I. Introduction
Numerous studies document the importance of educating parents and family members as well as the students themselves in the process of acquainting all with the new academic setting. Education of this sort can create a positive transition experience for first-year students [1-5]. Indeed, helping students anticipate and understand life changes can help the university realize a significantly higher first-year student persistence rate [6]. For many years, university programs have correlated these components via the implementation of pre-college orientation programs.

However, in addition to explaining the new policies and procedures to the students it is also important to involve the first-year student’s parents in the educational process. Moreover, the expanded objectives of all effective orientation programs should include:

1. Raising the knowledge level of first-year undergraduate students and parents with regard to lifestyle changes that can occur in moving to a campus environment [7].
2. Developing an awareness of the services offered by the university is crucial in the creation of a productive adjustment process [8].
3. Expanding new students’ and parents’ knowledge of changes in status, residence, failure, relationships, and authority through both interactive discussions and written materials documenting success strategies [9].
4. Helping parents and students develop a positive attitude toward their first year at the university.

This paper is designed to provide a brief overview of pertinent issues encountered by students and their families during the transition from high school to college. Additionally, important discussion concepts used at the University of Pittsburgh (Pitt) during the initial student/parent education workshops held during the summer orientation will be introduced. The primary objective of such workshop interactions is to establish a proactive, empathetic family interaction that is designed to ease transition stress and encourage first-year student persistence. It should be noted since implementing student/parent discussions, Pitt has experienced a steady decline in first-year engineering student attrition, from a high of nearly 30% eight years ago to the current rate of only 17%. Many reasons can be factored into these impressive retention figures; however, the authors believe the concepts in this paper are one of the main reasons students persist through their first year in engineering.

II. Transitions

“Dear Mom and Dad: You know, the more I think about this college thing, the more I am starting to realize we are probably all in this together. It seems like you always have the right answers (even if I don’t act like I think you do), but anytime the issue of college comes up you usually seem as puzzled and as confused as I am”.

Making transitions is an integral part of life. It is important that all participants in the student’s life, including, parents, faculty and university staff, understand that during the transition from high school to college, students often experience a sense of loss for what has changed in their life or despair over relationships that have changed or have been replaced [10]. The first-year college adjustment embodies both a loss experience as well as an exciting set of new opportunities [11]. These changes can affect the students’ first-year experience, including their performance in the classroom and their desire to stay in school. The culminations of such experiences are recognized within three major areas of transition:

- Academic Transitions
- Family Transitions
- Personal Transitions

Academic Transitions
The first transition that many engineering students encounter is within the academic milieu, which is often compounded by the additional challenges these changes elicit. As a student moves from high school to college he/she is channeled through the high school highly structured daily schedule of planned activities. Upon entering college, the same student is now in charge of creating and implementing their own schedule that is
typically different each day, may include night classes, and also has free time throughout the day. In addition to time management, other changes that potentially add to transition frustrations are: different teaching styles from high school teachers, walking across campus and going from building to building as opposed to walking through hallways of the same building, being the best student back home is different than competing with all the top students at the university, etc.

Previous studies indicate that a student’s first semester success can lay the groundwork for engineering program completion and/or degree attainment [12 & 13]. Therefore, appropriate support systems must be activated during the very first interaction students and their families have with the university. Several positive outcomes have been realized when students and parents are provided with workshop (educational) time with members of the university community who will continue to work with the first year students. Examples of positive outcomes are:

- Students develop more realistic expectations for their upcoming year that translates into lower frustration levels for ideals unrealized [14],
- Participating in educational exchanges increase student/parent perceptions as relative equals by the university, and are therefore more likely to become engaged in ongoing open communications [15],
- Early awareness of campus resources strengthens and developing a students potential to persist through a four-year college program [16].

Given the three outcomes listed above, it can be hypothesized that an educational program that attends to the needs of both students and parents will assist in creating a more successful academic transition experience for both groups.

Family Transitions

For most first year students, arriving on campus initiates the progression from family and compliance, to residence hall living and independence. Being away from home for the first time is typically a period when college neophytes test their freedom, and begin apprehensively enjoying their challenging new environment. Simultaneously, parents may be either celebrating the departure of their child or trying to convince the student to come home every weekend. Additionally, parents might encourage the student to make new friends, or afraid of losing their child, they might prevent the student from making many university-related connections.

In our student and parent workshops, both parties are told that the entire family is going through a change and is experiencing both excitement and sadness. It is okay and natural for the student to feel homesick and have doubts. Therefore, it is important to communicate both spontaneously and on a regular basis with their family by mail, phone, or visits, or the most popular method by email.

Interestingly, what a family may not realize is research has discovered that leaving home often fosters improved relationships with parents via the compilation of new-found freedom to express affection while the student has begun individualizing into an adult [17]. Furthermore, as a young person evolves into adulthood, they come to consider themselves to be more equal to their parents, and therefore more open to respecting each other’s viewpoint. Recognized as mutual reciprocity, this developmental transformation of student/parent relations can lend to a positive family transitional experience [18].

An additional benefit of the student/parent educational workshops is discovered when parents find they are able to confidently share relevant university information with their daughter/son. Since parents are important to a student’s perception formation, it seems likely open and accurate communications can lend to realistic expectation formation between the two groups [19]. The assumption is a satisfied student equals a happy family, which translates directly into the efficacy of the family’s transitional success.

Personal Transitions

Being at a university means being a newcomer in a strange, and possible lonely community. Some days students may want to fly, run, walk, or drive home. There will be days where the student feels they cannot stand one more day in the residence halls, in the large lecture, with their roommate, with their professors and teaching assistants, or their load of courses. These personal transitions can consume a first year student’s thoughts if they are unable to seriously focus on why the university experience is important to their career goals. Insights from parents, professors, or other students (upper classmen) can be very helpful. There may be what appear to be insurmountable personal changes during the first year, and research on student persistence supports the importance of linking students to appropriate support personnel to assist with these challenges.

According to Greenberger (1982) psychosocial maturity, an important element in college student success development, is the capacity of an individual to function without the influence of parents [20]. Consequently, it would seem natural to assume a student functioning without parental supervision is developing psychosocial maturity. However, eliminating parents from a student’s life is neither possible nor productive. Therefore, the challenge a university faces is establishing clear boundaries with parents, without cutting them from the communication loop completely. College educational workshops for parents have the potential to establish an environment that reinforces the existing student support system.

III. Programming Implementation: The Concept of Student/Parent Success Tips

The best way to promote student retention success is to begin the first year with educational programs for both the students and parents that address key concerns by providing realistic advice on how to cope with typical challenges. To begin the educational process at the University of Pittsburgh, student/parent programs are conducted to provide a consistent message regarding new student expectations and strategic actions worth considering/implementing throughout the course of the upcoming academic year. Although the delivery of the basic concepts has varied year to year, the common approach framework has always remained a candid, highly personal discussion within homogeneous faculty/parent, student/student and student/faculty groups. Separating the students from their parents is recognized as the best environment to address discussion items because it en-
towards in each class.

**Maintain family ties.**
- Family is going through the same change and is also experiencing excitement and sadness.
- Prevents potential parental misunderstandings.

**Family Transitions**
- Share academic progress, and personal activities.
- Communicate on a regular basis by mail, phone, visits, or email.

**Personal Transitions**
- Makes a university campus feel more like home, because students find they have nothing in common with all their old friends that chose paths that did not include college.
- Make new friends.
- Attend sporting events and/or orientation activities, etc.

---

**FIGURE 1 STUDENT/PARENT SUCCESS TIPS: KEY DISCUSSION AREAS**

**Student**

<table>
<thead>
<tr>
<th>Establish Academic Goals.</th>
<th>Learn policies &amp; resources for reliable information.</th>
<th>Establish communication of basic academic goals.</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Goals can motivate and drive performance.</td>
<td>- Worst possible scenarios may occur.</td>
<td>- Parents need to know their students goals so appropriate encouragement is provided.</td>
</tr>
<tr>
<td>- Get a feeling for how the material you are learning fits into the selected major.</td>
<td>- Get to know an advisor and learn where such information is available for quick reference.</td>
<td>- Ask questions.</td>
</tr>
<tr>
<td>- Realistically assess each class, select a goal to work towards in each class.</td>
<td>- Both are limited resources.</td>
<td>- Get web addresses of classes</td>
</tr>
</tbody>
</table>

**Family Transitions**
- Free time = Study Time
- Establish/follow a day planner
- Maintain a budget and balance your check book
- Be a wise consumer

**Personal Transitions**
- Make new friends
- Attend sporting events and/or orientation activities, etc.

---

by avoiding family quarrels over both parties’ newfound freedoms, a mutual respect is instilled [24].

An important auxiliary discussion item addressed with both the student and parent populations is the Family Equal Rights and Protection Act of 1974 (FERPA). FERPA’s legislation assures all students over the age of eighteen that a university cannot (by law) keep their parents updated on their academic progress [25]. Therefore, to keep the family unit involved, the students are advised to keep their parents apprised of academic successes and failures. Doing so not only perpetuates trust, but it also avoids unpleasant end of the semester surprises.

Listed in Figure 1 is a summary of material distributed that illustrates a number of vital topics that are shared during the student/student, student/faculty, and faculty/parent group discussions.
IV. Key Concerns

In addition to the challenges students and families face within the three key transition areas of Academic, Family, and Personal Transitions, a number of common concerns also span these areas. These key concerns are briefly discussed with both the students and the parents. Typically this material is shared with the parents during the on campus summer registration workshops and with the students during their student/student Fall semester mentoring course.

Authority (Control to Freedom)

It takes very little time for a college freshman to understand and embrace their newfound freedom. For many it is the first time in their lives students encounter the challenge of prioritizing their activities. Table 1 shows some of areas and type of decisions they will make, such as clothes, classes, dating, drinking, eating, drugs, money, sleep/wake up times, religion, and communication with parents, roommates and friends. Unfortunately, an individual may begin exercising their freedom at the expense of their academic performance, as well as supply a parent with countless worried moments.

Although addressing the authority issue for both students and parents can be a sensitive subject, we have found statistics and facts can productively drive the discussion. For example, during the summer registration workshop with the student group, the advisors share anecdotes of both successful first year decisions – as well as poor decisions. Additionally, we often have upper class engineering students join in this discussion in an effort to lend validity to the stories shared. This material is then further reinforced during the Fall semester mentor courses. We have found the concept of learning from another student’s past mistakes as an effective way of establishing a pointed discussion involving the effective usage of new freedoms, without appearing condescending to the audience. The parents decidedly have a difficult concept to embrace: begin allowing their student to make their own decisions, and perhaps make a few mistakes. This approach is especially important because it begins changing the attachment bonds between children and parents, and moves the relationship into the direction of separation-individuation, an important element of psychosocial maturity [26].

We try to explain during the parent workshop that the best way for parents to avoid surprises is to keep a line of communication open at all times, but be careful of their reaction. If every time the student tells their parent something they are going to do and the parent says “NO”, it is not going to take the student long to figure out that they do not have to do some thing their parents do not want them to do if they never tell them what they are doing. So instead of saying “no” parents are advised to use words like “no kidding”, “that’s interesting”, “well it would not be my first choice”, “ha”, or if they want feedback “let me know how it turns out”. Therefore, while it is important for parents to trust in their children’s decisions, it will then become equally important they comprehend the results of such actions. Thus, a conversation on the potential and effects of failure always follow the segment on freedom and consequences.

Failure (Reactive to Proactive Approach)

Table 2 lists some of the problems and solutions we discuss with both groups regarding failure. For many, failure comes in many different forms. For some students, it is dealing with grades, and not necessarily poor grades. Many students find getting a “B” means failure, since they are accustomed to only getting an “A”. For others it is dealing with different learning and teaching styles, or dealing with previously developed study skills and habits that now do not work in college. Dealing with failure is difficult for anyone to handle. Failure, coupled with the additional pressures of the first year, can have a major impact on a student’s personal perceived potential. The most compelling argument we can supply to both students and parents is to simply understand the policies and procedures, and know where they can be obtained for quick reference. Understanding options can open doorways otherwise perceived as closed. Additional discussions on grade or program options can provide fuel to a student/parent conversation, which inevitably fuels the productive mutual reciprocity loop [27].

Relationships (Old to New Friends)

One of the most painful and enjoyable experiences of the first year of college deals with personal relationship issues. The two major adjustments we are con-
cerned with are shown in Table 3. Students must deal with all the relationships with people back home as well as at school. Most close relationships will be with people that are back home with their parents, brothers/sisters, neighborhood friends or boyfriends/girlfriends. Yet, as we have asserted in this paper, to be successful in school, students must connect with the new people around them. The objective then, is to assist first year students in moving on to new relationships.

Termed ‘friend sickness’, due to preoccupations with thoughts of friends and pre-college relationships, how the student deals with this transition can have long-term personal effects, and can potentially ruin a first year at college academically and socially [28]. Drawing from contemporary grief and bereavement theory, the best wisdom to share with a student is: expect to experience both physical and emotional separation from longtime friends, value past experiences with these individuals, but do not be afraid to move forward and find equally fulfilling relationships with new college friends [29]. Parental advise is grounded in the knowledge that any student may experience friend sickness to some degree, and parents should be prepared to assist a student in moving on by providing plenty of time to talk and welcoming new college friends.

The biggest concern of all parties should be to make sure the fear of a lost relationship does not impact the future career choices of the student. The areas of concern we discuss are when two students that are close friends from high school come to school and one selects engineering and the other does not. By having the peer mentors discuss the differences in study habits and time commitment between different degrees, we can quickly ask the student to answer the question if your friend is out playing “do you study or go play”?

Another issue the peer mentors discuss is “should you go home on weekend to be with your old friends, or stay here and make new ones”? We address all these issues with the parents and advise them on how to get their daughter/son to discuss these questions. We have found that if the parent and student can discuss these issues before the start of school, many of the tough choices and tough decisions can be made before the issue creates academic problems.

**Residence (Home to Residence Hall)**

The new environment can take its toll on many students. The changes, although they may appear obvious and/or trivial, can be very significant. The student will be experiencing a number of important lifestyle changes. For example, the student will experience changes related to lavatory facilities, eating arrangements, diet, roommates, laundry, and major changes in the people they interact with each day.

Each student must establish a positive relationship with his or her new roommate, it should be remembered, this is not their life partner, but only someone they are sharing a room with. She/he may become a best friend, but before waiting for the friendship to develop each student must make an agreement about stereos, TV, food, neatness, etc. An important agreement that must be reached is an understanding about guests (especially the overnight variety and those of the opposite sex).

Universities are basically safe places to live. However, students should still treat their room as a new home, and lock their door when they leave, even for a moment, and all valuables should be kept out of sight. When they go out at night, they would be wise to remember there is safety in numbers, and do not be in the wrong place at the wrong time.

Stay healthy and get enough sleep. Each student should remember that smoking is not wise, but brushing their teeth, eating good food, drinking six to eight glasses of fluid every day, and washing themselves and everything they wear will help promote wellness. Late-night pizza is not the fifth basic food group, so they should practice moderation and find time for exercise. Think prevention. No ailment is less expensive to treat than the one that’s avoided. Many social activities do not begin until late at night, so one helpful tip is to take a nap before going out at night.

Our advice to parents is to assume their child is in college at least 6 months before they leave. Make them perform the same functions at home that they will need to perform at college. By doing this parents can teach the student some basics, such as laundry, cooking, shopping for food, and waking up on time.

### Concerns

- Nothing in Common with Friends
- Back Home
- Boyfriend/Girlfriend Back Home
- Making new friends
- Boyfriend/Girlfriend
- Roommate issues

### Solutions

- Stay at school first month
- Join Student Organizations
- Get to know your Counselors, Academic Advisors, TA’s, and Professors
- In the Residence Halls meet the Hall Mangers and RA
- Respect your Roommate
- Make Friends with your classmates

### Table 3. Issues regarding Personal Relationship Problems Old to New friends

<table>
<thead>
<tr>
<th>Concerns</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Roommates</td>
<td>• Roommates</td>
</tr>
<tr>
<td>• Cafeteria vs. Kitchen</td>
<td>• Cafeteria vs. Kitchen</td>
</tr>
<tr>
<td>• Lifestyle change</td>
<td>• Lifestyle change</td>
</tr>
<tr>
<td>• Bathroom usage</td>
<td>• Bathroom usage</td>
</tr>
<tr>
<td>• Late night meals</td>
<td>• Late night meals</td>
</tr>
<tr>
<td>• Change in Relationships w/</td>
<td>• Change in Relationships w/</td>
</tr>
<tr>
<td>• Parents</td>
<td>• Parents</td>
</tr>
<tr>
<td>• Brothers/Sisters</td>
<td>• Brothers/Sisters</td>
</tr>
<tr>
<td>• Neighborhood friends</td>
<td>• Neighborhood friends</td>
</tr>
</tbody>
</table>

### Table 4. Issues regarding Residence Hall to Residence Hall

<table>
<thead>
<tr>
<th>New Environment</th>
<th>Doing Laundry</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Lifestyle change</td>
<td>• Late night meals</td>
</tr>
<tr>
<td>• Bathroom usage</td>
<td>• Food</td>
</tr>
<tr>
<td>• Cafeteria vs. Kitchen</td>
<td></td>
</tr>
<tr>
<td>• Roommates</td>
<td></td>
</tr>
<tr>
<td>• Problems</td>
<td></td>
</tr>
<tr>
<td>• New Person</td>
<td></td>
</tr>
<tr>
<td>• Overnight guests</td>
<td></td>
</tr>
<tr>
<td>• Join Student Organizations</td>
<td></td>
</tr>
<tr>
<td>• Get to know your Counselors,</td>
<td></td>
</tr>
<tr>
<td>Academic Advisors, TA’s, and Professors</td>
<td></td>
</tr>
<tr>
<td>• In the Residence Halls meet the Hall</td>
<td></td>
</tr>
<tr>
<td>Managers and RA</td>
<td></td>
</tr>
<tr>
<td>• Respect your Roommate</td>
<td></td>
</tr>
<tr>
<td>• Make Friends with your classmates</td>
<td></td>
</tr>
</tbody>
</table>

### Table 4. Issues regarding Residence Home to Residence Hall

- Make Friends with your classmates
We remind the students that they come out outcomes as opposed to giving up. As students begin to perceive the universe exactly where to turn in a time of need, studies have demonstrated they know multiple resource levels so they know a student has access to information on homework, the changing culture, or complaints about homesickness.

Instead, the university should make sure that students are ready for their workload, the changing culture, and complaints about homesickness.

Students should be made aware that feelings of inadequacy are not unusual. Instead, the university should make sure a student has access to information on multiple resource levels so they know exactly where to turn in a time of need. As students begin to perceive the university community is advocating for their success, studies have demonstrated they too will refocus and strive for positive outcomes as opposed to giving up [30]. We remind the students that they come here to get a degree and follow their life long career plans, so our advice to them is GO TO CLASS!! Doing homework is not dumb, but a wise policy to follow for all courses. Students should expect to spend more time on their homework than they consider normal. If they spent 4-5 hours a week on homework in high school, they should expect to spend 4-5 hours a day in college. Students should also take advantage of the wide range of diverse opportunities in and out of the classroom. We suggest they find a student organization that fills their interest and get involved.

A supportive family environment will also help a student through this time of self-doubt and inner reflection. Therefore, parents are encouraged to listen carefully to conversations with their student, and provide empathetic feedback.

V. Results

In addition to the summer workshops, we also have a required peer-mentoring program throughout the first year, where the students are given weekly feedback on all the transition issues they encounter. The Freshman Program produces at least two newsletters that are sent home to the parents that describe general activities and functions that they can get involved in with their son/daughter. We have a parent’s weekend during the fall semester where we encourage the parents to attend a football game with their child. Finally, during the first year there are a number of writing assignments that are assigned to help the student explore “what engineering is all about”. We encourage the students to share these papers with their parents and we also invite the parents to the student’s oral presentations at the end of the spring semester.

With all the interaction between the students and the parents that we are producing we were concerned that the students might view this as a negative influence. Thus, to monitor this we survey the students at the beginning and end of the first year. Two of the questions we ask are: “My parent(s) are making me study engineering” and “My parent(s) want me to be an engineer”. On a scale of 1 to 5 (Strongly disagree to Strongly Agree) the score on these two questions has been 1.4 and 3.0 respectively. Thus, even with all the interaction we are producing between the parent(s) and the student, the student does not feel they are being forced into engineering by their parent(s) and are neutral on the issue of their parent(s) wanting them to stay in engineering. The feeling the students are expressing is their parents are concerned about their future, but their parents trust the student in their decisions.

We started working with students and parents and discussing the various transition issues at a time when we were also making a number of changes in the freshman curriculum, thus it is difficult to isolate one change that has produced the results we have observed. However, we believe the addition of parent and student workshops on the transition issues has had a large impact on the following results.

Table 6 lists the academic results for the end of the first semester for the past 7 years. The table lists the percent of students that made honors, were placed on probation, and the first semester GPA. As a result of these changes, the performance of the freshman has been greatly improved. As the table below shows, the changes to the Freshman Curriculum have increased the percentage of students on first semester honors by almost 35%, re-

<table>
<thead>
<tr>
<th>Issues</th>
<th>Signs of Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Everyone is on top</td>
<td>Class Size</td>
</tr>
<tr>
<td>Not Important Anymore</td>
<td>Homework</td>
</tr>
<tr>
<td>Trouble in Classes</td>
<td>Culture</td>
</tr>
<tr>
<td>Workload</td>
<td>Homesickness</td>
</tr>
</tbody>
</table>

Table 5. Concerns regarding Status Changes from Top Dog to Rookie

Students are Starting Over from the Bottom

<table>
<thead>
<tr>
<th>Issues</th>
<th>Signs of Problems</th>
</tr>
</thead>
<tbody>
<tr>
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Table 5. Concerns regarding Status Changes from Top Dog to Rookie
Students are Starting Over from the Bottom

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<td>Culture</td>
</tr>
<tr>
<td>Workload</td>
<td>Homesickness</td>
</tr>
</tbody>
</table>

Table 6. Comparison of Student Performances

<table>
<thead>
<tr>
<th>Issues</th>
<th>Signs of Problems</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Class Size</td>
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<tr>
<td>Not Important Anymore</td>
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</tr>
<tr>
<td>Trouble in Classes</td>
<td>Culture</td>
</tr>
<tr>
<td>Workload</td>
<td>Homesickness</td>
</tr>
</tbody>
</table>
duced the number of students on first semester probation and the number of students with a GPA below 1.5 by 40%, increased the GPA by almost a half a point (C+ to a B-) and reduced the number of students leaving engineering.

A final method of assessing the impact of discussing the various transition issues with the students and parents is to survey the student attitudes regarding their choice of engineering at the end of the freshman year. The method used was the Pittsburgh Freshman Attitudes Survey [32 - 34]. The survey is based on a scale of 1 to 5 (Strongly disagree to Strongly Agree). Table 7 gives an example of some of the results from that survey.

We believe the positive response on these questions further supports the concept that the students are happy with their choice of careers and are making a positive transition from high school to college.

VI. Summary and Conclusions

The purpose of this paper was to acquaint the reader with documented challenges first year students face, as well as to provide a proverbial toolbox of discussion items, which can prepare educators on effectively addressing such challenges.

Academic research indicates as student and parent awareness of potential pitfalls rise, communication, cooperation, and ultimately student retention increases. Simply stated, if the academic community embraces the family unit, transitions on the academic, family, and personal levels become more manageable [31].

Pitt’s assertion that a heightened level of familial support leads to an increased level of student adjustment/success is supported by our increasing freshmen persistence rates. Although these discussions were one of many new actions taken by the Freshmen Engineering Program over the course of the past seven years, the workshops are most often followed by a flurry of positive feedback from parents and students alike. This fact is substantiated throughout the academic year, as both parties often refer to materials and resources shared during such workshops.

Additional avenues of program growth include continuing formal parental contact throughout the academic year. Currently, the workshop content detailed in this paper is not formally revisited with either group unless participants contact academic advisors with questions. Surveying participants on additional concerns is also a viable action item that could contribute to the overall efficacy of the interactions.

Adolescence is indeed a tenuous period for all students. Recognizing the many challenges young adults arrive to a university with is only part of the pre-college preparation process. Familial support systems must be educated on transitional challenges and information on university resources must be clearly conveyed. Actions such as those stated above have been documented to ease awkward transitions, as well as creating discussion moments that address such concerns and can potentially strengthen participant relationships. Essentially, when a communication continuum is fostered that encourages students and their parents to begin proactively planning for college; student persistence is often the result.

References


Table 7. Comparison of Student Attitudes

<table>
<thead>
<tr>
<th>Question</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>I expect that engineering will be a rewarding career</td>
<td>4.54</td>
</tr>
<tr>
<td>I expect that studying engineering will be rewarding</td>
<td>4.30</td>
</tr>
<tr>
<td>The advantages of studying engineering outweigh the disadvantages</td>
<td>4.15</td>
</tr>
<tr>
<td>The future benefits of studying engineering are worth the effort</td>
<td>4.35</td>
</tr>
</tbody>
</table>

4/3&4 July-December 2003

Appendix

TOP 50 PITT ENGINEERING PARENT TIPS

50. Give some lessons on doing laundry.
49. Teach them how to cook.
48. Spend some quality time together as a family.
47. Discuss money – how much will contribute and how often.
46. Lean to use E-mail.
45. Get the phone number of the residence hall office.
44. Pack an extension cord, masking tape, hangers and an alarm clock.
43. Give them a small tool kit.
42. Teach them how to sew, give them a sewing kit.
41. Pack some care package surprises.
40. Teach them how to be organized, for example filing.
39. Be sure your son/daughter has medical insurance and an identification card in case she/he needs to use it.
38. Get immunization records so student can register for classes.
37. Arrange a “Going to College” party for student and friends.
36. Obtain your students full, correct address, phone number, email address and class schedule.

35. Learn how to feed their fish or other pets.

34. Decide whether or not you will routinely receive collect calls.

33. Get your student a calling card.

32. Do not call them early in the morning!

31. If your student wears glasses, be sure he/she has a copy of the prescription.

30. Continue to be supportive and encouraging.

29. Set up any local bank accounts during a visit to campus.

28. Teach your son/daughter to balance a checkbook.

27. Teach the responsibilities of credit cards and checking accounts; they can only be used when there is something (or someone) backing them up.


25. Listen to your young adult; hear what is being said and what is not being said.

24. Recognize that you may experience some loneliness too.

23. Frame a family picture.

22. Have a frank discussion about all aspects of personal relationships.

21. Be alert and use “teachable moments” to have meaningful discussions about alcohol use, new religious commitments, life-style changes, etc.

20. Plan to attend a volleyball match or football game in the fall.


18. Make sure they are ready for winter.

17. Get a good pair of walking shoes.

16. Remember an umbrella.

15. Discuss proper hygiene.

14. Accept the fact that change is inevitable…but some of it will be positive. You will get your car back, there will be less laundry to do, you can watch what you want on television, and your food bill will probably decrease.

13. Continue to promote independent decision-making and accept responsibility for any consequences of those decisions.

12. Have faith in them.


10. Obtain copies of prescriptions for medication and copies of important medical records.

9. Supply of over the counter medicines: for headaches, colds, flu, allergies, band-aids, etc.

8. Prepare an address book, which includes addresses of family and friends.

7. Learn to program your VCR, boot-up your computer, and use any other equipment that your son/daughter monopolized.

6. Learn how to cut your own grass and take out the garbage.

5. Check your homeowner’s/renter’s insurance for coverage of property while on campus.

4. Don’t rent out their room yet…

3. Learn your son’s/daughter’s school/major and phone number for the counseling office.

2. Take a ride on the Cathedral of Learning elevators.

1. RELAX

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**Dan Budny**

holds a joint appointment as Associate Professor in the School of Civil Engineering and the Director of the Freshman Programs at the University of Pittsburgh. His research area is in the development of programs that assist the entering freshman student either on a standard track or an academically disadvantaged student by providing counseling and cooperative learning environments for the standards in their first and second semester freshman engineering courses. He has numerous publications in this and other engineering education areas. He is very active in ASEE within the Freshman Programs and the Educational Research and Methods Divisions, and is on the ASEE/IEEE Frontiers in Education Conference Board and the ASEE board of directors. Because of his accomplishments, he has also been asked to give a number of teaching workshops on and off his campus.

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**Cheryl Paul**

is the Associate Director of the EXCEL program, a division of Pitt Engineering Career Access Program’s (PECAP).

As part of the academic support network of the School of Engineering (SOE), she oversees EXCEL’s recruitment and counseling/tutoring efforts directed to all under-represented, women, and economically disadvantaged engineering students. Her responsibilities include: Coordinating/facilitating summer program activities, school year workshops, and assisting in diversity initiatives within the SOE.

Previously, Cheryl has worked as an Academic Advisor with the University Honors College and the School of Engineering (SOE). Her original affiliation with Pitt began when she initiated her masters program in Community Cross-Cultural Counseling, while working as the Director of the Freshman Engineering Program. It was during this time that she discovered her passion for universalizing diversity efforts & building bridges of educational opportunity for all students.