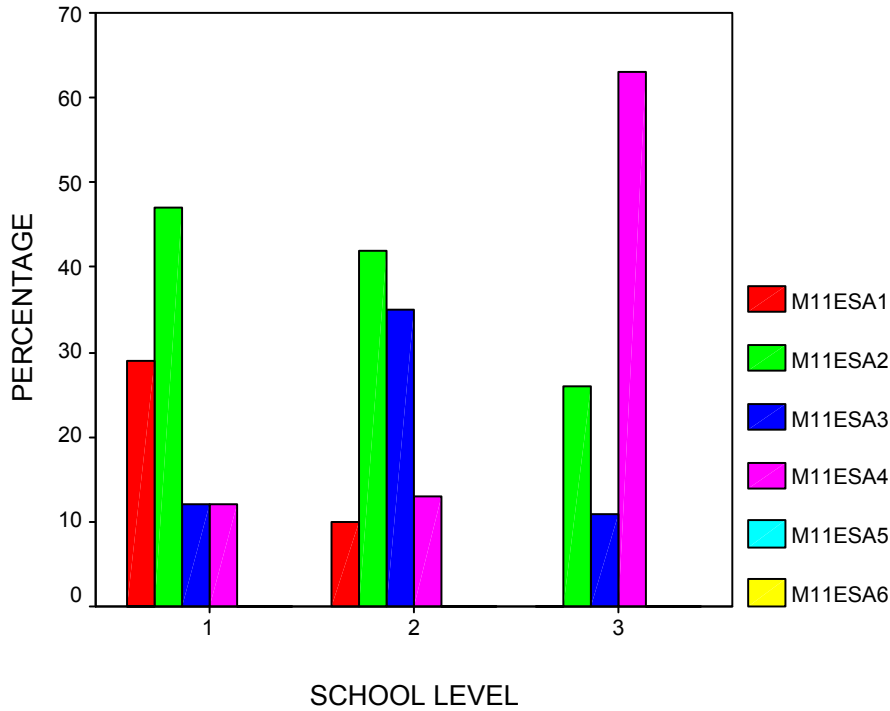
Q. 10 Please type in your recommendations on how we might increase the recruitment of minority students in Colorado MESA program.

ELEMENTARY	MIDDLE	HIGH
1. Formal training for Advisors or future Advisors. I think this will help us all get a better picture of what MESA stands for and where we want to go with it.	1. Teach more science in the elementary grades.	1. Sending letters through the school to minority families telling them about MESA might be helpful.
2. We need a MESA Newsletter.	2. Word of mouth for students to return each year.	2. Maybe a video to show during our classes would help.
3. Send out personal invitation letters to students who meet the requirements.	3. Invitation letters directly from MESA, based on recommendations.	3. A minority sponsor might help.
4. Recruit during Open House	4. Introduce MESA through LULAC Clubs.	4. Keep offering the MESA program. As students become aware of the program and its successes, more will want to participate.
5. I think more personal invitations. I just told the 5 th Grade rooms the first 20 kids were in.	5. Give teachers some funds for them to buy some food to be offered to the kids for them to attend MESA classes.	5. Perhaps having role models in each category will attract more minority students.
6. We take teacher recommendations, cross match math/science scores with ethnicity.	6. Posters, Ad campaigns, have previous MESA students come and talk at schools.	6. More competition between schools, example math competition, lingo a game of skills, and students like hands-on projects.
7. It would have been nice to have a MESA person come to the school and show us how to get started.	7. Implement project-based MESA programs with grant money.	7. Keep going after them.
8. In the long range, it's starting students as early as possible in MESA (breeds the desire to continue when older).	8. More minority guest speakers at the school-wide level. It is hard for our students to imagine themselves becoming more than their parents.	8. Invite students with a card and follow-up phone call to identified students from current MESA members and a questionnaire sent to staff in math and science.

9. By asking the students to participate in the Program as guests. Once they attend a meeting, they are hooked.	9. Provide a video on the program and purpose to share with students and parents.	9. Publicity! No one knows about MESA.
	10. We need to have funds for snacks, and we need to get back to doing the spirit banner on paper, since not all kids like or know computers well.	10. Offer more scholarships and other incentives.
	11. To personally invite students by invitations or teacher recommendations, also scout out the talented students.	11. Students need to be encouraged to participate in math and science courses. By the time we get them, many times they have already made their minds up about math and science. There needs to be incentives for being in MESA.
	12. Let one tell one . . . In other words, invite the target group of people, and then use an approach that encourages others to invite their friends.	
	13. Start out with simple and fun activity, and let the students know that you enjoy what you are doing with them.	
	14. a. It would help, perhaps, to be assured of pay for the hours sponsors put in. b. I'd also like to take a trip where we could invite the deserving students that simply can't afford to go.	
	15. Have facts about scholarships in a flyer we can get to parents and students.	

	16. Invitation by teachers, an environment that understands needs of language acquisition learners, girls, SpEd, & minority students. Have more minority scientists and engineers as guest speakers in schools.	
	17. Personal invitations at the school site.	
	18. Links with college minority students who can visit with our group, and schools could specially invite some kids for that event.	
	19. More publicity, more competitions, more money from companies.	
	20. Send older, experienced MESA members to schools to discuss the program.	
	21. Provide transportation after school for students	
	22. More money for field trips, activities, and materials.	
	23. Have minority advisors, focus on ethnicity, teen leaders who are minorities, ask teachers for specific minority students to recruit.	
	24. State incentives (awards/grants/gifts) for students who participate.	

Q. 11 On a scale, where 1 stands for LOW and 6 stands for HIGH, how would you assess the socio-economic status of students in your MESA program?



Q. 12 Please describe any positive influences of the MESA program, if any.

ELEMENTARY	MIDDLE	HIGH
1. Teachers/Advisors that WANT to be there and WANT to see the light bulb turn on.	1. Students are encouraged to pursue engineering careers.	1. Teamwork & sense of belonging.
2. Students are aware of career opportunities and rewards that come from giving an extra effort in school.	2. I think that MESA does a great job of getting kids excited in science and problem solving activities.	2. Better student-teacher relationships.
3. Students want to continue MESA in middle school, so the middle school started a MESA program as well.	3. Great peer interaction.	3. Exposure to colleges and universities. A social atmosphere with other motivated kids.
4. Girls getting involved in science related offerings in middle school.	4. Gives students confidence. Allows a student to improve problem-solving skills. Allows a student to work in cooperative teams. Gets students excited about science and math.	4. MESA has given students opportunities to see beyond their school & immediate community. MESA really expands their “world view” and gives them confidence that they can succeed in math & science.

<p>5. It has become very cool at our school to be in MESA and to be good at math and science.</p>	<p>5. My kids developed a connection and a trust with me.</p>	<p>5. Allows students to succeed, helps them improve self-image, & puts science in a fun light.</p>
<p>6. Enthusiasm for learning; increased social skills with peers; better self-image; increased awareness of careers in math, science, and engineering; increased responsibility.</p>	<p>6. It provides hands-on learning. Allows students to meet people who are educated and working in science and math fields.</p>	<p>6. Group activities, field trips to colleges, a program that can help students get accepted to college. Engineering experience in terms of model airplane building.</p>
<p>7. I have been able to find engineers to speak with and to the kids and they seem excited (both the speakers and the students).</p>	<p>7. Exposure and awareness to the sciences and math field's not otherwise known to the students.</p>	<p>7. This is my first time with the MESA program, and I already see the positive enthusiasm generated in our students.</p>
<p>8. Students feel like "they belong" to very worthwhile group. Have had excellent turnout at family nights.</p>	<p>8. Some kids through fieldtrips know what they want to do in the future.</p>	<p>8. Competition, group work, and problem solving.</p>
<p>9. I took the students to CA last year. Many had never been out of their hometown. With the name of MESA, I was able to get donations for our trip.</p>	<p>9. MESA has been able to recruit more female students to join and keep them involved.</p>	<p>9. We have combined our Science Club with our MESA program and this has given our school a program that encourages our students in Math and Sciences.</p>
<p>10. Students enjoy the program which fosters a positive opinion of the math and sciences.</p>	<p>10. Many positive influences. To name a few, parent involvement, community help, and looking ahead for students . . . allowing students to see themselves in college or a career after high school.</p>	<p>10. Students are more outgoing, once they are involved in the MESA program. It seems to build up their self-esteem and they are excited to meet other students, they share ideas and become friends.</p>
<p>11. Aside from the obvious value of increased comprehension in the content areas: career ed, learning excitement, critical thinking & metacognition, increased language skills (crucial for ESL students), etc.</p>	<p>11. A great outlet for critical thinkers. It gives all an opportunity to problem solve together, and to build camaraderie with each other.</p>	<p>11. The students feel they are part of a successful group of students and confident they can compete at the State level.</p>

12. Our students have showed a remarkable improvement in their math and science ability.	12. It makes some of my students think. It's not the normal classroom setting.	12. Team building, project completion, and access to Colorado Universities.
	13. Increased exposure to career opportunities through field trips.	13. Students can explore colleges and careers.
	14. Good student creativity.	14. Students exposure to college campuses.
	15. Well organized, enthusiastic support from CHEN (Coors).	15. It builds teamwork and cooperation among girls of different backgrounds and ethnicity – gives a common focus. Also increases self-esteem and science interest.
	16. MESA is a great opportunity for students to work collaboratively with other students and teachers who share the same passion for math and science.	16. MESA is good for a variety of kid types. Many loner types join and others that don't do many sports. It's also academic and that rubs off on members that aren't so academic. I think the competitive nature is helping to bring our focus to more study and prep of science.
	17. Great in giving students confidence in science!	17. The support from the MESA leadership in Denver.
	18. Great practice for teamwork, following instructions, being attentive to specs and material limitations.	18. Students who attend MESA events at Universities have moved to the Honors or X track. It breaks the idea that X classes are for the whites.
	19. It helps them experience positive group activities where everyone tires hard and works to include everyone else.	19. IT is a great opportunity for students from different backgrounds to interact with each other. It also exposes students to new situations and opportunities.
	20. Kids are involved, work collaboratively, and have fun!!!	

	21. Identity as a “smart” person, makes learning fun, exposure to many fields of study, goal setting for high school.	
	22. Students are “hyped” by science and feel included in the MESA community of students.	

Q. 13 Please describe any negative influences of the MESA program, if any:

ELEMENTARY	MIDDLE	HIGH
1. Science is considered a “soft subject” in our school district and there is “no time” for it at my school.	1. Kids form cliques and some students feel uncomfortable.	1. Just that it is hard to pull the kids in higher-level classes out for field trips.
2. Elitist, not a whole school experience.	2. We are sometimes required to take too many kids (above 20) per group of MESA. And we are discouraged to take Anglo kids who may benefit from MESA.	2. For the last 2 years we have entered the bridge building competition, we have always followed the rules and the teams that have “read between the lines” (for instance, made newspaper bridges out of wood and stapled on pieces of newspaper) have always found illegal ways to win. It sends the message to our students that honesty is not the best policy.
3. There are a lot more students that want to be in MESA, but not enough resources to accommodate them all.	3. A huge time commitment.	3. Some students belong to the program only in name and don’t participate in the activities.
	4. Need to spread info/research findings on “how” to connect kids who are frequently overlooked for MESA.	4. A lot of teachers do not know what the MESA program is about, so they make negative comments, discouraging the students from participating.

	5. "Mexican Club," PREP and some competitions are strictly for minority and I consider white females from poverty backgrounds a minority in engineering also . . . Poverty is just as important as an indicator for failure to achieve.	5. Time – It's tough to go on many field trips which would benefit the kids who are not able to miss classes more than the one time a semester as a club.
	6. Nerdy.	6. Sometimes, competitions are geared for schools with more money, facilities, or schedules that are more conducive to long term activities, leaving the smaller schools with after school programs at a disadvantage.
		7. It is very difficult to recruit high school participants.
		8. Indirectly, programs like MESA foster the idea that minorities need more help than other groups.

Q. 14 Do you have any suggestions for improving the Colorado MESA program?

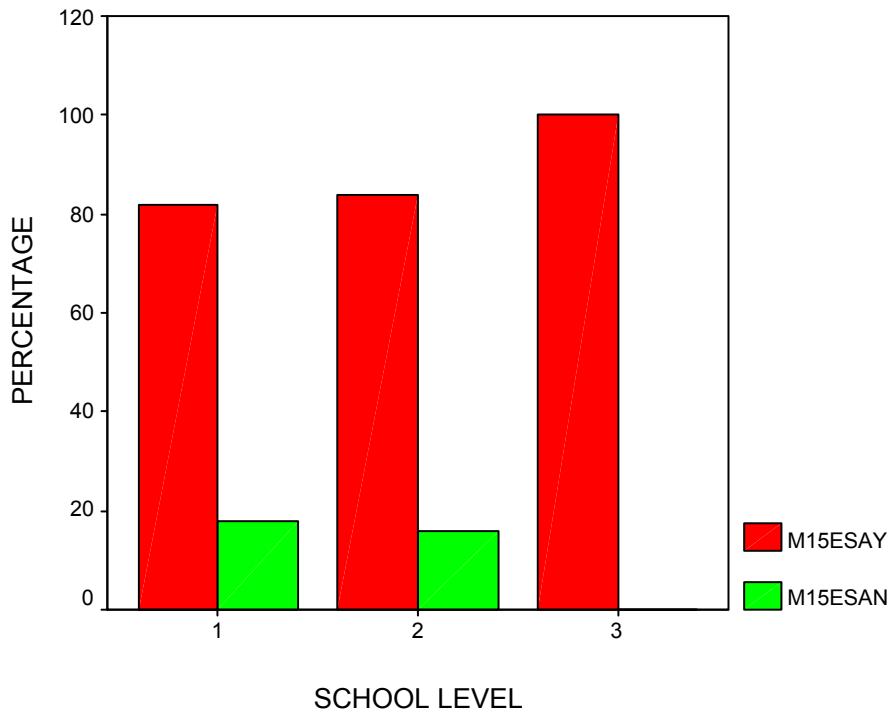
ELEMENTARY	MIDDLE	HIGH
1. I am new at all this and would like general information about MESA.	1. Need more competitions at MS level for MESA.	1. Push district to provide us with some working funds (at least 200 per year).
2. More informal alternative offerings for the elementary level to use as models.	2. More guidance for the first year MESA Advisors.	2. Notify us of events in a timelier manner.
3. At least one more competition at the Elementary level would be nice.	3. Please put together for the new sponsors, some information and activities to do in the MESA program that helps them to start the program after a transition.	3. I'd like to see more done at the Fall Fling – more shadowing of actual CU students, doing hands-on lab work or a flashy chem./physics/astronomy show.
4. More money of course, or MESA sponsored (paid) activities especially geared towards elementary.	4. It would be nice to organize local, district-based competitions & Mall happens only once a year.	4. How about offering a college day, with MESA kids shadowing college kids.

5. It would be fantastic if MESA could have the type of financial support necessary to have an elementary teacher(s) on site dedicated to MESA, serving the whole school population.	5. It would be nice to have some cool activities generated for us to use!	5. Offer the program as an enrichment class. The students can only meet at lunch and it is not enough time. The students are not very productive with a short amount of time and they like to socialize during lunch.
6. Recruit students from low socio-economic groups also.	6. We need more variety and creativity in the competitions. We also need the competition's information sooner.	6. More planned events, more incentives, more time for teachers to plan and carry our activities.
7. I would like to see more regional competitions and activities done so that those of us living in southern Colorado Springs and Pueblo can participate more often and meet students from other schools in our area.	7. We somehow need to get more money for our programs to do all the things we want to do with our students. So if MESA Office can help us with ideas for fund raising or grant writing, it would help. The District does not seem to value this program.	7. I realize that the program is for the minorities, but when students come up to me and ask to join, I hate to turn any students down no matter their race, color, etc. I think that is what our country is all about.
8. Just getting the word out.	8. More funding for trips.	8. Post competition rules sooner.
	9. I think that if we have a fund to buy pizzas or some food for the kids to stay, they would be more motivated to attend because they are gone because they are hungry many times and want to go to eat. Many kids told me already that if they had food they would stay.	9. Basically we need more Teacher/Administrator involvement. If someone from the State comes to our building and talks to our Administrator's and explain the pros/cons of the program, more of them will support the Advisors.
	10. More organized competitions – smaller and more spread out. That way, kids could focus on just one project at a time, rather than doing 4 projects for MDAM all in the spring.	10. More lead time – in the high schools, many girls can't come to things more than once per month, so we need lots of advance notice on things – 2 weeks is not enough time for High School.

	11. I would like to see a manual that has the activities from throughout Colorado distributed. It is difficult to come up with activities for our students.	11. I recommend 2 sponsors per program; the workload is significant in terms of tracking students info and the actual running of the program.
	12. More all round support. People who are conducting MESA need to be Science and Math teachers. Give new MESA teachers more help their 1 st year, maybe even supply them with a sample year with labs and field trips already done for them to use if they want to. Have a list of guest speakers who would be willing to talk with the students. Have a book of 101 MESA activities for all MESA teachers to use. Each school should have one clear goal for MESA. I would also like to see more college students involved in MESA . . . maybe even student teachers who need experience.	
	13. Video of the objectives of the program and handouts for the students in the field of math and science.	
	14. More time for communication and exchange of ideas.	
	15. Training from National Coalition for Equity in Education (NCEE) and Equity in Mathematics Leadership Institute (EMELI).	

	16. The MESA day at the Mall could be better organized in a number of ways. Involving teachers/ Advisors in the planning process might improve the overall competition.	
	17. Wider representation around the State and more competitions.	
	18. Send out information about major events earlier (i.e. what are the competitions at MESA day at the Mall this year. My kids want to prepare) and try to find more funding for the hours that Advisors put in. (Last year, I spent over 80 hours on MESA and was compensated for 25).	
	19. Increased funding.	
	20. Hold competitions in other locations besides Denver, include the Western slope, Pueblo, etc.	

Q. 15 May we contact you for more information?



Q. 16 Approximately, how many of your MESA students take higher-level math and “hard” science or tech courses (e.g. physics, chemistry, & pre-engineering) in high school?

