Student Experience Conference Follow-Up Report

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1 Introduction

The Academics and Research Committee (ARC) organized the Student Experience Conference (SEC) on March 5, 2008, with support from the Associated Students of the California Institute of Technology (ASCIT), the Deans Office, members of the Committee on the Caltech Student Experience and Student Affairs, and the Interhouse Committee[1]. Over two hundred students, faculty, and administrators gathered in Ramo Auditorium to listen to presentations by members of ARC and the Committee on the Caltech Student Experience and Student Affairs with an open discussion afterwards.

Following the conference, students, faculty, and administrators were welcomed to continue discussing their feedback with ARC and to submit anonymous comments in a survey hosted on the Donut website. Throughout the following month, ARC committee members gathered more detailed feedback from students in individual houses through surveys and smaller house discussions. The conference, online surveys and house discussions focused on the following issues:

- **Residence Life** - Is the introduction of the Associate Dean of Residence Life a beneficial change? Should all houses have a formalized UCC system as an emotional safety net for its residents? How should the role of RAs change? Does the house system encourage a culture of complaining?

- **Caltech Syndrome** - Is Caltech unnecessarily tough? Is there sufficient room for exploration and personal development? How can Caltech improve the academic environment and reduce stress on students?

- **Teaching and Advising** - How to engage students in lectures and boost class attendance? What is the best method to obtain student feedback on courses during the term? What is broken about the advising system, and what is the best system for its oversight?

- **Student-Faculty Interactions** - How can we best utilize our low student-faculty ratio? What can we the students do to improve student-faculty relations, and what should the faculty do in turn to reach out to the students?

As follow-up to this conference, the Student Experience Trip (SET) explored how other schools deal with similar issues. The Trip report will also propose solutions on many of the topics of the SEC. We mean this report to continue the discussion of these issues among the Caltech community, lay the background for the SET report and initiate changes across campus. For the freshmen and sophomores especially, the report can also be an introduction to the ongoing issues at Caltech so that they can participate more actively in the upcoming discussions and instituting solutions to these issues.

All of the suggestions from the conference can be found on the ARC website.

[1]More specific acknowledgements are indicated in the acknowledgements, located at the end of the report.

2 Issues and Problems Raised

2.1 Residence Life

2.1.1 Position of Associate Dean of Residence Life

The current Deans primarily look out for the well-being of students and resolve student conflicts, many of which revolve around residence life, given the centrality of the House system at Caltech. Overall, the students have mixed opinions on instituting a new position that seems vaguely defined.

Arguments for the position:

The current deans and Vice President of Student Life deal with a great deal of residence life-specific issues that could instead be dealt with by the ADRL. The ADRL would work directly with students allowing the ADRL to observe exactly what students are going through at Caltech. The ADRL would then have the information and power to make improvements to students' lives. It is possible that the ADRL should be an academic post. Specifically, the ADRL could:

- Help resolve student conflicts in residence life concerns.
- Ensure that housing provides proper maintenance. Students need someone to be on their side when housing starts charging for seemingly superficial damages in the houses. Such a person would ideally know enough about the individual house cultures to understand that not all houses want to maintain a perfect setup.
- Coordinate among the support network of UCCs, Health Advocates, the Counseling Office, and others.
- Connect students with on-campus resources.

Arguments against the position:

The ADRL is an unnecessary post since Caltech already provides the same support through other sources, such as the Office of Student Life. Also, students do not need a central person to report their problems to. If they need help, they will find help from many of the already available services. Right now it is still unclear exactly what the ADRL would do and more information is needed in order to make a decision for or against.

Proposed alternative solutions:

Create a wiki with the information about resources that can be accessed in the long run, which would be useful even if Caltech has an ADRL. It would be beneficial to have more open communication with the Housing Office so that students could make their needs known and work with Housing rather than feel like they are fighting it.

2.1.2 Student Living Environment

Students are mainly concerned with two topics: the renovation of the North Houses and housing regulations. There has been some confusion over whether or not the North Houses will be renovated

any time soon. There is concern that any maintenance is being put off because the North Houses might be rebuilt, but this might not happen for a very long time. Right now, many believe that the North Houses need to be redone. Also, they hope that when the houses are redone, the same mistakes, e.g. the fire alarms misfires, made while renovating the South Houses, will not be repeated.

2.1.3 Position of Upper Class Counselor (UCC)

Currently, UCC's have to attend two days of training run by Helena Kopecky and Kevin Austin even if a house does not have a formal UCC program. The training provides basic skills to handle problems within the house. However, there are no UCC's in the off-campus housing (Marks, Braun, etc.). Some of the students living in those areas should be included in UCC training. Students also suggest that housing should offer more perks for UCC's so as to make the job more enticing to students.

There is also some debate as to the usefulness of the current UCC system. Some believe that it should be standardized selection and roles, while others feel that only the individual houses should dictate the selection and roles of their UCC.

Those in favor of standardizing the selection of UCC's feel that some houses have a selection process that is essentially a popularity contest. They would prefer that someone outside of the house system oversees the actual selection in order to reduce conflict. Additionally, some believe that the UCC's need to be more active and have a better defined role. Specifically, they should have someone to report to.

Others are concerned that requiring a house to have a UCC is impractical since students do not appreciate unprovoked interference in their affairs. In some houses the UCC's are social coordinators or are mainly used by new students. Such status is useful, but should not be a mandatory position in all of the houses. Additionally, some of the appointed UCC's are not useful and students are better off looking for other classmates to get help from. In the long run, students will get help from whoever they feel can help them.

2.1.4 House Culture

The students have mixed views on the house system. Some think that the houses foster the culture of complaining amongst the students, while others do not view the house system as the fundamental cause. Some students believe the house system encourages a culture of complaining about courses and other parts of the Caltech experience for several reasons. Bitterness in the houses perpetuates and is passed down from upperclassmen to freshmen. Students may come to Caltech for the quality of education and science, but then can become embittered just from listening to bitter upperclassmen. The housing culture discourages optimism, happiness, and pride in one's achievements. The house system also homogenizes its members and can thus create peer-pressured

academic performance problems.

Other students believe that housing system is not a fundamental cause to the culture of complaining. They believe that classes themselves, not the houses, encourage complaining. Unnecessary Core classes or excessive workload are reasons people complain about classes. Therefore, the house system only encourages complaining insofar as it gives students an opportunity to communicate with each other and bond. In other words, complaining in the houses may support people through their class work and helps them relieve stress. The housing cultures often cause sharp division between individual houses. Each house has social events that are open only to house members, therefore isolating students from one another. Additionally, students seldom socialize or become involved in any activities outside of their respective house because of the social dynamics around them in the houses. Individual houses may even have entrenched traditions that sometimes antagonize other houses. As a result, the lack of a unified school spirit is largely replaced by individual house cultures.

2.1.5 Facilities

Students mainly have two issues concerning facilities: the student center and the gyms. Students would like a new student center that has a lounge area, a bowling alley, and some fast food options. Students would like the gyms to stay open later on Fridays and weekends. Most people have more time to go to gym on Friday and weekends, but gyms are closed at 10pm on Fridays and 7:30pm on the weekends, but at midnight on the weekdays. Also, the Brown gym is in poor condition. It lacks air conditioning inside the basketball court, and the locker rooms are in need of renovations. A survey should be conducted to see what the optimal time is the students would like the gyms to stay open and gather feedback about student satisfaction with the state of the facilities. The Student Experience Trip will provide material for a significantly more detailed discussion of the necessary improvements to the Caltech facilities.

2.2 Teaching and Advising

Professors at Caltech generally enjoy teaching but many of them are faced with low class attendance. While it is true that many professors care about teaching, many say that they often are unable to spend as much time devoted to teaching as they'd like and may not have the time to organize lectures and assignments well. However, low attendance is also disrespectful and unfair to professors who spend a significant amount of time putting together meaningful lectures. A couple bad instances are all it takes for a professor to lose motivation to spend time on teaching. A major issue for Caltech is how to encourage students to attend class and remain engaged in lectures.

Poor class attendance is a result of several causes. Some students choose to skip class because they feel that the lectures are not useful and that they will have an easier time learning the material on their own. Other students find that they cannot find the time to attend class because they are

swamped with homework. This can result in a domino effect where students then must spend more time on the next homework set because they missed the previous lecture.

Office hours at Caltech are underutilized. At other universities, there are sometimes lines outside faculty doors for office hours, while at Caltech the offices often remain empty. As a result, many professors have stopped offering office hours. Office hours are an opportunity for students to go over material covered in class and ask questions on points that they did not fully understand. Understanding why students do not utilize office hours and how this can be encouraged is a major issue for Caltech.

The system for gathering course feedback needs to be improved. For one, more feedback needs to be communicated constructively and acted upon as soon as students provide it. While the TQFR feedback system is useful, by the end of the term it is too late to improve the course for the current student. Such a system also discourages students from giving feedback at all. There should be more incentive for students to give feedback so that classes can be better tailored for them. Conversely, in the classes that do receive feedback, when students give the same comments year to year, professors often ignore it.

Although some students have had a positive experience with the advising system, many agree that the current system is broken. Freshmen have no experience dealing with the pressures of Caltech and of the collegiate environment in general, are more susceptible to the Caltech syndrome and need stronger mentorship. Therefore, advisors are especially important at the freshman level, as they can provide guidance at the time it is most needed. However, many advisors are not familiar with the Core Curriculum or option requirements, and students have had multiple advisors without meeting a single one of them. For many students, the advisor is simply the person that they need to contact to sign their add and drop cards. The role of advisors in the student experience needs to be made clear to both students and advisors in order for the system to be effective.

2.3 Caltech Syndrome

Students come to Caltech highly passionate, excited, and interested in the sciences, but a significant portion loses that passion by the time they leave. This intellectual burnout, termed the "Caltech Syndrome," is a result of several factors, ranging from the balance of overall workload and personal development to the Core Curriculum. We need a careful balance in the Caltech culture, so that the extreme rigor which helps intelligent students become more proficient in their chosen field does not simultaneously lead others to burn out. While some students do not feel any pressure to take more units, others may feel pressure from themselves or peers to undertake more than necessary. Students taking 36 units should not feel insecure merely due to their quantity of units when the focus should be on the quality of their work. More information should be surveyed, especially since opinions vary widely between the houses. If the results of such a survey demonstrate that this is less of a widespread problem, the individuals who feel pressure on taking a certain amount of units

should have access to a support network, academic or otherwise. This way, such an issue can be addressed with incoming freshmen as well.

While students appreciate the value of work and find the change in pace from high school refreshing, many students also believe that some classes are unnecessarily tedious. Such courses will often have very long problem sets, resulting in the course being under-united. Such long problem sets are not necessarily instructive as well; for example, some consist of tedious algebra that will consume hours even after the student conceptually understands the problem. Students enjoy work that challenges them to think deeply about the concepts involved, but are often frustrated by the monotony.

Students feel that some professors tend to either forget the amount of other work that they have or overestimate their ability to do the problem set in the allotted time. The final result is the same: students are overworked. The demanding problem set schedule often makes it difficult for students to work ahead or catch up if they fall behind. Students will also feel as if they live from problem set to problem set, and some students have at least one night a week where they know they will be working the entire night in order to finish their problem sets. They will often triage select material to learn in order to complete problem sets as quickly as possible and not fall behind on other work.

The demanding workload frequently leads to a lack of time for personal development. Beyond graduation requirements, students often do not have sufficient room for courses outside of their option. Taking appealing courses that do not satisfy graduation requirements will often cause students to take units close to an overload, adding an additional strain that might negatively affect their option courses. As a result, many students will forgo HSS requirements for a term with the expectation of doubling up a later term. Courses designed for personal enrichment, such as courses in the Performing Arts department, are often not taken simply because they do not satisfy any graduation requirements beyond the general 486 unit requirement. Many students also do not pursue extracurricular activities for personal satisfaction as a result of the academic workload. Ones that venture into nonacademic pursuits are often penalized in the form of a lower GPA and are often more likely to burnout due to overextension.

The Core Curriculum also contributes to the Caltech syndrome in numerous cases. As a result of the expansive Core Curriculum, students oftentimes do not find time to pursue extracurricular interests. It is especially clear that Core is a culprit when many students find that workload improves significantly after Core. Without doubt, Core is an integral part of Caltech and a defining characteristic of the Caltech experience, but many students believe that it is too extensive. Freshmen who would like to take classes outside of Core early on will often need to double up on requirements later on to accommodate Core. However, students would not want to spread the Core requirements more evenly either, as it greatly increases the difficulty of changing options. Some students wish that Core requirements were more flexible, allowing for option-specific versions of courses such as Ph 2, for example. Others merely wish that individual Core requirements were

reduced or eliminated, allowing for more freedom in choosing courses aligned with their interests. The possible modifications to the Core Curriculum will be discussed in more detail in the Student Experience Trip report.

2.4 Student-Faculty Interactions

Student-Faculty (SF) interactions play a significant role in the undergraduate experience, both in the academic environment and outside it. Caltech academics are extremely demanding and have the potential to dampen students' enthusiasm for science. The people best positioned to reenergize students are the people who are the most enthusiastic themselves about science-our faculty. SF interactions are especially important at the freshman level, as they have the potential to influence the entirety of the students' Caltech experience from the very start.

There are great examples of student-faculty interactions at Caltech. Current and previous efforts by faculty members to instill a love of their subject in their students, exemplified by Ph 11, have been very successful. Another one of Caltech's primary strengths is the extent to which students feel comfortable approaching their professors. However, there are concrete steps that we as a community can take to improve student faculty interactions and make student-faculty connections stronger and more meaningful. Overall, the quantity and quality of the SF interactions are extremely varied. Even people committed to improving these interactions are often unsure how to do so, and faculty alumni are difficult to convince that Caltech still needs to be changed and improved.

Both students and faculty want to be able to take more advantage of the 3:1 student to faculty ratio in the classroom setting. Caltech suffers from an often too strongly didactic approach to SF interactions that inadvertently creates a firm barrier between the students and the faculty. This is especially pronounced in large Core courses, where the discussion sections have mixed success because of hit-and-miss levels of TAs. Approachability of professors depends on the class size; in divisions like geology that have small class sizes, often not greater than ten people, professor approachability is much higher. In case a professor seems inapproachable within the first few encounters or lectures, the students are frequently too intimidated to attempt to break such a barrier, and as a result, it has the potential to extend into nonacademic and social settings. Consequently, students are sometimes afraid to invite professors to dinners or lunches, even though there is funding allotted for that specific purpose.

3 Solutions Proposed

3.1 Residence Life

3.1.1 Position of Resident Associate (RA)

Students express generally positive views about the role of the RAs. Most students think the RAs are supportive and effective. However, the student body has suggested several changes. First, devise a way to keep RAs involved in their respective house since they often stop going to dinner and drift away from students. Second, students suggest giving RAs more training in dealing with emotional and psychological well-being. Third, the Committee on the Caltech Student Experience and Student Affairs proposed that the RAs be in communication with the Deans. Fourth, students think that RAs are often placed in the conflicting role of being a cop and a counselor. Students find it hard to have a close relationship with the RAs, when the RAs are the disciplinarians enforcing school policies, such as how much to charge for damage. Fifth, students believe the role of the RAs should be flexible to be able to accommodate the needs of each house and individual house cultures.

3.1.2 House Culture

To alleviate the culture of complaining, the house culture should encourage people to build on each other's accomplishments, instead of bringing others down with complaining and bitterness. To bridge the differences between houses, ASCIT and individual houses should be encouraged to host inter-house events, whether they are a BBQ or a football game, and especially since there exists funding allocated specifically for such events. The implementation of any changes to the system should start with freshmen because they are the key for improving the Caltech culture.

3.2 Teaching and Advising

One of the major causes of low class attendance is that students get overwhelmed with work and don't have time to attend lecture. In some cases, students need to learn to manage their time better. However, under-uniting of classes can also often cause students to become swamped with work. Uniting of classes should be examined so that units more accurately match the amount of time students spend on classes. Additionally, classes should make an attempt to ensure that homework sets are of reasonable length and that they relate to lecture in such a way that attending lectures is meaningful for students to complete their work. Lastly, quality of teaching should always be looked at; improving lecturing skills could help raise class attendance for all classes.

Professors should try to find the time to schedule office hours to encourage attendance; for example, students often like to have office hours the day before a set is due. Another convenient time to hold them is after class, if possible. Professors should also make an attempt to encourage students to attend office hours. One way to do this would be to suggest that students come by and

chat, not necessarily just about the homework set or lecture material. By encouraging students to show up occasionally may make them more inclined to ask for help at office hours when they need it.

We need to implement a system for students to give feedback as a course progresses. This system should gather feedback frequently so that the course can fix issues during the term. Also, incentives should be in place so that students are more inclined to give honest and constructive feedback. The various feedback systems should also be consolidated into one, so that it will be more effective. The current ombudsmen system works well for certain classes and should be expanded to more classes. In addition, if professors act on student feedback that has already been given, students will feel that their opinions matter and be more likely to give even more feedback. The Student Experience Trip report will provide more suggestions to improve the course feedback mechanisms.

A more concrete framework should be developed for the advising system, defining in more detail the roles and responsibilities of both the advisor and the advisee. Under such a framework, both option advisors and freshman advisors should receive training for advising so that they know what is expected of them, and meetings with advisors should be made mandatory. Advisors should be giving students advice on course loads and scheduling, as well as career options. Students should be able to easily change advisors and find one that is most suitable for them. One way for students to more easily find a suitable advisor would be for us as students and faculty to identify advisors who wish to take a more active role in advising. Also, advisor-student interaction should be encouraged (see "Student-Faculty Interactions"). Students who are not looking for extensive interactions with their advisor could find someone who is easy to reach for signing add/drop cards instead. Departments can organize informal lunches or teas for students to interact with their advisors.

3.3 Caltech Syndrome

Students feel that, although the rigor of the Caltech curriculum is extreme, it is also its defining characteristic and should not be compromised. Instead, professors need to reexamine time-consuming problem sets to maximize their learning value. Rigor is fine, but professors should not assign problems that relate only weakly to lectures, are poorly defined, confusing, or require unnecessary grindwork. Professors need to understand how much time and energy students spend on their class and how that fits into all of the students' classes as a whole.

Conversely, there are many classes that are "under-united", implying that students habitually spend significantly more time than the theoretical number of hours per week a student should spend on that class. Such courses should have their units reevaluated and adjusted by the respective departments offering them. The Core Curriculum Task Force Committee should also look into Core workload and how the Core requirements specifically affect the Caltech Syndrome.

There should always be a time limit for take-home exams. Exams that are longer than six

hours seem oppressively long and mentally taxing, and students do not always have enough time to include them in their schedules in a single sitting or with a limited break. Take-home exams should not be a license for professors to give exams longer than in-class exams at most other universities, which are usually 2-3 hours long. Instead, professors should be encouraged to select meaningful problems and pick out the most relevant concepts.

Homework should strictly not be assigned during midterms or finals week. Students have iterated over and over again that a class should not assign both a midterm and problem set within the same week, yet professors still do this.

At the same time, students need to be responsive and take the initiative to give more feedback on classes. That way, faculty can see what exactly is wrong with their classes, know why their problem sets take so long to finish, adjust the workload accordingly, and improve their lectures. More student-faculty interaction outside the lab and classroom could facilitate this.

Going into a new term, students should learn to gauge their ability to balance their course load to avoid burnout. They should also develop a strategy to realistically evaluate their progress or an exit strategy if taking more than the required 5 classes or a class that is known to be under-united in case the load proves too much. Advisors should help students develop this mindset and check their progress.

Other recommendations include: having separate grading curves for undergrads and grad students in mixed UG-grad classes (since grad students take fewer classes and have markedly more time to dedicate to each class); more innovative teaching and learning methods to break the monotony of the lecture-problem set format; and giving more incentives and allowing more time for research or independent study. The Student Experience Trip report will also continue the discussion of the Caltech Syndrome.

3.4 Student-Faculty Interactions

Helpful SF interactions are currently facilitated through MOSH option teas and SF lunches, hosted by the MOSH and ARC, but there should be more ways to encourage SF interactions. In particular, we should make better use of the 3:1 student-to-faculty ratio by organizing small-group interactions both in and out of the academic context.

There should be more non-humanities classes with enrollment lower than fifty students. Small classes provide a more comfortable environment for students and allow for more personal communication. When faculty remember students' names and call on students by name, faculty are much more likely to get responses from the students since the students will feel like they need to pay better attention to the class material. Some faculty have implemented handing out candy or quarters to get students to ask and answer questions and break the ice to produce a more cooperative environment. Furthermore, in small classes, professors can help students integrate what they are learning into their research and maybe even incorporate the ideas into individual projects.

Students feel more comfortable asking questions of professors in small class environments such as physics recitation sections. There should be several instances of small, interactive classes like Ph 11, but without the admission restriction. For instance, there could be small discussion groups in topics that are interesting to both students and faculty so they can be engaged in fun dialogues.

Establishing a friendly class environment strongly encourages questions and class participation. While students must take initiative as well, faculty should encourage a friendly classroom environment to overcome the didactic barrier. Outside of class activities are one of the most effective way of accomplishing this; for example, one class went to tea together, after which they interacted with each other more often. Outside of the academic sphere, more initiative on the part of the students is necessary to make SF interactions possible. For example, students should invite faculty to house dinners and make use of other funds designated for such activities. They should also make an effort to use the options already available to them, such as office hours (when they exist), Take-A-Prof-To-Lunch program, etc. Research, for instance, is one of the best ways to take advantage of the low SF ratio, and there should be a push to bring more students into the lab. By mingling with faculty in the lab, students would improve student-faculty relations. On the other side, the faculty should try to make themselves available and communicate when they are interested and available to the students. Another way to forge SF connections is to organize small events, such as the MOSH option teas or the chemistry club socials. These offer a relaxed, informal environment in which faculty could invite students to attend seminars, and encourage students to do research with them during the academic year. It helps when faculty take interest in topics that interest students, and in turn, students can give feedback about classes, etc.

4 Closing Remarks

The above issues are not the only topics raised from the SEC that needs further discussion. With more focused discussion within smaller groups, we should be able to find solutions to the issues raised in the report and SEC. It is imperative that these issues lead to direct changes at Caltech when necessary since a large part of the student body is concerned that Caltech may not be moving towards positive improvement. Many changes depend on a proactive student body, thus it would be beneficial to develop departmental committees that would discuss issues specific to courses in a single department. Because these bodies would deal with smaller and more homogeneous constituencies, they would increase flexibility within the current system, making implementation of changes easier.

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