High School – Cal Poly Connection

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Study Summary

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The purpose of this study was to find ways to improve the incoming student experience in Cal Poly's Graphic Communication Department, due to a variety of observations over the years of students feeling intimidated and frustrated in their classes, or expressing doubts about their choice of study.

This study investigated common student issues and concerns when applying to colleges. Questionnaires were emailed to current Graphic Communication students about their difficulties when entering the program, and what would have made it easier for them. Respondents were given open-ended questions about what had been the most difficult for them and how the situation could be improved. The most common feedback was a lack of quality information about the major, career opportunities, or feeling very daunted in their first classes trying to absorb a lot of information that they had never been exposed to before or were inadequately trained about. They also elaborated on their backgrounds and how they had been trained. A second survey was sent out to high school level graphic design instructors to inquire and address their needs in their programs to adequately prepare their students for their futures.

Results indicated that Cal Poly needs to make more quality information available in layman terms for prospective students as detailed within this study, as well as enhancing communication with high school graphic design instructors and encouraging a network of online resources that will assist both groups in preparing a quality, low-budget education. This will be feasible through various web-based tools such as blogs, wikis and podcasts prepared by Cal Poly students and faculty, as well as through California-based groups that already coordinate with high school level graphic design instructors to assist them in educating students.

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Chapter I

Introduction

It is difficult for high school students to choose their future careers and decide on a college major that most closely aligns them with their goals. It is also a daunting task to comb through hundreds of college mailers, spending many hours trying to find substantial reasoning for one college versus many of their competitors. In fact, this researcher only found out about California Polytechnic State University's (Cal Poly's) reputation for its Graphic Communication program by directly asking a high school graphic design instructor about the best colleges for print and design.

Many students in high school design programs would be interested in pursuing a higher education in the printing industry if they were exposed to graphic communication topics more in their curriculum. Cal Poly could be a major influence if it had the right tools to engage those students. This study asked the question: What are effective ways for California Polytechnic State University to connect with high school design and print-related programs?

The most effective methods to connect Cal Poly's Graphic Communication program with high school prospective students would involve the Internet, using widely-accessible, inexpensive tools such as podcasts, e-lectures, guided activities, and various other online resources.

The purpose of this study was to benefit Cal Poly, printing and print-related industries, and prospective students in a variety of ways: by attracting more highly-qualified students to Cal Poly and the printing industry, bolstering Cal Poly's reputation by strengthening the connection between high school and college programs, improving the basic skill set of students entering into Graphic Communication, and helping students feel more comfortable and confident in future print-related interactions and careers.

Chapter II

Literature Review

Literature review for this study was focused on finding out the benefits of web resources and tools for high school graphic design programs, and the Graphic Communication Department's current web site. This information will be useful for managing resources and connecting faculty and students more effectively.

Introduction

Richardson writes about the importance of incorporating Web tools into classrooms.

> "The social connections that students are now making on the Web, the ability to share and contribute ideas and work, the new expectation of collaboration, the ability to truly extend the walls of our classrooms... these ideas are at the core of this new Web." (Richardson VIII)

Due to the impact the Web has had on their daily lives, the modern student is different from the traditional student in how they access information and how they operate in an educational environment because of the wealth of information now available on the Web. "In the Web classroom, it's not as essential to know what the answer is as it is to know where to find it. In the past, when information was not as accessible, it was important to memorize facts and formulas. Today, however, factual answers are only a few clicks away." (Richardson 129)

Developing the new skill sets required to stay competitive in the business environment of the near future requires different instruction methods in the classroom today, such as teaching how to think when problem solving, not just what to remember when performing daily routines, and teaching students how to find the sources they need rather than trying to have them memorize everything.

How to Adapt

So how does an education system adapt, and incorporate these new tools? Richardson writes a note to instructors about ideas that he believes they need to keep in mind when dealing with these changes, and how to appropriately adapt them into an education system.

> First, teachers will have to start to see themselves as connectors, not only of content, but of people... It will be imperative for educators to model strategies to not only find worthwhile and relevant information but to use primary sources in the classroom. We can invite people from around the world to engage in discussions and even content creation with our students, and our teachers must be willing and able to find and use these sources effectively. Second, teachers must become content creators as well. To teach these technologies effectively, educators must learn to use them effectively. (Richardson 132)

Lau also has similar theories on how an Internet-savvy system should operate, and the benefits that would come from it. The main benefits are developing critical thinking, research skills, and collaboration skills, as well as experience with finding quality information on the Internet.

> The task of an interested and innovative teacher is to build an effective Internet-based teaching environment based on knowledge of learning and available features of the World Wide Web. This environment will promote a deep approach to learning so that what students learn are the deep understanding of subject content, the ability to analyze and synthesize facts and information, and the development of creative thinking and good communication skill. This learning experience should improve not only personal skills and abilities but should also prepare the learners to engage in a collaborative work of real life. (Lau 27)

Collaboration as a Tool

The Graphic Communication industry relies on communication between different industry segments, such as designers and printers to get its work done. Teaching students how to work as a team with other schools could be a very effective, innovative and motivating way to accomplish this.

The Internet is an important tool for learning collaboration, due to the very nature of how the Web works, and collaboration will be very important for students' post-education lives.

> More and more, the creation of that content is collaborative. Just about every major software package on the market these days has collaborative tools built in... When today's students enter their post-education professional lives, odds are pretty good that they will be asked to work with others collaboratively to create content for diverse and wide-ranging audiences.
> (Richardson 125)

Collaborative learning is very important in an industry that focuses on distance projects, so it would be very beneficial to incorporate its use into graphic design and Graphic Communication instruction programs. “These groups could be close together physically, or could be remote groups connected through the technology.” (Bork and Gunnarsdottir 22)

One of the ways collaboration can be used in Graphic Communication is through the use of programs that have collaborative tools built in, many of which are on the market today. Bork and Gunnarsdottir explain their general reasoning for this concept, based on how students operate in social groups.

> An important kind of student support comes from other students, already mentioned. Peer learning, between students at the same point in learning activities, or as tutors to other students, is a valuable aid to learning... (Bork and Gunnarsdottir 25)

According to Lau as well, peer interaction is more beneficial and feasible through the use of tools already available on the Internet, fostering collaboration and connections.

> Fostering this interaction means that you must recognize that the students need to socialize. In a distance environment this means that the way of socializing should be made available. In a text-based environment this could take the form of a special chat room for this specific purpose... these mechanisms are analogous to the hallway or break room in the traditional environment. (Lau 21)... This feature is convenient when groups of students cannot meet at the same location but could be online at the same time to exchange information. (Lau 23)

Bork and Gunnarsdottir explain how email and other forms of electronic communication also can encourage long-distance student collaboration, provided that they are implemented into programs in an effective manner. "Email is effective in distance learning, with small numbers of students. Chat rooms are also limited in numbers if they are to be effective... Computer-based teleconferencing is another possibility... The key is the level of interaction." (Bork and Gunnarsdottir 68)

Safety on the Internet

Before discussing the various tools in further detail, Richardson prefaces a word of warning about the risks of using Internet tools in the classroom, and talks about having a plan beforehand for enforcing safety of the students on the Internet.

> It's important to take some time to talk about keeping our students safe on the Web... Safety is about responsibility, appropriateness, and common sense as well... Like just about everything else in life, using the web carries with it some risks. But again, like most other things, those risks can be greatly reduced by having the appropriate information on hand and by planning. (Richardson 9)

Richardson then talks about the typical response to Internet risks and then what he refers to as the smarter choice, which is educating students about what to expect and how to deal with it.

> To deal with this, schools are faced with a couple of options. First districts can choose to block some of the larger weblog hosting sites... this eliminates literally millions of sites from student access and blocks not only the questionable sites but the large majority of perfectly appropriate sites that might be relevant to learning...
>
> The alternative, of course, is to teach students the skills they need to navigate the darker sides of the web safely and effectively... My students and I spent a great deal of time talking about how responsible use meant not just refraining from actively seeking out these inappropriate sites, but also reacting appropriately when they were happened upon... My students knew that they could not be kept totally safe from the ne'er-do-wells of the world, but they also knew they had a choice as to how they responded when faced with such a situation. (Richardson 10)

Blogs in an Educational Environment

Their first specific technology that Richardson writes about is a Weblog, or Blog. “Blogs, as they are known, are easily created, easily updateable websites that allow an author (or authors) to publish instantly to the Internet from any Internet connection. They can also be interactive, allowing students and teachers to begin conversations or add to the information published there.” (Richardson 8)

Richardson writes about how a Weblog is a handy tool to have when its full potential is explored, because it differs from other forms of websites.“What really distinguishes a blog from your run-of-the-mill website is much more than process; it's what you find there... They are comprised of reflections and conversations... Blogs engage readers with ideas and questions and links. They ask readers to think and respond. They demand interaction.” (Richardson 18)

This concept of interaction is a strong theme in other books researched for this paper as well. Richardson cites a study which explores the impact that blogs have on students.

Learning specialists Fernette and Brock Eide's research shows that blogging in its truest form has a great deal of potential positive impact on students. They found that blogs can promote critical and analytical thinking, be a powerful promoter of creative, intuitive, and associational thinking, promote analogical thinking, be a powerful medium for increasing access and exposure to quality information, and combine the best of solitary reflection and social interaction. (Richardson 20)

Richardson also writes about how a blog can encourage students to collaborate.

> The web opens up all sorts of new possibilities for students to learn from each other or from authors or scientists or other professionals who can now work side by side in a digital space even though they may be far from each other physically. (Richardson 24) Weblogs truly expand the walls of the classroom... now that collaboration can be much more accessible and much more diverse. We can create sites where classes from disparate geographies can conduct all sorts of experiments, share the results through text, picture, audio or video, and invite expert scientists into the process to reflect on results. (Richardson 28)

Richardson then sums up the benefits of blogs before moving on to the next topic.

> Depending on the focus, weblogs in the classroom have the potential to affect student learning in many positive ways. Blogging can teach critical reading and writing skills, and it can lead to greater information management skills. It can help students become much more media and information literate by clarifying the choices they make about the content they write about, and it teaches them about how networks function, both human and computer, and it can teach the essential skill of collaboration. (Richardson 38)

Specific Ways to use Blogs

Richardson lists ways to use blogs in educational settings, which are elaborated on later.

> Blogs can enhance and deepen learning.. blogs are being used as class portals, online filing cabinets for students' work, e-portfolios, collaborative space, knowledge management... students are learning to read more critically, think about that reading analytically, and write more clearly. And they are building relationships with peers, teachers, mentors, and professionals within the Weblog environment. (Richardson 21)

The first specific use that the author elaborates on is the use of class portals.

> A great entry point for Weblog use its to build a class portal to communicate information about the class and publish class materials. From a teaching standpoint, having a place to publish the course curriculum, syllabus, class rules, homework assignments, rubrics, handouts, and presentations makes a Weblog a powerful course management tool. ... The class portal Weblog makes it easy to communicate with peers who might be teaching the same course... Portals are a great way to get comfortable with the transparency that Weblogs provide. (Richardson 21)

Richardson discusses in detail how using a class portal for digital filing can save time and effort.

> There's a good chance the class can go paperless as students simply post their work online for peer and teacher response. This creates a digital filing cabinet for students to archive their work and, in effect, creates a space for an online portfolio of work. This has a number of obvious advantages. First, students never misplace their work... Second,... it's very easy for students to look back over their work and, hopefully, see the growth they've accomplished... Finally, work on a weblog can be shared with others who might be interested or invested in the students' progress. (Richardson 23)

Richardson also talks about how Weblogs can be used for internal communication between instructors.

> Blogs are a great way of communicating internally as well. School committees and groups that meet on a regular basis can use a blog to archive minutes of meetings, continue dialogue between get-togethers, share links for relevant information, and store documents and presentations for easy access later on. They are a great way to manage and communicate the knowledge that gets created. (Richardson 25)

Wikis in the Classroom

Richardson then writes about Wikis. "A wiki is a collaborative webspace where anyone can add content and anyone can edit content that has already been published. In schools, teachers and students have begun using password protected wikis to create their own textbooks and resource sites." (Richardson 8)

Richardson writes about security concerns with Wikis, noting their open nature. The first idea that Richardson notes is having a system managed by the students themselves.

> In theory, the "soft security" model could work in schools as well. If it's used as a group collaboration site a la Wikipedia, the class as a whole could monitor the content that is added and make the necessary edits and revisions. Giving students editorial control can imbue in them a sense of responsibility and ownership for the site and minimize the risk of someone adding something offensive. In fact, Wiki projects in schools have worked best when the teacher loosens the reins a bit and lets students manage the content on the site. (Richardson 64)

Richardson writes then about the benefits that Wikis can bring to the classroom.

> They can be used as collaborative tools among teachers or districts to collect and share information...create an online text for your curriculum that you and your students can both

> contribute to. Or consider adding other students and other teachers who teach the same class. It could easily become a resource, a showcase for best practices, and an articulation tool as well... they could add graphics and links, annotations and reflections... And all of those collectively assembled artifacts could serve as a starting point for future classes to then edit and add to. (Richardson 65)

Richardson sums up the topic of Wikis by revisiting their benefits before moving on to the next topic. "The collaborative environment that Wikis facilitate can teach students much about how to work with others, how to create community, and how to operate in a world where the creation of knowledge and information is more and more becoming a group effort." (Richardson 74)

Podcasting in Education

Richardson then writes about podcasting. "Podcasting is basically the creation and distribution of amateur radio, plain and simple. And it's the distribution piece of this that's important, because although we've been able to do digital audio for some time now, getting a lot of people to listen to it hasn't been very easy. Now it is." (Richardson 112)

Richardson elaborates on how podcasting can be used.

> And it's not just audio. It's video, as in videoblogging, the use of a blog to post videoclips of all sorts. And it's video in the form of screencasting as in capturing what happens on a computer screen, adding a bit of audio narrative, and publishing it as multimedia web tours or stories. And more... the simple fact is that it has become much easier to create and consume multimedia as well as text and digital images. And that has created even more in terms of the potential uses of this new web that we are dealing with. (Richardson 111)

Richardson cites a source from a popular website, EduGadget.com, which focuses on providing tools for Internet-savvy modern classrooms, about various uses for podcasts beyond the more obvious uses.

> Steve Brooks over at EduGadget.com has some suggestions that schools and districts might want to think about, including guided "pod tours" of the campus... or tours of art displays narrated by the artists. You could record assemblies, do new teacher orientations, have supervisors record descriptions of their departments... Principals could record weekly or monthly messages to community or teachers or even students. (Richardson 118)

Chapter III

Research Methods and Procedures

Connecting with a high school program is far more complex than packaging the traditional university marketing approach in a new way. Attracting students in a new way requires extensive planning and research because it is imperative to know what is already being done, what is working and what is not, and to be able to improve it for the next generation of students. Without understanding past and current systems, it is very difficult to develop a strategy that will smoothly transition into classrooms.

Changing the system is immensely important because the modern classroom needs to be connected with other classrooms, learning collaboration, improving innovation, and a gaining solid comprehension of new technology that will serve those students for the rest of their lives. Without a solid understanding of the tools that the Internet provides and ways to tap its potential, students will be unprepared for success in the modern business environment.

To discover the most effective methods to connect with high school programs, the research methods of Descriptive Research and Content Analysis were used to analyze survey results, interpret the data, and make recommendations based on which responses were the most frequent for each question.

Descriptive Research studies are designed to determine the nature of a situation as it exists at the time of the study. The aim is to describe "what exists" with respect to variables or conditions in a situation.. (Levenson 25) The use of descriptive research in this study was to discover what high school graphic design instructors feel they are lacking to help their students learn and prepare for college, and to discover what students feel they are lacking in the college admissions process specific to choosing and entering the Graphic Communication major at California Polytechnic State University. Though some questions were designed with specific answers to choose from, many were made to be open-ended to get a better picture of what students and instructors believe will help them succeed.

The first questionnaire this researcher conducted was directed towards high school graphic design instructors at various high schools that feed into Cal Poly, to discover what systems are already in place and what the instructors would like to see developed in the near future. These answers will

help guide the design of the connection program to better serve the needs of the students in the high school graphic design programs. For contacting the graphic design instructors, emails were used due to time constraints. Phone interviewing would have been preferable but differences in schedules and the time-intensive nature of phone conversations made it unwieldy to speak to almost one hundred and fifty instructors. The questions were intentionally designed to be open-ended for a wide variety of responses, trying to get a detailed picture of what they need to help them in their classrooms. The following questions were asked, and follow-up emails were sent if needed, to get more information.

- What tools or resources would be useful for you in your classroom, including those that are student-designed or Internet-based?
- What new projects would you like to implement in the near future, and what would you need to make that possible?
- What would help you feel more connected with your peer instructors?
- What outreach would you like to see from Cal Poly's Graphic Communication program?
- How can Cal Poly work with your program to help prepare students for college and assist them in choosing their career path?
- Is there anything else related to this topic which comes to mind?

After interviewing the instructors for high school design programs, Descriptive Research was performed through the use of surveys directed towards students in Cal Poly's Graphic Communication program. The Cal Poly student survey was be hosted online, targeting all ranges of the current Cal Poly Graphic Communication students from incoming through graduating students, who are familiar with the college admissions system and how they chose Cal Poly. This survey was conducted through the use of the Graphic Communication email alias in October, 2009. Many of these questions asked students to choose from pre-determined responses, though room was allowed for students to freely express their thoughts about certain topics to try and get the most quality information and creative solutions possible. Survey questions included:

- Approximately how many years have you attended Cal Poly, as of this survey?
  - Less than 1, 1, 2, 3, 4, 5+
- What originally interested you most in attending Cal Poly? (Text Box for Response)
- What intimidated you the most about going to college? (rank 1-5, 1 being highest & 5 being lowest)
  - Admissions Process
  - Choosing a Major

    - Cost of Attendance
    - Difficulty of Classes
    - Living Away From Home
- What would you like to see different in university recruitment programs? (Text Box for Response)
- What high school did you attend? (Text Box for Response)
- Was this a high school in California?
    - Yes, No
- Did you have a high school level graphic design program?
    - Yes, No
- How did your graphic design program prepare you for Cal Poly classes? (Text Box for Response)
- Are there any ways in which you would like to see your high school's graphic design program improved, such as resources or tools (excluding hardware)? What could have made it better while you were attending it? (Text Box for Response)

Content Analysis

After performing these interviews and surveys, content analysis was used to find what statements the surveyed population agreed with or disagreed with, what the proportions of agreement and disagreement were, and how important the ideas are for this study. Charts were made for the results, noting for each question which responses were the most common and how large their proportions were compared to the total responses. The graphic design instructors' emails were analyzed similarly for common themes and matched up against the surveys to see if there were any points of consensus among the different groups surveyed. These data points will be critical in generating a relevant and effective program connecting high school design programs and Cal Poly.

> Content analysis is one of the most popular methods used in communications research. It is a method for quantifying qualitative information gathered in Elite and Specialized Interviewing,... and descriptive research. In other words, content analysis is often used in combination with other research methods in developing results and drawing conclusions. Communications researcher Bernard Berelson said: “Content analysis is a research technique for the objective, systematic, and quantitative description of the manifest content of communication.” (Levenson 27)

Chapter IV

Research Results

The high school graphic design instructors were contacted via email to try and find out what needs they have and how Cal Poly can assist them in meeting those needs. Major themes that emerged were communication with peers, Cal Poly, and resources for their classroom use. Though the replies from graphic design instructors were limited in quantity, they were still very helpful for gathering ideas and finding some solutions to deal with the budget crisis

The college student survey was designed to address a few areas of interest to the Cal Poly Graphic Communication department including admissions and the program's appeal, as well as addressing the quality of education that the students received at high school level before entering the program.

There were fourty-nine total responses to the survey, of which approximately 50% were within their first two years of attending Cal Poly, and approximately 30% were attending their fourth year or later. This means that the survey may not be entirely accurate to the most recent recruitment changes at Cal Poly, due to the large number of those participants who went through the recruitment process a number of years ago, but this also means that the survey participants who have attended Cal Poly for longer have a better perspective about their preparation and what they wish they had known upon entering the Cal Poly Graphic Communication program.

Years of Cal Poly Attendance at Time of Survey		
Less than 1 Year	12	24.50%
1 Year	7	14.30%
2 Years	5	10.20%
3 Years	9	18.40%
4 Years	13	26.50%
5 Years or More	3	6.10%
Total Responses	49	49

For a little over half of the respondents, the most intimidating part of admissions to Cal Poly was the pressure of having to choose a major upon entering, or the way the admissions process itself was designed. The next most intimidating factors were the difficulty of college classes at approximately 25% of the replies, and living away from home had 18%.

Most Intimidating Part of College Admissions		
Admissions Process	11	22.40%
Choosing a Major	14	28.60%
Cost of Attendance	3	6.10%
Difficulty of Classes	12	24.50%
Living Away from Home	9	18.40%
Total Responses	49	49

This was elaborated further in a question about what could be improved in the college recruiting process, which allowed for freedom of response rather than selecting from a list of choices. Roughly half of the survey participants skipped that question or stated that they could not think of anything specific, however nearly half of the replies directly involved the process of choosing a major or concentration.

Improving College Recruiting Process			
Better Understanding of Major (tours, layman terms, future careers)	12	36.36%	48.00%
Student Input about College Life	3	9.00%	12.00%
Communicating with Interested Students / More Direct Communication	6	18.18%	24.00%
Admissions Requirements more Clearly Stated / Easy to Find To-Do Lists	3	9.00%	12.00%
Improving Website Navigation	1	3.00%	4.00%
Don't Know What to Change/Skipped	24	49.00%	----------
Total Responses	49	49	25

Within this category there were a variety of interesting responses that involved the amount of information available to students trying to choose a major, expressing that they hadn't felt very informed when making their decisions, inundated with 'technical jargon' instead of understanding what the major was in layman's terms, what sorts of careers they could find after studying that major, how they are similar to or differ from other majors (specifically Graphic Communication vs. Graphic Design), tours specific to the majors to show students what they will be learning at Cal Poly and what the classes, and instructors are like, and also hearing directly from students in the major about what they do and what they are planning to do with it once they complete their education. The vast majority of the respondents expressed a desire for more information in many different areas about college when being recruited, such as the majors and studies as well as realities of student life in and out of college, feeling more informed throughout the recruitment process about what needed to be done when, and what was required for success in college, instead of entering into a major that does not match their desired fields of study, or feeling lost when trying to plan their future career goals and how to get there.

The second main focus of the surveys was to discover what students' backgrounds were before attending Cal Poly and how well they felt it prepared them for college and their future careers. The vast majority of the surveyed students were from high schools in California, with only 6% having come from out of state to attend Cal Poly. However only about 20% of the students came from high schools with graphic design programs that they attended. This severely restricts the quality of the data about graphic design instruction at high school level and how it prepares students, since there are so few interviewees who came from that kind of a background, but it also shows how the Graphic Communication program attracts students who are interested due to a wide variety of art, yearbook, or journalism backgrounds, and are mostly self-taught before coming to Cal Poly.

This is further expanded in the next survey question which asked about how students' backgrounds prepared them for Cal Poly. This question was skipped by about a quarter of survey participants, but slightly over half of the respondents said that they had felt very unprepared or had very little background that prepared them for the Cal Poly GrC program, and expressed a desire to have been more prepared for the skill sets they would need to succeed in Graphic Communication. Of those who felt prepared, approximately one-third had learned through high school graphic design courses while the rest were self-taught, had learned through journalism courses or yearbook, or had an art and photography background that prepared them for a few aspects of Graphic Communication but still left them feeling intimidated about learning so many things that they had little to no experience with.

How Background/High School Prepared you for GrC			
Self-taught	3	8.00%	17.70%
Learned Through Graphic Design Courses	6	16.20%	35.29%
Learned Through Journalism Courses or Yearbook	4	10.80%	23.50%
Art and Photography Classes	4	10.80%	23.50%
Unprepared or Very Little Background	20	54.00%	
Total Responses	37	37	17

The final survey question asked how graphic design programs could be improved so that students would have been more prepared for Cal Poly's Graphic Communication program. This survey question was skipped or unanswered by about two thirds of the survey respondents, which greatly limits the accuracy of the information, but still has some validity. Of the students who replied, half said that they wanted to have been introduced to more use of The Adobe Creative Suite, graphic communication-related topics instead of just graphic design, or have had related projects incorporated into their art and

journalism courses to give them a broader understanding of future career opportunities. The other half specifically mentioned that their instructors seemed less prepared or ill-equipped to adequately teach them the skills that they needed to be successful coming into the Graphic Communication program, as well as understanding printing and the differences between Graphic Design and Graphic Communication.

How to Improve High School Graphic Design				
N/A or Didn't Have One	13	43.33%	----------	----------
Teacher's Skills	6	20.00%	35.29%	50.00%
More Use of Creative Suite	2	6.70%	11.77%	16.67%
More General Knowledge of Graphic Comm. Related Info	2	6.70%	11.77%	16.67%
Incorporating GrC Projects into Art or Journalism Courses	2	6.70%	11.77%	16.67%
No Improvement Needed	5	16.70%	29.40%	----------
Total Responses	30	30	17	12

Conclusions from this survey are that most of the students entering the Graphic Communication program at Cal Poly do not have a graphic design background. Many of them are self-taught from using the Internet and experimenting with software, or developed an interest in the topic from art, design, photography, journalism and yearbook activities. This has an implication for recruiting in Cal Poly's Graphic Communication department, which was mentioned by the students who took the survey.

One of the most important topics was the use of terminology and how students were pushing for Cal Poly's recruiting to use layman terms and avoid technical jargon, making the major as clear as possible as well as future career opportunities that would stem from a B.S. in Graphic Communication. Students are entering the program very hesitantly, not entirely sure what they will be doing or what they will be able to do in the future. This is important considering that many of the students do not have a real background in graphic design, so the program's description needs to be very basic and easy to understand for people who may not even know what The Adobe Creative Suite is, or have no idea how print works, but still want to know what kind of future study and careers they are signing themselves up for. Especially of note is the emphasis on distinguishing Graphic Communication from Graphic Design, making it far more clear to incoming students what the differences are so they can make better decisions about what to study and make a career of in the future.

Another important factor to note was that many students knew of Cal Poly's reputation but did not know specifically about the Graphic Communication department's reputation in the professional world. For having such a powerful reputation with their constituents, the department is relatively unknown to

students who are interested in the field and don't know which schools are the best to attend. They will frequently choose a school closer to home with a Graphic Design program and not ever know the difference between Graphic Design and Graphic Communication, or know which schools truly are the best to attend for those topics.

As for the graphic design instructor surveys, for communication from Cal Poly several instructors had the idea of using newsletters to communicate with high school students about various college topics such as student life and career path information, wanting their students to know more about what to expect in college life outside of the classroom as well as what careers would be available to them after having studied Graphic Communication at Cal Poly, and how it differs from Graphic Design. They also wanted to have conferences with both high schools and colleges to work together on new ideas and developments as well as tackling issues, and working out how to design a common agreement on the curriculum for their graphic design instruction and have it count for some college credit for incoming students. They also would like more visitation in general from Cal Poly when recruiting.

The instructors also stated a need for hardware and software, such as videocameras, computers and The Adobe Creative Suite, which is not surprising given the difficulties of budget cuts and the constraints that those place on what can be reasonably acquired. Several instructors had ideas about communal warehousing or Craigslist-like system for discarded equipment that is still functional, making it available for other instructors who would benefit from its use. There was also interest in digital resources being made available such as web-based tutorials for typography, Internet programming or Dreamweaver, and an interest in designing mixed-media projects with xml, print, web and video.

Two instructors also generously offered access to some of their resources, such as Mr. Bil Austin of Warren High School who has a very detailed list with instructions on two semesters worth of low-budget projects, and James Hughes of Diamond Ranch High School who has a blog at *www.digitalsuperheroes.com* with tutorials and other resources available for fellow teachers. These are quality resources that will be helpful for many instructors looking for new, cheaper projects to put in their curriculum, and will also help generate ideas for other projects and development of a common collection of projects on which teachers can draw.

Chapter V

Study Conclusions

To summarize the conclusions from the surveys, incoming students from all areas require assistance to understand what exactly it is that they will be doing when they enter the Graphic Communication program, and then eventually move on to their careers afterward, in laymans terms that anyone can understand, including people with no prior experience or knowledge related to that field of study. They want to know that they are studying what they are interested in, that it is valuable and quality and has an appealing future for them once they have finished their work. Otherwise it can be very daunting to try and choose a major based on theoretical ideas of what a student would want to do in the future, without a real, practical introduction to what that future could hold.

From the instructor emails, there are several suggestions made about communication, resources, and coordination. For communication, both groups would like to see more from Cal Poly's Graphic Communication department about what their curriculum really entails using layman terms and possibly major-specific tours which specify how it differs from Graphic Design and what the different concentrations entail, letting incoming students and current students know about specific career paths and opportunities that would be available after graduation, and hearing from the mouths of students and alumni themselves what college life is like outside of the classroom, what difficulties students may face and what they need to succeed both during and after college.

High school graphic design instructors expressed interest in coordinating with different colleges to develop common curricula, sharing ideas, helping each other with difficulties, and being able to reward limited college credit for students who have attended introductory graphic design courses in their high schools. They also would like more visitation from Cal Poly for recruiting purposes, though this may not be feasible, and Cal Poly's Graphic Communication department specifically should work to make its reputation known when recruiting students, since many of them are not aware of the influence and prestige its graduates have in the professional world.

What I believe Cal Poly's Graphic Communication program should do, which instructors and students both desire, is to access online resources on the already-existing Cal Poly Graphic Communication website, in order to assist in their learning such as tutorials and guided walkthroughs, project ideas, discussion, coordination, and many other benefits that would help both graphic design students and self-taught students who are entering the Cal Poly Graphic Communication program without any formal graphic design training. Through these online resources hosted by Cal Poly, incoming or prospective students can get practice with graphic design skills, and learn some basic design principles that will aid them whether they choose Graphic Communication or Graphic Design, and also feel less overloaded when they enter their first classes so they can understand more and be able to apply their knowledge sooner.

Also, the website could host a FAQ or wiki that addresses many areas of interest to prospective, incoming, or current students to better understand what the Graphic Communication program is about versus Graphic Design, understand the career paths available to them in the future, and feel more confident about their choice of major. There also could be information about student life in the FAQ or wiki. If it is possible to have supporting videos or podcasts for major topics, that would be a good way to communicate more information in a limited space as well as demonstrating use of multimedia in Graphic Communication. Written and video or podcast testimonials from students, alumni and faculty would help reassure students about what it is actually like to be a student not just at Cal Poly but in the Graphic Communication program, what to expect and what sorts of challenges they will face, as well as being assured that there is a wide variety of career options once they finish which they can browse through from which they can selectively choose a goal career.

In addition, it would be a good idea to use a blog that gathers student work for display, and has forums for instructor discussions about their work and what they have upcoming as well as other topics of interest to current students, faculty and incoming students, which would help build a sense of community and understanding of what is going on. Otherwise it can be difficult to find out what new developments are, or know what other students have actually been doing in their class projects. This website can also bring in various resources from the web such as Adobe.com's free tutorials for their products, which many students do not know exist, and make these resources easier to access and take advantage of, as well as enhancing coordination and communication across the department without having to keep track of hundreds of emails or scrambling to save information from class discussion

boards that vanish as soon as the quarter is over.

For graphic design instructors, they will need their own system to coordinate separately from Cal Poly. Software and hardware are in short supply for high school graphic design instructors as well, such as videocameras, new computers, and shirts for silkscreening, and both students and instructors noted the impact that this has had on the quality of their education. Students especially noted that there was a significant impact on their confidence entering the Graphic Communication department, from a lack or quality training and/or resources to adequately be trained in graphic design. Several suggestions that were brought up were a hand-me-down equipment warehousing system that works like craigslist, providing access to schools of lesser privilege to acquire functional hardware that other schools have since upgraded from, and would have otherwise thrown away. This can help underprivileged graphic design programs to have access to equipment they could not afford otherwise and improve the quality of education available to them. There also are online resources for instructors such as tutorials, project ideas, and other tools for coordination and communication as noted above.

High school graphic design instructors can use their own system to coordinate, sharing project ideas, tutorials and resources, assisting each other with difficulties, and set up the equipment warehousing system to work through their website so that they can easily access it and redistribute old hardware that is still useful. A regularly-emailed newsletter with updates from members and information about website changes could be a way to bring users back in to check on its status and make their own contributions. Including links to Bil Austin's project ideas and James Hughe's Graphic Design blog, as well as bringing together other resources available on the web, will help the website be useful even if there are not substantial contributions to its own content.

Managing what to do about the high school graphic design instructors is the far more difficult part of this project, due to the extreme lack of feedback from their group. My ultimate recommendation is to pursue the improvements to the Graphic Communication web site and enhanced communication with incoming students, and look for opportunities in the future to assist graphic design instructors. There is quality information but an extreme lack of buy-in from the recipients, so besides the few who actively engaged in the idea it would be difficult to get substantial results from this project. Coordinating with PIASC and other groups who already work with the instructors would be the most effective way of pursuing this goal.

References

Internet Communication in Six Classrooms: Conversations across Space, Time, and Culture.

Ruth Garner, Mark G. Gillingham. 1996.

Tutorial Distance Learning: Rebuilding our Educational System.

Edited by Alfred Bork and Sigrun Gunnarsdottir. 2001

Blogs, wikis, podcasts, and other powerful web tools for classrooms.

Will Richardson, 2006.

Distance Learning Technologies: Issues, Trends and Opportunities

Linda Lau, 2000

Web-based learning: design, implementation, and evaluation

Gayle V. Davidson-Shivers, Karen L. Ra

Designing and developing web-based instruction

Haomin Wang, Deborah L. Gearhart

Web-based learning and teaching technologies : opportunities and challenges

edited by Anil Aggar

Survey Replies

Years of Cal Poly Attendance at Time of Survey				
Less than 1 Year	12	24.50%		
1 Year	7	14.30%		
2 Years	5	10.20%		
3 Years	9	18.40%		
4 Years	13	26.50%		
5 Years or More	3	6.10%		
Total Responses	49	49		

Most Intimidating Part of College Admissions				
Admissions Process	11	22.40%		
Choosing a Major	14	28.60%		
Cost of Attendance	3	6.10%		
Difficulty of Classes	12	24.50%		
Living Away from Home	9	18.40%		
Total Responses	49	49		

Most Appealing about Cal Poly				
Location	26	40.65%		
Reputation / Learn by Doing	22	34.38%		
GrC Major specifically	1	1.50%		
Cost of Attendance	15	23.44%		
	64	64		
Improving College Recruiting Process				
Understanding Majors/Concentrations (tours, more info, layman terms, future careers)	12	36.36%	48.00%	
Student Input about College Life	3	9.00%	12.00%	
Communicating with Interested Students / Direct Communication	6	18.18%	24.00%	
Admissions Requirements more Clearly Stated / Easy to Find To-Do Lists	3	9.00%	12.00%	
Improving Website Navigation	1	3.00%	4.00%	
Don't Know What to Change/Skipped	24	49.00%	---------	
Total Responses	49	49	25	
High School Location				
California High School	46	93.90%		
Out of State	3	6.1		
Total Responses	49	49		
High School has Graphic Design Program?				
Yes	10	20.40%		
No	39	79.60%		
Total Responses	49	49		
How Background/High School Prepared you for GrC				
Self-taught	3	8.00%	17.70%	
Learned Through Graphic Design Courses	6	16.20%	35.29%	
Learned Through Journalism Courses or Yearbook	4	10.80%	23.50%	
Art and Photography Classes	4	10.80%	23.50%	
Unprepared or Very Little Background	20	54.00%		
Total Responses	37	37	17	

How High School Graphic Design Course Could be Improved				
N/A or Didn't Have One	13	43.33%	---------	----------
Teacher's Skills	6	20.00%	35.29%	50.00%
More Use of Creative Suite	2	6.70%	11.77%	16.67%
More General Knowledge of Graphic Comm. Related Info	2	6.70%	11.77%	16.67%
Incorporating GrC Projects into Art or Journalism Courses	2	6.70%	11.77%	16.67%
No Improvement Needed	5	16.70%	29.40%	----------
Total Responses	30	30	17	12

Emails from Instructors

Dear Diana…
I will be happy to provide you with contact information for graphic arts teachers. The Excel file will include the instructors' names, schools, addresses, phone numbers, fax numbers and email addresses. Jairo Cuellar of our staff will be happy to forward that file to you by Monday if not sooner.

I am very happy that you are trying to help high school graphic arts teachers since they are going through many challenges. I would think that the first step would be to reach out to them in a form of a survey with only two or three questions about their greatest challenges and greatest need and how Cal Poly wants to establish a closer connection with them and their students. I don't know if Cal Poly already has a newsletter directed to high school teachers and students but if you don't, that might be the best way to establish a relationship with them.

Please feel free to contact me any time.

Best,

ARA

Ara Izquierdo

VP Industry Relations

PIASC/RAISE Foundation

5800 S. Eastern Ave., #400

Los Angeles, CA 90040

323-728-9500, Ext. 216

My name is James Hughes and I am the Graphic Arts teacher at Diamond Ranch High School. Times are tough and I'm hoping that Perkins will be kind this year. I will address your questions below and if you need clarification on anything please don't hesitate to email or call me (my prep is from 10:19 to 11:17 Monday through Thursday)909.397.4715 ext 2106. You should call the secretary and have her transfer you to my extension.

>What tools or resources would be useful for you in your classroom, including those that are student-designed or Internet-based?

Hardware is what we need the most.

I have a lab with 7 - 24" iMacs, 3 - 20" iMacs and 31 G4 to G5 desktop computers. Diamond Ranch has a site license for Adobe CS 4, but unfortunately it will not run on the older computers (which makes up the majority of my lab). The computers that cannot run CS4 are running CS2.

This year I am teaching the Internet Programming class and have found some software for coding that has more bells and whistles than text editor, called Taco. It is only $5 per license, but even that is out of our current budget.

>What do you envision for the future of graphic design careers, and the related education?

I believe that the Internet is going to play a big role in all careers, not just graphic design. I believe that graphic designers are going to have to be able to

be a jack-of-all-trades. Photo editing, internet design and implementation, video, etc.

>What new projects would you like to implement in the near future, and what would you need to make that possible?

A couple of years ago I implemented a new assignment where the students have to create a video illustrating one of the school ESLR's. It is a group assignment, but still we are short on equipment. The first year I bought a couple of inexpensive miniDV cameras and the students used them. They have since been replaced with two HD video cameras. More cameras would definitely make it easier to accomplish this task (six additional cameras would be optimal).

One assignment that I would like to add is T-shirt design, we currently do something similar to this in my graphic arts II class. Up until this summer we had a T-shirt press and tunnel dryer. It was not practical to use it when the students only had less than an hour at a time to work, so it was never used and ended up being sold this summer. Brother makes a couple of ink jet T-shirt presses, however the price for the smaller one is $25,000.

>What would help you feel more connected with your peers in educator roles?

I feel somewhat connected to my peers in education. The PIA sends out regular newsletters and has professional development days, as well as surplus drives. I also meet a few times a year with the other art and technology teachers in the Pomona Unified District.

>What outreach would you like to see from Cal Poly's Graphic Communication program?

Career path information.

>How can Cal Poly work with your program to better prepare students for college and help them choose their career path?

Descriptions of the different career paths on posters that could be put up in the class (not just recruiting posters for Cal Poly.)

>Is there anything else related to this topic which comes to mind?

Not at this time.

Sincerely,

James Hughes
Graphic Arts / Internet Programming
Diamond Ranch High School
"A California Distinguished School"

I am not involved in high school education, I am chair of the art department of Long Beach City College.

1 That is a difficult question to answer in that is is quite broad. What comes to mind is a comprehensive web based typography tutorial.

2 More mixed media application via xml print, web, video

3 See above, none

4 Nothing
5 Visitation
6 See above
7 no

Larry White
Department Chair Art Department
Long Beach City College

Since I wrote the email to you I have discovered a low cost solution to the screen printing issue. There is a product called the Yudu made by ProvoCraft for less than $200. Of course it would be more for the class because of the screens and other materials, but it's a lot less than $25k. As for the computers... That has always been an issue. I'm hoping that we get some funding from Perkins this year. If I can get another 10 or more iMacs it would definitely help, especially with my Internet Programming Class. If you have any lesson plans for Internet programming or DreamWeaver they would gladly be appreciated. Check out the class blog, digitalsuperheroes.com as I have put up some tutorials since my last email.

Sincerely,

James Hughes
Graphic Arts / Internet Programming
Diamond Ranch High School
"A California Distinguished School"

Greetings Diana!

I'm a graphics art teacher who's been at it for around 15 years.

Cutting corners is my specialty. I taught Beginning Graphic Art, and Graphic Art using very, very little.

Here's pretty much how the lesson plans went.....

(Extensive list of low-budget easy projects that can be used by fellow graphic design instructors who are having difficulty coming up with projects for their students.)

That ought to be enough to hold you for a semester. My class used to have a

small lab of about 6-8 computers---it still works even if you have 2-4 computers. You can bump students on and off for assignments designed to train them on how to use whatever program your computer uses--just break the students into permamnent groups and have them rotate around using different assignments for the computer.

I hope this was helpful.

Let me know if you need more. I have another whole semester on the cheap if you need to see it.

Thanks!

Mr. Bil Austin

Warren High School

Hi Diana,

Thank you for contacting me again regarding this project. We just get so very busy in my shop I find it difficult just to find time to answer emails.

We are the print shop for our small school district and that keeps us very busy on “real world jobs”. We still do conventional printing. We also participate in the PIASC Raise Foundation events. We could use help with a donation of T-shirts to be silk screened, if that is at all possible. Also, nobody has budget for new equipment these days. We need some sort of ***Craig’s List*** for schools to donate to each other when they get some new items. School Surplus warehouses are the graveyard of some decent items that still have life left in them.

Overall, in these trying times, I feel that articulation agreements with several colleges would help. Basically, we are all teaching the same entry level skills to our high school students. Graphic Design 101 is universal. Adobe CS3 is what we use. I have been articulated with RCC in the past. We use the same textbook.

I have had several students attend RCC upon graduating. We need a conference in the future for many more schools to align and articulate with each other. Students need a way to save money no matter which college they attend. The cost of credits is increasing. I would LOVE to articulate with your school. Can you send me a copy of the curriculum for the beginning computer design courses offered at Cal-Poly? Perhaps we could push a few kids in your direction in the future. Thank you and I hope this helps.

Dale Meyer

HANW